



Trans Mountain Pipeline ULC



Trans Mountain Expansion Project

An Application Pursuant to Section 52 of the National Energy Board Act

December 2013

Volume

5d

ESA - Socio-Economic Technical Reports

NATIONAL ENERGY BOARD

IN THE MATTER OF

**the *National Energy Board Act*,
R.S.C. 1985, c. N-7, as amended, (“*NEB Act*”)
and the Regulations made thereunder;**

AND IN THE MATTER OF

**the *Canadian Environmental Assessment Act, 2012*,
S.C. 2012, c. 37, as amended,
and the Regulations made thereunder;**

AND IN THE MATTER OF

**an application by Trans Mountain Pipeline ULC
as General Partner of Trans Mountain Pipeline L.P.
(collectively “Trans Mountain”)
for a Certificate of Public Convenience and Necessity and
other related approvals pursuant to Part III of the *NEB Act***

**APPLICATION BY TRANS MOUNTAIN FOR APPROVAL OF
THE TRANS MOUNTAIN EXPANSION PROJECT**

December 2013

**To: The Secretary
The National Energy Board
444 — 7th Avenue SW
Calgary, AB T2P 0X8**

Trans Mountain Expansion Project

Application Pursuant to Section 52 of the *National Energy Board Act*

Guide to the Application

Application	
Transmittal - Letter to the National Energy Board	
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Volume 2	Project Overview, Economics and General Information
Volume 3A	Public Consultation
Volume 3B	Aboriginal Engagement
Volume 3C	Landowner Relations
Volume 4A	Project Design and Execution – Engineering
Volume 4B	Project Design and Execution – Construction
Volume 4C	Project Design and Execution – Operations and Maintenance
Volume 5A	Environmental and Socio-Economic Assessment – Biophysical
Volume 5B	Environmental and Socio-Economic Assessment – Socio-Economic
Volume 5C	Environmental and Socio-Economic Assessment – Biophysical Technical Reports
Volume 5D	Environmental and Socio-Economic Assessment – Socio-Economic Technical Reports
Volume 6A	Environmental Compliance
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Volume 6C	Facilities Environmental Protection Plan
Volume 6D	Westridge Marine Terminal Environmental Protection Plan
Volume 6E	Environmental Alignment Sheets
Volume 7	Risk Assessment and Management of Pipeline and Facility Spills
Volume 8A	Marine Transportation
Volume 8B	Marine Environmental and Socio-Economic Technical Reports
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This volume contains:

Volume 5D			
TR 5D-1	Traditional Land and Resource Use Technical Report	TR 5D-5	Viewshed Modelling Analysis Technical Report
TR 5D-2	Socio-Economic Technical Report	TR 5D-6	Agricultural Assessment Technical Report
TR 5D-3	Worker Expenditures Along the Pipeline Corridor Technical Report	TR 5D-7	Screening Level Human Health Risk Assessment of Pipeline and Facilities
TR 5D-4	Managed Forest Areas and Forest Health Technical Report	TR 5D-8	Community Health Technical Report

NEB FILING MANUAL CHECKLIST

CHAPTER 3 – COMMON INFORMATION REQUIREMENTS

Filing #	Filing Requirement	In Application? References	Not in Application? Explanation
3.1 Action Sought by Applicant			
1.	Requirements of s.15 of the Rules.	Volume 1 Section 1.1	---
3.2 Application or Project Purpose			
1.	Purpose of the proposed project.	Volume 2 Section 1.1	---
3.4 Consultation			
		Volumes 3A, 3B, 3C; Volumes 5A, 5B Section 3; Volume 8A Section 3	--
3.4.1 Principles and Goals of Consultation			
1.	The corporate policy or vision.	Volume 3A Section 1.2.1 Volume 3B Section 1.2.1	--
2.	The principles and goals of consultation for the project.	Volume 3A Section 1.2.2 Volume 3B Section 1.2.2 Volume 5A Section 3.2.1 Volume 5B Section 3.2.1	--
3.	A copy of the Aboriginal protocol and copies of policies and principles for collecting traditional use information, if available.	Volume 3B Section 1.3.5	--
3.4.2 Design of Consultation Program			
1.	The design of the consultation program and the factors that influenced the design.	Volume 3A Section 1.3 Volume 3B Section 1.3 Volume 5A Section 3.1.1, 3.2.2 Volume 5B Section 3.1.1, 3.2.2	--
3.4.3 Implementing a Consultation Program			
1.	The outcomes of the consultation program for the project.	Volume 3A Section 1.7 Volume 3B Section 1.5 Table 1.5.1 Volume 5A Section 3.1.5, 3.2.4 Volume 5B Section 3.1.5, 3.2.4	--
3.4.4 Justification for Not Undertaking a Consultation Program			
2.	The application provides justification for why the applicant has determined that a consultation program is not required for the project.	N/A	N/A
3.5 Notification of Commercial Third Parties			
1.	Confirm that third parties were notified.	Volume 2 Section 3.2.2	--
2.	Details regarding the concerns of third parties.	Volume 2 Section 3.2.2	--
3.	List the self-identified interested third parties and confirm they have been notified.	N/A	N/A
4.	If notification of third parties is considered unnecessary, an explanation to this effect.	N/A	N/A

**CHAPTER 4 – SECTIONS 4.1 AND 4.2: COMMON REQUIREMENTS FOR
 PHYSICAL PROJECTS**

Filing #	Filing Requirement	In Application? References	Not in Application? Explanation
4.1 Description of the Project			
1.	The project components, activities and related undertakings.	Volume 2 Section 2.0; Volume 4A	--
2.	The project location and criteria used to determine the route or site.	Volume 2 Section 4.0; Volume 4A	--
3.	How and when the project will be carried out.	Volume 2 Section 2.3; Volume 4B Section 2.0	--
4.	Description of any facilities, to be constructed by others, required to accommodate the proposed facilities.	N/A	N/A
5.	An estimate of the total capital costs and incremental operating costs, and changes to abandonment cost estimates.	Volume 2 Section 2.9	--
6.	The expected in-service date.	Volume 2 Section 1.1; Volume 4B Section 2.1	--
4.2 Economic Feasibility, Alternatives and Justification			
4.2.1 Economic Feasibility			
1.	Describe the economic feasibility of the project.	Volume 2 Section 3.5	--
4.2.2 Alternatives			
1.	Describe the need for the project, other economically-feasible alternatives to the project examined, along with the rationale for selecting the applied for project over these other possible options.	Volume 2 Section 3.0; Volume 8A Section 2.2	--
2.	Describe and justify the selection of the proposed route and site including a comparison of the options evaluated using appropriate selection criteria.	Volume 2 Section 4.0; Volume 8A Section 2.2	--
3.	Describe the rationale for the chosen design and construction methods. Where appropriate, describe any alternative designs and methods evaluated and explain why these other options were eliminated.	Volume 2 Section 4.0; Volume 8A Section 2.2	--
4.2.3 Justification			
1.	Provide a justification for the proposed project	Volume 2 Section 3.4	--

GUIDE A – A.1 ENGINEERING

Filing #	Filing Requirement	In Application? References	Not in Application? Explanation
A.1.1 Engineering Design Details			
1.	Fluid type and chemical composition.	Volume 4A Section 3.1.1	--
2.	Line pipe specifications.	Volume 4A Section 3.2.8	--
3.	Pigging facilities specifications.	Volume 4A Section 3.3.1, 3.3.2	--
4.	Compressor or pump facilities specifications.	Volume 4A Section 3.4	--
5.	Pressure regulating or metering facilities specifications.	Volume 4A Section 3.5	--
6.	Liquid tank specifications, or other commodity storage facilities.	Volume 4A Section 3.4	--
7.	New control system facilities specifications.	Volume 4A Section 3.3	--
8.	Gas processing, sulphur or LNG plant facilities specifications.	N/A	N/A
9.	Technical description of other facilities not mentioned above.	N/A	N/A
10.	Building dimensions and uses.	Volume 4A Section 3.3, 3.4, 3.5	--
11.	If project is a new system that is a critical source of energy supply, a description of the impact to the new system capabilities following loss of critical component.	N/A	N/A
A.1.2 Engineering Design Principles			
1.	Confirmation project activities will follow the requirements of the latest version of CSA Z662.	Volume 4A Section 2.2	--
2.	Provide a statement indicating which Annex is being used and for what purpose	Volume 4A Section 2.3	--
3.	Statement confirming compliance with OPR or PPR.	Volume 4A Section 2.1	--
4.	Listing of all primary codes and standards, including version and date of issue.	Volume 4A Section 2, Table 5.1.1	--
5.	Confirmation that the project will comply with company manuals and confirm manuals comply with OPR/PPR and codes and standards.	Volume 4A Section 2.6, Table 5.1.2	--
6.	Any portion of the project a non-hydrocarbon commodity pipeline system? Provide a QA program to ensure the materials are appropriate for their intended service.	N/A – all hydrocarbons	N/A
7.	If facility subject to conditions not addressed in CSA Z662: <ul style="list-style-type: none"> • Written statement by qualified professional engineer • Description of the designs and measures required to safeguard the pipeline 	Volume 4A Section 2.9	--
8.	If directional drilling involved: <ul style="list-style-type: none"> • Preliminary feasibility report • Description of the contingency plan 	Volume 4A Section 2.12	--
9.	If the proposed project involves the reuse of materials, provide an engineering assessment in accordance with CSA Z662 that indicates its suitability for the intended service.	Volume 4A, Section 2.7	--
10.	If new materials are involved, provide material supply chain information, in tabular format.	Volume 4A Section 2.7	
11.	If reuse of material is involved, provide an engineering assessment in accordance with CSA Z662 that indicates its suitability for the intended service.	Volume 4A, Section 2.7	--
A.1.3 Onshore Pipeline Regulations			
1.	Designs, specifications programs, manuals, procedures, measures or plans for which no standard is set out in the OPR or PPR.	--	Existing standards will be followed
2.	A quality assurance program if project non-routine or incorporates unique challenges due to geographical location.	--	No unique challenges
3.	If welding performed on a liquid-filled pipeline that has a carbon equivalent of 0.50% or greater and is a permanent installation: <ul style="list-style-type: none"> • Welding specifications and procedures • Results of procedure qualification tests 	--	Welding on liquid filled pipe will not be conducted

GUIDE A – A.2 ENVIRONMENTAL AND SOCIO-ECONOMIC ASSESSMENT

The following table identifies where information requested in the National Energy Board (NEB) Filing Manual Guide A – A.2 Environmental and Socio-economic Assessment checklist may be found in the various volumes of the Application for the Trans Mountain Expansion Project.

Filing #	Filing Requirement	In Application? References	Applicable Marine Transportation Elements	Not in Application? Explanation
A.2.5 Description of the Environmental and Socio-Economic Setting				
1.	Identify and describe the current biophysical and socio-economic setting of each element (<i>i.e.</i> , baseline information) in the area where the project is to be carried out.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> • Sections 5.0 and 6.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> • Sections 5.0 and 6.0 Volume 5C: ESA - Biophysical Technical Reports Volume 5D: ESA - Socio-Economic Technical Reports	Volume 8A: Marine Transportation <ul style="list-style-type: none"> • Section 4.2 Volume 8B: Technical Reports	---
2.	Describe which biophysical or socio-economic elements in the study area are of ecological, economic, or human importance and require more detailed analysis taking into account the results of consultation (see Table A-1 for examples). Where circumstances require more detailed information in an ESA see: i. Table A-2 – Filing Requirements for Biophysical Elements; or ii. Table A-3 – Filing Requirements for Socio-economic Elements.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> • Sections 5.0 and 6.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> • Sections 5.0 and 6.0 Volume 5C: ESA - Biophysical Technical Reports Volume 5D: ESA - Socio-Economic Technical Reports	Volume 8A: Marine Transportation <ul style="list-style-type: none"> • Section 4.2 Volume 8B: Technical Reports	---
3.	Provide supporting evidence (<i>e.g.</i> , references to scientific literature, field studies, local and traditional knowledge, previous environmental assessment and monitoring reports) for: <ul style="list-style-type: none"> • information and data collected; • analysis completed; • conclusions reached; and • the extent of professional judgment or experience relied upon in meeting these information requirements, and the rationale for that extent of reliance. 	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> • Sections 5.0 and 6.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> • Sections 5.0 and 6.0 Volume 5C: ESA - Biophysical Technical Reports Volume 5D: ESA - Socio-Economic Technical Reports	Volume 8A: Marine Transportation <ul style="list-style-type: none"> • Section 4.2 Volume 8B: Technical Reports	---
4.	Describe and substantiate the methods used for any surveys, such as those pertaining to wildlife, fisheries, plants, species at risk or species of special status, soils, heritage resources or traditional land use, and for establishing the baseline setting for the atmospheric and acoustic environment.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> • Sections 5.0 and 6.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> • Sections 5.0 and 6.0 Volume 5C: ESA - Biophysical Technical Reports Volume 5D: ESA - Socio-Economic Technical Reports	Volume 8A: Marine Transportation <ul style="list-style-type: none"> • Section 4.2 Volume 8B: Technical Reports	---
5.	Applicants must consult with other expert federal, provincial or territorial departments and other relevant authorities on requirements for baseline information and methods.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> • Sections 3.0, 5.0 and 6.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> • Sections 3.0, 5.0 and 6.0 Volume 5C: ESA - Biophysical Technical Reports Volume 5D: ESA - Socio-Economic Technical Reports	Volume 8A: Marine Transportation <ul style="list-style-type: none"> • Sections 3.0 and 4.2 Volume 8B: Technical Reports	---

Filing #	Filing Requirement	In Application? References	Applicable Marine Transportation Elements	Not in Application? Explanation
A.2.6 Effects Assessment				
Identification and Analysis of Effects				
1.	Describe the methods used to predict the effects of the project on the biophysical and socio-economic elements, and the effects of the environment on the project (<i>i.e.</i> , changes to the Project caused by the environment).	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 7.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 7.0 Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> Sections 6.0, 7.0 and 8.0 Technical Reports 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Sections 4.3, 5.5 and 5.6 	---
2.	Predict the effects associated with the proposed project, including those that could be caused by construction, operations, decommissioning or abandonment, as well as accidents and malfunctions. Also include effects the environment could have on the project. For those biophysical and socio-economic elements or their valued components that require further analysis (see Table A-1), provide the detailed information outlined in Tables A-2 and A-3.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 7.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 7.0 Volume 5C: ESA - Biophysical Technical Reports <ul style="list-style-type: none"> Section 7.0 Volume 5D: ESA - Socio-Economic Technical Reports <ul style="list-style-type: none"> Section 7.0 Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> Sections 6.0, 7.0 and 8.0 Technical Reports 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Sections 4.3, 5.6 and 5.7 Volume 8B: Technical Reports	---
Mitigation Measures for Effects				
1.	Describe the standard and project specific mitigation measures and their adequacy for addressing the project effects, or clearly reference specific sections of company manuals that provide mitigation measures. Ensure that referenced manuals are current and filed with the NEB.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 7.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 7.0 Volume 5C: ESA - Biophysical Technical Reports <ul style="list-style-type: none"> Section 7.0 Volume 5D: ESA - Socio-Economic Technical Reports <ul style="list-style-type: none"> Section 7.0 Volume 6B: Pipeline Environmental Protection Plan (EPP) <ul style="list-style-type: none"> Section 7.0 Volume 6C: Facilities EPP <ul style="list-style-type: none"> Section 7.0 Volume 6D: Westridge Marine Terminal EPP <ul style="list-style-type: none"> Section 7.0 Volume 6E: Environmental Alignment Sheets <ul style="list-style-type: none"> Section 7.0 Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> Sections 2.0, 3.0, 4.0, 6.0, 7.0, and 8.0 Technical Reports 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Sections 4.3, 5.1, 5.3, 5.6 and 5.7 Volume 8B: Technical Reports	---
2.	Ensure that commitments about mitigative measures will be communicated to field staff for implementation through an Environmental Protection Plan.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 7.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 7.0 Volume 6A: Environmental Compliance <ul style="list-style-type: none"> Section 7.0 Volume 6B: Pipeline EPP <ul style="list-style-type: none"> Section 7.0 Volume 6C: Facilities EPP <ul style="list-style-type: none"> Section 7.0 Volume 6D: Westridge Marine Terminal EPP <ul style="list-style-type: none"> Section 7.0 Volume 6E: Environmental Alignment Sheets <ul style="list-style-type: none"> Section 7.0 Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> Sections 2.0, 3.0, 4.0, 6.0, 7.0 and 8.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Sections 4.3, 5.1, 5.3, 5.6 and 5.7 	---

Filing #	Filing Requirement	In Application? References	Applicable Marine Transportation Elements	Not in Application? Explanation
3.	Describe plans and measures to address potential effects of accidents and malfunctions during construction and operation of the project.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 7.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 7.0 Volume 6B: Pipeline EPP Volume 6C: Facilities EPP Volume 6D: Westridge Marine Terminal EPP Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> Sections 2.0, 4.0, 6.0, 7.0 and 8.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Sections 4.3, 5.1, 5.3, 5.6 and 5.7 	---
Evaluation of Significance				
1.	After taking into account any appropriate mitigation measures, identify any remaining residual effects from the project.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 7.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 7.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.3 	---
2.	Describe the methods and criteria used to determine the significance of remaining adverse effects, including defining the point at which any particular effect on a valued component is considered "significant".	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 7.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 7.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.3 	---
3.	Evaluate significance of residual adverse environmental and socio-economic effects against the defined criteria.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 7.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 7.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.3 	---
4.	Evaluate the likelihood of significant, residual adverse environmental and socio-economic effects occurring and substantiate the conclusions made.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 7.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 7.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.3 	---
A.2.7 Cumulative Effects Assessment				
Scoping and Analysis of Cumulative Effects				
1.	Identify the valued components for which residual effects are predicted, and describe and justify the methods used to predict any residual results.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 8.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 8.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.4 	---
2.	For each valued component where residual effects have been identified, describe and justify the spatial and temporal boundaries used to assess the potential cumulative effects.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 8.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 8.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.4 	---
3.	Identify other physical works or activities that have been or will be carried out within the identified spatial and temporal boundaries for the cumulative effects assessment.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 8.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 8.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.4 	---
4.	Identify whether the effects of those physical works or activities that have been or will be carried out would be likely to produce effects on the valued components within the identified spatial and temporal boundaries.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 8.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 8.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.4 	---

Filing #	Filing Requirement	In Application? References	Applicable Marine Transportation Elements	Not in Application? Explanation
5.	Where other physical works or activities may affect the valued components for which residual effects from the applicant's proposed project are predicted, continue the cumulative effects assessment, as follows: <ul style="list-style-type: none"> consider the various components, phases and activities associated with the applicant's project that could interact with other physical work or activities; provide a description of the extent of the cumulative effects on valued components; and where professional knowledge or experience is cited, explain the extent to which professional knowledge or experience was relied upon and justify how the resulting conclusions or decisions were reached. 	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 8.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 8.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.4 	---
Mitigation Measures for Cumulative Effects				
1.	Describe the general and specific mitigation measures, beyond project-specific mitigation already considered, that are technically and economically feasible to address any cumulative effects.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 8.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 8.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.4 	---
Applicant's Evaluation of Significance of Cumulative Effects				
1.	After taking into account any appropriate mitigation measures for cumulative effects, identify any remaining residual cumulative effects.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 8.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 8.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.4 	---
2.	Describe the methods and criteria used to determine the significance of remaining adverse cumulative effects, including defining the point at which each identified cumulative effect on a valued component is considered "significant".	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 8.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 8.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.4 	---
3.	Evaluate the significance of adverse residual cumulative effects against the defined criteria.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 8.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 8.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.4 	---
4.	Evaluate the likelihood of significant, residual adverse cumulative environmental and socio-economic effects occurring and substantiate the conclusions made.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 8.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 8.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.4 	---
A.2.8 Inspection, Monitoring and Follow-up				
1.	Describe inspection plans to ensure compliance with biophysical and socio-economic commitments, consistent with Sections 48, 53 and 54 of the <i>NEB Onshore Pipeline Regulations (OPR)</i> .	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 7.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 7.0 Volume 6A: Environmental Compliance Volume 6B: Pipeline EPP Volume 6C: Facilities EPP Volume 6D: Westridge Marine Terminal EPP	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.3 	---
2.	Describe the surveillance and monitoring program for the protection of the pipeline, the public and the environment, as required by Section 39 of the <i>NEB OPR</i> .	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> Section 7.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> Section 7.0 Volume 6A: Environmental Compliance Volume 6B: Pipeline EPP Volume 6C: Facilities EPP Volume 6D: Westridge Marine Terminal EPP	Volume 8A: Marine Transportation <ul style="list-style-type: none"> Section 4.3 	---

Filing #	Filing Requirement	In Application? References	Applicable Marine Transportation Elements	Not in Application? Explanation
3.	Consider any particular elements in the Application that are of greater concern and evaluate the need for a more in-depth monitoring program for those elements.	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> • Sections 9.0 and 10.0 Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> • Sections 9.0 and 10.0 Volume 6A: Environmental Compliance Volume 6B: Pipeline EPP (Socio-Economic Management Plan of Appendix C)	Volume 8A: Marine Transportation <ul style="list-style-type: none"> • Section 4.5 	---
4.	For <i>Canadian Environmental Assessment (CEA) Act, 2012</i> designated projects, identify which elements and monitoring procedures would constitute follow-up under the <i>CEA Act, 2012</i> .	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> • Section 10.0 Volume 5B: ESA - Socio-economic <ul style="list-style-type: none"> • Section 10.0 	N/A	---

Filing #	Filing Requirement	In Application? References	Applicable Marine Transportation Elements	Not in Application? Explanation
Table A-1 Circumstances and Interactions Requiring Detailed Biophysical and Socio-Economic Information				
	Physical and meteorological environment	Volume 5A: ESA - Biophysical • Sections 5.0, 6.0 and 7.0	N/A	---
	Soil and soil productivity	Volume 5A: ESA - Biophysical • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5C: ESA - Biophysical Technical Reports • Soil Assessment Technical Report Volume 7: Risk Assessment and Management of Pipeline and Facility Spills • Section 5.3, 6.0 and 7.0	N/A	---
	Water quality and quantity (onshore and marine)	Volume 5A: ESA - Biophysical • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5C: ESA - Biophysical Technical Reports • Groundwater Technical Report • Fisheries (Alberta) Technical Report • Fisheries (British Columbia) Technical Report • Wetland Evaluation Technical Report • Marine Sediment and Water Quality – Westridge Marine Terminal Technical Report Volume 7: Risk Assessment and Management of Pipeline and Facility Spills • Section 7.0 • Quality Ecological Risk Assessment of Pipeline Spills Technical Report	Volume 8A: Marine Transportation • Sections 4.2, 4.3, 4.4, 5.6 and 5.7 Volume 8B: Technical Reports • Ecological Risk Assessment of Marine Transportation Spills Technical Report	---
	Air emissions (onshore and marine)	Volume 5A: ESA - Biophysical • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5C: ESA - Biophysical Technical Reports • Marine Air Quality and Greenhouse Gas – Marine Transportation Technical Report • Air Quality and Greenhouse Gas Emissions Technical Report Volume 7: Risk Assessment and Management of Pipeline and Facility Spills • Section 7.0	Volume 8A: Marine Transportation • Sections 4.2, 4.3, 4.4, 5.6 and 5.7 Volume 8B: Technical Reports • Marine Air Quality and Greenhouse Gas Emissions	---
	Greenhouse gas emissions (onshore and marine)	Volume 5A: ESA - Biophysical • Sections 5.0, 6.0 and 7.0 Volume 5C: ESA - Biophysical Technical Reports • Air Quality and Greenhouse Gas Emissions Technical Report	Volume 8A: Marine Transportation • Sections 4.2 and 4.3 Volume 8B: Technical Reports • Marine Air Quality and Greenhouse Gas Emissions	---
	Acoustic environment (onshore and marine)	Volume 5A: ESA - Biophysical • Sections 5.0, 6.0, 7.0, and 8.0 Volume 5C: ESA - Biophysical Technical Reports • Acoustic Environment Technical Report	Volume 8A: Marine Transportation • Sections 4.2, 4.3 and 4.4 Volume 8B: Technical Reports • Marine Noise (Atmospheric)	---
	Fish and fish habitat (onshore and marine), including any fish habitat compensation required	Volume 5A: ESA - Biophysical • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5C: ESA - Biophysical Technical Reports • Fisheries (Alberta) Technical Report • Fisheries (British Columbia) Technical Report • Marine Resources - Westridge Marine Terminal Technical Report Volume 7: Risk Assessment and Management of Pipeline and Facility Spills • Sections 6.0, 7.0 and 8.0 • Qualitative Ecological Risk Assessment of Pipeline Spills Technical Report	Volume 8A: Marine Transportation • Sections 4.2, 4.3, 4.4, 5.6 and 5.7 Volume 8B: Technical Reports • Marine Resources – Marine Transportation Technical Report • Ecological Risk Assessment of Westridge Marine Terminal Spills	---

Filing #	Filing Requirement	In Application? References	Applicable Marine Transportation Elements	Not in Application? Explanation
	Wetlands	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5C: ESA - Biophysical Technical Reports <ul style="list-style-type: none"> • Wetland Evaluation Technical Report Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> • Sections 7.0 and 8.0 • Qualitative Ecological Risk Assessment of Pipeline Spills Technical Report 	N/A	---
	Vegetation	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5C: ESA - Biophysical Technical Reports <ul style="list-style-type: none"> • Vegetation Technical Report Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> • Sections 7.0 and 8.0 • Qualitative Ecological Risk Assessment of Pipeline Spills Technical Report 	N/A	---
	Wildlife and wildlife habitat (onshore and marine)	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5C: ESA - Biophysical Technical Reports <ul style="list-style-type: none"> • Wildlife and Wildlife Habitat Technical Report • Wildlife Modeling and Species Accounts Report • Marine Resources –Westridge Marine Terminal Technical Report • Marine Birds – Westridge Marine Terminal Technical Report Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> • Sections 6.0, 7.0 and 8.0 • Qualitative Ecological Risk Assessment of Pipeline Spills Technical Report 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> • Sections 4.2, 4.3, 4.4, 5.6 and 5.7 Volume 8B: Technical Reports <ul style="list-style-type: none"> • Marine Resources – Marine Transportation Technical Report • Marine Birds – Marine Transportation Technical Report • Ecological Risk Assessment of Westridge Marine Terminal Spills 	---
	Species at Risk or Species of Special Status and related habitat (onshore and marine)	Volume 5A: ESA - Biophysical <ul style="list-style-type: none"> • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5C: ESA - Biophysical Technical Reports <ul style="list-style-type: none"> • Fisheries (Alberta) Technical Report • Fisheries (British Columbia) Technical Report • Vegetation Technical Report • Wildlife and Wildlife Habitat Technical Report • Wildlife Modeling and Species Accounts Report • Marine Resources –Westridge Marine Terminal Technical Report • Marine Birds – Westridge Marine Terminal Technical Report Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> • Sections 6.0, 7.0 and 8.0 • Qualitative Ecological Risk Assessment of Pipeline Spills Technical Report 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> • Sections 4.2, 4.3, 4.4, 5.6 and 5.7 Volume 8B: Technical Reports <ul style="list-style-type: none"> • Marine Resources – Marine Transportation Technical Report • Marine Birds – Marine Transportation Technical Report • Marine Transportation Spills Ecological Risk Assessment Technical Report 	---

Filing #	Filing Requirement	In Application? References	Applicable Marine Transportation Elements	Not in Application? Explanation
	Human occupancy and resource use (onshore and marine)	Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5D: ESA - Socio-Economic Technical Reports <ul style="list-style-type: none"> • Socio-Economic Technical Report • Managed Forest Areas Technical Report • Agricultural Assessment Technical Report Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> • Sections 6.0, 7.0 and 8.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> • Sections 4.2, 4.3, 4.4, 5.6 and 5.7 Volume 8B: Technical Reports <ul style="list-style-type: none"> • Marine Commercial, Recreational and Tourism Use – Marine Transportation Technical Report 	---
	Heritage resources	Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> • Sections 5.0, 6.0 and 7.0 Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> • Section 6.3.3 	N/A	---
	Navigation and navigation safety	Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> • Sections 5.0, 6.0 and 7.0 Volume 5D: ESA - Socio-Economic Technical Reports <ul style="list-style-type: none"> • Socio-Economic Technical Report 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> • Section 5.2 	---
	Traditional land and resource use	Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5D: ESA - Socio-Economic Technical Reports <ul style="list-style-type: none"> • Traditional Land and Resource Use Report • Pipeline and Facilities Human Health Risk Assessment Technical Report Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> • Sections 6.0, 7.0 and 8.0 • Qualitative Ecological Risk Assessment of Pipeline Spills Technical Report 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> • Sections 4.2, 4.3, 4.4, 5.6 and 5.7 Volume 8B: Technical Reports <ul style="list-style-type: none"> • Traditional Marine Use Report for Marine Transportation • Marine Transportation Human Health Risk Assessment Technical Report 	---
	Social and cultural well-being	Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5D: ESA - Socio-Economic Technical Reports <ul style="list-style-type: none"> • Socio-Economic Technical Report Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> • Sections 6.0, 7.0 and 8.0 	N/A	---
	Human health and aesthetics	Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5D: ESA - Socio-Economic Technical Reports <ul style="list-style-type: none"> • Socio-Economic Technical Report • Community Health Technical Report • Viewshed Modelling Analysis Technical Report • Pipeline and Facilities Human Health Risk Assessment Technical Report Volume 7 Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> • Sections 6.0, 7.0 and 8.0 • Qualitative Ecological Risk Assessment of Pipeline Spills Technical Report 	Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> • Qualitative Human Health Risk Assessment of Westridge Marine Terminal Technical Report Volume 8A: Marine Transportation <ul style="list-style-type: none"> • Sections 4.2, 4.3, 4.4, 5.6 and 5.7 Volume 8B: Technical Reports <ul style="list-style-type: none"> • Marine Transportation Human Health Risk Assessment Technical Report • Marine Transportation Spills Human Health Risk Assessment Technical Report 	---

Filing #	Filing Requirement	In Application? References	Applicable Marine Transportation Elements	Not in Application? Explanation
	Infrastructure and services	Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5D: ESA - Socio-Economic Technical Reports <ul style="list-style-type: none"> • Socio-Economic Technical Report • Community Health Technical Report Volume 7: Risk Assessment and Management of Pipeline and Facility Spills <ul style="list-style-type: none"> • Sections 6.0, 7.0 and 8.0 	Volume 8A: Marine Transportation <ul style="list-style-type: none"> • Sections 4.2, 4.3, 4.4, 5.6 and 5.7 Volume 8B: Technical Reports <ul style="list-style-type: none"> • Marine Commercial, Recreational and Tourism Use – Marine Transportation Technical Report 	---
	Employment and economy	Volume 5B: ESA - Socio-Economic <ul style="list-style-type: none"> • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5D: ESA - Socio-Economic Technical Reports <ul style="list-style-type: none"> • Socio-Economic Technical Report • Worker Expenditures Analysis Technical Report 	N/A	---

GUIDE A – A.3 ECONOMICS

Filing #	Filing Requirement	In Application? References	Not in Application? Explanation
A.3.1 Supply			
1.	A description of each commodity.	Volume 2 Section 3.1.1	--
2.	A discussion of all potential supply sources.	Volume 2 Section 3.3.2	--
3.	Forecast of productive capacity over the economic life of the facility.	Volume 2 Sections 3.3.1, 3.4.1	
4.	For pipelines with contracted capacity, a discussion of the contractual arrangements underpinning supply.	Volume 2 Section 3.3.2	--
A.3.2 Transportation Matters			
Pipeline Capacity			
1.	In the case of expansion provide: <ul style="list-style-type: none"> • Pipeline capacity before and after and size of increment • Justification that size of expansion is appropriate 	Volume 2 Sections 1.1, 2.1, 3.5	--
2.	In case of new pipeline, justification that size of expansion is appropriate given available supply.	N/A – expansion	N/A
Throughput			
1.	For pipelines with contracted capacity, information on contractual arrangements.	Volume 2 Section 3.2.1	--
2.	For non-contract carrier pipelines, forecast of annual throughput volumes by commodity type, receipt location and delivery destination over facility life.	N/A	N/A
3.	If project results in an increase in throughput: <ul style="list-style-type: none"> • theoretical and sustainable capabilities of the existing and proposed facilities versus the forecasted requirements • flow formulae and flow calculations used to determine the capabilities of the proposed facilities and the underlying assumptions and parameters 	Volume 2 Section 3.1	--
4.	If more than one type of commodity transported, a discussion pertaining to segregation of commodities including potential contamination issues or cost impacts.	N/A	N/A
A.3.3 Markets			
1.	Provide an analysis of the market in which each commodity is expected to be used or consumed.	Volume 2 Section 3.4.2	--
2.	Provide a discussion of the physical capability of upstream and downstream facilities to accept the incremental volumes that would be received and delivered.	Volume 2 Section 3.4.2	--
A.3.4 Financing			
1.	Evidence that the applicant has the ability to finance the proposed facilities.	Volume 2 Section 3.2.2	--
2.	Estimated toll impact for the first full year that facilities are expected to be in service.	Volume 2 Section 3.2.1	--
3.	Confirmation that shippers have been apprised of the project and toll impact, their concerns and plans to address them.	Volume 2 Section 3.2.1	--
4.	Additional toll details for applications with significant toll impacts.	Volume 2 Section 3.2.1	
A.3.5 Non-NEB Regulatory Approvals			
1.	Confirm that all non-NEB regulatory approvals required to allow the applicant to meet its construction schedule, planned in-service date and to allow the facilities to be used and useful are or will be in place.	Volume 2 Section 1.5	--
2.	If any of the approvals referred to in #1 may be delayed, describe the status of those approval(s) and provide an estimation of when the approval is anticipated.	Volume 2 Section 1.5	--

GUIDE A – A.4 LANDS INFORMATION

Filing #	Filing Requirement	In Application? References	Not in Application? Explanation
A.4.1 Land Areas			
1.	<ul style="list-style-type: none"> Width of right-of-way and locations of any changes to width Locations and dimensions of known temporary work space and drawings of typical dimensions Locations and dimensions of any new lands for facilities 	Volume 2 Section 5.2	--
A.4.2 Land Rights			
1.	The type of lands rights proposed to be acquired for the project.	Volume 2 Section 5.3	--
2.	The relative proportions of land ownership along the route of the project.	Volume 2 Section 5.3.2	--
3.	Any existing land rights that will be required for the project.	Volume 2 Section 5.4	--
A.4.3 Lands Acquisition Process			
1.	The process for acquiring lands.	Volume 2 Section 5.4.1, 5.4.2	--
2.	The timing of acquisition and current status.	Volume 2 Section 5.4.3	--
3.	The status of service of section 87(1) notices.	Volume 2 Section 5.4.4	--
A.4.4 Land Acquisition Agreements			
1.	A sample copy of each form of agreement proposed to be used pursuant to section 86(2) of the NEB Act.	Volume 2 Section 5.4.2	--
2.	A sample copy of any proposed fee simple, work space, access or other land agreement.	Volume 2 Section 5.5.2	--
A.4.5 Section 87 Notices			
1.	A sample copy of the notice proposed to be served on all landowners pursuant to section 87(1) of the NEB Act.	Volume 2 Section 5.4.4, Appendix D	--
2.	Confirmation that all notices include a copy of Pipeline Regulation in Canada: A Guide for Landowners and the Public.	Volume 2 Section 5.4.4	--
A.4.6 Section 58 Application to Address a Complaint			
1.	The details of the complaint and describe how the proposed work will address the complaint.	N/A	N/A

CONCORDANCE TABLE WITH THE CEA ACT, 2012

CEA Act, 2012 Requirement	Section in CEA Act, 2012	Application Volume and Section
The environmental effects of the designated project, including:		
the environmental effects of malfunctions or accidents that may occur in connection with the designated project;	s.19.1(a)	Volume 5A ESA - Biophysical: <ul style="list-style-type: none"> • Section 7.0 Volume 5B ESA - Socio-economic: <ul style="list-style-type: none"> • Section 7.0 Volume 7 Risk Assessment and Management of Pipeline and Facility Spills Volume 8A Marine Transportation: <ul style="list-style-type: none"> • Sections 4.3 and 5.0
any cumulative environmental effects that are likely to result from the designated project in combination with other physical activities that have been or will be carried out;	s.19.1(a)	Volume 5A ESA - Biophysical: <ul style="list-style-type: none"> • Section 8.0 Volume 5B ESA - Socio-economic: <ul style="list-style-type: none"> • Section 8.0 Volume 8A Marine Transportation: <ul style="list-style-type: none"> • Section 4.4
the significance of the effects referred to in paragraph (a);	s.19.1(b)	Volume 5A ESA - Biophysical: <ul style="list-style-type: none"> • Sections 7.0 and 8.0 Volume 5B ESA - Socio-economic: <ul style="list-style-type: none"> • Sections 7.0 and 8.0 Volume 8A Marine Transportation: <ul style="list-style-type: none"> • Sections 4.3 and 4.4
comments from the public – or, with respect to a designated project that requires that a certificate be issued in accordance with an order made under section 54 of the <i>National Energy Board Act</i> , any interested party – that are received in accordance with this act;	s.19.1(c)	Volume 3A Public Consultation Volume 3B Aboriginal Engagement Volume 3C Landowner Relations Volume 5A ESA - Biophysical: <ul style="list-style-type: none"> • Section 3.0 Volume 5B ESA - Socio-economic: <ul style="list-style-type: none"> • Section 3.0 Volume 8A Marine Transportation: <ul style="list-style-type: none"> • Section 3.0
mitigation measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the designated project;	s.19.1(d)	Volume 5A ESA - Biophysical: <ul style="list-style-type: none"> • Sections 7.0 and 8.0 Volume 5B ESA - Socio-economic: <ul style="list-style-type: none"> • Sections 7.0 and 8.0 Volume 5C ESA – Biophysical Technical Reports Volume 5D ESA - Socio-economic Technical Reports Volume 6B Pipeline Environmental Protection Plan Volume 6C Facilities Environmental Protection Plan Volume 6D Westridge Marine Terminal Environmental Protection Plan Volume 6E Environmental Alignment Sheets Volume 8A Marine Transportation: <ul style="list-style-type: none"> • Sections 4.3, 4.4 and 5.0 Volume 8B Technical Reports
the requirements of the follow-up program in respect of the designated project;	s.19.1(e)	Volume 5A ESA - Biophysical: <ul style="list-style-type: none"> • Section 10.0 Volume 5B ESA - Socio-economic: <ul style="list-style-type: none"> • Section 10.0
the purpose of the designated project;	s.19.1(f)	Volume 5A ESA - Biophysical: <ul style="list-style-type: none"> • Section 2.0 Volume 5B ESA - Socio-economic: <ul style="list-style-type: none"> • Section 2.0 Volume 8A Marine Transportation: <ul style="list-style-type: none"> • Section 1.1

CONCORDANCE TABLE WITH THE CEA ACT, 2012

CEA Act, 2012 Requirement	Section in CEA Act, 2012	Application Volume and Section
alternative means of carrying out the designated project that are technically and economically feasible and the environmental effects of any such alternative means;	s.19.1(g)	Volume 5A ESA - Biophysical: • Sections 2.0 and 4.0 Volume 5B ESA - Socio-economic: • Sections 2.0 and 4.0 Volume 8A Marine Transportation: • Section 2.2
any change to the designated project that may be caused by the environment;	s.19.1(h)	Volume 5A ESA - Biophysical: • Section 7.10 Volume 8A Marine Transportation: • Section 4.3
the results of any relevant study conducted by a committee established under section 73 or 74; and	s.19.1(i)	N/A
any other matter relevant to the environmental assessment that the responsible authority, or, – if the environmental assessment is referred to a review panel – the Minister, requires to be taken into account.	s.19.1(j)	Volume 8A Marine Transportation Volume 8B Technical Reports Volume 8C TERMPOL Reports These volumes take into consideration the <i>Filing Requirements Related to the Potential Environmental and Socio-Economic Effects of Increased Marine Shipping Activities, Trans Mountain Expansion Project</i> (September 10, 2013) (NEB 2013)
The environmental assessment of a designated project may take into account community knowledge and Aboriginal traditional knowledge.	s 19.3	Volume 5A ESA - Biophysical: • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5B ESA - Socio-economic: • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5C ESA - Biophysical Technical Reports Volume 5D ESA - Socio-economic Technical Reports Volume 8A Marine Transportation: • Sections 4.2, 4.3 and 4.4 Volume 8B Technical Reports
Subsection 5(1) of <i>CEA Act, 2012</i> defines environmental effects as a change that may be caused to the following components of the environment that are within the legislative authority of Parliament:		
fish as defined in section 2 of the <i>Fisheries Act</i> and fish habitat as defined in subsection 34(1) of that <i>Act</i> ;	s.5(1)(a)(i)	Volume 5A ESA - Biophysical: • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5C ESA - Biophysical Technical Reports Volume 8A Marine Transportation: • Sections 4.2, 4.3, 4.4 and 5.0 Volume 8B Technical Reports
aquatic species as defined in subsection 2(1) of the <i>Species at Risk Act</i> ;	s.5(1)(a)(ii)	Volume 5A ESA - Biophysical: • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5C ESA - Biophysical Technical Reports Volume 8A Marine Transportation: • Sections 4.2, 4.3, 4.4 and 5.0 Volume 8B Technical Reports
migratory birds as defined in subsection 2(1) of the <i>Migratory Birds Convention Act, 1994</i> , and	s.5(1)(a)(iii)	Volume 5A ESA - Biophysical: • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5C ESA - Biophysical Technical Reports Volume 8A Marine Transportation: • Sections 4.2, 4.3, 4.4 and 5.0 Volume 8B Technical Reports
any other component of the environment that is set out in Schedule 2.	s.5(1)(a)(iv)	N/A
Subsection 5(1) of the <i>CEA Act, 2012</i> defines environmental effects as (b) a change that may be caused to the environment that would occur		
on federal lands,	s.5(1)(b)(i)	Volume 5A ESA - Biophysical: • Section 7.0 Volume 5B ESA - Socio-economic: • Section 7.0
in a province other than the one in which the <i>act</i> or thing is done or where the physical activity, the designated project or the project is being carried out, or	s.5(1)(b)(ii)	N/A No changes are anticipated in provinces other than Alberta and BC in relation to the ESA.
outside Canada.	s.5(1)(b)(iii)	Volume 8A Marine Transportation: • Sections 4.3, 4.4 and 5.0
Subsection 5(1) of the <i>CEA Act, 2012</i> defines environmental effects as (c) with respect to aboriginal peoples, an effect occurring in Canada of any change that may be caused to the environment on:		

CONCORDANCE TABLE WITH THE CEA ACT, 2012

CEA Act, 2012 Requirement	Section in CEA Act, 2012	Application Volume and Section
health and socio-economic conditions;	s.5(1)(c)(i)	Volume 5B ESA - Socio-economic: <ul style="list-style-type: none"> • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5D ESA - Socio-economic Technical Reports Volume 8A Marine Transportation: <ul style="list-style-type: none"> • Sections 4.3 and 4.4 Volume 8B Technical Reports
physical and cultural heritage;	s.5(1)(c)(ii)	Volume 5B ESA - Socio-economic: <ul style="list-style-type: none"> • Sections 5.0, 6.0 and 7.0
the current use of lands and resources for traditional purposes; or	s.5(1)(c)(iii)	Volume 5B ESA - Socio-economic: <ul style="list-style-type: none"> • Sections 5.0, 6.0, 7.0 and 8.0 Volume 5D ESA - Socio-economic Technical Reports Volume 8A Marine Transportation: <ul style="list-style-type: none"> • Sections 4.3 and 4.4 Volume 8B Technical Reports
any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.	s.5(1)(c)(iv)	Volume 5B ESA - Socio-economic: <ul style="list-style-type: none"> • Sections 5.0, 6.0 and 7.0



**TRADITIONAL LAND AND RESOURCE USE
TECHNICAL REPORT
FOR THE
TRANS MOUNTAIN PIPELINE ULC
TRANS MOUNTAIN EXPANSION PROJECT**

December 2013

REP-NEB-TERA00035

Prepared for:



TRANSMOUNTAIN

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- Enoch Cree Nation;
- Alexander First Nation;
- Samson Cree Nation;
- Métis Nation of Alberta (Region 4);
- O’Chiese First Nation;
- Ermineskin Cree Nation;
- Montana First Nation;
- Alexis Nakota Sioux Nation;
- Foothills Ojibway Society;
- Paul First Nation;
- Nakcowinewak Nation of Canada;
- Sunchild First Nation;
- Aseniwuche Winewak Nation;
- Lheidli T’enneh;
- Simpcw First Nation;
- Lhtako Dene Nation;
- Canim Lake Band;
- Whispering Pines (Clinton Indian Band);
- Lower Nicola Indian Band;
- Shackan Indian Band;
- Nicomen Indian Band;
- Nooaitch Indian Band;
- Yale First Nation;
- Chawathil First Nation;
- Shxw’ōwhámél First Nation;
- Cheam First Nation;
- Sumas First Nation;
- Popkum First Nation;
- Scowlitz First Nation;
- Skowkale First Nation;
- Yakwekwioose First Nation;
- Aitchelitz First Nation;
- Skwah First Nation;
- Kwaw-kwaw-apilt First Nation;
- Soowahlie First Nation;
- Shxwha:y Village;
- Tzeachten First Nation;
- Squiala First Nation;
- Leq’á:mel First Nation;
- Semiahmoo First Nation; and
- Métis Nation British Columbia.

All of their time, effort, commitment and participation is much appreciated and was fundamental to the success of the traditional land use studies for the proposed Trans Mountain Expansion Project.

EXECUTIVE SUMMARY

Trans Mountain Pipeline ULC (Trans Mountain) is a Canadian corporation with its head office located in Calgary, Alberta. Trans Mountain is a general partner of Trans Mountain Pipeline L.P., which is operated by Kinder Morgan Canada Inc. (KMC), and is fully owned by Kinder Morgan Energy Partners, L.P. Trans Mountain is the holder of the National Energy Board (NEB) certificates for the Trans Mountain pipeline system (TMPL system).

The TMPL system commenced operations 60 years ago and now transports a range of crude oil and petroleum products from Western Canada to locations in central and southwestern British Columbia (BC), Washington State and offshore. The TMPL system currently supplies much of the crude oil and refined products used in BC. The TMPL system is operated and maintained by staff located at Trans Mountain's regional and local offices in Alberta (Edmonton, Edson, and Jasper) and BC (Clearwater, Kamloops, Hope, Abbotsford, and Burnaby).

The TMPL system has an operating capacity of approximately 47,690 m³/d (300,000 bbl/d) using 23 active pump stations and 40 petroleum storage tanks. The expansion will increase the capacity to 141,500 m³/d (890,000 bbl/d).

The proposed expansion will comprise the following:

- pipeline segments that complete a twinning (or “looping”) of the pipeline in Alberta and BC with about 987 km of new buried pipeline;
- new and modified facilities, including pump stations and tanks; and
- three new berths at the Westridge Marine Terminal in Burnaby, BC, each capable of handling Aframax class vessels.

Application is being made pursuant to Section 52 of the *National Energy Board Act (NEB Act)* for the proposed Trans Mountain Expansion Project (referred to as “TMEP” or “the Project”). The NEB will undertake a detailed review and hold a Public Hearing to determine if it is in the public interest to recommend a Certificate of Public Convenience and Necessity (CPCN) for construction and operation of the Project. Subject to the outcome of the NEB Hearing process, Trans Mountain plans to begin construction in 2016 and go into service in 2017.

TERA Environmental Consultants (TERA) was commissioned to prepare the following Traditional Land and Resource Use Technical Report. This report provides the results of the desktop analysis, literature review, the results of engagement with Aboriginal community representatives and traditional land use (TLU) studies conducted for the Project.

Traditional land use studies were initiated for the Project in 2012 and are ongoing. The progress of each participating community's TLU study at the time of application filing is described in Section 3.0. Additional TLU study work with participating Aboriginal communities is scheduled for completion prior to construction of the Project. Information gathered during ongoing TLU studies will be considered for incorporation into Project planning including the Environmental Protection Plans (EPPs) and the Environmental Alignment Sheets, as appropriate. These plans are provided in Volumes 6B, 6C and 6D of the application. The results of these ongoing engagement efforts will be provided to the NEB.

The results of the desktop analysis and literature review, TLU studies conducted and preliminary interests identified to date indicate that Aboriginal communities have historically used and presently use the Traditional Land and Resource Use Regional Study Area (RSA) to maintain a traditional lifestyle and continue to use environmental resources throughout the Traditional Land and Resource Use RSA for a variety of purposes including hunting, trapping, fishing, trapping, plant gathering, and spiritual/cultural pursuits.

To date, TLU studies for the Project have identified the following TLU sites within the proposed pipeline corridor requiring mitigation:

- 19 trails and travelways;
- 5 habitation sites;
- 43 plant gathering sites;
- 14 hunting sites;
- 7 fishing sites;
- 2 trapping sites;
- 5 gathering places; and
- 14 sacred areas.

In the event that TLU sites within the proposed pipeline corridor requiring mitigation are identified during ongoing TLU studies for the Project and/or during construction, the accepted and proven mitigation strategies outlined in this TLU Study Report and in the TLU Sites Discovery Contingency Plan will be implemented (Appendix B of Volumes 6B and 6C).

The potential residual effects on traditional land and resource use are identified, discussed and evaluated for significance in Section 7.2.2 of Volume 5B of this application, which should be read in conjunction with this technical report.

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DEFINITIONS AND ACRONYM LIST

Definition/Acronym	Full Name
AANDC	Aboriginal Affairs and Northern Development Canada
AB	Alberta
Aboriginal	includes the Indian, Inuit and Métis peoples of Canada
Avoidance	a means to prevent a potential adverse effect through routing/siting of the project, changes to project design or construction timing
ATK	Aboriginal Traditional Knowledge
BC	British Columbia
CEA	Canadian Environmental Assessment
CEA Agency	Canadian Environmental Assessment Agency
CCME	Canadian Council of Ministers of the Environment
CNR	Canadian National Railway
CPCN	Certificate of Public Convenience and Necessity
Element	a technical discipline or discrete component of the biophysical or human environment identified in the NEB <i>Filing Manual</i>
EPP	Environmental Protection Plan
ESA	Environmental and Socio-economic Assessment
GPS	Global Positioning System
Indicator	a biophysical, social, or economic property or variable that society considers to be important and is assessed to predict Project-related changes and focus the effects assessment on key issues. One or more indicators are selected to describe the present and predicted future condition of an element. Societal views are understood by the assessment team through published information such as management plans and engagement with regulators, public, Aboriginal, and other interested groups.
IR	Indian Reserve
KMC	Kinder Morgan Canada Inc.
LOU	Letter of Understanding
LSA	local study area, the zone of influence or area where the element and associated indicators are most likely to be affected by Project construction and operation. This generally represents a buffer from the centre of the proposed pipeline corridor
Measurement endpoint	one or more 'measurement endpoints' are identified for each indicator to allow quantitative or qualitative measurement of potential Project effects. The degree of change in these measurable parameters is used to characterize and evaluate the magnitude of Project-related environmental and socio-economic effects. Measurement endpoints are also the key variables for study in monitoring and follow-up programs.
Mitigation measures	mean measures for the elimination, reduction or control of a project's adverse environmental effects, including restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means.
NEB	National Energy Board
NPS	Niton Pump Station
O.D.	outside diameter
Post-construction monitoring	a type of monitoring program that may be used to verify that mitigation measures effectively mitigated the predicted adverse environmental effects.
Proposed pipeline corridor	generally a 150 m wide corridor encompassing the pipeline construction right-of-way and temporary workspace
RK	Reference Kilometre
RSA	regional study area, the area extending beyond the LSA boundary where the direct and indirect influence of other activities could overlap with project-specific effects and cause cumulative effects on the environmental or socio-economic indicator
Supplemental studies	studies to be conducted post submission of the application to confirm the effects assessment conclusions and gather site-specific information for the implementation of mitigation from the Project-specific environmental protection plans.
TBD	To Be Determined

Definition/Acronym	Full Name
TEK	Traditional Ecological Knowledge
the Project	Trans Mountain Expansion Project
TLU	Traditional Land Use
TMEP	Trans Mountain Expansion Project
TMPL	Trans Mountain Pipeline
TMRU	Traditional Marine Resource and Use

1.0 INTRODUCTION

1.1 Project Overview

Trans Mountain Pipeline ULC (Trans Mountain) is a Canadian corporation with its head office located in Calgary, Alberta. Trans Mountain is a general partner of Trans Mountain Pipeline L.P., which is operated by Kinder Morgan Canada Inc. (KMC), and is fully owned by Kinder Morgan Energy Partners, L.P. Trans Mountain is the holder of the National Energy Board (NEB) certificates for the Trans Mountain pipeline system (TMPL system).

The TMPL system commenced operations 60 years ago and now transports a range of crude oil and petroleum products from Western Canada to locations in central and southwestern British Columbia (BC), Washington State and offshore. The TMPL system currently supplies much of the crude oil and refined products used in BC. The TMPL system is operated and maintained by staff located at Trans Mountain's regional and local offices in Alberta (Edmonton, Edson, and Jasper) and BC (Clearwater, Kamloops, Hope, Abbotsford, and Burnaby).

The TMPL system has an operating capacity of approximately 47,690 m³/d (300,000 bbl/d) using 23 active pump stations and 40 petroleum storage tanks. The expansion will increase the capacity to 141,500 m³/d (890,000 bbl/d).

The proposed expansion will comprise the following:

- pipeline segments that complete a twinning (or “looping”) of the pipeline in Alberta and BC with about 987 km of new buried pipeline;
- new and modified facilities, including pump stations and tanks; and
- three new berths at the Westridge Marine Terminal in Burnaby, BC, each capable of handling Aframax class vessels.

The expansion has been developed in response to requests for service from Western Canadian oil producers and West Coast refiners for increased pipeline capacity in support of growing oil production and access to growing West Coast and offshore markets. NEB decision RH-001-2012 reinforces market support for the expansion and provides Trans Mountain the necessary economic conditions to proceed with design, consultation, and regulatory applications.

Application is being made pursuant to Section 52 of the *National Energy Board Act (NEB Act)* for the proposed Trans Mountain Expansion Project (referred to as “TMEP” or “the Project”). The NEB will undertake a detailed review and hold a Public Hearing to determine if it is in the public interest to recommend a Certificate of Public Convenience and Necessity (CPCN) for construction and operation of the Project. Subject to the outcome of the NEB Hearing process, Trans Mountain plans to begin construction in 2016 and go into service in 2017.

Trans Mountain has embarked on an extensive program to engage Aboriginal communities and to consult with landowners, regulatory authorities (e.g., regulators and municipalities), stakeholders, and the general public. Information on the Project is also available at www.transmountain.com.

The scope of the Project will involve:

- using existing active 610 mm (NPS 24) and 762 mm (NPS 30) OD buried pipeline segments;
- constructing three new 914 mm (NPS 36) OD buried pipeline segments totalling approximately 987 km:
 - Edmonton to Hinton – 339.4 km;
 - Hargreaves to Darfield – 279.4 km; and

- Black Pines to Burnaby – 367.9 km;
- reactivating two 610 mm (NPS 24) OD buried pipeline segments that have been maintained in a deactivated state:
 - Hinton to Hargreaves – 150 km; and
 - Darfield to Black Pines – 43 km;
- constructing two, 3.6 km long 762 mm (NPS 30) OD buried delivery lines from Burnaby Terminal to Westridge Marine Terminal (the Westridge delivery lines);
- installing 23 new sending or receiving traps (16 on the Edmonton-Burnaby mainlines), for in-line inspection tools, at nine existing sites and one new site;
- adding 35 new pumping units at 12 locations (*i.e.*, 11 existing and one new pump station site);
- reactivating the existing Niton Pump Station that has been maintained in a deactivated state;
- constructing 20 new tanks located at the Edmonton (5), Sumas (1) and Burnaby (14) Terminals, preceded by demolition of 2 existing tanks at Edmonton (1) and Burnaby (1), for a net total of 18 tanks to be added to the system; and
- constructing one new dock complex, with a total of three Aframax-capable berths, as well as a utility dock (for tugs, boom deployment vessels, and emergency response vessels and equipment) at Westridge Marine Terminal, followed by the deactivation and demolition of the existing berth.

1.1.1 Purpose of Report

The purpose of this report is to describe the existing (baseline) characteristics of traditional land and resource use assessed for the development of the Project (Figure 1.1) as presented in the environmental and socio-economic assessment (ESA) (see Volumes 5A and 5B). This report outlines the results and the methods used to evaluate the existing conditions for traditional land and resource use by Aboriginal communities potentially affected by the Project. The results of the evaluation will be used to predict Project effects and assist in identifying measures required to reduce or avoid adverse environmental effects on traditional land and resource use during construction and operations. Of the 85 Aboriginal communities engaged on the Project with Trans Mountain, the following 62 communities have been identified as having an interest in the Project or having interests potentially affected by the Project:

- Saddle Lake Cree Nation;
- Enoch Cree Nation;
- Alexander First Nation;
- Samson Cree Nation;
- Métis Nation of Alberta (Region 4);
- O'Chiese First Nation;
- Ermineskin Cree Nation;
- Montana First Nation;
- Louis Bull Tribe;
- Alexis Nakota Sioux Nation;
- Foothills Ojibway Society;
- Paul First Nation;
- Nakcowinewak Nation of Canada;
- Sunchild First Nation;
- Aseniwuche Winewak Nation;
- Lheidli T'enneh;
- Simpcw First Nation;
- Lhtako Dene Nation;

- Canim Lake Band;
- Whispering Pines (Clinton Indian Band);
- Métis Nation British Columbia;
- Tk'emlúps te Secwepemc;
- Skeetchestn Indian Band;
- Penticton Indian Band;
- Upper Nicola Indian Band;
- Lower Similkameen Indian Band;
- Upper Similkameen Indian Band;
- Lower Nicola Indian Band;
- Coldwater Indian Band;
- Shackan Indian Band;
- Nicomen Indian Band;
- Nooaitch Indian Band;
- Yale First Nation;
- Union Bar First Nations;
- Chawathil First Nation;
- Shxw'ōwhámel First Nation;
- Cheam First Nation;
- Sumas First Nation;
- Peters Band;
- Seabird Island Band;
- Popkum First Nation;
- Scowlitz First Nation;
- Skowkale First Nation;
- Yakweawioose First Nation;
- Aitchelitz First Nation;
- Skwah First Nation;
- Kwaw-kwaw-apilt First Nation;
- Soowahlie First Nation;
- Shxwha:y Village;
- Tzeachten First Nation;
- Squiala First Nation;
- Leq'á:meI First Nation;
- Semiahmoo First Nation;
- Matsqui First Nation;
- Kwantlen First Nation;
- Katzie First Nation;
- Kwikwetlem First Nation;
- Qayqayt First Nation;
- Squamish Nation;
- Tseil-Waututh Nation;
- Musqueam Indian Band; and
- Tsawwassen First Nation.

TERA Environmental Consultants (TERA) was commissioned to assist in the collection of traditional land and resource use information with potentially affected Aboriginal communities that focused on the current use of Crown lands and waters for traditional activities potentially disturbed by pipeline and facility construction and clean-up activities, including associated physical works and activities.

TERA acknowledges the unique relationship that has evolved between the Aboriginal peoples and their surrounding physical environment. This physical environment includes the lands, waters, resources and events that have shaped and sustained the local Aboriginal peoples, their culture and their communities. In this document, TERA will refer to this relationship as "traditional land use" or "traditional land and resource use" and both shall be interpreted broadly, respectful of the Aboriginal worldview, not limited to lands, but be inclusive of all aspects of the terrestrial and marine environments.

This report contains the results of the traditional land use (TLU) studies conducted by potentially affected Aboriginal communities for the Project. Approval to treat Project-specific TLU within this report as public knowledge was received by the participating Aboriginal communities listed herein.

FIGURE 1.1
PROJECT OVERVIEW
ALBERTA AND BRITISH COLUMBIA
TRANS MOUNTAIN
EXPANSION PROJECT

- Kilometre Post (KP)
- Reference Kilometre Post (RK)
- Trans Mountain Pipeline (TMPL)
- Trans Mountain Expansion Project Proposed Pipeline Corridor
- Terminal
- Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
- New Pump Station (Proposed)
- Pump Station (Reactivated)
- Existing Pump Station
- Highway
- Railway
- City / Town / District Municipality
- Indian Reserve / Métis Settlement
- National Park
- Provincial Park
- Protected Area / Natural Area / Provincial Recreation Area / Wilderness Provincial Park / Conservancy Area
- Provincial Boundary
- International Boundary

Projection: LCC Modified. Routing: Baseline TMPL & Facilities: provided by KMC, 2012; Proposed Pipeline Corridor V6: provided by UPI, Aug. 23, 2013; Transportation: IHS Inc., 2013; BC Forests, Lands and Natural Resource Operations, 2012 & Natural Resources Canada, 2012; Geopolitical Boundaries: Natural Resources Canada, 2003, AtlasIS, 2013; IHS Inc., 2011; BC FLNRD, 2007 & ESRI, 2005; First Nation Lands: Government of Canada, 2013; AtlasIS, 2010 & IHS Inc., 2011; Hydrology: Natural Resources Canada, 2007 & BC Crown Registry and Geographic Base Branch, 2008; Parks and Protected Areas: Natural Resources Canada, 2012, AtlasIS, 2012 & BC FLNRD, 2008; ATS Grid: AtlasIS, 2009; Edmonton TUC: Alberta Infrastructure, 2011; Canadian Hillshade: TERA Environmental Consultants, 2008; US Hillshade: Copyright: © 2009 ESRI.

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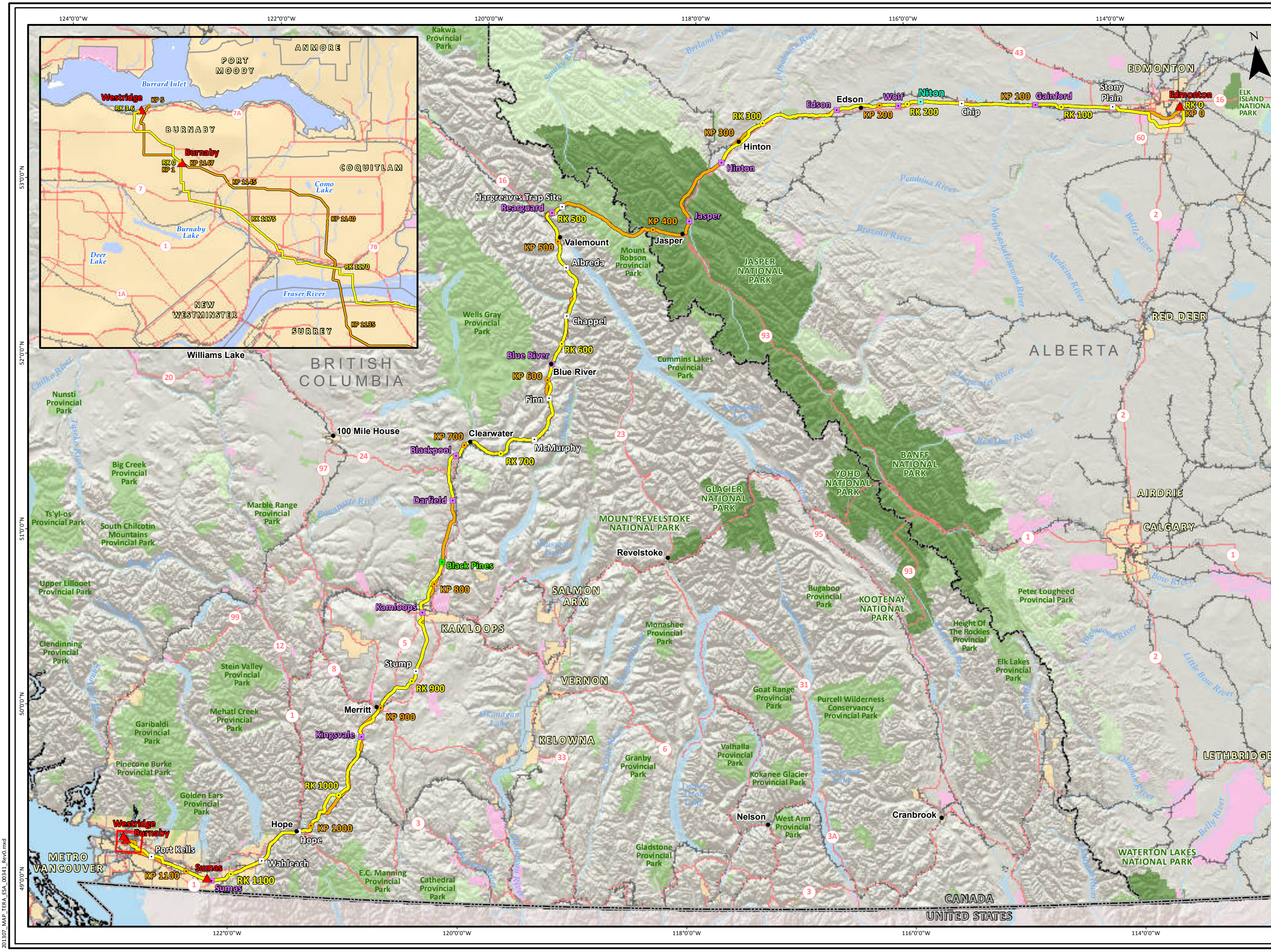


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1.2 Objectives

The aim of the TLU studies is to assess and mitigate effects of the Project on current use of Crown lands for traditional activities and on identified TLU sites. This is achieved by meeting the following objectives.

- Determine the extent and general nature of each community's current use of lands for traditional activities relative to the Project.
- Identify existing concerns and potential effects of the Project on traditional land and resource use for baseline scoping and selection of social or environmental indicators for the effects assessment.
- Provide traditional knowledge information, where appropriate, for the assessment of potential Project-related effects on traditional land and resource use.
- Establish appropriate site-specific mitigation measures to address concerns raised relative to the Project regarding traditional land and resource use.

This report describes the methods of the TLU studies, the approach for and results of field work, as well as providing general traditional land and resource use mitigation recommendations for the construction and reclamation phases of the Project. The results of this report do not identify residual environmental or socio-economic effects nor provide conclusions regarding significance. Volume 5B provides information on the potential residual and cumulative effects of the Project on traditional land and resource use, including an evaluation of significance.

1.3 Regulatory Standards

The Project will require a NEB CPCN pursuant to Section 52 of the *NEB Act* and is considered a designated project under the *Canadian Environmental Assessment (CEA) Act, 2012*.

This report was prepared according to the direction of Guide A.2 Environmental and Socio-Economic Assessment of the *NEB Filing Manual (2013)*. Table A-1 of the *NEB Filing Manual* describes the circumstances and interactions requiring detailed information on traditional land and resource use through all phases of the applied-for Project (*i.e.*, construction, operation, decommissioning and abandonment).

- The Project would be located on, or traverse, Crown land or the asserted traditional territory, reserve land or settlement area of an Aboriginal group.
- The Project may adversely affect the current use of lands and resources by Aboriginal people.
- There is outstanding concern about this element of the Project, which has not been resolved through consultation.

Table A-3 of the *NEB Filing Manual* outlines the filing requirements that provide for detailed information on traditional land and resource use. The ESA will:

- Describe how lands and resources in the study area are currently used by Aboriginal persons or groups for traditional purposes.
- Identify the Aboriginal persons or groups currently carrying out traditional land and resource use activities, the spatial and temporal extent of use and how the Project could effect this use.
- Describe all reasonable alternatives to the Project that would avoid effect on the Aboriginal traditional land and resource use considered during project development.
- Describe all feasible measures that would be taken to mitigate the effect of the activity on Aboriginal traditional land and resource use.

- Describe the methodology used to collect the Aboriginal traditional land and resource use information and provide a listing and the rationale for the listing, of all Aboriginal persons and groups contacted.
- Demonstrate that those Aboriginal persons and groups participating in collecting traditional use information have had the opportunity to review the information and proposed mitigation. Include any comments from the Aboriginal participants on the information and proposed mitigation.

1.3.1 Aboriginal Traditional Knowledge

Aboriginal Traditional Knowledge (ATK) is typically documented as a means to “preserve” historical and familial connections, territorial occupation, land and resource use and temporal execution strategies. The collection of ATK is typically conducted through the participation of potentially affected Aboriginal communities in the biophysical field studies for the Project to document knowledge about the land (*i.e.*, traditional ecological knowledge [TEK]) and through TLU studies for the Project to document knowledge about the use of the land. Specifically, the understanding of the biotic and physical world by Aboriginal peoples is described as TEK, while TLU is the current and former use of the land and its resources by Aboriginal peoples.

This report considers ATK according to Section 19(3) of the *CEA Act, 2012* as well as the filing requirements and guidance provided in the *NEB Filing Manual*, pertinent issues and concerns identified through Aboriginal engagement for the Project and the following reference guidance documents issued by the CEA Agency:

- Reference Guide on Physical and Cultural Resources (1996); and
- Considering Aboriginal Traditional Knowledge in Environmental Assessments Conducted under the *CEA Act – Interim Principles* (n.d.).

2.0 CONSULTATION AND ENGAGEMENT

Trans Mountain and its consultants have conducted a number of engagement activities to inform Aboriginal communities, stakeholders, the public and regulatory authorities about the approach to assessing potential environmental and socio-economic effects of the Project, and to seek input throughout the Project planning process.

2.1 Public Consultation, Aboriginal Engagement and Landowner Relations

Trans Mountain has implemented and continues to conduct open, extensive and thorough public consultation, Aboriginal engagement and landowner relations programs. These programs were designed to reflect the unique nature of the Project as well as the diverse and varied communities along the proposed pipeline and marine corridors. These programs were based on Aboriginal communities, landowner and stakeholder groups' interests and inputs, knowledge levels, time and preferred methods of engagement. In order to build relationships for the long-term, these programs were based on the principles of accountability, communication, local focus, mutual benefit, relationship building, respect, responsiveness, shared process, sustainability, timeliness, and transparency.

Feedback related to the Project that was raised through various Aboriginal engagement and public consultation activities including public open houses, ESA Workshops, Community Workshops and one-on-one meetings, is summarized below and was considered in the development of this technical report, and the assessment of traditional land and resource use in Volume 5B:

- watercourse crossings and effect to traditional lands;
- potential effects on traditional hunting and fishing areas, gathering places, sacred areas; and
- potential effects on traditional cultural harvesting practices.

In addition, concerns related to the potential effects of spills on traditional activities were also raised and detailed information on pipeline spills is provided in Volume 7.

The full description of the public consultation, Aboriginal engagement and landowner relations programs are located in Volumes 3A, 3B and 3C, respectively. Section 3.2 of Volume 5B summarizes the Aboriginal engagement activities that have focused on identifying and assessing potential issues and concerns related to traditional land and resource use which may be affected by the construction and operation of the Project. Information collected through the Aboriginal engagement program for the Project was considered in the development of this technical report, and the assessment of traditional land and resource use in Volume 5B.

3.0 METHODS

3.1 Project Interactions and Identification of Potential Effects

The construction of the Project has the potential to directly and indirectly disrupt subsistence hunting, trapping, fishing and plant gathering through changes to harvesting locales, as well as the broader ecological system, through the temporary physical disturbance of land or resources. Subsistence activities may also be affected by Project activities resulting from limited access and/or increased public access to traditional harvesting areas and increased pressure on environmental resources.

Project construction activities have the potential to result in a direct loss of trails, travelways and habitation sites through clearing. Right-of-way clearing may also alter connectivity to trails and travelways and encroach on lands used for cultural activities. Project construction activities may cause a disruption of access to trails, travelways and habitation sites, and increased public access as a result of development that may lead to increased pressure on resource-rich areas and potential or existing habitation sites.

Project construction activities also have the potential to result in a loss of or disturbance to cultural sites and activities. Sacred areas and gathering places are typically protected from public access, use, and vandalism and, in some cases, may only be accessible with spiritual leaders. Increased access to undisturbed areas has led to greater exposure of sacred areas, areas that range from geologic formations to entire landscapes. Noise and activity as a result of construction and operations may also influence the focus and intent of ceremonial activities.

3.2 Assessment Indicators and Measurement Endpoints

Key issues related to traditional land and resource use were first identified in the ESA Approach Summary document, a document intended to provide an overview of Trans Mountain's understanding of the environmental and socio-economic context of the Project at the time of its release in March 2013. Since its release, Trans Mountain has actively engaged with Aboriginal communities, regulatory authorities and stakeholders on the methods, indicators and spatial boundaries listed in the approach document. Methods, indicators and spatial boundaries for the environmental and socio-economic elements were reviewed based on feedback received. In May 2013, Trans Mountain filed the Project Description for the Project with the NEB which included updated anticipated key issues and proposed indicators for each environmental and socio-economic element. Feedback on the ESA approach received after the filing of Project Description was considered for finalizing the ESA approach.

Potential effect pathways and measurement endpoints for traditional land and resource use were refined to reflect the components valued by traditional resource users that are often holistic in nature and span both the biophysical and social disciplines. Potential Project-related effects on traditional land and resource use are naturally linked to issues related to the biophysical elements (e.g., wildlife and wildlife habitat) and some socio-economic elements (e.g., the effects of wage employment on traditional lifestyle and community health). Since all components of the biophysical environment are understood to support the land base and habitat conditions essential to the practice of traditional activities, the assessment of Project-related and cumulative effects on traditional land and resource use will also consider the assessment of effects on biophysical resources known or assumed to be of importance to Aboriginal peoples for traditional use.

One or more "measurement endpoints" are identified for each indicator to allow quantitative or qualitative measurement of potential Project effects. The degree of change in these measurable parameters is used to characterize and evaluate the magnitude of Project-related environmental and socio-economic effects. A selection of the measurement endpoints may also be the focus of monitoring and follow-up programs, where applicable. The measureable endpoints of the traditional land and resource use indicators (Table 3.1) were primarily selected to reflect the NEB *Filing Manual* (2013) requirements.

TABLE 3.1

TRADITIONAL LAND AND RESOURCE USE INDICATORS AND MEASUREMENT ENDPOINTS

Indicator	Measurement Endpoints	Rationale for Indicator Selection
Subsistence Activities and Sites	<ul style="list-style-type: none"> • Hunting • Trapping • Fishing • Plant gathering • Trails and travelways • Habitation sites 	The selection of indicators and measurement endpoints reflect the NEB <i>Filing Manual</i> requirements for the traditional land and resource use element in Table A-3 and considered key issues and interests identified during Aboriginal engagement.
Cultural Sites	<ul style="list-style-type: none"> • Gathering places • Sacred areas 	
Traditional Marine Resource Use	<ul style="list-style-type: none"> • Subsistence activities and sites • Cultural sites 	

3.2.1 Subsistence Activities and Sites

This indicator represents the extensive land and water bases on which activities take place. It represents the broad view of where and how people move in the landscape, how they use the land and where they inhabit the land. Travelways on the landscape are used to access subsistence resources and neighbouring communities. Hunting, trapping, fishing and plant gathering are activities pursued by Aboriginal peoples for both subsistence and traditional purposes and represent the intrinsic link to the biophysical environment.

Hunting

Hunting and wildlife sites are areas where large mammals such as elk, moose, deer, caribou and bear are commonly harvested. Key wildlife species are identified both in community discussion and by observed game ambushes, blinds and hunting stands, dry meat racks and butchered animal remains. Furthermore, locales where game can be expected, such as mineral licks, calving areas and well-used game trails, are typically important hunting areas.

Trapping

Aboriginal peoples continue the practice of trapping and snaring for food and pelts. These traps and snares may or may not be located within registered trap lines.

Fishing

The practices of traditional fisheries relate to the species harvested, fishing techniques and the nature of specific reaches of lakes and rivers. Fishing methods may include but are not limited to: angling; gigging; spear-fishing; dip netting; gill netting; and the construction and use of fish traps and weirs. While fishing activities vary with changes in seasonal water flow and variation in fish stocks, fisheries often exhibit habitual repeated use. Fishing areas include watercourse and waterbodies often in proximity to staging areas and/or access points to the waters. Secondary fishing activities relate to the processing of harvests and may include processing yards, smokehouses, drying racks and fish-grease rendering features.

Plant Gathering

Many Aboriginal peoples harvest medicinal, ceremonial and food source plants. Plants are gathered in a variety of environments, which include old forests, along watercourses and in rugged or mountainous areas. Detailed information regarding medicinal plants is passed down from the Elders and is considered proprietary by the communities.

Trails and Travelways

Travel corridors are essential for conducting traditional activities and accessing cultural landscape features. Trails include well-defined all-terrain vehicle and snowmobile corridors, navigable waterways, river portages and historic foot, dog sled and pack horse pathways.

Habitation Sites

Habitation sites include traditional campsites, cabins and settlements. Campsites typically have defined hearths (fire rings), de-limbed trees, tent frames and/or miscellaneous cached or discarded camping supplies and equipment. Cabin structures represent a more permanent occupation of the land and include central log or timber-framed structures, traditional activity areas such as drying racks and smoking tents and ancillary equipment storage areas. A group of cabins or campsites may signify a long-term or intermittent occupation. A settlement may have been used seasonally or throughout the year, depending on location or necessity. The relative size and nature of habitation sites continuously evolve based on how families and communities grow and often expand from campsites to cabins and possibly to settlements.

3.2.2 Cultural Sites

This indicator represents people's long-term connection to the land and cultural continuity and includes the ability to participate in and continue practices and activities conducted by past generations and the ability to pass on the collective knowledge and use of the environment according to tradition. Gathering areas and sacred areas are collective terms used to incorporate all types of sites unrelated to the acquisition of environmental resources.

Gathering Places

Aboriginal peoples often gathered to share in ceremonial activities, exchange items of trade, arrange and celebrate marriages and for other activities. Additionally, indigenous grave sites are sometimes recorded in the general area of large gathering places. Such gathering places have historical, ceremonial, cultural and economic significance to Aboriginal communities.

Sacred Areas

These areas include burials, vision quest locations, rock art panels, birth locations and ceremonial places, among others. A particular element is often only a small component of a larger spiritual complex, which can encompass topographic features and may, by its very nature in the context of Aboriginal spirituality, be inestimable and irreplaceable.

3.2.3 Traditional Marine Resource Use

Complimentary to and representative of the marine components of the traditional land and resource use indicators, this indicator represents the extensive land and water bases on which activities take place. It represents the broad view of where and how people move in the landscape, how they use it and where they inhabit it. Navigable waters are used to access subsistence resources, neighbouring communities and coastal settlements. This indicator also represents people's long-term connection to the land and water and includes the ability to participate in and continue practices and activities conducted by past generations, and the ability to pass on the collective knowledge and use of the environment according to tradition. Access to and continued use of cultural sites promotes cultural continuity.

Effects related to marine transportation (*i.e.*, the increase in marine vessel traffic anticipated as a result of the Project) are discussed separately in Volume 8A, as a stand-alone element within that ESA. In Volume 8A, TMRU is assessed by several measurement endpoints, including hunting, fishing, plant gathering, travelways, gathering places and sacred areas. Full details can be found in the Traditional Marine Resource Use – Marine Transportation Technical Report of Volume 8B.

3.3 Study Area Boundaries

The Footprint is the area directly disturbed by surveying, construction and clean-up of the pipeline and associated physical works and activities (including, where appropriate, the permanent rights-of-way, pump stations, tanks, Westridge Marine Terminal, temporary construction workspace, temporary stockpile sites, temporary staging sites, construction camps, access roads, power lines).

The Local Study Area (LSA) encompasses and extends beyond the Footprint to include the zones of influence of water quality and quantity, air emissions, acoustic environment, fish and fish habitat, wetland loss or alteration, vegetation, wildlife and wildlife habitat, heritage resources, marine fish and fish habitat, marine mammals and marine birds since traditional land and resource use is dependent on these resources (Figure 3.1, Table 3.2). The Traditional Land and Resource Use (TLRU) LSA is the area where there is a reasonable potential for localized Project-related effects to affect existing uses of the land for traditional purposes (e.g., trapping, hunting, fishing and gathering areas). The potential effects of the Project are primarily assessed within the Footprint and the TLRU LSA.

The Regional Study Area (RSA) is the area where the direct and indirect influences of other land uses and activities could overlap with Project-related effects and cause cumulative effects on the traditional land and resource use indicators. The TLRU RSA includes the RSA boundaries of water quality and quantity, air emissions, acoustic environment, fish and fish habitat, wetland loss or alteration, vegetation, wildlife and wildlife habitat, heritage resources, marine fish and fish habitat, marine mammals and marine birds (Figure 3.1, Table 3.2). Since in some cases, the focus of traditional land and resource use may be on land within a few hundred metres of the Footprint and in other cases broader territorial uses are identified extending several kilometres from the Footprint, the potential effects of the Project on traditional land and resource use are also assessed within the TLRU RSA.

TABLE 3.2

INPUTS TO TRADITIONAL LAND AND RESOURCE USE STUDY AREA BOUNDARIES

Resource Component	Local Study Area	Regional Study Area	ESA Reference
Water Quality and Quantity	The area generally extending 100 m upstream of the centre of the proposed pipeline corridor to a minimum of 300 m downstream of the centre of the pipeline corridor. For groundwater, the area within 300 m of the proposed pipeline corridor, facility or HDD entrance in potentially vulnerable aquifer areas in hydraulic connection with the Footprint.	Includes all watersheds affected by the Project.	Section 5.3 of Volume 5A
Air Emissions	--	Consists of a 5 km wide band extending from the edges of the proposed pipeline corridor (i.e., 2.5 km on each side of the proposed pipeline corridor) or a 24 km by 24 km area centred on a facility.	Section 5.4 of Volume 5A
Acoustic Environment	Extends 1.5 km from the fence line or Footprint of the Project. For construction, this includes the pipeline, pump stations and terminals. For operations, this includes the pump stations and terminals only.	Potential effects on human receptors are not anticipated to extend beyond the Acoustic Environment LSA; however, cumulative effects from other energy-related noise sources could occur within a 1.5 km radius of the other developments energy-related noise sources so an RSA of 5.0 km is considered.	Section 5.6 of Volume 5A
Fish and Fish Habitat	Consists of the area extending 100 m upstream of the centre of the proposed pipeline corridor to a minimum of 300 m downstream from the centre of the proposed pipeline corridor.	Includes all watersheds directly affected by the Project.	Section 5.7 of Volume 5A

TABLE 3.2 Cont'd

Resource Component	Local Study Area	Regional Study Area	ESA Reference
Wetlands	Generally consists of a 300 m wide band centred on the proposed pipeline corridor (<i>i.e.</i> , 150 m on each side of the proposed pipeline corridor centre) with site-specific tailoring to extend around larger wetland complexes that are encountered by the proposed pipeline corridor.	Includes all watersheds directly affected by the Project.	Section 5.8 of Volume 5A
Vegetation	Generally consists of a 300 m wide band centred on the proposed pipeline corridor (<i>i.e.</i> , 150 m on each side of the proposed pipeline corridor centre).	Consists of a 2 km band generally extending from the centre of the proposed pipeline corridor and facilities (<i>i.e.</i> , 1 km on each side of the centre of the proposed corridor).	Section 5.9 of Volume 5A
Wildlife and Wildlife Habitat	Generally consists of a 1 km buffer of the centre of the proposed pipeline corridor and power lines, and within a 1 km buffer around the boundary of the proposed permanent facilities.	Consists of a 15 km buffer of the centre of the proposed pipeline corridor and power lines, and within a 15 km buffer around the boundary of the proposed permanent facilities and species-specific RSAs delineated for caribou (defined by identified range boundaries) and grizzly bear (defined by identified population units).	Section 5.10 of Volume 5A
Heritage Resources	--	Consists of the area extending beyond the Footprint and is defined as an area of intersecting Borden Blocks.	Section 5.1 of this volume
Marine Fish and Fish Habitat	The ZOI likely to be affected by construction and operations of the Westridge Marine Terminal, defined as the area within 500 m of the proposed water lease expansion	The area where the direct and indirect influence of other activities could overlap with Project-specific effects and cause cumulative effects on marine fish and fish habitat. This includes the area of Burrard Inlet east of the First Narrows, including Indian Arm and Port Moody Arm.	Section 6.2 of Volume 5A
Marine Mammals	The ZOI likely to be affected by construction and operations of the Westridge Marine Terminal, defined as the area within 500 m of the proposed water lease expansion	The area where the direct and indirect influence of other activities could overlap with Project-specific effects and cause cumulative effects on marine mammals. This includes the area of Burrard Inlet east of the First Narrows, including Indian Arm and Port Moody Arm.	Section 6.2 of Volume 5A
Marine Birds	The ZOI likely to be affected by construction and operations of the Westridge Marine Terminal, defined as the area within 300 m of the proposed water lease expansion	The area where the direct and indirect influence of other activities could overlap with Project-specific effects and cause cumulative effects on marine birds. This includes the area of Burrard Inlet east of the First Narrows, including Indian Arm and Port Moody Arm.	Section 6.2 of Volume 5A

FIGURE 3-1
TRADITIONAL LAND AND RESOURCE USE
REGIONAL STUDY AREA

TRANS MOUNTAIN
EXPANSION PROJECT

- Town / Village / Hamlet
- Kilometre Post (KP)
- Reference Kilometre Post (RK)
- Trans Mountain Pipeline (TMPL)
- Trans Mountain Expansion Project Proposed Pipeline Corridor
- Proposed Power Line
- ▲ Terminal
- Pump Station (Pump Addition, Station Modifications and/or Scraper Facilities)
- New Pump Station (Proposed)
- Pump Station (Reactivated)
- Existing Pump Station
- Highway
- Railway
- ▭ Traditional Land and Resource Use Regional Study Area
- ▭ Marine Traditional Land and Resource Use Regional Study Area
- ▭ City / Town / District Municipality
- ▭ Indian Reserve / Métis Settlement
- ▭ National Park
- ▭ Provincial Park
- ▭ Protected Area / Natural Area / Provincial Recreation Area / Wilderness Provincial Park / Conservancy Area
- ▭ Provincial Boundary
- ▭ International Boundary

Projection: NAD83 UTM Zone 11N. Routing: Baseline TMPL & Facilities: provided by KMC 2012; Proposed Pipeline Corridor V6: provided by UPI Aug. 23, 2013; Transportation: IHS Inc., 2013; BC Forests, Lands and Natural Resource Operations, 2012 & Natural Resources Canada, 2012; Geopolitical Boundaries: Natural Resources Canada, 2003, AltaLIS, 2013, IHS Inc., 2011, BC FLNRO, 2007 & ESRI, 2005; First Nation Lands: Government of Canada, 2013, AltaLIS, 2010 & IHS Inc., 2011; Hydrology: Natural Resources Canada, 2007 & BC Crown Registry and Geographic Base Branch, 2008; Parks and Protected Areas: Natural Resources Canada, 2012, AltaLIS, 2012 & BC FLNRO, 2008; ATS Grid: AltaLIS, 2009; Edmonton TUC: Alberta Infrastructure, 2011; Canadian Watershed: TERA Environmental Consultants, 2008; US Hillshade: Service Layer Credits: Copyright © 2013 Esri.

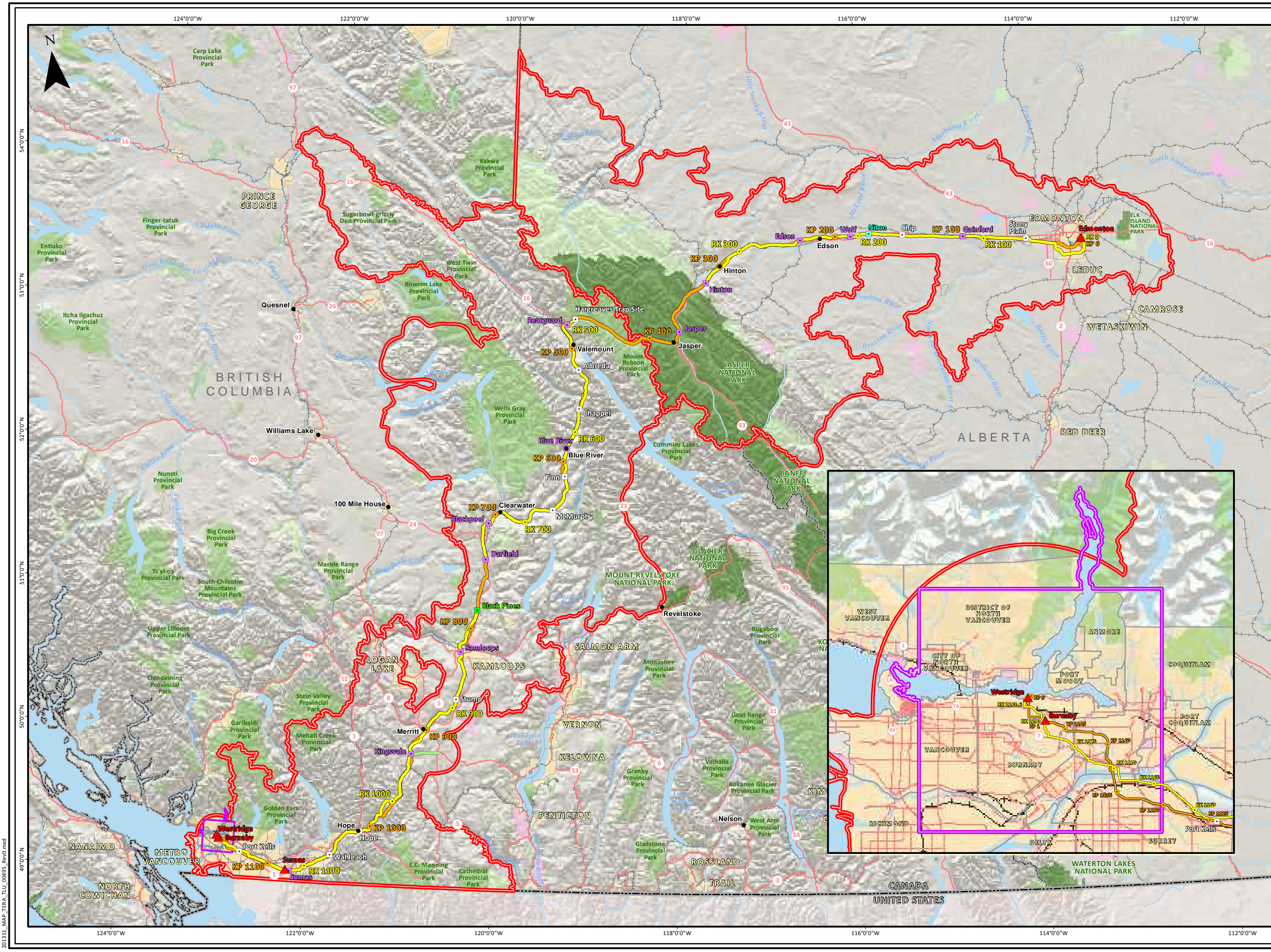
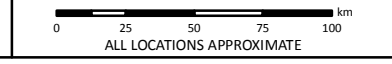
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3.4 Existing Conditions

Existing (baseline) conditions represent the current use of lands and resources by Aboriginal peoples for traditional purposes prior to construction of the Project and provide a reference point against which future conditions are compared to assess Project-specific and cumulative effects. Existing conditions of traditional land and resource use encountered by the Project were determined through a review of publicly available harvest data, ATK and TLU reports, the results of engagement with Aboriginal community representatives, the collection of TEK during biophysical field study participation and TLU studies conducted with potentially affected Aboriginal communities.

3.5 Desktop Analysis and Literature Review

Prior to field data collection, preliminary background TLU data was compiled. The following sources were used:

- publicly available harvest data, ATK and TLU reports;
- open houses and community gatherings;
- meetings and conversations with Aboriginal community representatives;
- environmental assessments for projects with a similar socio-cultural context or regulatory context (e.g., the TMX Anchor Loop Project [TERA 2005a], the Northwest Mainline Expansion [TERA 2011a], the Horn River Project [TERA 2010], Enbridge Northern Gateway [Northern Gateway Pipelines Limited Partnership (NGPLP) 2010], and Northwest Mainline Komie North Extension [TERA 2011b]);
- published reports from regulatory authorities involved in administering or regulating a specified area or resource (e.g., integrated resource plans, land and resource management plans, etc); and
- Geographical Information System (GIS) tools to determine spatial relationships of source data to the Project.

The preliminary background data was verified and augmented as a result of the field data collection.

3.6 Field Data Collection

Protocols and processes developed between Trans Mountain, TERA and each of the Aboriginal communities potentially affected by the Project facilitate the gathering and compilation of TLU study data for the Project. Although Aboriginal communities consider some data and information to be confidential, and therefore, not included in materials submitted on the public record for the application, this information will be used in developing mitigation recommendations as outlined by these protocols and processes agreed upon by Trans Mountain and each Aboriginal community.

3.6.1 Community Engagement and Scoping

Following Project initiation, TERA on behalf of Trans Mountain, facilitated the TLU studies conducted by interested Aboriginal communities for the Project (Table 3.3). The Project scope, timetable and location were discussed. Project information packages, which included a Project description, facts on the nature, timing, scope and location of the Project and relevant contact information for communication with Trans Mountain and TERA, were sent to each community and meetings were subsequently scheduled. Communities were also provided with copies of the proposed TLU study methods and a draft outline of TERA's TLU study work plan. Participation in the TLU studies, either as TERA-facilitated or community directed using a third-party consultant, was discussed with Aboriginal communities based on an indicated interest in participating in these studies.

TABLE 3.3

TIME TABLE OF TRADITIONAL LAND USE STUDIES FOR EACH PARTICIPATING COMMUNITY

Community	Map Review	Interviews	Overflight	Ground Reconnaissance	Results Review/ Mitigation Meetings
Saddle Lake Cree Nation	Interest in a TLU study to be determined by Saddle Lake Cree Nation.				
Enoch Cree Nation	June 7, 2013	August 29 to 30, 2013	September 7, 2013	September 18 to 26, 2013	To be determined
Alexander First Nation	October 4, 2012	October 18 and 19, 2012	October 30, 2012	October 30 to November 1, 2012	To be determined
Samson Cree Nation	September 20, 2012	September 20, 2012	March 22 to 23, 2013	November 6 to 9, 2012 September 25 to October 2, 2013	December 4, 2013
Métis Nation of Alberta (Region 4)	Independent, third-party engagement report (underway).				
O'Chiese First Nation	Independent, third-party TLU study. Final report received on September 20, 2013.				
Ermineskin Cree Nation	September 4, 2012	September 4, 2012	September 5 to 7, 2012	September 5 to 7, 2012	October 31, 2013
Montana First Nation	August 7 to 8, 2013	August 7 to 8, 2013	N/A	To be determined	To be determined
Louis Bull Tribe	Interest in a TLU study to be determined by Louis Bull Tribe.				
Alexis Nakota Sioux Nation	October 26, 2012	May 16 to 17, 2013	November 5, 2012	November 6 to 10, 2012	To be determined
Foothills Ojibway Society	Declined TLU study participation; identified preliminary interests on June 5, 2013.				
Paul First Nation	November 14, 2012	November 14, 2012	December 3, 2012	December 3, 2012	November 8, 2013
Nakowinewak Nation of Canada	September 19 to 20, 2013	September 19 to 20, 2013	N/A	September 21 to 26, 2013	November 25, 2013
Sunchild First Nation	Independent, third-party TLU study (underway).				
Aseniwuche Winewak Nation	Independent, third-party TLU study. Final report received on November 18, 2013.				
Lheidli T'enneh	Independent, third-party TLU study. Interim report received on November 20, 2013.				
Simpcw First Nation	Independent, third-party TLU study (underway).				
Lhtako Dene Nation	TERA-facilitated TLU study work plan development underway.				
Canim Lake Band	May 1, 2013	October 9, 2013	October 9, 2013	October 10, 2013	November 5, 2013
Whispering Pines (Clinton Indian Band)	July 16, 2013	Interest in conducting additional phases of a TLU study for the Project will be determined by Whispering Pines First Nation (Clinton Indian Band).			
Métis Nation British Columbia	Independent, third-party engagement report (underway).				
Tk'emlúps te Secwepemc	Interest in a TLU study to be determined by Tk'emlúps te Secwepemc.				
Skeetchestn Indian Band	Interest in a TLU study to be determined by Skeetchestn Indian Band.				
Penticton Indian Band	Interest in a TLU study to be determined by Penticton Indian Band.				
Upper Nicola Indian Band	Interest in a TLU study to be determined by Upper Nicola Indian Band.				
Lower Similkameen Indian Band	Interest in a TLU study to be determined by Lower Similkameen Indian Band.				
Upper Similkameen Indian Band	Interest in a TLU study to be determined by Upper Similkameen Indian Band.				
Lower Nicola Indian Band	Independent, third-party TLU study (underway). Interim summary of findings received on November 26, 2013.				
Coldwater Indian Band	Interest in a TLU study to be determined by Coldwater Indian Band.				
Shackan Indian Band	Joint third-party TLU study with Nicomen Indian Band and Nooaitch Indian Band led by Nicola Tribal Association (underway).				

TABLE 3.3 Cont'd

Community	Map Review	Interviews	Overflight	Ground Reconnaissance	Results Review/ Mitigation Meetings
Nicomén Indian Band	Joint third-party TLU study with Shackan Indian Band and Nooaitch Indian Band led by Nicola Tribal Association (underway).				
Nooaitch Indian Band	Joint third-party TLU study with Nicomén Indian Band and Shackan Indian Band led by Nicola Tribal Association (underway).				
Yale First Nation	Independent, third-party TLU study (underway).				
Union Bar First Nations	Interest in a TLU study to be determined by Union Bar First Nations.				
Chawathil First Nation	Independent, third-party TLU study.				
Shxw'ówhámél First Nation	May 28, 2013	Independent, third-party TLU study.			
Cheam First Nation	Joint third-party Integrated Cultural Assessment (ICA) with Sumas First Nation, Aitchelitz First Nation, Kwaw Kwaw Apilt First Nation, Shxwha:y Village, Skowkale First Nation, Skwah First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation and Yakweawkwoose First Nation led by Ts'elxweyeqw Tribe Management Limited. Draft indicator report received on November 15, 2013.				
Sumas First Nation	Joint third-party ICA with Cheam First Nation, Aitchelitz First Nation, Kwaw Kwaw Apilt First Nation, Shxwha:y Village, Skowkale First Nation, Skwah First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation and Yakweawkwoose First Nation led by Ts'elxweyeqw Tribe Management Limited. Draft indicator report received on November 15, 2013.				
Peters Band	Interest in a TLU study to be determined by Peters Band.				
Seabird Island Band	Interest in a TLU study to be determined by Seabird Island Band.				
Popkum First Nation	April 24, 2013	April 24, 2013	N/A	November 13 to 14, 2013	To be determined
Scowlitz First Nation	May 16, 2013	To be determined			
Skowkale First Nation	Joint third-party ICA with Sumas First Nation, Aitchelitz First Nation, Kwaw Kwaw Apilt First Nation, Shxwha:y Village, Cheam First Nation, Skwah First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation and Yakweawkwoose First Nation led by Ts'elxweyeqw Tribe Management Limited. Draft indicator report received on November 15, 2013.				
Yakweawkwoose First Nation	Joint third-party ICA with Sumas First Nation, Aitchelitz First Nation, Kwaw Kwaw Apilt First Nation, Shxwha:y Village, Cheam First Nation, Skwah First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation and Skowkale First Nation led by Ts'elxweyeqw Tribe Management Limited. Draft indicator report received on November 15, 2013.				
Aitchelitz First Nation	Joint third-party ICA with Sumas First Nation, Yakweawkwoose First Nation, Kwaw Kwaw Apilt First Nation, Shxwha:y Village, Cheam First Nation, Skwah First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation and Skowkale First Nation led by Ts'elxweyeqw Tribe Management Limited. Draft indicator report received on November 15, 2013.				
Skwah First Nation	Joint third-party ICA with Sumas First Nation, Yakweawkwoose First Nation, Kwaw Kwaw Apilt First Nation, Shxwha:y Village, Cheam First Nation, Aitchelitz First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation and Skowkale First Nation led by Ts'elxweyeqw Tribe Management Limited. Draft indicator report received on November 15, 2013.				
Kwaw-kwaw-apilt First Nation	Joint third-party ICA with Sumas First Nation, Yakweawkwoose First Nation, Skwah First Nation, Shxwha:y Village, Cheam First Nation, Aitchelitz First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation and Skowkale First Nation led by Ts'elxweyeqw Tribe Management Limited. Draft indicator report received on November 15, 2013.				
Soowahlie First Nation	Joint third-party ICA with Sumas First Nation, Yakweawkwoose First Nation, Skwah First Nation, Shxwha:y Village, Cheam First Nation, Aitchelitz First Nation, Kwaw-kwaw-apilt First Nation, Squiala First Nation, Tzeachten First Nation and Skowkale First Nation led by Ts'elxweyeqw Tribe Management Limited (underway).				
Shxwha:y Village	Joint third-party ICA with Sumas First Nation, Yakweawkwoose First Nation, Skwah First Nation, Soowahlie First Nation, Cheam First Nation, Aitchelitz First Nation, Kwaw-kwaw-apilt First Nation, Squiala First Nation, Tzeachten First Nation and Skowkale First Nation led by Ts'elxweyeqw Tribe Management Limited. Draft indicator report received on November 15, 2013.				
Tzeachten First Nation	Joint third-party ICA with Sumas First Nation, Yakweawkwoose First Nation, Skwah First Nation, Soowahlie First Nation, Cheam First Nation, Aitchelitz First Nation, Kwaw-kwaw-apilt First Nation, Squiala First Nation, Shxwha:y Village and Skowkale First Nation led by Ts'elxweyeqw Tribe Management Limited. Draft indicator report received on November 15, 2013.				
Squiala First Nation	Joint third-party ICA with Sumas First Nation, Yakweawkwoose First Nation, Skwah First Nation, Soowahlie First Nation, Cheam First Nation, Aitchelitz First Nation, Kwaw-kwaw-apilt First Nation, Tzeachten First				

TABLE 3.3 Cont'd

Community	Map Review	Interviews	Overflight	Ground Reconnaissance	Results Review/ Mitigation Meetings
	Nation, Shxw'ha:y Village and Skowkale First Nation led by Ts'elxweyeqw Tribe Management Limited. Draft indicator report received on November 15, 2013.				
Leq'á:mel: First Nation	April 23, 2013	April 23, 2013	September 11, 2013	September 11 to 13, 2013	November 8, 2013
Semiahmoo First Nation	Independent, third-party TLU/TMRU study (underway).				
Matsqui First Nation	Interest in a TLU study to be determined by Matsqui First Nation.				
Kwantlen First Nation	Interest in a TLU study to be determined by Kwantlen First Nation.				
Katzie First Nation	Interest in a TLU study to be determined by Katzie First Nation.				
Kwikwetlem First Nation	Interest in a TLU study to be determined by Kwikwetlem First Nation.				
Qayqayt First Nation	Interest in a TLU study to be determined by Qayqayt First Nation.				
Squamish Nation	Interest in a TLU study to be determined by Squamish Nation.				
Tsleil-Waututh Nation	Interest in a TLU study to be determined by Tsleil-Waututh Nation.				
Musqueam Indian Band	Interest in a TLU study to be determined by Musqueam Indian Band.				
Tsawwassen First Nation	Interest in a TLU study to be determined by Tsawwassen First Nation.				

Trans Mountain provided funding to assist Aboriginal communities that elected to conduct their own community directed TLU studies. These communities often engaged other consultants to provide technical support and assistance with their TLU studies for the Project (Table 3.3).

The TERA-facilitated TLU studies were conducted in a phased approach consisting of map reviews/interviews, field reconnaissance and follow-up reporting (Table 3.3). Interpreters are made available at the request of the community. Each phase of the TERA-facilitated TLU study is described in further detail in the following subsections. TERA has implemented proper record keeping practices for information obtained during the TLU studies to ensure that study results are accessible for future reference.

3.6.2 Map Reviews/Interviews

Maps were provided to orient community representatives to the location of the Project. At the discretion of the individual communities, an evaluation of the Project was conducted by field reconnaissance. The goal of the map review was to identify: areas of concerns relative to the Project; areas to target during the field reconnaissance; areas that required additional mapping; and potential Project effects on resources and on current use of land for traditional activities. The map review also provided an opportunity to schedule field work.

3.6.3 Field Reconnaissance

Field TLU study teams were established with representatives selected by the participating Aboriginal community to conduct field reconnaissance of areas identified to be of interest, concern or importance during the map review/interviews. During the field reconnaissance, there was an open dialogue between community members and TERA facilitators. Field work was typically conducted with one community at a time, unless communities requested to conduct a joint field reconnaissance.

Upon observing a TLU site, it was described in writing, its location recorded on a sketch map and by using a handheld Global Positioning System (GPS) and digital photographs were taken, if culturally appropriate. The proximity of the TLU site to the proposed pipeline corridor was documented and the importance of each site discussed at its location in the field, taking into account its setting within the context of local knowledge, history, construction limitations, potential effects and recommended mitigation strategies.

The goal of the field reconnaissance was to locate and record traditional use sites that may potentially be affected by the Project. All identified TLU sites within the proposed pipeline corridor were recorded and proposed mitigation strategies were recorded and discussed at the site.

3.6.4 Results Review/Reporting

Identification of TLU sites and discussions of potential mitigation strategies were conducted directly with the participating community representatives during the field reconnaissance. This information was used to create two reports, a detailed community-specific report and this public summary report to be filed publicly with the NEB. The detailed community reports document each community's TLU involvement and the results of the field reconnaissance, including the confidential and proprietary information provided by the TLU study participants. Confirmation of the accuracy of the information incorporated and approval of the inclusion of the confidential and proprietary information in Project planning occurred during community results review meetings with TERA.

Information collected during TLU studies that relate primarily to other elements has been incorporated into the following reports with permission of the participating communities:

- Socio-Economic Technical Report (Volume 5D);
- Community Health Technical Report (Volume 5D); and
- Screening Level Human Health Risk Assessment of Pipeline and Facilities (Volume 5D).

4.0 RESULTS OF LITERATURE/DESKTOP REVIEW

4.1 General Information

This section provides publicly available regional and local traditional land and resource use information for Aboriginal communities most likely to be affected by the Project (as identified in Section 1.1.1). The information provided in the following subsections relates to the cultural sites and subsistence activities and sites indicators and is presented by Aboriginal communities from east to west in relation to the Project. The geographic relationship of the potentially affected Aboriginal communities is described in Table 4.1. Corresponding socio-economic study regions are also listed in Table 4.1. Reference points within the proposed pipeline corridor are referred to as Reference Kilometres (RKs). RKs are located approximately 1 km apart and are used to describe the location of features along the Project used for construction, operation and maintenance purposes.

Detailed community profile and socio-economic study region information is provided in the Socio-Economic Technical Report (Volume 5D).

TABLE 4.1

ABORIGINAL COMMUNITIES POTENTIALLY AFFECTED BY THE PROJECT

Community	Proposed Pipeline Segment(s)	Proposed Facilities and Ancillary Infrastructure Expansion¹	Socio-Economic Study Region(s)
Saddle Lake Cree Nation	Edmonton to Hinton	Edmonton Terminal Gainford Pump Station Wolf Pump Station Edson Pump Station Hinton Pump Station Jasper Pump Station	Rural Alberta Region
Enoch Cree Nation	Edmonton to Hinton	Edmonton Terminal Gainford Pump Station Wolf Pump Station Edson Pump Station Hinton Pump Station Jasper Pump Station	Edmonton Region
Alexander First Nation	Edmonton to Hinton	Edmonton Terminal Gainford Pump Station Wolf Pump Station Edson Pump Station Hinton Pump Station Jasper Pump Station	Edmonton Region
Samson Cree Nation	Edmonton to Hinton	Edmonton Terminal Gainford Pump Station Wolf Pump Station Edson Pump Station Hinton Pump Station Jasper Pump Station	Edmonton Region
Métis Nation of Alberta (Region 4)	Edmonton to Hinton	Edmonton Terminal Gainford Pump Station Wolf Pump Station Edson Pump Station Hinton Pump Station Jasper Pump Station	Edmonton Region
O'Chiese First Nation	Edmonton to Hinton	Edmonton Terminal Gainford Pump Station Wolf Pump Station Edson Pump Station Hinton Pump Station Jasper Pump Station	Rural Alberta Region

TABLE 4.1 Cont'd

Community	Proposed Pipeline Segment(s)	Proposed Facilities and Ancillary Infrastructure Expansion¹	Socio-Economic Study Region(s)
Ermineskin First Nation	Edmonton to Hinton	Edmonton Terminal Gainford Pump Station Wolf Pump Station Edson Pump Station Hinton Pump Station Jasper Pump Station	Edmonton Region
Montana First Nation	Edmonton to Hinton	Edmonton Terminal Gainford Pump Station Wolf Pump Station Edson Pump Station Hinton Pump Station Jasper Pump Station	Edmonton Region
Louis Bull Tribe	Edmonton to Hinton	Edmonton Terminal Gainford Pump Station Wolf Pump Station Edson Pump Station Hinton Pump Station Jasper Pump Station	Edmonton Region
Alexis Nakota Sioux Nation	Edmonton to Hinton	Edmonton Terminal Gainford Pump Station Wolf Pump Station Edson Pump Station Hinton Pump Station Jasper Pump Station	Edmonton Region
Foothills Ojibway Society	Edmonton to Hinton	Edmonton Terminal Gainford Pump Station Wolf Pump Station Edson Pump Station Hinton Pump Station Jasper Pump Station	Rural Alberta Region
Paul First Nation	Edmonton to Hinton	Edmonton Terminal Gainford Pump Station Wolf Pump Station Edson Pump Station Hinton Pump Station Jasper Pump Station	Edmonton Region
Nakowinewak Nation of Canada	Edmonton to Hinton	Edmonton Terminal Gainford Pump Station Wolf Pump Station Edson Pump Station Hinton Pump Station Jasper Pump Station	Edmonton Region
Sunchild First Nation	Edmonton to Hinton	Edmonton Terminal Gainford Pump Station Wolf Pump Station Edson Pump Station Hinton Pump Station Jasper Pump Station	Rural Alberta Region
Aseniwuche Winewak Nation	Edmonton to Hinton	Hinton Pump Station Jasper Pump Station Rearguard Pump Station	Jasper National Park Region
Lheidli T'enneh	Hargreaves to Darfield	Jasper Pump Station Rearguard Pump Station Blue River Pump Station	Fraser-Fort George/Thompson-Nicola Region
Simpcw First Nation	Hargreaves to Darfield	Jasper Pump Station Rearguard Pump Station Blue River Pump Station Blackpool Pump Station Darfield Pump Station Black Pines Pump Station and 138 kV power line	Fraser-Fort George/Thompson-Nicola Region

TABLE 4.1 Cont'd

Community	Proposed Pipeline Segment(s)	Proposed Facilities and Ancillary Infrastructure Expansion¹	Socio-Economic Study Region(s)
Lhtako Dene Nation	Hargreaves to Darfield	--	Fraser-Fort George/Thompson-Nicola Region
Canim Lake Band	Hargreaves to Darfield	--	Fraser-Fort George/Thompson-Nicola Region
Whispering Pines (Clinton Indian Band)	Hargreaves to Darfield	Jasper Pump Station Rearguard Pump Station Blue River Pump Station Blackpool Pump Station Darfield Pump Station Black Pines Pump Station and 138 kV power line Kamloops Pump Station	Fraser-Fort George/Thompson-Nicola Region
Métis Nation British Columbia	Hargreaves to Darfield Black Pines to Hope Hope to Burnaby Burnaby to Westridge	Rearguard Pump Station Blue River Pump Station Blackpool Pump Station Darfield Pump Station Black Pines Pump Station and 138 kV power line Kamloops Pump Station Kingsvale Pump Station and 138 kV power line Sumas Pump Station Sumas Terminal Burnaby Terminal Westridge Marine Terminal	Metro Vancouver Region
Tk'emlúps te Secwepemc	Black Pines to Hope	Black Pines Pump Station and 138 kV power line Kamloops Pump Station	Fraser-Fort George/Thompson-Nicola Region
Skeetchestn Indian Band	Black Pines to Hope	Black Pines Pump Station and 138 kV power line Kamloops Pump Station	Fraser-Fort George/Thompson-Nicola Region
Penticton Indian Band	Black Pines to Hope	Kingsvale Pump Station and 138 kV power line	Fraser-Fort George/Thompson-Nicola Region
Upper Nicola Indian Band	Black Pines to Hope	Kingsvale Pump Station and 138 kV power line	Fraser-Fort George/Thompson-Nicola Region
Lower Similkameen Indian Band	Black Pines to Hope	Kingsvale Pump Station and 138 kV power line	Fraser Valley Region
Upper Similkameen Indian Band	Black Pines to Hope	Kingsvale Pump Station and 138 kV power line	Fraser-Fort George/Thompson-Nicola Region
Lower Nicola Indian Band	Black Pines to Hope	Kingsvale Pump Station and 138 kV power line	Fraser-Fort George/Thompson-Nicola Region
Coldwater Indian Band	Black Pines to Hope	--	Fraser-Fort George/Thompson-Nicola Region
Shackan Indian Band	Black Pines to Hope	--	Fraser-Fort George/Thompson-Nicola Region
Nicomén Indian Band	Black Pines to Hope	--	Fraser-Fort George/Thompson-Nicola Region
Nooaitch Indian Band	Black Pines to Hope	--	Fraser-Fort George/Thompson-Nicola Region
Yale First Nation	Black Pines to Hope	--	Fraser Valley Region
Union Bar First Nations	Hope to Burnaby	--	Fraser Valley Region
Chawathil First Nation	Hope to Burnaby	--	Fraser Valley Region
Shxw'ówhámél First Nation	Hope to Burnaby	--	Fraser Valley Region
Cheam First Nation	Hope to Burnaby	--	Fraser Valley Region
Sumas First Nation	Hope to Burnaby	Sumas Pump Station Sumas Terminal	Fraser Valley Region
Seabird Island Band	Hope to Burnaby	--	Fraser Valley Region

TABLE 4.1 Cont'd

Community	Proposed Pipeline Segment(s)	Proposed Facilities and Ancillary Infrastructure Expansion¹	Socio-Economic Study Region(s)
Popkum First Nation	Hope to Burnaby	--	Fraser Valley Region
Scowlitz First Nation	Hope to Burnaby	Sumas Pump Station Sumas Terminal	Fraser Valley Region
Skowkale First Nation	Hope to Burnaby	Sumas Pump Station Sumas Terminal	Fraser Valley Region
Yakwekwioose First Nation	Hope to Burnaby	Sumas Pump Station Sumas Terminal	Fraser Valley Region
Aitchelitz First Nation	Hope to Burnaby	Sumas Pump Station Sumas Terminal	Fraser Valley Region
Kwaw-kwaw-apilt First Nation	Hope to Burnaby	--	Fraser Valley Region
Soowahlie First Nation	Hope to Burnaby	--	Fraser Valley Region
Shxw̓ha:y Village	Hope to Burnaby	Sumas Pump Station Sumas Terminal	Fraser Valley Region
Tzeachten First Nation	Hope to Burnaby	Sumas Pump Station Sumas Terminal	Fraser Valley Region
Squiala First Nation	Hope to Burnaby	Sumas Pump Station Sumas Terminal	Fraser Valley Region
Leq'á:mel First Nation	Hope to Burnaby	--	Fraser Valley Region
Matsqui First Nation	Hope to Burnaby	Sumas Pump Station Sumas Terminal	Fraser Valley Region
Kwantlen First Nation	Hope to Burnaby	Sumas Pump Station Sumas Terminal	Fraser Valley Region
Skwah First Nation	Hope to Burnaby	--	Fraser Valley Region
Peters Band	Hope to Burnaby Burnaby to Westridge	--	Fraser Valley Region
Semiahmoo First Nation	Burnaby to Westridge	Burnaby Terminal Westridge Marine Terminal	Metro Vancouver Region
Katzie First Nation	Burnaby to Westridge	Burnaby Terminal Westridge Marine Terminal	Metro Vancouver Region
Kwikwetlem First Nation	Burnaby to Westridge	Burnaby Terminal Westridge Marine Terminal	Metro Vancouver Region
Qayqayt First Nation	Burnaby to Westridge	Burnaby Terminal Westridge Marine Terminal	Metro Vancouver Region
Squamish Nation	Burnaby to Westridge	Burnaby Terminal Westridge Marine Terminal	Metro Vancouver Region
Tsleil-Waututh Nation	Burnaby to Westridge	Burnaby Terminal Westridge Marine Terminal	Metro Vancouver Region
Musqueam Indian Band	Burnaby to Westridge	Burnaby Terminal Westridge Marine Terminal	Metro Vancouver Region
Tsawwassen First Nation	Burnaby to Westridge	Burnaby Terminal Westridge Marine Terminal	Metro Vancouver Region

Note: Includes access roads, camps and temporary workspaces.

4.1.1 Edmonton to Hinton Segment

The Edmonton to Hinton Segment crosses the traditional territories of 15 Aboriginal communities that have been identified as having an interest in the Project or having interests potentially affected by the Project, listed below.

4.1.1.1 Saddle Lake Cree Nation

Saddle Lake Cree Nation is a Cree nation located 180 km northeast of Edmonton (Saddle Lake Cree First Nation 2013). In March 2013, the total registered population of Saddle Lake Cree Nation was 9,861

(Aboriginal Affairs and Northern Development Canada [AANDC] 2013). There are three Saddle Lake Cree Nation reserves: Saddle Lake IR 125; Whitefish Lake IR 128; and Wahsatelow IR 126 (AANDC 2013). The most populated reserve is Saddle Lake IR 125 (AANDC 2013).

Desktop traditional land and resource use information relative to the TLRU RSA for Saddle Lake Cree Nation was not available during compilation of this report.

4.1.1.2 *Enoch Cree Nation*

Enoch Cree Nation is a Cree nation located 3 km west of Edmonton. In March 2013, the total registered population of Enoch Cree Nation was 2,400 (AANDC 2013). There are two reserves: Stony Plain IR 135, located on the western border of Edmonton; and Stony Plain IR 135A, located south of Barrhead (AANDC 2013). The most populated reserve is Stony Plain IR 135 (AANDC 2013).

Extensive historic trail networks exist along the North Saskatchewan River, crossed by the Project at RK 33.5 and along the Battle and Red Deer rivers (NGPLP 2010). Traditional gathering places are located along the west side of the North Saskatchewan River as well as at the confluence of the Sturgeon and North Saskatchewan rivers, located approximately 28 km northeast of RK 0. Trout are fished throughout the Enoch Cree Nation asserted traditional territory, while large whitefish are harvested at Pigeon Lake, located approximately 47 km southwest of RK 29.6.

Berries and plants harvested by Enoch Cree Nation community members include wild onion, dandelion leaves, rose hips, blueberries, high-bush and low-bush cranberries, chokecherries, pin cherries, Saskatoon berries, raspberries, currants, strawberries, wild gooseberries, bear berries and beaked hazelnuts (NGPLP 2010). Harvesting certain types of fungus for ceremonial and medicinal purposes is an important cultural practice, accompanied with the practice of making an offering. Important areas for harvesting are located in undisturbed lands near the towns of Hinton and Grande Cache. Hinton and Grande Cache are located approximately 2.1 km northwest of RK 319.5 and 105 km northwest of RK 339, respectively. Several species of traditionally important plants that are now considered rare or extinct throughout the Enoch Cree Nation asserted traditional territory include wild rhubarb, Seneca root and wild onion. Strawberries, raspberries and currants are also in decline, a trend community members attribute to increased farming in the region (NGPLP 2010).

Moose, elk, deer, rabbit and duck are currently hunted (NGPLP 2010). Traditionally, rabbit, duck, gopher, muskrat and porcupine were dietary staples. Hunters continue to distribute meat throughout the community. Important hunting areas include: Tomahawk, located approximately 20 km south of RK 119; Peers, located approximately 5 km north of RK 198.1; lands near Edson, located approximately 1.8 km south of RK 232.2; and lands near Hinton, located approximately 2.1 km northwest of RK 319.5. Hunting locations depend on the target species and time of year. Animals that were traditionally hunted are not considered to be of the same quality or abundance as was found in the past. Deer affected by chronic wasting disease and moose infested with ticks are often perceived to be connected to air pollutants, toxic waste management and the oil and gas industry (NGPLP 2010).

Trapping was once a common traditional activity, which occurs less frequently today (NGPLP 2010). An old trapline remains at Riviere Qui Barre, located approximately 29 km north of RK 54. Muskrat tails are considered a delicacy, however, muskrat and porcupine are rarely eaten now and gophers are thought to be contaminated with pesticides (NGPLP 2010).

4.1.1.3 *Alexander First Nation*

The Alexander First Nation is a Cree nation located west of Edmonton (Alexander First Nation 2013). In March 2013, the total registered population of Alexander First Nation was 1,818 (AANDC 2013). There are three Alexander First Nation reserves: Alexander IR 134; Alexander IR 134B; and Alexander IR 134C (AANDC 2013). The most populated reserve is Alexander IR 134 (AANDC 2013).

Extensive historic trail networks exist between Alexander First Nation reserves and Lac La Nonne located approximately 39.5 km north of RK 85.5 and Fort Assiniboine located approximately 83.8 km north of RK 118.5 (NGPLP 2010).

Known settlements include Egg Lake (Manawan Lake) and a campsite at Riviere Qui Barre, located approximately 42.7 km north of RK 50 and 29 km north of RK 54, respectively. An historic settlement and burials at Deadman Lake near Edmonton are located approximately 33 km north of RK 66. Plant gathering occurs at Egg Lake; at Alexander IR 134; and at Blue Ridge, located approximately 59 km north of RK 159. Harvest from these areas includes low-bush cranberries, Saskatoon berries, strawberries, chokecherries, pin cherries, gooseberries, blueberries, high-bush cranberries, wild onion and beaked hazelnuts. Raspberries and Saskatoon berries have been dwindling due to forest fires and conditions that are too wet or dry. There are concerns about effects of development on spiritually important and medicinal plants and potential contamination of traditional foods, medicine and agricultural food crops resulting from pesticide and herbicide use (NGPLP 2010).

Hunting areas are located at Deadman Lake, located approximately 33 km north of RK 66, where moose, deer, elk, wolves, lynx, muskrats, beaver, mink, ducks, spruce grouse and pheasant, geese, black ducks and bald eagles can be found (NGPLP 2010).

Fishing areas are located at Riviere Qui Barre, located approximately 29 km north of RK 54, the Sturgeon River, located approximately 15.7 km north of RK 87, Lac Ste. Anne, located approximately 13.3 km north of RK 95, the Smoky River, the southern end of which is located approximately 51.5 km north of RK 490.5 and the Athabasca River, located approximately 1 km northeast of the proposed pipeline corridor at RK 309 (Alexander First Nation 2013). Whitefish and pickerel are fished for in Wabamun Lake, located approximately 1 km south from RK 96 to RK 117 and Lac Ste. Anne, located approximately 11.5 km north of RK 95 (NGPLP 2010).

4.1.1.4 *Samson Cree Nation*

Samson Cree Nation is located approximately 70 km south of Edmonton and a member of the Four Nations of Hobbema along with Ermineskin Cree Nation, Louis Bull First Nation and Montana First Nation (AANDC 2013, Samson Cree Nation 2004). In March 2013, the total registered population of Samson Cree Nation was 7,783 (AANDC 2013). There are three Samson Cree Nation reserves: Samson IR 137; Samson IR 137A; and Pigeon Lake IR 138A, shared with the Four Nations of Hobbema. The most populated reserve is Samson IR 137 (AANDC 2013).

Samson Cree Nation members continue the practice of trading medicines with neighbouring communities (Neufeld 2012). Medicinal plants may include Labrador tea, muskeg leaves, juniper, mint, sweet grass and bark. Sweet grass is frequently used in ceremonies. Berry plants are also harvested and include blueberries, high-bush cranberries, moose berries, raspberries, Saskatoon berries, gooseberries and chokecherries. Wildlife harvested includes moose, elk, deer, beaver, muskrat, bush chickens or grouse and rabbit. Geese, ducks and prairie chickens are also hunted. Whitefish, perch, pickerel, pike and walleye are fished from lakes and rivers throughout the Samson Cree Nation asserted traditional territory. Sweat lodge ceremonies and fasting activities are held at Lac Ste. Anne, located approximately 11.5 km north of RK 95. Members also travel to Lac Ste. Anne in July for an annual pilgrimage and sundance ceremony. Sacred areas also exist along lands from St Albert to Morinville, located approximately 15 km north of RK 42 to 32 km north of RK 41.

4.1.1.5 *Métis Nation of Alberta (Region 4)*

Métis Nation of Alberta was founded in 1932 to represent the interests and concerns of the Métis people of Alberta. Its primary objective was to secure an autonomous land base for the Métis people (Métis Region Council Zone IV 2012). Métis Nation Region 4 or Métis Nation Zone IV is located in west-central Alberta, north of Rocky Mountain House and south of Valleyview, Alberta (Métis Region Council Zone IV 2012).

Desktop traditional land and resource use information relative to the TLRU RSA for Métis Nation Region 4 was not available during compilation of this report.

4.1.1.6 *O'Chiese First Nation*

O'Chiese First Nation is a primarily Saulteau-speaking nation located approximately 50 km northwest of Rocky Mountain House, AB (AANDC 2013, O'Chiese First Nation 2013). In March 2013, the total registered population of O'Chiese First Nation was 1,224 (AANDC 2013). There are two O'Chiese First Nation reserves: O'Chiese IR 203; and O'Chiese Cemetery IR 203A. The most populated reserve is O'Chiese IR 203 (AANDC 2013).

A winter campsite and hunting and trapping areas are located near Baptiste River, approximately 105 km south of RK 139.5 (Lifeways of Canada Ltd [Lifeways] 2012). In 1997, O'Chiese members raised concerns publicly that development projects would interfere with several burial sites and ceremonial sites in the Grave Flats region, south of Hinton and located approximately 73 km south of RK 262.5 (MacKinnon 1997).

4.1.1.7 *Ermineskin Cree Nation*

Ermineskin Cree Nation is located 70 km south of Edmonton at Hobbema, AB and is a part of the Four Nations of Hobbema which share reserve lands with Louis Bull Tribe, Montana First Nation and Samson Cree Nation (AANDC 2013, Ermineskin Cree Nation 2001). In March 2013, the total registered population of Ermineskin Cree Nation was 4,264 (AANDC 2013). There are two Ermineskin Cree Nation reserves: Ermineskin IR 138; and Pigeon Lake IR 138A (Ermineskin Cree Nation 2001). The most populated reserve is Ermineskin IR 138 (AANDC 2013).

Desktop traditional land and resource use information relative to the TLRU RSA for Ermineskin Cree Nation was not available during compilation of this report.

4.1.1.8 *Montana First Nation*

Montana First Nation is a Cree nation located 90 km south of Edmonton and is a part of the Four Nations of Hobbema which share reserve lands with Ermineskin Cree Nation, Louis Bull Tribe and Samson Cree Nation (Montana First Nation 2013). In March 2013, the total registered population of Montana First Nation was 959 (AANDC 2013). There are two Montana First Nation reserves: Montana IR 139; and Pigeon Lake IR 138A. The most populated reserve is Montana IR 139 (AANDC 2013).

Elk, big horn sheep and deer hunting as well as rainbow trout and mountain trout fishing occur west of Montana IR 139 which encompasses lands and waters from Rocky Mountain House to Jasper National Park (MacPherson and Tyerman. 2011), and spans an area south of the proposed pipeline corridor from RK 131 to RK 269.

4.1.1.9 *Louis Bull Tribe*

Louis Bull Tribe is a Cree nation located 90 km south of Edmonton and is a part of the Four Nations of Hobbema along with Ermineskin First Nation, Montana First Nation and Samson Cree First Nation (AANDC 2013, Ermineskin First Nation 2001). In March 2013, the total registered population of Louis Bull Tribe was 2,081 (AANDC 2013). There are two Louis Bull Tribe reserves: Louis Bull IR 138; and Pigeon Lake IR 138A, shared with the other Four Nations of Hobbema. The most populated reserve is Louis Bull IR 138B (AANDC 2013).

Desktop traditional land and resource use information relative to the TLRU RSA for Louis Bull Tribe was not available during compilation of this report.

4.1.1.10 *Alexis Nakota Sioux Nation*

Alexis Nakota Sioux Nation is located in Glenevis, AB, approximately 71 km northwest of Edmonton, AB (Alexis Nakota Sioux Nation 2007). In March 2013, the total registered population of Alexis Nakota Sioux Nation was 1,796 (AANDC 2013). There are four Alexis Nakota Sioux Nation reserves: Alexis-Lac Ste. Anne IR 133; Alexis-Cardinal River IR 234; Alexis-Elk River IR 233; and Alexis-Whitcourt Reserve IR 232 (Alexis Nakota Sioux Nation 2013). The most populated reserve is Alexis-Lac Ste. Anne Reserve IR 133 (Alexis Nakota Sioux Nation 2007).

Berries and plants harvested by Alexis Nakota Sioux Nation community members include alder, aspen, blueberries, dock, raspberries, rat root, red willow and sage (wort). Plants harvested close to Lac Ste. Anne, located approximately 11.5 km north of RK 95, include blueberries, raspberries, strawberries, Saskatoon berries, chokecherries, cranberries, mushrooms, wild rice and hazelnuts (Alexis Nakota Sioux Nation 2013).

Animals traditionally hunted by Alexis Nakota Sioux Nation include buffalo, grizzly bear, black bear, moose, elk, deer, beaver, rabbit, wolverine, fox, duck, geese, fish, squirrel, caribou, wolf, mink, fisher, lynx, eagle, common loon, bighorn sheep and coyote. Lac Ste. Anne, located approximately 11.5 km north of RK 95, is a hunting, trapping and fishing area. Moose, elk and deer were hunted and muskrat, rabbit and beaver were trapped (Alexis Nakota Sioux Nation 2013). A registered trapline is located between Lodgepole and Cynthia located approximately 54 km south of RK 155.5 (In Land and Life 2013). Lac Ste. Anne, traditionally known as Wakamne, is the site of an annual pilgrimage and spiritual gathering (Alexis Nakota Sioux Nation 2007).

4.1.1.11 *Foothills Ojibway Society*

The Foothills Ojibway Society is a Chippewa nation located near Hinton. The band is non-status and, therefore, does not have any reserves (Anishinabe History 2013). The society is home to members of a number of diverse Aboriginal groups, mainly Saulteau, but also Cree and others. In March 2013, the registered population of the Foothills Ojibway Society was approximately 250 (Lifeways 2012).

Desktop traditional land and resource use information relative to the TLRU RSA for Foothills Ojibway Society was not available during compilation of this report.

4.1.1.12 *Paul First Nation*

Paul First Nation is a Stoney and Cree nation, located approximately 70 km west of Edmonton (AANDC 2013). In March 2013, the total registered population of Paul First Nation was 1,989 (AANDC 2013). There are three Paul First Nation reserves: Buck Lake IR 133C; Wabamun IR 133A; and Wabamun IR 133B. The most populated reserve is Wabamun IR 133A (AANDC 2013).

Numerous trails and travel routes connect Paul First Nation's asserted traditional territory with other First Nation communities. A former Paul First Nation trapline and cabin was located near Chickadee Creek, approximately 64 km north of RK 199.5 (NGPLP 2010). The Pembina River crossed by the proposed pipeline corridor at RK 135.0 and McLeod River crossed by the proposed pipeline corridor at RK 223.9 are fishing sites for northern pike and fresh water whitefish. Traditional fishing sites include Lac Ste. Anne, approximately 11.5 km north of RK 95, Buck Lake, located approximately 55 km southwest of RK 27.6 and Wabamun Lake, located approximately 1 km south from RK 96 to RK 117 (NGPLP 2010). Burial sites are located at Blue Ridge, located approximately 59 km north of RK 159 and at Chip Lake, located approximately 2 km north of RK 164.3 (NGPLP 2010). Meat staples include moose, deer, elk, buffalo, partridge and rabbit. Bear and wolf are used for ceremonial purposes. Traditional medicinal plants include blueberries, Saskatoon berries, raspberries, strawberries, willow, spruce and birch (NGPLP 2010, Lifeways 2012).

Paul First Nation community members no longer feel it is safe to drink local waters due to declining water quality and fear consuming traditional foods harvested locally because of potential contamination from development. Issues identified include removal of sacred medicines and forests, effects on the balance of nature and effect on the land. Concerns regarding spills are exacerbated by Paul First Nation members' experience with the Canadian National Railway Company (CN) spill at Wabamun Lake. Paul First Nation considers Wabamun Lake to be polluted from this spill and fish populations have declined. Community well-being and health are understood by community members to be declining. Wabamun Lake no longer freezes over in winter and ducks no longer migrate south. The community views itself as being responsible for safeguarding the environment and using sustainable practices (NGPLP 2010, Lifeways 2012).

4.1.1.13 *Nakcowinewak Nation of Canada*

Nakcowinewak Nation of Canada is a primarily Saulteau-speaking nation located in Hinton, Alberta (Lifeways 2012). The total registered population of Nakcowinewak Nation of Canada is not known as members are spread out, mostly in Hinton, but also in Edmonton and Calgary, Alberta (Lifeways 2012). Their non-treaty status excludes them from the regular census reporting that is provided for Aboriginal status and treaty-affiliated bands.

Traditional plant gathering sites identified by Nakcowinewak Nation of Canada include the Hinton area, located approximately 2.4 km southeast of RK 318, the Athabasca River Valley, located approximately 14.6 km southwest of RK 339.4, Devona Flats, located approximately 22.5 km southwest of RK 339.4, the Miette River, located approximately 59.5 km southwest of RK 339.4 and near Robson Ranch, located approximately 2.9 km south of RK 490 (TERA 2005b). Traditional fishing sites include the Miette River, located approximately 52.9 km southwest of RK 339.4 and the Fraser River located approximately 93 km southwest of RK 339 (TERA 2005b). Sacred sites include a site near Robson Ranch, approximately 2.9 km south of RK 490 and the Moberly Flats, located approximately 35.9 km southwest of RK 339.4 (TERA 2005b). Traditional habitation sites are located at Benchlands between Devona and Jasper, approximately 22.5 km southwest of RK 339.4, and at Snaring Warden Station, located approximately 34.4 km southwest of RK 339.4 (TERA 2005b).

4.1.1.14 *Sunchild First Nation*

Sunchild First Nation is a nation located 40 km northwest of Rocky Mountain House, Alberta (AANDC 2013). In March 2013, the total registered population of Sunchild First Nation was 1,281 (AANDC 2013). There is one Sunchild First Nation reserve, Sunchild IR 202 (AANDC 2013).

Desktop traditional land and resource use information relative to the TLRU RSA for Sunchild First Nation was not available during compilation of this report.

4.1.1.15 *Aseniwuche Winewak Nation*

Aseniwuche Winewak Nation is an affiliation of six Woodland Cree settlements located within the vicinity of Grande Cache, north of Jasper National Park, Alberta (Aseniwuche Winewak Nation 2009). The nation represents 400 individuals who belong to the communities of Muskeg Seepee Cooperative, Susa Cree Cooperative, Grande Cache Lake Enterprise (Kamisak Development), Victor Lake Cooperative, Joachim Enterprise and Wanyandie East and West Cooperative (Aseniwuche Winewak Nation 2009). Members of Aseniwuche Winewak Nation are non-status Aboriginals and have not been part of the Treaty Process (Aseniwuche Winewak Nation 2009).

The Pinto Creek region located approximately 44 km northwest of RK 320, contains an important trail, the Pinto Creek Cabin and a burial site (NGPLP 2010). Plants that are commonly harvested and consumed by community members include poplar tree cambium, wild onion, Labrador tea, mint, high-bush and low-bush cranberries, blueberries, huckleberries, Saskatoon berries, northern gooseberries, wild red currant, loganberries, common and alpine bearberries, wild raspberries and soapberries (NGPLP 2010). Important animals harvested include black bear, moose, elk, white-tail deer, mule deer, grouse, beaver, muskrat, rabbit, porcupine and mountain sheep.

Traditional plant gathering sites identified by Aseniwuche Winewak Nation include Devona Flats to Moberly Flats, located approximately 22.5 km southwest of RK 339.4, Miette River Valley, located approximately 52.9 km southwest of RK 339.4, Yellowhead Lake, located approximately 70.3 km southwest of RK 339.4 and near Decoigne Road, located approximately 60.8 km southwest of RK 339.4 (TERA 2005b). Traditional hunting sites include east of Pocahtontas, located approximately 14.6 km southwest of RK 339.4, Devona Flats to Moberly Flats, located approximately 22.5 km southwest of RK 339.4, east of Windy Point, located approximately 31.8 km southwest of RK 339.4, Overlander Lodge, located approximately 36.5 km southwest of RK 339.4, Miette River Wetlands, located approximately 52.9 km southwest of RK 339.4 and Oxbow portions along the Fraser River, located approximately 93 km southwest of RK 339.4 (TERA 2005b). Traditional fishing sites include the Miette River, located approximately 52.9 km southwest of RK 339.4, Yellowhead Lake, located approximately 70.3 km

southwest of RK 339 and the Fraser River, located approximately 93 km southwest of RK 339.4 (TERA 2005b).

A traditional gathering site is located at the Miette Hot Springs, approximately 16.3 km south of RK 339 (TERA 2005b). A sacred site is located near Decoigne Road, approximately 60.8 km southwest of RK 339.4 (TERA 2005b). Traditional habitation sites include Vine Creek, located approximately 31.9 km southwest of RK 339.4, east of Windy Point, approximately 31.8 km southwest of RK 339.4, Moberly Flats, located approximately 35.9 km southwest of RK 339.4, Snaring Warden Station, located approximately 34.4 km southwest of RK 339.4, Palisades Centre, located approximately 41 km southwest of RK 339.4, near Decoigne Road, approximately 60.8 km southwest of RK 339.4 and Yellowhead Lake, located approximately 70.3 km southwest of RK 339.4 (TERA 2005b). A traditional trail is located in Grande Cache via Sheep Creek Valley and is approximately 113 km northwest of RK 339.4 (TERA 2005b).

4.1.2 Hargreaves to Darfield Segment

The proposed Hargreaves to Darfield Segment crosses the traditional territories of six Aboriginal communities that have been identified as having an interest in the Project or having interests potentially affected by the Project, listed below.

4.1.2.1 Lheidli T'enneh

Lheidli T'enneh, formerly known as Fort George Indian Band, is located near Prince George, BC (Lheidli T'enneh n.d.). In March 2013, the total registered population of Lheidli T'enneh was 379 (AANDC 2013). There are four Lheidli T'enneh reserves: Clesbaoneecheck IR 3; Fort George IR 2; Fort George Cemetery IR 1A; and Salaquo IR 4. The most populated reserve is Fort George IR 2 (AANDC 2013).

Plant species traditionally harvested by Lheidli T'enneh include grasses, ferns, various berries and shrubs. Several tree species were also used, including alder, pine, fir and birch (Pacific Trails Pipeline Limited Partnership [PTP] 2007). Animals traditionally harvested include waterfowl, large carnivorous mammals, game birds, ungulates and small fur-bearing mammals. These wildlife species have been and are currently used for ceremonies, food and commercial purposes (PTP 2007).

Fishing is an important traditional activity for Lheidli T'enneh. Salmon is an important food source for Lheidli T'enneh, also having social and ceremonial value to the community (Lheidli T'enneh n.d.). Other common freshwater species are also caught, including whitefish, Dolly Varden and rainbow trout (PTP 2007).

4.1.2.2 Simpcw First Nation

Simpcw First Nation is a Shuswap nation located in the North Thompson region of BC and is a member of the Shuswap Nation Tribal Council (Shuswap Nation Tribal Council 2013a). In March 2013, the total registered population of the Simpcw First Nation was 677 (AANDC 2013). There are five Simpcw First Nation reserves: North Thompson IR 1; Nekalliston IR 2; Louis Creek IR 4; Boulder Creek IR 5; and Barriere River IR 3A (AANDC 2013). The most populated reserve is North Thompson IR 1 (AANDC 2013).

Winter home sites are located at Finn Creek, located approximately 0.5 km west of RK 641; at Birch Island, located approximately 0.8 km southwest of RK 711.2; at Chu Chua, located approximately 1.1 km east of RK 765; at the Barriere River, located approximately 7.5 km east of RK 766; at Louis Creek, located approximately 20 km south of RK 769; and at Tête Jaune, located approximately 3 km northwest of RK 506.8 (Simpw First Nation 2013). Simpcw community members currently hunt in the mountains above the Fraser River (Simpw First Nation 2013).

A traditional trail network connecting Snake River, Little Smokey, Goat River, Bowron Lakes and Williams Lake, is located at its nearest point approximately 21.8 km southwest of RK 339.4. Other traditional trails and travelways exist at Canoe River Crossing, located at RK 508.3 and the Fraser River, located approximately 1 km northwest of RK 493 (North Thompson Indian Band. 1998). Traditional plant

gathering sites include Jasper, located approximately 50.6 km southwest of RK 339.4, and Blue River, crossed by the proposed pipeline corridor at RK 613.8. Traditional hunting sites include Moberly Flats, located approximately 35.9 km southwest of RK 339.4, along the waterways from Mount Robson to Yellowhead Pass, located approximately 17 km southwest of RK 490, Tête Jaune Cache, located approximately 3.7 km west of RK 505, Finn Creek, located approximately 809 km southwest of RK 641, North Thompson Valley, located approximately 1.6 km southwest of RK 655, Avola, located at RK 655.5, the area around Battle Mountain, located approximately 34.1 km northwest of RK 687 and Clearwater River, crossed by the proposed pipeline corridor at RK 725.5 (North Thompson Indian Band 1998) .

Traditional trapping sites include Jasper (into the Red Pass), located approximately 50.6 km southwest of RK 339.4, along the waterways from Mount Robson to Yellowhead Pass, located approximately 17 km southwest of RK 490 and Finn Creek, located approximately 809 km southwest of RK 641. Traditional fishing sites include the Miette River, located approximately 52.9 km southwest of RK 339.4, Moose Lake, located approximately 85.8 km southwest of RK 339.4, Canoe River located at RK 508.3 along the proposed pipeline corridor, Finn Creek, located approximately 809 m southwest of RK 641 and Raft River crossed by the proposed pipeline corridor at RK 717.7 (North Thompson Indian Band 1998).

Traditional habitation sites include Lac Ste Anne, located approximately 12.9 km north of RK 95, Devona Flats to Jasper, located approximately 22.5 km southwest of RK 339.4, Yellowhead Lake, located approximately 70.3 km southwest of RK 339.4, Fraser River, located approximately 1 km northwest of RK 493, Tête Jaune Cache, located approximately 3.7 km west of RK 505, Swift Creek, crossed by the proposed pipeline corridor at RK 522.5, Canoe River, Avola, located at RK 655.5, Raft River Crossing, crossed by the proposed pipeline corridor at RK 717.7 and Chu Chua, located approximately 1.2 km east of RK 764.8. A traditional gathering site is located at Green Lake, approximately 69.6 km west of RK 755 (North Thompson Indian Band 1998, TERA 2005b).

4.1.2.3 *Lhtako Dene Nation*

Lhtako Dene Nation is a Southern Carrier nation located near Quesnel in the interior of BC (AANDC 2013). They are members of the Carrier Chilcotin Tribal Council (Carrier Chilcotin Tribal Council 2011). In March 2013, the total registered population of the Lhtako Dene Nation was 167 (AANDC 2013). There are four Lhtako Dene reserves: Dragon Lake IR 3; Quesnel IR 1; Rich Bar IR 4; and Sinnce-tah-lah IR 2 (AANDC 2013). The most populated is Quesnel IR 1 (AANDC 2013).

Community members traditionally harvest plants during the spring, with plant shoots, such as *Tsulchun*, picked and boiled as part of a nutritional supplement. They also harvest wild rhubarb, cow parsnip, wild celery and other edible bulbs and roots such as tiger lily, wild onion, wild parsnip and bulrush or cattail and *kwadas* roots. The outer bark of large Jack pines is removed and the cambium scraped off and eaten. Pine bark is also used as medicine (Archaeo 2002). During the summer, Lhtako Dene Nation community members harvest various species of berries, including Saskatoon berries, huckleberries, soapberries, wild raspberries, high-bush and low-bush blueberries, chokecherries, red cranberries, wild strawberries, thimbleberries, gooseberries, hazelnuts and rosehips. Plant and berry harvesting sites are located along the west side of the Fraser River which is crossed by the proposed pipeline corridor at RK 499.7 and surrounding regions (Archaeo 2002).

Community members primarily hunt muskrat and beaver. Waterfowl are shot or snared, including ducks, mudhen, grouse, geese, mallard and crane. Big game such as moose, deer, elk, caribou and bears, are hunted, as well as small game such as rabbit and grouse (Archaeo 2002). Historically, the Lhtako Dene trapped fur-bearing animals such as squirrel, weasel, mink, marten, lynx, fisher, fox and coyote in order to collect and sell the animal's pelts (Archaeo 2002). Lhtako Dene Nation community members also fish various species throughout the year such as char, suckers, Dolly Varden, ling, whitefish, kokanee and spring salmon. In the winter, Lhtako Dene Nation ice fish for whitefish, suckers, char, Dolly Varden and sturgeon. Elders reported that they continue to harvest resources according to the seasonal round (Archaeo 2002).

4.1.2.4 *Canim Lake Band*

Canim Lake Band, also known as the Tsq'escenemc, is a member of the Shuswap Nation located on Canim Lake near 100 Mile House, BC (Canim Lake Band 2005). In March 2013, the total registered population of Canim Lake Band was 591 (AANDC 2013). There are six Canim Lake Band reserves, Canim Lake IR 1 through 6. The most populated reserve is Canim Lake IR 1 (AANDC 2013).

There are a number of lakes within Canim Lake Band's asserted traditional territory on which community members depend for food and various culturally important plants (Canim Lake Band 2005).

4.1.2.5 *Whispering Pines First Nation/Clinton Indian Band*

Whispering Pines First Nation, formerly known as the Clinton Indian Band, is a Secwepemc nation located in Kamloops, BC. This nation is a member of the Shuswap Nation Tribal Council and as such, has not participated in the Treaty Process. In March 2013, the total registered population of Whispering Pines First Nation was 148 (AANDC 2013). There are three Whispering Pines First Nation reserves: Whispering Pines IR 4; Kelly Creek IR 3; and Clinton IR 1. The most populated reserve is Whispering Pines IR 4 (AANDC 2013).

Desktop traditional land and resource use information relative to the TLRU RSA for Whispering Pines First Nation was not available during compilation of this report.

4.1.2.6 *Métis Nation British Columbia*

Métis Nation of British Columbia was established in 1996 to represent the interests of 35 Métis Chartered communities throughout BC (Métis Provincial Council of British Columbia 2013). Métis Nation of British Columbia represents Métis communities from all parts of British Columbia.

Desktop traditional land and resource use information relative to the TLRU RSA for Métis Nation of British Columbia was not available during compilation of this report.

4.1.3 *Black Pines to Hope Segment*

The Black Pines to Hope Segment crosses the traditional territories of 13 Aboriginal communities that have been identified as having an interest in the Project or having interests potentially affected by the Project. Métis Nation of British Columbia was discussed under Section 4.1.2. The remaining 12 communities are listed below.

4.1.3.1 *Tk'emlúps Te Secwepemc*

Tk'emlúps Te Secwepemc formerly known as Kamloops Indian Band, is a Shuswap nation located adjacent to Kamloops, BC (Tk'emlups te Secwepemc 2013). In March 2013, the total registered population of Tk'emlúps Te Secwepemc was over 1,000 people (Tk'emlups Te Secwepemc 2013). There are five Tk'emlups Te Secwepemc reserves: Kamloops IR 1 through 5. The most populated is Kamloops IR 1 (AANDC 2013).

Desktop traditional land and resource use information relative to the TLRU RSA for Tk'emlúps Te Secwepemc was not available during compilation of this report.

4.1.3.2 *Skeetchestn Indian Band*

Skeetchestn Indian Band is a Secwepemc nation located in the Deadman's Creek and Thompson River areas of BC (Shuswap Nation Tribal Council 2013b). The band is associated with the Secwepemc Cultural Education Society and Shuswap Nation Tribal Council. In March 2013, the total registered population of the Skeetchestn Indian Band was 523 (AANDC 2013). There are four reserves: Hihium Lake IR 6A; Hihium Lake IR 6B; Marshy Lake IR 1; and Skeetchestn IR. The most populated reserve is Skeetchestn IR (AANDC 2013).

Skeetchestn Indian Band community members rely on the use of collected natural resources in their daily lives. Community members have conducted multiple ventures to restore natural settings to the region, including self-imposed conservation closures along the Deadman River, located approximately 45 km northwest of RK 833, riverbank restoration work and the construction of a fish hatchery in 1988 (First Nations Environmental Contaminants Program n.d.).

Habitation sites are located along both sides of Kamloops Lake located west of the proposed pipeline corridor at RK 846.7. Pit houses, indicating historic habitation were discovered near Prichard, located approximately 40 km east of RK 839, (Wonders 2008). Plant gathering is a fundamental part of traditional culture among all Secwepemc nations and a large variety of plants are harvested throughout the year. Various berries, indigenous vegetables, teas and roots are used for food and traditional medicines. Hunting locations, both traditional and modern, span the asserted traditional territory of Skeetchestn Indian Band, stretching from south of Kamloops Lake to the southern shores of Bonaparte Lake, located approximately 36 km north of RK 812 (Skeetchestn Indian Band n.d.). Traditional and modern fishing locations are located throughout the asserted traditional territory and vary by season. Spring fishing is known to take place at Tunkwa Lake, located approximately 30 km west of RK 858.5 and Leighton Lake located approximately 30 km west of RK 857.5. Summer and fall fishing takes place along the Fraser and Thompson rivers.

Skeetchestn Indian Band has invested a substantial portion of time and resources into the restoration, protection and maintenance of fish habitat and populations within its asserted traditional territory. Fishing has been a strong tradition and major food source for Skeetchestn Indian Band; families used to seasonally relocate to camps near salmon-bearing rivers in order to fish and dry their catch, storing it in tree box caches (Wonders 2008). Salmon populations were greatly depleted in the early 1900s, prompting the Skeetchestn Indian Band to move forward with programs to restore populations. The community is concerned that any construction and possibility of future contaminant leaks, could cause insurmountable damage to the fish habitat and populations that the Skeetchestn Indian Band has worked to save. Self-imposed conservation regulations have been placed on community members as a means of further safeguarding this resource (Ignace n.d.).

4.1.3.3 Penticton Indian Band

Penticton Indian Band is a Sylix nation in the South Okanagan region of BC and part of the Okanagan Nation Alliance (Okanagan Nation Alliance 2010). In March 2013, the total registered population of Penticton Indian Band was 1,017 (AANDC 2013). There are three Penticton Indian Band reserves: Penticton IR 1; Penticton IR 2; and Penticton IR 3A (AANDC 2013). The most populated is Penticton IR 1 (AANDC 2013).

Desktop traditional land and resource use information relative to the TLRU RSA for Penticton Indian Band was not available during compilation of this report.

4.1.3.4 Upper Nicola Indian Band

The Upper Nicola Indian Band is located east of the city of Merritt, BC (Ministry of Aboriginal Relations and Reconciliation [MARR] 2013a). In March 2013, the total registered population of the Upper Nicola Indian Band was 879 (AANDC 2013). There are eight Upper Nicola Indian Band reserves (Upper Nicola Indian Band 2009).

Desktop traditional land and resource use information relative to the TLRU RSA for Upper Nicola Indian Band was not available during compilation of this report.

4.1.3.5 Lower Similkameen Indian Band

Lower Similkameen Indian Band is a Sylix nation located near Keremeos in the Similkameen Valley in the South Okanagan region of BC and is a member of the Okanagan Nation Alliance (Okanagan Nation Alliance 2010). In March 2013, the total registered population of Lower Similkameen Indian Band was 477 (AANDC 2013). There are a total of nine Lower Similkameen Indian Band reserves and the most populated is Keremeos Forks IR (AANDC 2013).

Historically, Syilx villages were located in the valley bottoms and beside lakes of the Fraser River Canyon. In early spring, community members fished for kokanee, trout and sturgeon and gathered in permanent villages near lakes. Today, village sites are located near Nicola Lake located approximately 5.7 km southeast of RK 906.6 and Douglas Lake, located approximately 20 km southeast of RK 906 (Golder Associates 2008).

During the early spring salmon runs, the Lower Similkameen Indian Band community members collected a variety of berries, including Saskatoon berries and strawberries, as well as food plants such as mushrooms and the roots of plants. Rhizomes were harvested in the early spring including roots of the avalanche lily, tiger lily, cow parsnip and the nodding onion. The inner bark of the tree, its cambium layer, is stripped from lodgepole and ponderosa pine and eaten (Golder Associates 2008). Salmon fishing remains an important social, cultural and economic activity. Lower Similkameen First Nation have fished in the Thompson and Fraser rivers for generations for a variety of fish including salmon, kokanee, steelhead, rainbow and cutthroat trout, suckerfish and whitefish (Golder Associates 2008). As part of the seasonal round, the Lower Similkameen hunt in subalpine forest edges and alpine forests in the late summer and early fall for large game. The mountain forests yield mountain goat, bighorn sheep, wapiti and moose; with deer as the most important food resource. The fall hunt provided a steady food source and clothing during the wintertime. Presently, the Lower Similkameen Indian Band are concerned about the population and health of ungulate species in the Thompson/Okanagan region including deer (mule and white-tail), moose, bighorn sheep and mountain goat (Golder Associates 2008).

4.1.3.6 Upper Similkameen Indian Band

Upper Similkameen Indian Band is a Syilx nation and member of the Okanagan Nation Alliance located in the Similkameen Valley (Upper Similkameen Band 2008). In March 2013, the total registered population of Upper Similkameen Indian Band was 86 (AANDC 2013). There are eight Upper Similkameen Indian Band reserves and the most populated is Chuchuwayha IR 2 (AANDC 2013).

Historically, villages were located in valley bottoms and beside waterbodies such as Nicola Lake, located approximately 3.2 km southeast of RK 906.6 and Douglas Lake, located approximately 20 km southeast of RK 906. Community members gathered in permanent villages in winter and used upland areas for hunting, collection of plants and ceremonial practices. Communities fished for kokanee, steelhead, rainbow and cutthroat trout, suckerfish and whitefish, hunted for deer, moose, bighorn sheep, bear, grouse, ducks, gathered eggs from water fowl, collected berries specifically Saskatoon berries, strawberries and food plants such as mushrooms, various roots and cambium as well as medicinal plants. Ceremonial restrictions and protocols were important within harvesting practices and while hunting and fishing strict protocols were also followed (Golder Associates 2008).

4.1.3.7 Lower Nicola Indian Band

Lower Nicola Indian Band is a Nlaka'pamux speaking, Interior Salish people located approximately 10 km northeast of the city of Merritt in the South Okanagan region of BC (Lower Nicola Indian Band 2010). In 2010, there were approximately 1,000 registered Lower Nicola community members (Lower Nicola Indian Band 2010). There are 10 Lower Nicola Indian Band reserves (Lower Nicola Indian Band 2010).

The proposed pipeline corridor crosses Joeyaska IR 2 from RK 911.9 to RK 912.8 and from RK 917.4 to RK 918.5. Two additional reserves, Zoht IR 4 and Zoht IR 5, are crossed by the proposed pipeline corridor from RK 911.9 to RK 912.8 and from RK 917.4 to RK 918.5 respectively.

Historically, villages were located in the valley bottoms and beside lakes of the Fraser River Canyon such as Nicola Lake, located approximately 3.2 km southeast of RK 906.6 and Douglas Lake, located approximately 20 km southeast of RK 906, where a variety of fish species are caught. The Coquihalla Corridor is a major travel route for hunting, fishing and traveling (Lower Nicola Indian Band 2010). Community members gathered in permanent villages in winter and used upland areas for hunting and the collection of plants. The remains of traditional semi-subterranean pit houses in Nicola village sites are located approximately 2.3 km east of RK 922 (Golder Associates 2008). In spring, communities gather green shoots of wild roses, stinging nettles, avalanche lilies, tiger lilies, cow parsnip, wild potatoes, bitterroot and nodding onion. Historically, cambium was gathered from lodgepole and ponderosa pine and

provided a sweet delicacy (Golder Associates 2008). In early spring, community members fish for kokanee, trout, burbot and sturgeon. Currently migrating salmon are caught on the Nicola River, located approximately 24.7 km southeast of RK 900 and are often netted, or caught with dip nets in shallow waters (Amec Earth & Environmental [AMEC] 2010). The Lower Nicola Indian Band hunted for moose, mule deer, whitetail deer, mountain goat and bighorn sheep. Ceremonial restrictions and protocols are considered to be important to the success of harvesting practices and a strict division of labor, organized according to gender, was observed to ensure the success of the hunt (Golder Associates 2008).

4.1.3.8 Coldwater Indian Band

Coldwater Indian Band is a Nlaka'pamux nation located 13 km south of the City of Merritt, BC and is a member of the Nicola Tribal Association (MARR 2013a). In 2011, the total registered population of Coldwater Indian Band was 780 (Coldwater Indian Band 2011). There are three reserves: Coldwater IR 1; Paul's Basin IR 2; and Gwen Lake IR 3 (Coldwater Indian Band 2011).

Salmon fishing, hunting and plant gathering continue to provide substantial portions of Coldwater Indian Band community member's diets (Focus Environmental Inc. [Focus] 2008). Community members use a variety of plants for food, medicinal and ceremonial purposes and the making of tools and other goods including black tree lichens, pine mushrooms, western red cedar, lodgepole pine, Douglas-fir, blackberries, blueberries, huckleberries, cow-parsnip, Indian hemp, western paper birch, soapberry, Alaska blueberry, avalanche lily, cascara, Saskatoon berries, service berries, balsam root, tiger lilies, bitter root and cambium from lodgepole and ponderosa pines. Berries are gathered at higher elevations in the late summer and the fall. Some plants have limited availability such as balsam root, bitterroot and hazelnuts (AMEC 2010). Historically, community members hunted deer, black bear, bighorn sheep, mountain goat, beaver, coyote, fox, marmot, snowshoe hare, squirrel and grouse for food and other purposes. Chipmunk, muskrat, weasel and wolverine were hunted for their fur only. Hunting continues with deer being the primary animal consumed (Focus 2008). Fishing, particularly for salmon, is an important part of traditional activities. Fishing occurs in late spring and summer when community members pursue migrating salmon along the Thompson and Nicola rivers. Presently they are netted and dried for future consumption. Historically spears, dip nets and hook and line were used in shallow waters and drift nets in deeper waters (AMEC 2010, Focus 2008).

4.1.3.9 Shackan Indian Band

Shackan Indian Band is a Nlaka'pamux nation located in the Nicola Valley, approximately 20 km east of Spences Bridge and 40 km west of the City of Merritt on Highway 8 (Shackan Indian Band 2012). In March 2013, the total registered population of Shackan Indian Band was 131 (AANDC 2013). There are three Shackan Indian Band reserves: Papsilqua IR 13; Shackan IR 11; and Soldatquo IR (AANDC 2013). The most populated reserve is Shackan IR 11 (AANDC 2013). Shackan Indian Band is a member of the Nicola Tribal Association (MARR 2013a).

Desktop traditional land and resource use information relative to the TLRU RSA for Shackan Indian Band was not available during compilation of this report.

4.1.3.10 Nicomen Indian Band

Nicomen Indian Band is located in Lytton, BC, 108 km north of Hope and 37 km south of Spences Bridge, BC at the confluence of the Fraser and Thompson rivers (Union of British Columbia Indian Chiefs 2010). In March 2013, the registered population was 130 (AANDC 2013). There are 16 Nicomen reserves while the most populated reserve is Nicomen IR 1 (AANDC 2013). Nicomen Indian Band is a member of the Nicola Tribal Association (MARR 2013a).

Desktop traditional land and resource use information relative to the TLRU RSA for Nicomen Indian Band was not available during compilation of this report.

4.1.3.11 Nooaitch Indian Band

Nooaitch Indian Band is a Nicola nation located 23 km from the City of Merritt, BC (MARR 2013a). In March 2013, the total registered population of Nooaitch Indian Band was 209 (AANDC 2013). There are two Nooaitch Indian Band reserves: Nooaitch IR 10; and Nooaitch IR 9 (AANDC 2013). The most populated is Nooaitch 10 (AANDC 2013). Nooaitch Indian Band is a member of the Nicola Tribal Association (MARR 2013a).

Nooaitch Indian Band has indicated that traditional hunting continues to be practiced by community members throughout their asserted traditional territory (KDC Consulting [KDCC] 2011). Nooaitch Indian Band community members continue to gather berries, plants, tree bark and roots on their reserves and in their asserted traditional territory (Forest Practices Board 2004, KDCC 2011). Traditionally bull trout, Chinook salmon, coho salmon and Dolly Varden were caught in Nicola Lake, located approximately 3.2 km southeast of RK 906.6; Coldwater River which is crossed by the proposed pipeline corridor at RK 957.8, RK 970.3, RK 980 and RK 990; the Anderson River, located approximately 7.72 km northwest of RK 951; the Fraser River, crossed by the proposed pipeline corridor at RK 499.7; and RK 1168.9 Spius Creek, located approximately 18 km northwest of RK 936.6. Fish were used for food and were also traded with other communities for resources (KDCC 2011). Burial grounds are located north of the Nooaitch cemetery, located just outside Nooaitch IR 10 (KDCC 2011).

4.1.3.12 Yale First Nation

Yale First Nation is an independent First Nation located near Hope, BC (Yale First Nation 2013). In March 2013, the total registered population of Yale First Nation was 159 (AANDC 2013). There are 16 Yale First Nation reserves (AANDC 2013). The most populated reserve is Stullawheets IR 8 (AANDC 2013).

The Spirit Cave Trail near Yale, located approximately 15.4 km northwest of RK 1021, is an important heritage asset and spiritual site (Golder Associates 2008). The trail is well worn and still in use. Community members developed the Spirit Cave Trail as a means of creating greater local interest in heritage and as an attempt to foster heritage tourism in Yale (Golder Associates 2008).

4.1.4 Hope to Burnaby Segment

The Hope to Burnaby Segment crosses the traditional territories of 20 Aboriginal communities that have been identified as having an interest in the Project or having interests potentially affected by the Project. Métis Nation British Columbia has been previously discussed under Section 4.1.2. The remaining 19 communities are listed below.

4.1.4.1 Union Bar First Nations

Union Bar First Nations is a Stó:lō Nation located in the coastal mountain region near Hope, BC (Union Bar First Nations n.d.). In March 2013, Union Bar First Nations had one reserve and a total registered population of 199 (AANDC 2013).

Desktop traditional land and resource use information relative to the TLRU RSA for Union Bar First Nations was not available during compilation of this report.

4.1.4.2 Chawathil First Nation

Chawathil First Nation is a Stó:lō Nation located on the Fraser River near Hope, BC. (AANDC 2013, Chawathil First Nation 2010, MARR 2013c). In March 2013, the total registered population of the Chawathil First Nation was 558 (AANDC 2013). There are five Chawathil First Nation reserves and the most populated is Chawathil IR 4 (AANDC 2013).

Much of the publicly available literature for Chawathil First Nation relevant to the TLRU RSA consists of data compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories. This information is provided below.

Stó:lō lands are divided into four “distinct geographical/biological ‘food processing’ zones” (Carlson 2001): the area in which all tributary rivers flow into the Pacific ocean, where marine mammals, shellfish and molluscs were harvested; the area of the Fraser Valley where several smaller rivers flow into the Fraser River, where bog cranberries and wapato were gathered; the section of the Fraser Canyon where the Fraser River becomes considerably narrower and has abundant salmon; and mountainous regions further inland (Carlson 2001, Chawathil First Nation 2010). Community members trade goods and move freely amongst villages within their asserted traditional territory. The diversity of resources found in Stó:lō territory allowed their ancestors to move about seasonally and use different areas for different traditional activities (Golder Associates 2008).

Salmon and salmon fishing is of great importance to the Stó:lō people as a primary source of wealth and sustenance. Most fishing has been practiced along the Fraser River, crossed by the proposed pipeline corridor at RK 1168.9 and following the proposed pipeline corridor from RK 1045 to RK 1078. In particular, the Fraser Canyon, located approximately 1.8 km north of RK 1046, is an area where salmon are most abundant and conditions for preparing the meat (wind-drying) are ideal (Carlson 2001). The area which sees the Fraser River reach the Pacific Ocean, crossed by the proposed pipeline corridor at RK 1169, has been traditionally used for harvesting marine mammals, shellfish and molluscs; and the area of the Fraser Valley downstream of the Fraser Canyon, approximately 2.4 km southwest of RK 1046, at the confluence of the Pitt and Fraser rivers, approximately 5.3 km east of RK 1171, has been traditionally used for plant gathering, specifically bog cranberries and wapato (Carlson 2001). The Stó:lō people have also been historically known to engage in the building of large, permanent settlement sites, as opposed to being nomadic; the harvesting of salmonberries, thimbleberries and cow parsnip; and the hunting of birds, deer, elk and mountain goats (Golder Associates 2008). Because of their reliance on salmon from the Fraser River and the accessibility to different regions, there is a close connection between the river systems and Stó:lō settlement sites, with the largest and most populated settlements often located at the confluence of major waterways (Carlson 2001).

Sacred areas are located at Cultus Lake, located approximately 3.7 km southeast of RK 1104.5; Mount Cheam (Cheam Peak), located approximately 3.8 km east of RK 1079; Echo Island (Harrison Lake), located approximately 12 km northwest of RK 1064.5; Mount Slesse (Slesse Mountain), located approximately 23.5 km southeast of RK 1088.5; Mount McGuire in the Chilliwack River Valley, located approximately 15 km southeast of RK 1093.4; and Mount Hope and Lady Franklin Rock in the lower Fraser Canyon, located approximately 3.3 km northwest of RK 1046.4 (Carlson 2001, Stó:lō Nation and The Reach Gallery Museum Abbotsford 2012). Semá:th Lake (Sumas Lake), which is crossed by the proposed pipeline corridor at RK 1111.3, is also an important historical site for the community. It was a rich ecosystem which once supported an abundance of fish, plants and animals and wetlands which were destinations for migrating birds and breeding grounds for wildlife (Stó:lō Nation and The Reach Gallery Museum Abbotsford 2012). Coqualeetza, located in Sardis, BC, approximately 1.6 km northwest of RK 1096.5, is considered an important historical and cultural site for the Stó:lō people and prior to European contact was used as a fishing site and farmland (Carlson 2001).

4.1.4.3 *Shxw'ówhámél First Nation*

Shxw'ówhámél First Nation is a Stó:lō Nation, located approximately 13 km west of Hope, BC along the TransCanada Highway (MARR 2013c). In March 2013, the total registered population of Shxw'ówhámél First Nation was 186 (AANDC 2013). There are four Shxw'ówhámél First Nation reserves: Kuthlalth IR 3; Ohamil IR 1; Wahleach Island IR 2; and Pekw'xe:yles IR (shared with 20 other area First Nations). The most populated reserve is Ohamil IR 1 (AANDC 2013) which is crossed by the proposed pipeline corridor from RK 1057.6 to RK 1058.9.

Desktop traditional land and resource use information relative to the TLRU RSA for Shxw'ówhámél First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.4 *Cheam First Nation*

Cheam First Nation is a Stó:lō Nation located in the Fraser Canyon near Rosedale, BC (AANDC 2013). In March 2013, the total registered population of Cheam First Nation was 505 (AANDC 2013). There are three Cheam First Nation reserves: Cheam IR 1; Tseatah IR 2; and Pekw'xe:yles (AANDC 2013). The most populated reserve is Cheam IR 1 (AANDC 2013).

Desktop traditional land and resource use information relative to the TLRU RSA for Cheam First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.5 *Sumas First Nation*

Sumas First Nation is a Stó:lō Nation located close to the City of Abbotsford in the Fraser Valley (First Peoples' Heritage, Language and Culture Council 2013). Sumas First Nation does not publicly list reservation information (AANDC 2013).

Desktop traditional land and resource use information relative to the TLRU RSA for Sumas First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.6 *Peters Band*

Peters Band is a Stó:lō Nation located near Hope, BC. In March 2013, the total registered population of Peters Band was 146 (AANDC 2013). There are three Peters Band reserves: Peters IR 1; Peters IR 1A; and Peters IR 2 (AANDC 2013). The most populated reserve is Peters IR 1 (AANDC 2013). Peters IR 1 is crossed by the proposed pipeline corridor from RK 1062.6 to RK 1064.4 and from RK 1064.5 to RK 1064.6. Peters IR 1A is crossed by the proposed pipeline corridor from RK 1064.5 to RK 1064.6.

Desktop traditional land and resource use information relative to the TLRU RSA for Peters Band was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.7 *Seabird Island Band*

Seabird Island Band is a Stó:lō Nation located on Seabird Island in the Upper Fraser Valley of BC, 3 km north of Agassiz (MARR 2013c). In March 2013, the total registered population of Seabird Island Band was 911 (AANDC 2013). There is one reserve, Seabird Island IR, located on Seabird Island (MARR 2013c).

Desktop traditional land and resource use information relative to the TLRU RSA for Seabird Island Band was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.8 *Popkum First Nation*

Popkum First Nation is a Halkomelem-speaking Coast Salish band located near Chilliwack in the Lower Fraser Valley (First Peoples' Heritage, Language & Culture Council 2013). In March 2013, the total registered population of Popkum First Nation was 10 (AANDC 2013). There are two Popkum First Nation reserves: Popkum IR 1; and Popkum IR 2 (AANDC 2013). The most populated is Popkum IR 1 (AANDC 2013) which is crossed by the proposed pipeline corridor from RK 1075.8 to RK 1077.2.

Popkum First Nation has established permanent village sites along the Fraser River. Permanent village sites were occupied primarily during the winter and the seasonal round allowed community members to access different areas for various traditional activities. Longhouses were used by Popkum First Nation

community members as gathering places for engaging in traditional ceremonies (Golder Associates 2008).

In the spring months when the salmon run occurred in the Fraser River, Popkum First Nation community members harvested the shoots of cow parsnip, salmonberry and thimbleberry (Golder Associates 2008). Food plants and berries were harvested in upland areas during the summer months of June and July when they were sufficiently ripened. Edible rhizomes were also harvested here including the nodding onion. During this time berries were harvested and eaten or dried for the winter months when great ceremonial feasts were held. Once the sockeye salmon runs ended in the early fall, community members would gather in the lowlands to collect cranberries and wapato, or white potato, in the bog areas of their territory. Wapato is a nutritious tuber that is found scattered throughout marshy areas. Wapato or white potato harvests still occur today (Golder Associates 2008). Harvesting is organized according to a system of land management which restricted the right to harvest to specific families. The Fraser River is accessed by family groups that own the individual and collective rights to harvest there (Golder Associates 2008).

Popkum First Nation community members hunted in upland areas in the late fall and early winter for several ungulate species including elk, moose, white-tail deer and mule deer. Community members would also trap beaver, muskrat, rabbit, porcupine, black bear and mountain goat in the alpine areas after the salmon runs were complete. Fall and early winter would also bring hunting of migratory birds (Golder Associates 2008).

Fishing for salmon has retained its social, cultural and economic importance as it had in the past. In early spring, the migrating salmon are caught in the Fraser River. In shallower water, dip nets or gill nets are used to catch fish from rock ledges or fishing platforms (Golder Associates 2008). Community members have also fished for trout and burbot in the Fraser River (AMEC 2010).

4.1.4.9 Scowlitz First Nation

Scowlitz First Nation is a member of the Stó:lō Tribal Council, located on the shores of Harrison Bay, near Lake Errock, northeast of Chilliwack. There are three reserves under the Scowlitz First Nation administration: Swolitz Indian IR 1 and Williams IR 2 are both located at the outlet of Harrison Bay and Squawkum Creek IR 3, located on the southwest corner of Harrison Bay (AANDC 2013). As of 2004 the registered population was 235 (AANDC 2013).

Desktop traditional land and resource use information relative to the TLRU RSA for Scowlitz First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.10 Skowkale First Nation

Skowkale First Nation is a Stó:lō Nation represented by the Ts'elxweyeqw Tribe and is located near Chilliwack in the Upper Fraser Valley (AANDC 2013). In March 2013, the total registered population of the Skowkale was 246 (AANDC 2013). There are four Skowkale reserves and the most populated is Skowkale IR 10 (AANDC 2013). Grass IR 15, a reserve shared by Skowkale First Nation, Yakwekwioose First Nation, Aitchelitz Band, Skwah First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village First Nation, Soowahlie First Nation, Tzeachten First Nation and Squiala First Nation, is crossed by the proposed pipeline corridor from RK 1091.1 to RK 1091.7.

Desktop traditional land and resource use information relative to the TLRU RSA for Skowkale First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.11 *Yakweakwioose First Nation*

Yakweakwioose First Nation is a Stó:lō Nation represented by the Ts'elxweyeqw Tribe and is located in the Upper Fraser Valley region at Sardis, near Chilliwack, BC. In March 2013, the registered population of Yakweakwioose First Nation was 66 (AANDC 2013). There are three Yakweakwioose First Nation reserves: Grass IR 15; Yakweakwioose IR 12; and Pekw'xe:yles IR. The most populated reserve is Yakweakwioose IR 12 (AANDC 2013). Grass IR 15, a reserve shared by Skowkale First Nation, Yakweakwioose First Nation Aitchelitz Band, Skwah First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village First Nation, Soowahlie First Nation, Tzeachten First Nation and Squiala First Nation, is crossed by the proposed pipeline corridor from RK 1091.1 to RK 1091.7.

Desktop traditional land and resource use information relative to the TLRU RSA for Yakweakwioose First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.12 *Aitchelitz Band*

Aitchelitz Band is a member of the Stó:lō Nation and is represented by the Ts'elxweyeqw Tribe. Aitchelitz Band is located near Chilliwack in the Upper Fraser Valley (AANDC 2013). Much of the background information found for Aitchelitz Band is based on Stó:lō Nation (Stó:lō Nation 2009). In March 2013, the total registered population of Aitchelitz Band was 66 (AANDC 2013). There are four Aitchelitz reserves and the most populated is Aitchelitz IR 9 (AANDC 2013). Grass IR 15, a reserve shared by Skowkale First Nation, Yakweakwioose First Nation, Aitchelitz Band, Skwah First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village First Nation, Soowahlie First Nation, Tzeachten First Nation and Squiala First Nation, is crossed by the proposed pipeline corridor from RK 1091.1 to RK 1091.7.

Desktop traditional land and resource use information relative to the TLRU RSA for Aitchelitz Band was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.13 *Skwah First Nation*

Skwah First Nation is a Stó:lō Nation and is represented by the Tx'elxweyeqw Tribe. Skwah First Nation is located near Chilliwack in the Fraser Valley. In March 2013, the total registered population of Skwah First Nation was 496 (AANDC 2013). The most populated is Skwah IR 4 (AANDC 2013). Grass IR 15, a reserve shared by Skowkale First Nation, Yakweakwioose First Nation, Aitchelitz Band, Skwah First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village First Nation, Soowahlie First Nation, Tzeachten First Nation and Squiala First Nation, is crossed by the proposed pipeline corridor from RK 1091.1 to RK 1091.7.

Desktop traditional land and resource use information relative to the TLRU RSA for Skwah First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.14 *Kwaw-kwaw-apilt First Nation*

Kwaw-kwaw-apilt First Nation is a Stó:lō Nation located near Chilliwack, BC (MARR 2013c). In March 2013, there were 43 registered members (AANDC 2013). There are four Kwaw-kwaw-apilt First Nation reserves and the most populated is Kwaw-kwaw-apilt IR 6 (AANDC 2013). Grass IR 15, a reserve shared by Skowkale First Nation, Yakweakwioose First Nation, Aitchelitz Band, Skwah First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village First Nation, Soowahlie First Nation, Tzeachten First Nation and Squiala First Nation, is crossed by the proposed pipeline corridor from RK 1091.1 to RK 1091.7.

Desktop traditional land and resource use information relative to the TLRU RSA for Kwaw-kwaw-apilt First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.15 Soowahlie First Nation

Soowahlie First Nation is a Stó:lō Nation settled in the Fraser Valley Regional District, between the towns of Vedder Crossing and Cultus Lake, BC (Soowahlie Band Administration 2012). In March 2013 there were 364 registered band members (AANDC 2013). There are three Soowahlie reserves: Grass IR 15; Soowahlie IR 14; and Pekw'xe:yles IR. Soowahlie IR 14 is the most populated (AANDC 2013). Grass IR 15, a reserve shared by Skowkale First Nation, Yakweakwioose First Nation, Aitchelitz Band, Skwah First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village First Nation, Soowahlie First Nation, Tzeachten First Nation and Squiala First Nation, is crossed by the proposed pipeline corridor from RK 1091.1 to RK 1091.7.

Desktop traditional land and resource use information relative to the TLRU RSA for Soowahlie First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.16 Shxwha:y Village First Nation

Shxwha:y Village First Nation is a Stó:lō Nation, located approximately 3.1 km west of Chilliwack, BC. In March 2013, the total registered population of Shxwha:y Village First Nation was 386 (AANDC 2013). There are four Shxwha:y Village First Nation reserves (AANDC 2013) and the most populated is Skway IR 5 (AANDC 2013). Grass IR 15 is crossed by the proposed pipeline corridor at RK 1092. Grass IR 15, a reserve shared by Skowkale First Nation, Yakweakwioose First Nation, Aitchelitz Band, Skwah First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village First Nation, Soowahlie First Nation, Tzeachten First Nation and Squiala First Nation, is crossed by the proposed pipeline corridor from RK 1091.1 to RK 1091.7.

Desktop traditional land and resource use information relative to the Traditional Land and Resource Use RSA for Shxwha:y Village First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.17 Tzeachten First Nation

Tzeachten First Nation is a Stó:lō Nation and is represented by the Tx'elxweyeqw Tribe. Tzeachten First Nation is located in the Fraser Valley Regional District, east of the Greater Vancouver/Lower Mainland Region of BC (Tzeachten First Nations 2012). In March 2013, the total registered population of the Tzeachten First Nation was 479 (AANDC 2013). There are three Tzeachten reserves: Grass IR 15; Tzeachten IR 133; and Pekw'xe:yles IR. The most populated is Tzeachten IR 13 (AANDC 2013), which is crossed by the proposed project corridor at RK 1063. Grass IR 15, a reserve shared by Skowkale First Nation, Yakweakwioose First Nation, Aitchelitz Band, Skwah First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village First Nation, Soowahlie First Nation, Tzeachten First Nation and Squiala First Nation, is crossed by the proposed pipeline corridor from RK 1091.1 to RK 1091.7.

Desktop traditional land and resource use information relative to the TLRU RSA for Tzeachten First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.18 Squiala First Nation

Squiala First Nation is a Stó:lō Nation and is represented by the Tx'elxweyeqw Tribe. They are located near Chilliwack in the Upper Fraser Valley (First Peoples' Heritage, Language and Culture Council 2012). In March 2013, the total registered population of the Squiala was 189 (AANDC 2013). There are five Squiala reserves, the most populated is Squiaala IR 7 (AANDC 2013). Grass IR 15, a reserve shared by Skowkale First Nation, Yakwekwioose First Nation, Aitchelitz Band, Skwah First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village First Nation, Soowahlie First Nation, Tzeachten First Nation and Squiala First Nation, is crossed by the proposed pipeline corridor from RK 1091.1 to RK 1091.7.

Desktop traditional land and resource use information relative to the TLRU RSA for Squiala First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.4.19 Leq'á:mel First Nation

Leq'á:mel First Nation is a Stó:lō Nation located in Deroche, 22 km east of Mission, BC (Leq'á:mel First Nation 2011). In March 2013, the registered population of Leq'á:mel First Nation was 388 (AANDC 2013). There are 10 Leq'á:mel First Nation reserves and the most populated is Lakahahmen IR 11 (AANDC 2013).

Desktop traditional land and resource use information relative to the TLRU RSA for Leq'á:mel First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.5 Burnaby to Westridge Segment

The Burnaby to Westridge Segment crosses the traditional territories of 12 Aboriginal communities that have been identified as having an interest in the Project or having interests potentially affected by the Project. Métis Nation British Columbia and Peters Band were previously discussed under Sections 4.1.2 and 4.1.4, respectively. The remaining 10 communities are listed below.

4.1.5.1 Semiahmoo First Nation

Semiahmoo First Nation is a Straits Salish people located in the Lower Mainland near White Rock, BC (Simovic 2001). They are grouped under the Secont'en Alliance, established in 2001. In March 2013, the total registered population of the Semiahmoo First Nation was 87 (AANDC 2013).

Semiahmoo First Nation was a traditionally semi-nomadic people. Community members regularly traveled through the Fraser River Estuary to gather food (Simovic 2001). Permanent villages were located near Semiahmoo and Birch Bays (Simovic 2001). In the spring, Semiahmoo First Nation community members would set up camps at Point Roberts, Cannery Point and Crescent Beach to begin clamming, egg gathering, digging bulbs and fishing (Brown 2012). Devil's club was used for ceremonies. Cedar was also traditionally harvested and berries were picked in the summer (Forest Practices Board 2004, Simovic 2001). Deer were traditionally hunted. Duck and pheasant were also hunted along Crescent Beach (Simovic 2001). Semiahmoo First Nation members have traditionally fished for sockeye salmon in Boundary Bay. In the last 40 years, the Semiahmoo have resorted to fishing in the Fraser River rather than relying on salmon in Boundary Bay. In the Boundary Bay area, located approximately 22.4 km southwest of RK 1157, crab and bivalve fisheries complemented salmon fishing. Bullhead and shiners were sometimes caught (Simovic 2001). Mount Baker was historically used for traditional and ceremonial practices but due to the number of people using the area these ceremonies now take place on private land (Simovic 2001).

4.1.5.2 *Matsqui First Nation*

Matsqui First Nation is a Stó:lō Nation located in Abbotsford, BC (MARR 2013b). In March 2013, the total registered population of Matsqui First Nation was 261 (AANDC 2013). There are five Matsqui First Nation reserves and the most populated is Matsqui Main IR 2 (AANDC 2013). Matsqui Main IR 2 is crossed by the proposed pipeline corridor from RK 1129.3 to RK 1129.6.

Desktop traditional land and resource use information relative to the TLRU RSA for Matsqui First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.5.3 *Kwantlen First Nation*

Kwantlen First Nation is a Stó:lō people located near Maple Ridge, BC (Kwantlen First Nation 2013). In March 2013, the total registered population of Kwantlen First Nation was 238 (AANDC 2013). There are seven Kwantlen First Nation reserves and the most populated is McMillan Island/Langley Indian Reserve IR 6 (AANDC 2013).

Historically, Kwantlen First Nation villages were located in valley bottoms and beside lakes, with settlements most densely clustered along the Fraser River and its many tributaries, including the Stave River, located approximately 43 km north of RK 1119. However, families spent much of the year travelling away from these sites, both within and beyond asserted traditional territory boundaries, in order to fish, hunt, trade, harvest plants and medicines and visit relatives. The largest villages were Squametil and Klkalt, which were located in New Westminster, but Kwantlen settlements were also upstream along the Fraser River. With the establishment of Fort Langley, a Hudson's Bay trading post, in 1827, settlements were moved eastward along Fraser River to McMillan and Brae Islands (Neary 2011). The Stave River region was an important location for gathering several kinds of plants, while the swamp, meadows and sloughs of Port Hammond, located approximately 4.7 km northeast of RK 1155.6, provided ideal habitat for the wapato, a native tuber variety gathered by Kwantlen First Nation. Community members gathered in permanent villages in winter and used upland areas for hunting, collecting plants and performing ceremonies. Seasonal harvesting of bulbs, berries, mushrooms, roots, wild greens, tree bark and cambium has been done by community members, with harvesting activity being concentrated in summer and fall months (Neary 2011). Fruits, grains and tubers have also been cultivated and timber harvested on Langley Indian Reservations, located approximately 5.5 km north of RK 1112 (Neary 2011). Kwantlen people have hunted deer, elk, mountain goats and other small game such as ducks, geese and grouse. They have also trapped beaver and marten and collected the eggs of many local bird species. Historically, the Stave River region was used extensively for hunting activities (Neary 2011). In early spring they would visit large lakes for kokanee, trout and sturgeon. Salmon were a primary resource for Kwantlen, serving as a major food staple and the basis of their economy (Kwantlen First Nation 2013). Extensive fishing was done and clams were collected by canoe on the shoals off Port Hammond, where a large midden was built over time. This archaeological site was largely destroyed by the early 1900s however, and artifacts uncovered there were distributed to various museums and private collectors (Neary 2011).

A burial ground is known to exist at Qeqeyt (resting place), a historic settlement on the south bank of the Fraser River that lies to the east of the Patullo Bridge, located approximately 1.4 km west of RK 1036. Skeletons were transported here following tree burials and placed in cedar boxes before placement in grave houses (Neary 2011). Another grave site is located on Langley IR 7, located approximately 2.7 km southwest of RK 1134, which was historically home to only a single residence and was primarily used for burials and gardening (Neary 2011). The Stave River region, located approximately 43 km north of RK 1087, was used extensively for trapping by Kwantlen First Nation community members and was an important area for passing down knowledge of traditional practices (Neary 2011).

4.1.5.4 *Katzie First Nation*

Katzie First Nation is a Stó:lō Nation located near Pitt Meadows, BC (Katzie First Nation 2002). In March 2013, the total registered population of the Katzie First Nation was 531 (AANDC 2013). There are

five Katzie First Nation reserves (Katzie First Nation 2002), the most populated is Katzie IR 1 (AANDC 2013).

Katzie First Nation once included upwards of 10 villages throughout their asserted traditional territory. Halkomelem, meaning moss, was an ancient village site near the Katzie Indian Reserve at Pitt Meadows. An ancestral village site is also located in Grant Narrows Regional Park. Permanently occupied village sites were also at Barnston Island and Yorkston Creek in Langley (Glavin 2008). Historically, Katzie First Nation members moved to various sites within their territory to hunt, fish and harvest where they would live in temporary dwellings (Katzie First Nation 2002).

Katzie First Nation community members use the marshy areas within their asserted traditional territory for plant gathering. There are individually and communally owned cranberry bogs on both sides of Pitt River which flows into the Fraser River, approximately 4 km north of RK 1130. Wapato or white potato is a nutritious tuber unique to Katzie territory and is scattered throughout marshy areas (Glavin 2008). Historically, the Katzie people fished sockeye and other salmon species from a variety of fishing stations and seasonal villages along the Fraser, Pitt and Alouette (a tributary of the Pitt River, located approximately 10 km northeast of RK 1138) rivers. Katzie First Nation would share the *oolichan* or euchalon harvest with other communities but severe declines in euchalon populations have led to abandonment of this practice. The mouth of the Pitt River, located approximately 6 km north of RK 1128, is known for its important fishing sites. Sturgeon are caught in Pitt Lake, located approximately 21.4 km north of RK 1118, sucker fish at Sheridan Hill, located approximately 12.2 km north of RK 1122 and a variety of fish in Alouette and North Alouette rivers, located approximately 10 km northeast of RK 1138. Community members have reported that the water in Pitt Lake, near Goose Island is not potable (Glavin 2008). Katzie First Nation hunt grizzly bears in the Upper Pitt watershed, approximately 60.8 km northwest of the Westridge Marine Terminal and duck-net sites are located on the marshy flats east of the Pitt River near Widgeon Creek, located approximately 13.2 km northeast of RK 1141 (Glavin 2008). The Stone Man at Davis Pool is an important ceremonial site, located along the Alouette River (Katzie First Nation 2002).

4.1.5.5 *Kwikwetlem First Nation*

Kwikwetlem First Nation is a Stó:lō Nation located on the Coquitlam River (Kwikwetlem First Nation 2013). In March 2013, the total registered population of Kwikwetlem First Nation was 79 (AANDC 2013). There are two Kwikwetlem reserves: Coquitlam IR 1; and Coquitlam IR 2 (AANDC 2013). The most populated reserve is Coquitlam IR 1 (AANDC 2013).

Historically Kwikwetlem First Nation community members followed a seasonal round, travelling to different places within their asserted traditional territory to hunt, fish, gather plants, trap, trade, visit and engage in spiritual and ceremonial activities. Today, movement is more restricted but many traditional activities such as hunting, fishing, plant gathering and ceremonies continue (Kwikwetlem First Nation 2013).

Several settlements have been recorded near the mouth of the Coquitlam River, located approximately 11.3 km northeast of RK 1141 and the Pitt River, located approximately 6 km north of RK 1128. Elders also reported a number of smaller camps along the Coquitlam River up to Coquitlam Lake, located approximately 17 km northeast of RK 1141. Tree Island, located approximately 60 km southeast of RK 1147, is also used as a campsite. The lower Fraser River area historically experienced a surge in registered population during summer months in order to fish for salmon and sturgeon, as well as harvest plants such as cranberries and wapato. Elders also spoke about *Qiq̓a:y̓t*, an historic fishing camp on the south shore of the Fraser River near the Pattullo Bridge, located approximately 4.4 km west of RK 1135, which was used by a number of communities. The north Fraser River shoreline from the Pitt River to New Westminster, which is crossed by the proposed pipeline corridor at RK 1137, contains several village locations, fishing camps and intercommunity gathering places (Kwikwetlem First Nation 2007).

Plants used by Kwikwetlem First Nation include devil's club, cascara, cherry bark, hazelnuts, cranberries, stinging nettle and blueberries. Most of these plants are collected from sloughs, riverbanks and in upland environments; however, members travel further to areas like Pitt Lake, located approximately 21.4 km north of RK 1130, to collect blueberries and Labrador tea (Kwikwetlem First Nation 2007). The south side of the Fraser River between the Pattullo and Golden Ears bridges, located approximately 4 km west of

RK 1136, is used for plant and wood gathering including salmon berries, huckleberries and blueberries. The north Fraser River shoreline from the Pitt River to New Westminster, located approximately 5.4 km southwest of RK 1136, contains several plant and wood gathering places for cedar bark and wood, cherry bark, cattails, cottonwood bark, stinging nettle, alder wood, hazelnuts, salmon berries, huckleberries, blueberries and cranberries (Forest Practices Board 2004, Kwikwetlem First Nation 2007).

Kwikwetlem First Nation community members historically travelled over a large region to hunt for large and small game. Specific hunting sites used by community Elders include the south side of the Fraser River for deer, Mary Hill, located approximately 4 km northeast of RK 1138 and at Coquitlam Lake, located approximately 17.5 km northeast of RK 1144. Some of these areas such as Mary Hill are no longer hunting sites as they have been heavily developed. The area surrounding Pitt Lake, located approximately 21.4 km north of RK 1118, was and continues to be a favoured hunting site for big game including mountain goats (Kwikwetlem First Nation 2007). The south side of the Fraser River between the Pattullo and Golden Ears bridges is used for hunting deer. The north Fraser River shoreline from the Pitt River to New Westminster is also used for hunting deer, lynx, duck, beaver, geese, grouse, pheasant, mink, rabbit and bear (Kwikwetlem First Nation 2007).

Fishing is important to Kwikwetlem First Nation. Historically, the Kwikwetlem caught salmon, sturgeon, eucalon, trout, catfish and carp in the Coquitlam, Fraser and Pitt rivers. Today, fishing is more regulated and declining fish stocks have affected fishing practices (Kwikwetlem First Nation 2007). Specific fishing sites used by community members cluster around the mouths of the Coquitlam and Pitt rivers, at Tree Island and also extending from Barnston Island downstream to the Pattullo Bridge, from approximately 2.7 km northeast of RK 1126 to approximately 4 km west of RK 1130. The south side of the Fraser River between the Pattullo and Golden Ears bridges and the north Fraser River shoreline from the Pitt River to New Westminster are used for fishing for salmon, eucalon and sturgeon. *Xvmuthkvi'um* is a named creek and fishing location on the south bank of the Fraser River under the Port Mann Bridge, located approximately 2 km northeast of RK 1135.

There is a well-established network of land and water routes in Kwikwetlem First Nation asserted traditional territory. Historically, rivers were used for travel, but overland routes were used where travel by canoe was not possible. Community members described trails that ran around the base of Mary Hill, located approximately 4 km northeast of RK 1138 to fishing spots along the lower Pitt River, located approximately 4 km north of RK 1130; northward beside the Coquitlam River to Coquitlam Lake and over New Westminster to Lulu Island, located approximately 9.6 km southwest of RK 1135. Many of these trails are now the roads used today by the Kwikwetlem (Kwikwetlem First Nation 2007).

Kwikwetlem asserted traditional territory was historically a fishing area and gathering place. Neighboring groups would come to fish and gather plant foods. The North Fraser River shoreline from the Pitt River to New Westminster contains several intercommunity meeting sites as well as several name spirit sites and pictographs (Kwikwetlem First Nation 2007).

4.1.5.6 *Qayqayt First Nation*

Qayqayt First Nation is a Stó:lō Nation located in Whalley and New Westminster, BC (Metro Vancouver 2012). In March 2013, the total registered population of Qayqayt First Nation was 12 (AANDC 2013). The Qayqayt First Nation does not have any registered reserves (AANDC 2013).

Desktop traditional land and resource use information relative to the TLRU RSA for Qayqayt First Nation was not available during compilation of this report. However, information compiled by representative organizations acting on behalf of one or more Stó:lō communities with shared areas of interest and use within their asserted traditional territories is provided in Section 4.1.4.2.

4.1.5.7 *Squamish Nation*

Squamish Nation is a Coast Salish people located near Vancouver, BC. Squamish Nation was formed when 16 Squamish-speaking groups living in the Sea-to-Sky region amalgamated as the Squamish Indian Band in 1923 (Metro Vancouver 2012). In March 2013, the total registered population of Squamish

Nation was 4,030 (AANDC 2013). There are 24 Squamish Nation reserves and Mission IR 1 is the most populated (AANDC 2013).

Many smaller settlements once existed in areas that are now urbanized districts of Vancouver, such as Kitsilano and North Vancouver (Wonders 2008). Longhouses are traditional gathering places for Squamish community members engaging in traditional ceremonies (Squamish Nation 2001). Permanent village sites were occupied primarily during the winter and a seasonal round allowed people to move about seasonally and access different areas for different purposes.

In the spring months the Squamish people traditionally harvested the edible young shoots of the cow parsnip, salmonberries and thimbleberries (Golder Associates 2008). Food plants and berries were also harvested in upland areas during the summer months of June and July. Edible rhizomes were also harvested including the nodding onion. Devil's club is known as a powerful medicinal herb by many Squamish Nation community members (Golder Associates 2008). Harvesting sites exist at various points along the Fraser River (Golder Associates 2008). Several berry species are harvested, including blueberries, salmonberries, huckleberries, chokecherries and deer berries (British Columbia Environmental Assessment Office [BC EAO] 2010). Freshwater plant species collected by community members include wild celery, cranberries and wapato, a variety of wild potato that is found scattered throughout marshy areas (BC EAO 2010). Old, mature forests of Douglas fir and cedar are located in valleys of the Squamish asserted traditional territory. Western red cedar is harvested for functional and cultural uses (Forest Practices Board 2004). Douglas fir has been used to build shelters (Squamish Nation 2001, Wonders 2008).

Local ungulates, such as moose, elk and deer and fowl, including waterbirds, grouse and pheasant, have been hunted throughout the asserted traditional territory and used as food sources (Squamish Nation 2001). Goat and bear have been harvested for spiritual uses. There are registered traplines within Squamish asserted traditional territory; however, few families have continued this practice. Historically, several small mammals including marmot and squirrel were trapped for their furs (Squamish Nation 2001). The harvest of marine and freshwater fish species is an important traditional activity of Squamish Nation. Eulachon, once fished by the Squamish, are no longer caught because of reduced populations in local areas. Howe Sound was once an important area for fishing (Squamish Nation 2001).

Squamish Nation burial grounds and sacred areas are traditionally located along watercourses (Squamish Nation 2001). Furry Creek, located approximately 37.6 km northwest of RK 5, was a historic sacred bathing area for community members (Wonders 2008). Wild Spirit Places, where community members can experience solitude in nature, are considered to be sacred locations (Squamish Nation 2001).

4.1.5.8 *Tsleil-Waututh First Nation*

Tsleil-Waututh First Nation is a Coast Salish people located near Indian Arm on the north shore of Burrard Inlet on the west coast of BC (Metro Vancouver 2012). In March 2013, the total registered population of Tsleil-Waututh First Nation was 531 (AANDC 2013). There are three Tsleil-Waututh reserves: Burrard Inlet IR 3; Inlailawatash IR 4; and Inlailawatash IR 4A (AANDC 2013). The most populated reserve is Burrard Inlet IR 3 (AANDC 2013).

Desktop traditional land and resource use information relative to the TLRU RSA for Tsleil-Waututh First Nation was not available during compilation of this report.

4.1.5.9 *Musqueam Indian Band*

Musqueam Indian Band is a Halkomelem-speaking Coast Salish people located in the southwest corner of the City of Vancouver, south of Marine Drive near the mouth of the Fraser River (Metro Vancouver 2012, Musqueam Indian Band 2011). In March 2013, the total registered population of Musqueam Indian Band was 1,306 (AANDC 2013). There are three Musqueam reserves: Musqueam IR 2; Musqueam IR 4; and Sea Island IR 3 (AANDC 2013). The most populated reserve is Musqueam IR 2 (AANDC 2013).

Musqueam Indian Band has established permanent village sites along the Fraser River and hunted and fished throughout the lowlands and highlands of the Fraser Delta up to the Fraser Canyon (Metro Vancouver 2012). Vegetation harvested includes huckleberries, salmonberries, blueberries, cranberries, strawberries, thimbleberries, currants, salal, wild onion, horsetail rush, devil's club and skunk cabbage. Tree species used are the Western Red Cedar for wooden utensils and ceremonial objects, pine, cottonwood, buckthorn, dogwood, willow and vine maple (Forest Practices Board 2004, Musqueam Indian Band 2011). In the spring months when salmon run in the Fraser River, the Musqueam Indian Band community members harvested the edible young shoots of the cow parsnip, salmonberries, thimbleberries and nodding onion. Food plants and berries were harvested in upland areas during the summer months of June and July and dried for winter months when great ceremonial feasts were held (Golder Associates 2008).

Fishing for salmon in the Fraser River has retained its social, cultural and economic importance within Musqueam Indian Band culture. In early spring the migrating salmon are caught in the Fraser River (Golder Associates 2008). Musqueam Indian Band community members have also fished for trout and burbot in these rivers (AMEC 2010). When the sockeye salmon run ends in the early fall, community members collect cranberries and wapato, or white potato in low, boggy regions. The wapato harvest is done from canoes or by wading into the shallows, treading on the plants until the roots float to the surface (Golder Associates 2008).

Musqueam Indian Band community members hunt in upland areas in the late fall and early winter where historically they have hunted for several ungulate species including elk, moose, white-tail deer and mule deer. Community members have also trapped beaver, muskrat, rabbit, porcupine, black bear and mountain goat in the alpine areas after the salmon runs were complete. Fall and early winter would also bring hunting of migratory birds (Golder Associates 2008).

Musqueam Indian Band is associated with extensive shell and bone middens which served as burial sites extending as far back as 400 to 450 Before Present. Several midden sites have been designated as historical sites. The Musqueam Marpole Midden Site (also known as the Great Fraser Midden) is a village and burial site located in the south end of Vancouver located approximately 15 km southwest of RK 2. In 1933, the Historical Sites and Monuments Board of Canada declared it a National historical site owing to its preservation of the cultural remains of the first inhabitants of the Fraser Delta and their culture (Parks Canada 2013).

4.1.5.10 *Tsawwassen First Nation*

The Tsawwassen First Nation is a Coast Salish people located in Delta, BC (Tsawwassen First Nation 2013). In March 2013, the total registered population was 331 (AANDC 2013). There was formerly one Tsawwassen reserve, Tsawwassen IR, which is now owned by the Tsawwassen First Nation, located approximately 29 km from the Westridge Marine Terminal (Tsawwassen First Nation 2013). As of December 2006, Tsawwassen First Nation has been under a self-government agreement with Canada that excludes them from the standard practice of holding reserves on traditionally asserted lands (AANDC 2013).

Hunting sites used by Tsawwassen First Nation community members include English Bluff, located approximately 32 km south of the Westridge Marine Terminal and the New Westminster region, located approximately 9.6 km south of the Terminal (Rose 2004). A variety of birds have also been hunted by the Tsawwassen people, including ducks, mallards and loons. The tidal flats of Westham Island, located approximately 28 km southwest of the Westridge Marine Terminal and Boundary Bay, located approximately 32 km southwest of the Westridge Marine Terminal, are used as bird-hunting grounds. Seafaring mammals such as porpoises, seals and sea lions also were hunted (Rose 2004). Fishing is still an element of livelihood and culture for Tsawwassen First Nation members. Sockeye, Chinook, coho, chum and pink salmon are all fished for consumption, social and ceremonial use. Sockeye, chum and pink salmon are also fished commercially. Clams, oysters, crabs and other shellfish have also been harvested (Rose 2004).

5.0 RESULTS OF TRADITIONAL LAND USE STUDIES

The following subsections provide the results to date of TLU studies for all participating Aboriginal communities that may be affected by the Project. A detailed summary of Trans Mountain's engagement activities with each potentially affected Aboriginal community is provided in Volume 3B.

5.1 Edmonton to Hinton Segment

The results of TLU studies conducted to date have identified TLU sites potentially affected by the proposed Edmonton to Hinton segment and associated Project components requiring mitigation.

5.1.1 Saddle Lake Cree Nation

Trans Mountain has shared Project information and invited Saddle Lake Cree Nation to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Saddle Lake Cree Nation and to support Saddle Lake Cree Nation participation in Project activities. Interest in a TLU study will be determined by Saddle Lake Cree Nation.

Issues of concern, traditional use sites or features identified through ongoing engagement with Saddle Lake Cree Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.1.2 Enoch Cree Nation

Enoch Cree Nation elected to conduct a TERA-facilitated TLU study for the Project. The TLU study included a map review, community and Elder interviews, overflight and ground reconnaissance that focused on Crown lands within the asserted traditional territory of Enoch Cree Nation crossed by the Project.

Enoch Cree Nation provided their 'Phase One Preliminary Interests of the Project' to Trans Mountain on May 15, 2013, that describes their preliminary interests in the Project, including:

- land, water, wildlife, waste management and trees;
- medicinal plant gathering; and
- preservation and protection of all ceremonial sites and areas of interest.

Trans Mountain provided an initial response in a letter sent to Enoch Cree Nation on October 28, 2013.

A map review meeting was held with Enoch Cree Nation on June 7, 2013 at the River Cree Resort in Enoch, AB. During this meeting, members of the Enoch Cree Nation examined the regional Project maps with TERA TLU facilitators to determine what areas would be surveyed during the overflight and ground reconnaissance (Figure 5.1.2-1). Community and Elder interviews were held on August 29 to 30, 2013, a helicopter overflight occurred on September 7, 2013 and ground reconnaissance occurred from September 18 to 26, 2013 (Plate 5.1.2-1). The results of the Enoch Cree Nation TLU study for the Project are provided below.

5.1.2.1 Community Participants

TERA would like to thank the following community members of Enoch Cree Nation for their time and assistance.

Council: John Thomas.

Elders: Jim Brule, Bella Guenther, Isabelle Hope, Albert Ward, Marvin Ward, Glen Papin and Mary Buck.

Community Members: Jeremiah Ward, Oceana Bogard, Archie Thomas, Marlena Thomas, Donald Ward, Margaret Burk, Doreen Ward, Ralph Peacock, Viola Peacock, Jean Cardinal, Justine Alexis, Jean Papin, Barny Ward, Ryan Morin, Lois Papin, Linda Cardinal, Leona Mitchell, James Bruce and Alex Horgson.

Lands Department: Leigh Anne Ward.

**ENOCH CREE NATION
TRADITIONAL LAND USE AREAS
IDENTIFIED DURING MAP REVIEW**

**TRANS MOUNTAIN
EXPANSION PROJECT**

- Kilometre Post (KP)
- Terminal
- Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
- Existing Pump Station
- Trans Mountain Expansion Project Proposed Pipeline Corridor
- Trans Mountain Pipeline (TMPL)
- Highway
- Railway
- Provincial Park
- Indian Reserve (IR)
- Traditional Land Use:
 - Fishing
 - Fishing/Habitation Site
 - Gathering Area
 - Hunting/Fishing
 - Hunting
 - Plant Harvesting

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Projection: UTM 11N. Baseline TMPL & Facilities: provided by KMC 2012; Proposed Pipeline Corridor V6: provided by UPI Aug. 23, 2013; Transportation: Natural Resources Canada 2012; Geopolitical Boundaries: Natural Resources Canada 2003, AltaIS, 2012; Hydrology: Natural Resources Canada 2010; Parks and Protected Areas: Alberta Tourism, Parks and Recreation 2012, Natural Resources Canada 2013; Landsat 7 Panchromatic imagery: NASA Geospatial Interoperability Program 2005.



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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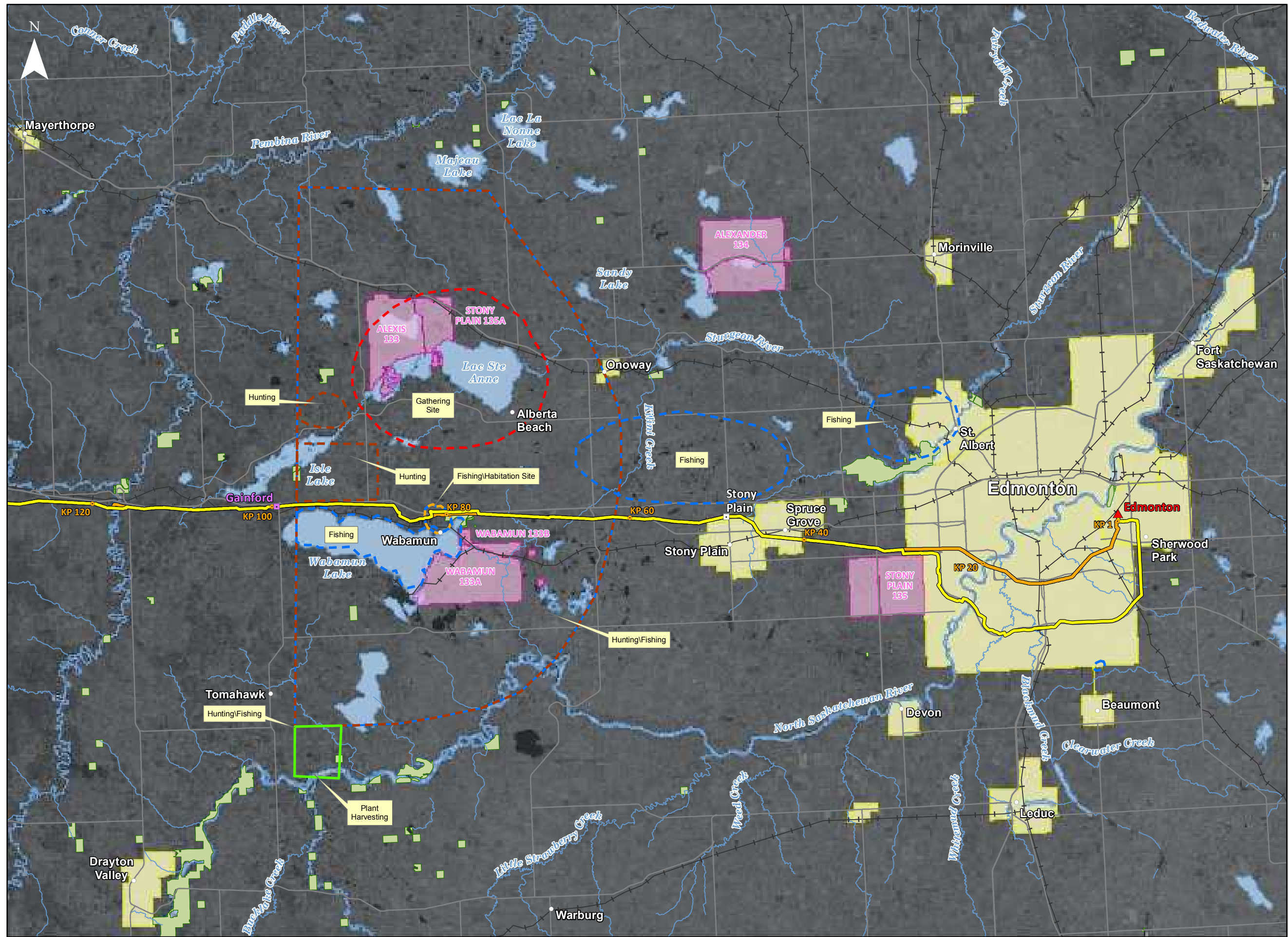




Plate 5.1.2-1 Enoch Cree Nation community members at RK 0 during ground reconnaissance (September 2013).

5.1.2.2 Results

The map review, interviews and ground reconnaissance revealed four TLU sites within the proposed pipeline corridor requiring mitigation as requested by Enoch Cree Nation.

Trails and Travelways

Enoch Cree Nation described relying on horse and wagon trails in the 1950s back when roads consisted of loose gravel. In the winter months, team sleds were used for travel on roads.

No trails and travelways were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trails and travelways by Enoch Cree Nation.

Habitation Sites

Enoch Cree Nation community members identified a camping site at Pigeon Lake, located approximately 63.6 km south of RK 65.

No habitation sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for habitation sites by Enoch Cree Nation.

Plant Gathering

Enoch Cree Nation community members identified several plant gathering sites during the TLU study for the Project, detailed in Table 5.1.2-1.

Blueberries, raspberries, strawberries, gooseberries, blackberries (eye berries), Saskatoon berries and pin cherries were identified as being popular among community members. Medicinal plants identified by community members included sweet grass, sage, cedar and rat root.

TABLE 5.1.2-1

PLANT GATHERING IDENTIFIED BY ENOCH CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
11 km north of RK 93	Plant gathering at Lac Ste. Anne	Current	None
1.6 km south of RK 97	Plant gathering area around Wabamun Lake	Current	None
18 km north of RK 99	Berry picking site at MacKay	Current	None
40.4 km south of RK 133	Drayton Valley harvesting site	Current	None
At RK 271	Berry picking site at Medicine Lodge	Current	None

One plant gathering site was identified within the proposed pipeline corridor at RK 271. No mitigation was requested for plant gathering sites by Enoch Cree Nation.

Hunting

Enoch Cree Nation community members identified several hunting sites during the TLU study for the Project, detailed in Table 5.1.2-2.

Enoch Cree Nation mainly hunts deer, elk and moose. Moose is the most popular meat and is often presented as a gift to community Elders.

TABLE 5.1.2-2

HUNTING SITES IDENTIFIED BY ENOCH CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
11 km north of RK 93	Hunting at Lac Ste. Anne	Current	None
84 km north of RK 117	Hunting site around Fort Assiniboine	Current	None
36 km south of RK 133	Hunting site around Drayton Valley	Current	None
55 km south of RK 137.5	Hunting site around Lodgepole	Current	None
1 km north of RK 151	Hunting around Wildwood	Current	None
59 km north of RK 181	Hunting site around Whitecourt	Current	None
1 km north of RK 256.5	Hunting along the Yellowhead Highway from Marlboro to Jasper	Current	None
94 km north of RK 259	Hunting site around Fox Creek	Current	None
Project Footprint	Concern about construction affecting moose and elk salt licks	--	None

No hunting sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for hunting sites by Enoch Cree Nation.

Fishing

Enoch Cree Nation community members identified several fishing sites during the TLU study for the Project, detailed in Table 5.1.2-3.

Community members identified Wabamun Lake as a traditional fishing and ice-fishing location, but since the CNR railway spill and recent power line construction the fish have become soft and are limited in supply. Fox Creek, Smoke Lake and Buck Lake are also popular fishing sites.

Whitefish and jackfish are found in the lakes and rivers near the community and both types of fish are smoked, often in the fall.

TABLE 5.1.2-3

FISHING SITES IDENTIFIED BY ENOCH CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
11 km north of RK 93	Lac Ste. Anne	Current	None
1.6 km south of RK 97	Fishing and ice-fishing site at Wabamun Lake – fish have become soft and limited in supply since railway spill and powerline construction in the region	Current and Past	None
8 km south of RK 110	Sturgeon River fishing ground	Current	None
60 km south of RK 121.6	Buck Lake	Current	None
94 km north of RK 259	Fox Creek	Current	None
91 km north of RK 269	Smoke Lake	Current	None

No fishing sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for fishing sites by Enoch Cree Nation.

Trapping

Enoch Cree Nation community members identified two historic trapping sites during the TLU study for the Project, detailed in Table 5.1.2-4.

Elders described trapping rabbits near Wabamun Lake 20 years ago and noted that rabbits naturally migrate every 7 years.

TABLE 5.1.2-4

TRAPPING SITES IDENTIFIED BY ENOCH CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
4.3 km west of RK 37.5	Trapping at Wabamun Lake	Past	None
11.5 km north of RK 91.1	Snare traps at Lac Ste. Anne	Past	None

No trapping sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trapping sites by Enoch Cree Nation.

Gathering Places

Enoch Cree Nation community members identified several gathering places during the TLU study for the Project, detailed in Table 5.1.2-5.

Every year, community members attend the annual pilgrimage to Lac Ste. Anne (Plate 5.1.2-2). It is believed that the waters of Lac Ste. Anne have healing properties.

TABLE 5.1.2-5

GATHERING PLACES IDENTIFIED BY ENOCH CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
11 km north of RK 93	Annual pilgrimage to gathering place at Lac Ste. Anne	Current	None
At RK 135	Youth gatherings at Pembina River	Current	None
34.7 km south of RK 273	Sweat lodge rock gathering site	Current	None

The Pembina River youth gathering place was identified within the proposed pipeline corridor at RK 135. No mitigation was requested for gathering places by Enoch Cree Nation.



Plate 5.1.2-2 Northwest view of gathering place at Lac Ste Anne, 11 km north of RK 93 (September 2013).

Sacred Areas

Enoch Cree Nation community members identified several sacred areas during the TLU study for the Project, detailed in Table 5.1.2-6.

Community members shared that over eighty people have been buried at Enoch Cree Nation Gravesite 1 over the past 500 years. Gravesite 2 was once the location of an Aboriginal hospital. Aboriginal people from the north would often be treated at this hospital and the dead would be buried at Gravesite 2 but it has since been fenced off.

There is a Sundance structure currently located 439 m south of RK 43.5. The location of the structure changes every four years. This is the first year (2013) of its current location. The Sundance structure is a large dome structure made of willow bark with colourful flags (Plate 5.1.2-3). The community gathers here to pray and for celebratory dance festivals in the warmer months.



Plate 5.1.2-3 Sundance structure – 4 km west of RK 38 (September 2013).

TABLE 5.1.2-6

SACRED AREAS IDENTIFIED BY ENOCH CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
500 m south of RK 44	Enoch Cree Nation Gravesite 2 – River Cree Resort	Current	None
4 km south of RK 46.2	Ghost dance site	Current	None
800 m south of RK 46.4	Sundance structure	Current	None
At RK 91	Enoch Cree Nation Gravesite 1	Current	No pipeline through gravesite and Enoch Cree Nation to monitor construction. Mark and fence site.
40 m south of RK 133.6	Sacred site	Current	Avoidance and Elders to assist with site assessment

Enoch Cree Nation has requested that Gravesite 1 be avoided and that community monitors be present for pipeline construction at this location. Clear markings and fencing around this site are also requested. Enoch Cree Nation has also requested that the sacred site 40 m south of RK 133.6 be avoided and that Elders assist with further assessment of this site.

5.1.3 Alexander First Nation

Alexander First Nation elected to conduct a TERA-facilitated TLU study for the Project. TERA assisted during the map review, community and Elder interviews, overflight and ground reconnaissance phases of the community led TLU study that focused on Crown lands within the asserted traditional territory of Alexander First Nation crossed by the Project.

The map review meeting was held with Alexander First Nation on October 4, 2012 at the Alexander First Nation Office in Alexander, Alberta. During this meeting, members of the Alexander First Nation examined the regional Project maps with TERA TLU facilitators to determine what areas would be surveyed during the overflight and ground reconnaissance (Figure 5.1.3-1). Community and Elder interviews were held on October 18 and 19, 2012, a helicopter overflight occurred on October 30, 2012 and ground reconnaissance occurred from October 30 to November 1, 2012. The results of the Alexander First Nation TLU study for the Project are provided below.

5.1.3.1 *Community Participants*

TERA would like to thank the following community members of Alexander First Nation for their time and assistance.

Chief: Herb Arcand.

Council: Councillor Armand Arcand, Councillor Marty Arcand, Councillor Curtis Arcand, Councillor Marcel Arcand, Councillor Bernard Paul and Councillor Kurt Burnstick.

Elders: August Arcand, Bella Arcand, Daniel Arcand, Don Arcand, Eric Arcand, Florence Ida Arcand, Leslie Arcand, Marcelle Arcand, Marlene Arcand, Martin Arcand, Melvina Arcand, Rena Arcand, Richard Arcand, Ron Arcand, Beatrice Courterielle, Alvina Jennings, Frank Kootenay, Fred Lafromboise, Wally Lafromboise, Adele Paul, Narcisse Paul and Bertha Tourangeau.

Community Members: AJ Arcand, Cody Arcand, Colby Arcand, Collette Arcand, Jeff Arcand, Kaitlyn Arcand, Ken Arcand, Linda Arcand, Monica Arcand, RJ Arcand, Randy Arcand, Viola Bourque and Joe Kootenay.

FIGURE 5.1.3-1
ALEXANDER FIRST NATION
TRADITIONAL LAND USE AREAS
IDENTIFIED DURING MAP REVIEW

TRANS MOUNTAIN
EXPANSION PROJECT

- Kilometre Post (KP)
 - ▲ Terminal
 - Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
 - Pump Station (Reactivation)
 - Existing Pump Station
 - Trans Mountain Expansion Project Proposed Pipeline Corridor
 - Trans Mountain Pipeline (TMPL)
 - Primary Highway
 - Railway
 - Provincial Park
 - Indian Reserve (IR)
- Traditional Land Use:
- Fishing
 - Fishing/Gathering Area
 - Fishing/Hunting/Plant Harvesting/Habitation Site
 - Fishing/Plant Harvesting
 - Gathering Area
 - Habitation Site
 - Hunting
 - Hunting/Fishing
 - Hunting/Habitation Site
 - Hunting/Plant Harvesting
 - Hunting/Trails and Travelways
 - Hunting/Trapping
 - Hunting/Trapping/Plant Harvesting
 - Plant Harvesting
 - Sacred Site
 - Sacred Site/Habitation Site
 - Trails and Travelways
 - Trapping

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Projection: UTM 11N. Baseline TMPL & Facilities: provided by KMC 2012; Proposed Pipeline Corridor V6: provided by UPI Aug. 23, 2013; Transportation: Natural Resources Canada 2012; Geopolitical Boundaries: Natural Resources Canada 2003, AltaLIS, 2012; Hydrology: Natural Resources Canada 2010; Parks and Protected Areas: Alberta Tourism, Parks and Recreation 2012, Natural Resources Canada 2013; Landsat 7 Panchromatic imagery: NASA Geospatial Interoperability Program 2005.



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 this data are advised that errors in the data may be present.



MAP NUMBER	201311_MAP_TERA_TLU_00498_REV0	PAGE	SHEET 1 OF 1
DATE	December 2013	TERA REF.	7894
SCALE	1:1,150,000	PAGE SIZE	11x17
DRAWN	TPH	CHECKED	TGG
		DESIGN	TGG

0 10 20 30 km
 All Locations Approximate



201311_MAP_TERA_TLU_00498_REV0.mxd

5.1.3.2 Results

The map review, interviews and ground reconnaissance revealed 15 TLU sites within the proposed pipeline corridor requiring mitigation as requested by Alexander First Nation.

Trails and Travelways

Alexander First Nation community members identified two trails and travelways during the TLU study for the Project, detailed in Table 5.1.3-1.

A 2 m wide quad trail that appeared to have been used in the summer of 2012 was identified at the base of the valley wall. Alexander First Nation reported that the trail is used by hunters to travel along the McLeod River, but was unsure if it was used by Alexander First Nation community members.

The Pembina River, including the proposed Pembina River crossing, is used for travel. Community members report that they have canoed on the river at this site and have floated down on inner tubes. When the river is frozen, skidoos are used to travel on it. An Elder reported that people used to hunt and fish here by canoe during the 1900s to prepare for the winter. The existing access road on the east side of the proposed crossing location is too steep for quads so it is accessed by foot or river.

TABLE 5.1.3-1

TRAILS AND TRAVELWAYS IDENTIFIED BY ALEXANDER FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
At RK 135.6	Travelway on Pembina River	Current and Past (1900s)	Use proposed crossing location. Revisit in the spring.
At RK 223.8	Quad trail	Current	None

Alexander First Nation has requested a spring site visit to the proposed Pembina River crossing at RK 135.1.

Habitation Sites

Alexander First Nation community members identified several habitation sites during the TLU study for the Project, detailed in Table 5.1.3-2.

The foundation of a log cabin was observed near the existing TMPL right-of-way. The cabin was comprised of large natural timbers of white poplar or trembling aspen. The structure has square joints and still has three or four rows of logs. The siding is made of milled timber and there are three lumber piles to the west of the cabin. At the tree line, there is a scatter of metal debris including an old 45 gallon gas barrel. Alexander First Nation believes the foundation is for a trapper’s cabin probably unfinished since it is set near a watercourse.

TABLE 5.1.3-2

HABITATION SITES IDENTIFIED BY ALEXANDER FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
83 km north of RK 120	Camping at Freeman River	Current	None
400 m north of RK 135.1	Camping at Pembina River	Current	None
70 m south of RK 178.6	Foundation of log cabin	Current	None

One habitation site was identified within the proposed pipeline corridor during the TLU study. However, no mitigation was requested for habitation sites by Alexander First Nation.

Plant Gathering

Alexander First Nation community members identified several plant gathering sites during the TLU study for the Project, detailed in Table 5.1.3-3.

Wild rose, rat root, dogwood, red willow, diamond willow, kinnickinnick and berries are harvested by community members and Elders. Elders pick berries everywhere they grow. It was shared that the community lets berries grow in the spring out of respect for nature and that herbs are picked mostly for consumption and are sometimes traded for tobacco.

TABLE 5.1.3-3

PLANT GATHERING SITES IDENTIFIED BY ALEXANDER FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
59.6 km south of RK 71	Pigeon Lake – sweet grass, cedar, fungus and rat root gathered in this region as well as berries and herbs	Current	None
4.6 km south of RK 108	Wabamun Lake – plant and rat root gathering	Current	None
227 m north of RK 135.6	Pembina River – medicinal plants including red willow	Current and Past	Harvest medicines prior to construction
35 km north of RK 138 to RK 261	Fox Creek to Whitecourt to Mayerthorpe – cedar and fungus gathering	Current	None
At RK 160	South of Chip Lake – fungus gathering	Current	None
10 m south of RK 205.8	Blue diamond willow	Current	Harvest medicines prior to construction
47 m north of RK 223.6	Berry picking site	Current	None
8 m south of RK 223.7	Blue diamond willow tree	Current	Harvest medicines prior to construction
85 km north of RK 270	Smoke Lake – fungus gathering	Current	None
188 km north of RK 319	Sturgeon Lake – fungus	Current	None
Project Footprint	Concern about effects of Project on medicinal plants	-	None
Project Footprint	Sweet grass is difficult to find and needs to be preserved	-	None

Alexander First Nation has requested to harvest medicinal plants prior to construction at three locations detailed in Table 5.1.3-3 above. The plant gathering site located 227 m north of RK 135.6 will be avoided by the proposed pipeline corridor.

Hunting

Alexander First Nation community members identified several hunting sites during the TLU study for the Project, detailed in Table 5.1.3-4.

The proposed pipeline corridor crosses the community’s traditional hunting grounds and Alexander First Nation members currently hunt along the existing TMPL right-of-way.

Bears were reported to be a medicinal and spiritual animal to Alexander First Nation and community members hold special sweet grass ceremonies for bear kills. The community never hunts in the spring. Tobacco is offered when hunting to show respect for the animals. Pipe ceremonies are held and tobacco is offered to the land.

Community members reported that a lot of development has occurred and hunting has become more difficult in the last five years. A lot of hunting is exploring nowadays. People have also started to inhabit hunting sites, turning them into roads and blocking access, so it is harder to access hunting grounds. A community member indicated that river hunting is more common now due to increased accessibility. August to November is a good time for river hunting. Many community members do not hunt in October and November out of respect for other hunters who hunt at their own sites and use their own private camps.

TABLE 5.1.3-4

HUNTING SITES IDENTIFIED BY ALEXANDER FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
1.8 km north of RK 117	Hunting near Edson and Marlboro south to Brazeau, Caroline, Nordegg and Rocky Mountain House	Current	None
At RK 135	South of Evansburg – hunting site for moose and rabbit	Current	None
35 km north from RK 138 to RK 261	Hunting around Fox Creek, Whitecourt and Mayerthorpe	Current	None
35.5 km south of RK 163.5	Hunting around Cynthia	Current	None
At RK 175	Elders and community members hunt moose and grouse	Current	None
320 m southeast of RK 201	Elk hunting and good elk habitat at Niton Junction	Current	None
24 m north of RK 205.4	Well-used elk trail about 50 m long, 2 m wide as well as habitat (elk antler rub on nearby trees) – elk hunting in general region	Current	Keep trail open during and after construction by leaving a gap
7.6 km south of RK 206.4	Hunting site	Current	None
10 m north of RK 221.8	Hunting along nearby Wolf Creek	Current	None
2.1 km southeast of RK 235.4	Edson – salt licks and hunting	Current	None
50 km southwest of RK 339.6	Jasper – hunting for elk, deer and moose	Current	None
Project Footprint	Concern about herbicide and pesticide use	-	None
Project Footprint	Concern about the effect of construction on moose, elk and deer.	-	None

Alexander First Nation has requested that a well-used elk trail located 24 m north of RK 205.4 remain open during Project construction and post-construction activities.

Fishing

Alexander First Nation community members identified several fishing sites during the TLU study for the Project, detailed in Table 5.1.3-5.

Community members fish for jackfish and whitefish in the bigger lakes and pickerel in the smaller lakes, usually camping by the lake to fish.

TABLE 5.1.3-5

FISHING SITES IDENTIFIED BY ALEXANDER FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
24.6 km north of RK 68.4	Sandy Lake	Current	None
59.6 km south of RK 71	Pigeon Lake – food fishing, traditional method of luring; whitefish and jackfish	Current	None
4.6 km south of RK 108	Wabamun Lake – fishing spot for whitefish and jackfish	Current	None
83 km north of RK 120	Freeman River	Current	None
At RK 135.6	Pembina River crossing – locale for net or rod fishing	Current	Use proposed crossing location. Revisit in the spring.
127 km south of RK 136	Crimson Lake	Current	None
7.6 km north of RK 161	Chip Lake – net fishing; whitefish and jackfish	Current	None
11.3 km south of RK 259.4	Fickle Lake	Current	None
85 km north of RK 270	Smoke Lake – main fishing site	Current	None

Alexander First Nation has requested a spring site visit to the proposed Pembina River crossing at RK 135.1.

Trapping

Alexander First Nation community members identified several trapping sites during the TLU study for the Project, detailed in Table 5.1.3-6.

Community members shared that the word for rabbit in Cree is ‘waposo’ and rabbit trail is ‘wapaso-meskanas’. It was reported that community members harvest snowshoe hare with snares and use both the meat and the fur. The Cree word for fox is ‘mahkas’. Foxes are trapped for their fur. Clearing methods and the regeneration of shrub species on the proposed pipeline corridor were discussed in the field and no mitigation was requested.

Territorial weasel markings were observed near the existing TMPL right-of-way and it was pointed out that weasels travel in small tunnels through the snow. Community members harvest weasels for their fur, but there were no current community members’ traplines in the proposed pipeline corridor. Although community members expressed concern about the displacement of the weasel during construction, it was pointed out that this displacement would only be short-term.

A community member reported that he traps on leases, private and reserve lands. He traps coyotes and wolves and sells the fur. He said the best time to trap is the beginning of December through to the middle of February because the last big auction for furs, the North American Fur Auction, is in March. Last year a coyote fur brought in \$90.

During ground reconnaissance, an Elder told a story about how people used to trap fisher, lynx, mink, squirrels and marten and sell the fur. He reported that his father trapped fisher and mink and that is how they made money to celebrate their Christmas. Fox Creek would be their trapping trip in the fall when the waters were flowing. They would trap beavers, catching them at beaver runs. They would set the trap where there were willows sticking out of the ice. Every second day the trap would be checked. In the past, muskrat and beaver were the most commonly trapped animals but now coyotes and fox are more commonly trapped. Beaver and muskrat can be found at many of the lakes in the region. To catch squirrels they would set up seven or eight snares in spruce trees where there were squirrel nests.

TABLE 5.1.3-6

TRAPPING SITES IDENTIFIED BY ALEXANDER FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
From RK 120 to RK 181	Traplines in Whitecourt/Assiniboine region	Current	None
13 m north of RK 135.6	Pembina River - trapping	Current	None
933 m south of RK 194.2	Trapping site	Current	None
721 m southeast of RK 197.7	Trapping along Carrot Creek Road	Current	None
600 m southeast of RK 220.4	Trapline marker 911-212	Current	Discuss with trapper prior to construction
95.5 km north of RK 261	Fisher, mink and beaver trapping at Fox Creek	Past	None
Project Footprint	Concern was expressed about the effect of the Project on snowshoe hare populations in the region	--	None

One trapping site was identified within the proposed pipeline corridor during the TLU study for the project, located 13 m north of RK 135.6. No mitigation was requested for trapping sites at this location. Alexander First Nation requested that the trapper who owns the trapline marker 600 m southeast of RK 220.4 be notified prior to construction.

Gathering Places

Alexander First Nation community members identified two gathering places during the TLU study for the Project, detailed in Table 5.1.3-7.

TABLE 5.1.3-7

GATHERING PLACES IDENTIFIED BY ALEXANDER FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
50 m north of RK 129.2	Sweat lodge and ceremonial site	Current	None
0 km to 51 km from RK 318	Cabins and sweat lodges in the mountains around Jasper	Current	None

One gathering place was identified within the proposed pipeline corridor during the TLU study for the Project, approximately 50 m north of RK 129.2. No mitigation was requested for gathering places by Alexander First Nation.

Sacred Areas

Alexander First Nation community members identified several sacred areas during the TLU study for the Project, detailed in Table 5.1.3-8.

Community members shared that there is an annual pilgrimage to Lac Ste. Anne in August where people make sacrifices and walk in the water and pray.

TABLE 5.1.3-8

SACRED AREAS IDENTIFIED BY ALEXANDER FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
15.4 km north of RK 95	Annual pilgrimage to Lac Ste. Anne	Current	None
270 km south of RK 173	Indian writings/markings in caves in Banff	Past	None
From RK 254 to RK 290	Burial sites between Marlboro and Obed	Current	None
42 m southeast of RK 320.6	Prayer tree with coloured fabric tied to it	Current	Avoid prayer tree with a 1 km buffer
132 m northwest of RK 334.5	Sacred site	Current	Avoid sacred site; use existing pipeline corridor and avoid clearing around site.

Alexander First Nation has requested avoidance of one sacred site within the proposed pipeline corridor, detailed in Table 5.1.3-8 above.

5.1.4 Samson Cree Nation

Samson Cree Nation elected to conduct a TERA-facilitated TLU study for the Project. The TLU study included a map review, community and Elder interviews, overflight and ground reconnaissance that focused on Crown lands within the asserted traditional territory of Samson Cree Nation crossed by the Project.

Samson Cree Nation provided their ‘Preliminary Aboriginal & Socio-Economic Interests’ to Trans Mountain on May 31, 2013 that describes their preliminary interests in the Project, including:

- fish, fish habitat, wetlands and aquatics;
- hunting and trapping;
- heritage resources;
- ancient knowledge and wisdom; and
- sacred spaces.

Samson Cree Nation also identified broad concerns within their ‘Preliminary Aboriginal & Socio-Economic Interests’, including:

- wildlife and species at risk;
- harvesting and vegetation;
- cumulative effects and environmental protection planning;
- water, air, gases and contaminants;
- land and soils; and
- foreseeable developments.

Samson Cree Nation recommends a round table/committee between Trans Mountain and Samson Cree Nation to promote long-term sustainable development and a progression plan for the next round of capacity building to lead to a long-term value-based relationship. Community monitoring through mitigation planning, safety and operations orientations for the Project with Samson Cree Nation was also recommended.

Trans Mountain provided an initial response in a letter sent to Samson Cree Nation on October 28, 2013.

Site-specific interests described in the 'Preliminary Aboriginal Interests with Respect to the Trans Mountain Expansion Project' are included in the results below.

A map review meeting was held with Samson Cree Nation on September 20, 2012 at the Jim Omeasoo Cultural Centre in Hobbema, Alberta. During this meeting, members of the Samson Cree Nation examined the regional Project maps with TERA TLU facilitators to determine what areas would be surveyed during planned ground reconnaissance (Figure 5.1.4-1). Community and Elder interviews were held on September 20, 2012, a helicopter overflight occurred on March 22 to 23, 2012 and ground reconnaissance occurred from November 6 to 9, 2012 and September 25 to October 2, 2013. The results of the Samson Cree Nation TLU study for the Project are provided below.

5.1.4.1 Community Participants

TERA would like to thank the following community members of Samson Cree Nation for their time and assistance.

Chief: Marvin Yellowbird.

Elders: Cecilia Saddleback, Joe Northwest, Lawrence Saddleback, Leonard Saddleback, Raymond Lightning, Henry Lightning, Kenneth Saddleback, Lorna Saddleback and Josephine Buffalo.

Community Members: Alphonse Nepoose, Anthony Buffalo, Barry Cutknife, Besim Buffalo, Carl Northwest, Chelayne Saddleback, Christian Baptiste, Clayton Saskatchewan, Conner Saddleback, Danny Montour, Eldon Saddleback, Harvey Buffalo, Hector Saddleback, Josie Bruno, Kaylyn Buffalo, Leonard Saddleback, Mitchell Potts Jr. (Guy), Norrine Saddleback, Opamahtew Yellowbird, Raymond Tootosis, Richard Swampy, Ted Lightning, Ted Makokis, Ted Yellowbird, Terrence Nepoose, Trevor Soosay and Leo Bruno.

5.1.4.2 Results

The map review, interviews and ground reconnaissance revealed 43 TLU sites within the proposed pipeline corridor requiring mitigation as requested by Samson Cree Nation.

FIGURE 5.1.4-1

**SAMSON CREE NATION
TRADITIONAL LAND USE AREAS
IDENTIFIED DURING MAP REVIEW**

**TRANS MOUNTAIN
EXPANSION PROJECT**

- Kilometre Post (KP)
 - Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
 - Pump Station (Reactivation)
 - Existing Pump Station
 - Trans Mountain Expansion Project Proposed Pipeline Corridor
 - Trans Mountain Pipeline (TMPL)
 - Primary Highway
 - Railway
 - Provincial Park
 - Indian Reserve (IR)
- Traditional Land Use:
- Fishing
 - Gathering Area
 - Habitation Site
 - Hunting
 - Hunting/Fishing/Plant Harvesting
 - Hunting/Habitation Site
 - Plant Harvesting
 - Plant Harvesting/Hunting
 - Plant Harvesting/Sacred Site
 - Plant Harvesting/Sacred Site/Habitation Site
 - Trails and Travelways

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Projection: UTM 11N. Baseline TMPL & Facilities: provided by KMC 2012; Proposed Pipeline Corridor V6: provided by UPI Aug. 23, 2013; Transportation: Natural Resources Canada 2012; Geopolitical Boundaries: Natural Resources Canada 2003, AltaIS, 2012; Hydrology: Natural Resources Canada 2010; Parks and Protected Areas: Alberta Tourism, Parks and Recreation 2012, Natural Resources Canada 2013; Landsat 7 Panchromatic imagery: NASA Geospatial Interoperability Program 2005.

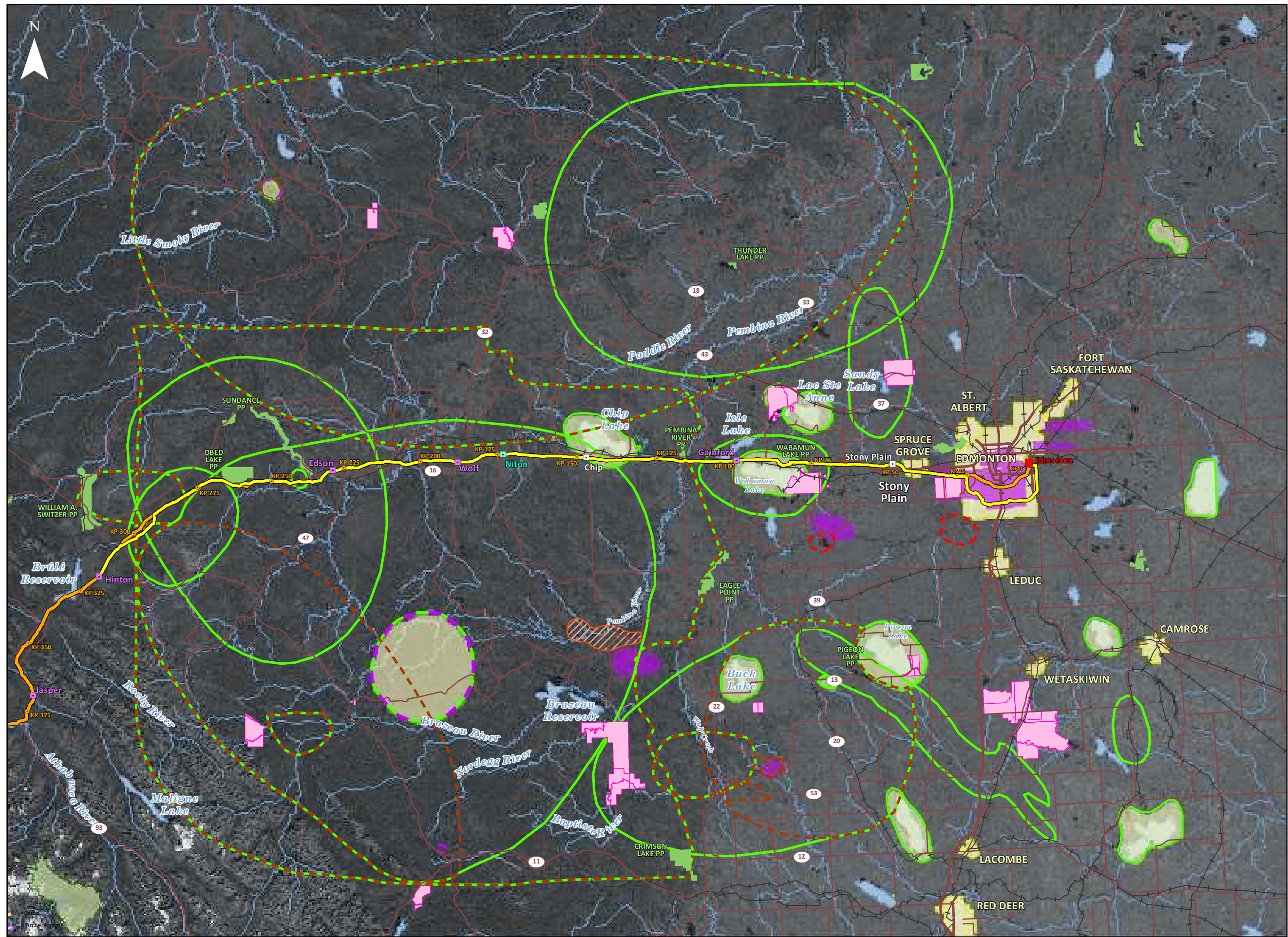


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MAP NUMBER 201212_MAP_TERA_TLU_00157_REV0	PAGE SHEET 1 OF 1
DATE December 2013	TERA REF. 7894
SCALE 1:1,150,000	DISCIPLINE TLU
DRAWN TPH	DESIGN TGG

All Locations Approximate



Trails and Travelways

Samson Cree Nation community members identified several trails and travelways during the TLU study for the Project, detailed in Table 5.1.4-1.

Two historic travelways were identified by Samson Cree Nation Elders and community members. An Elder shared that community members once travelled by wagon from Hobbema to Lac Ste. Anne, through Genesse and Devon. During ground reconnaissance a community member reported that the Pembina River was used in the past for canoeing and it could be used today as well, since it appears to be navigable. Community members indicated that all roads into Smallboy camp are used to access hunting sites. These could be trunk roads or forestry roads.

During ground reconnaissance, trails were identified running north-south from Willmore Wilderness Park to Jasper National Park. A community member shared that people travel by horseback to Jasper. The trip takes several days from Grande Cache and people camp along the route. Today’s trails were at one time travelways, which people from different nations would use for trade with neighbouring nations in BC.

A community member shared that the Blackfoot, Cree and Peigan people would travel through the Rocky Mountains by horse trail between Grand Cache and south of Jasper. The trail provided rangers, hunters and scouts access to trade with other nations from Alberta and BC. The old trading trails are now highway systems (e.g., Highway 16).

A community member shared a story about the Willmore Trail, which extends from Jasper to Grande Cache and is crossed by the Project. The community member shared that he hunted, trapped and rode extensively throughout the trails on horseback.

TABLE 5.1.4-1

TRAILS AND TRAVELWAYS IDENTIFIED BY SAMSON CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
From RK 76.8 to RK 86.8	Wagon trail from Hobbema to Lac Ste. Anne	Past	None
At RK 100.8	Quad trail	Current	None
At RK 135.6	Pembina River - travelway	Past	None
75 km south of RK 248.8	Roads around Smallboy Camp	Current	None
At RK 332.4	Willmore trail from Jasper to Grand Cache	Current	None
At RK 334	Horse riding trail	Current	None
42 km northwest of RK 338	Trail from Willmore Wilderness Park to Jasper National Park	Current	None
At RK 339	Old trading trail that is now Highway 16	Current/Past	None

Samson Cree Nation identified 5 trails and travelways that cross the proposed pipeline corridor, detailed in Table 5.1.4-1. No mitigation was requested for trails and travelways by Samson Cree Nation.

Habitation Sites

Samson Cree Nation community members identified 10 habitation sites during the TLU study for the Project, detailed in Table 5.1.4-2.

During ground reconnaissance an old campsite was observed on the southern edge of the existing TMPL right-of-way in a spruce forest with grass and shrub understory. A glass bottle dated May-June 1962 and several other items were found at the campsite. Community members also reported that there is a good potential campsite for hunting and fishing near the Wolf Creek crossing since there are trees, wildlife and water at this location. It was also reported that there were a number of logging camps throughout the region 60 to 80 years ago.

TABLE 5.1.4-2

HABITATION SITES IDENTIFIED BY SAMSON CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
10 km northeast of RK 3	Fort Augustus	Past	None
659 m northeast of RK 34	Fort Edmonton	Past	None
20 km south of RK 86.8	Unnamed fort	Past	None
65 km south of the RK 107	Camping near Willesden Green	Current	None
60 km south of RK 147.9	Unnamed fort	Past	None
2 km south of RK 155.6	Old campsite	Past	None
300 m south of RK 220.4	Potential camp at Wolf Creek	Past	None
75 km south of RK 248.8	Habitation site - Smallboy Camp	Current	None

No habitation sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for habitation sites by Samson Cree Nation.

Plant Gathering

Samson Cree Nation community members identified several plant gathering sites during the TLU study for the Project, detailed in Table 5.1.4-3.

Community members described that all lands within their asserted traditional territory are their ‘pharmacy’ and shared that harvest occurs in many places throughout the region. The ability to gather clean or pure plants, such as Labrador tea (Plate 5.1.4-1) and spruce gum (Plate 5.1.4-2) is important to Samson Cree Nation since these plants are used for medicinal purposes.



Plate 5.1.4-1 Labrador tea harvested by Besim Buffalo.



Plate 5.1.4-2 Spruce gum observed in a spruce tree.

A community member shared the importance of trading medicines, as different medicines have distinctive uses. He shared that he trades plants, medicines and rifles with other First Nation community members throughout Alberta, BC and the Northwest Territories.

TABLE 5.1.4-3

PLANT GATHERING IDENTIFIED BY SAMSON CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
55 km south of RK 9	Medicinal plant gathering at Bittern Lake	Current	None
70 km east of RK 9	Plant gathering at Beaverhill Lake	Current	None
80 km south of RK 9	Plant gathering at Beaver and Little Beaver Lake	Current	None
110 km southeast of RK 9	Plant gathering at Buffalo Lake	Current	None
67 km south of RK 22	Low bush cranberry near Hobbema	Current	None
10 km north of RK 46.7	Plant gathering Stony Plain to Fawn Lake	Current	None
110 km south of RK 66.8	Plant gathering Breton-Lockart	Current	None
50 km south of RK 76.8	Plant gathering at Pigeon Lake	Current	None
100 km south of RK 76.8	Plant gathering at Gull Lake	Current	None
55 km south of RK 86.8	Plant gathering Modeste Creek and Battle Creek	Current	None
55 km south of RK 86.8	Plant gathering at Battle Lake	Current	None
70 km south of RK 86.8	Plant gathering at Twin Lakes	Current	None
10 km north of RK 91.8	Berry picking and plant gathering at Lac St Anne	Current	None
20 km north of RK 102.9	Medicinal plant gathering at Birch Lake	Current	None

TABLE 5.1.4-3 Cont'd

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
30 m southeast of RK 118.5	Plant gathering site	Current	Request spring/summer site visit
At RK 118.7	Plant gathering site	Current	Request spring/summer site visit
At RK 118.8	Plant gathering site	Current	Request spring/summer site visit
45 km south of RK 122	Plant gathering at Buck Mountain/Buck Lake	Current	None
25 km north of RK 128	Plant gathering Whitecourt to Westlock	Current	None
At RK 132.9	Plant gathering site	Current	Request harvest prior to construction
Crosses at RK 135.6	Medicinal plant gathering along Pembina River	Current	None
At RK 135.9	Plant gathering site	Current	Request harvest prior to construction
At RK 141.3	Plant gathering site	Current	Request harvest prior to construction
At RK 141.7	Plant gathering site	Current	None
At RK 141.9	Plant gathering site	Current	None
At RK 142.4	Plant gathering site	Current	None
5 m north of RK 174.1	Plant gathering site	Current	None
At RK 175.9	Plant gathering site	Current	None
At RK 176	Plant gathering site	Current	None
10 m south of RK 176.1	Plant gathering site	Current	Request harvest prior to construction
1 m south of RK 176.2	Plant gathering site	Current	None
20 m south of RK 179.1	Plant gathering site	Current	Request spring/summer site visit
At RK 220.4	Plant gathering site	Current	Request spring/summer site visit
At RK 243.8	Plant gathering site	Current	None
At RK 244	Plant gathering site	Current	None
At RK 244.2	Plant gathering site	Current	None
7 km west of RK 248.8	Plant gathering at Millers Lake	Current	None
40 km west of RK 248.8	Plant gathering Hinton to Obed	Current	None
90 km northwest of RK 248.8	Plant gathering at Smoke and Little Smoke Lake	Current	None
90 km southwest of 248.8	Plant and tree harvesting at Jasper National Park	Current	None
16 km north of RK 333.6	Plant gathering site	Current	None

TABLE 5.1.4-3 Cont'd

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
Crosses at RK 333.5	Plant gathering North Saskatchewan River	Current	None

Samson Cree Nation has requested to harvest medicinal plants prior to construction at four locations detailed in Table 5.1.4-3 above. Samson Cree Nation has requested spring/summer revisits of five locations listed in Table 5.1.4-3.

Hunting

Samson Cree Nation community members identified several hunting sites during the TLU study for the Project, detailed in Table 5.1.4-4.

Community members reported that they hunt year-round and noted the importance of hunting to their survival as both a food source and medicine. During the map review, a community Elder stated that 'animals are medicine and we eat medicine'.

During ground reconnaissance a community member explained how the entire moose is used, both as nourishment and as medicine. He explained how he hunts for his family and for others on the Hobbema Reserve. Potency of the medicine from moose is directly related to the moose's purity of diet. Moose eat mostly young spruce and red willow. Other community hunters also provide food for many others on the reserve for daily consumption and for use at ceremonial feasts. He explained how his three daughters will help him cut up and prepare the meat for distribution. He quite often saves the nose and tongue of the moose for the Elders.

When a hunter kills a deer, he cuts the throat and hangs the animal until the blood is drained. Once the blood has drained, the hide is removed and the meat is cut up to be smoked in various ways. The hide can be used traditionally, either as rawhide or workable/wearable hide. The hide is prepared by being stretched and fastened to a wooden frame. Fur and hair is removed using a scraper. The pressure that is applied during scraping, may puncture the hide if not cautious. Once the hide has been scraped it is considered rawhide, which can be stretched and used to make drums.

A community member shared that he prefers to hunt moose (Plate 5.1.4-3) during the early morning hours when they are most active trying to find food. The animals in the Edson and Hinton area are found to be cleaner than animals found closer to the city, as the food for the animals in this area is pure and not as contaminated by pesticides as the grain and plants closer to civilisation and farm lands. Even the air is more pure, being so far away from the city; the wind does not carry the pollution to the plants here.



Plate 5.1.4-3 Harvey Buffalo pointing out moose tracks in the snow at RK 123.8.

Hunting stands are used to hunt along a game trail. Animals, such as moose, elk and deer travel along game trails to different feeding grounds and water sources. To hunt game on a game trail hunters would construct a hunting stand between three trees about 16 feet off the ground. Around midday the hunter would climb up into the stand and wait for animals to pass. The community member said that animals such as elk travel down the trails at around 5:00 to 6:00 PM near the end of September. Community members explained that you can tell the difference between deer tracks made by a buck and those made by a doe, because the buck walks with his head down and drags its front feet while a doe walks more gracefully and lifts her feet up.

The importance of protocol while hunting was explained during ground reconnaissance. A community member shared an important hunting ritual. First, he showed a ceremonial item made from a moose. It consisted of two small stakes carved from the bone of a moose and tied together by a thin hide. He explained its purpose is to pierce one's skin and showed facilitators an old piercing scar on his chest. When piercing they take one smooth piece of bone and pierce through the skin and pull the hide string through so both bone pieces hang from each side. They proceed to rip the piercing out and leave the item out in the wilderness as an offering to the spirit of the moose while hunting. They are in turn leaving a piece of themselves along with part of the moose. This ceremonial piercing is performed annually, usually around the same time of year. The community member shared that this practice becomes less painful the more it is performed over the years.

TABLE 5.1.4-4

HUNTING SITES IDENTIFIED BY SAMSON CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
80 km south RK 0.9	Beaver Lake	Current	None
150 km north of RK 20	Pine Lake	Current	None

TABLE 5.1.4-4 Cont'd

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
40 km south of RK 66.7	Alder Flats east of the North Saskatchewan River	Current	None
50 km south of RK 71.8	Pigeon Lake	Current	None
100 km south of RK 76.8	Gull Lake	Current	None
70 km south of RK 86.8	Twin Lakes	Current	None
129 km south of RK 90	Sylvan Lake	Current	None
95 km south of RK 108	Willesden Green	Current	None
100 km south of RK 108	Open Creek Provincial Natural Area	Current	None
85 km south of RK 118	West of Medicine Lake	Current	None
94 km south of RK 118	Medicine Lake	Current	None
188 km north of RK 118	Slave Lake	Current	None
45 km south of RK 123	Buck Lake	Current	None
At RK 141.7	Moose hunting site	Current	None
100 km south of RK 188.1	Along Shunda Creek	Current	None
300 m south of RK 220.4	Hunting site	Current	None
40 km south of RK 248.8	Smallboy's Camp	Current	None
70 km west of RK 248.8	North of Hinton	Current	None
75 km south of RK 248.8	Smallboy Camp	Current	None
85 km north of RK 248.8	Smoke Lake and Little Smoke Lake	Current	None
30 m southeast of RK 325 to RK 416	Hunting region	Current	None
12 m southeast of RK 336.4	Game trail	Current	None

Three hunting sites were identified within the proposed pipeline corridor during the TLU study. No mitigation was requested for hunting sites by Samson Cree Nation.

Fishing

Samson Cree Nation community members identified several fishing sites during the TLU study for the Project, detailed in Table 5.1.4-5.

Community members reported that the use of nets at the McLeod River crossing would be of no value for fishing since the water flows too fast. The use of fish baskets or '*askonân*' might work at this site. An Elder reported that he preferred to use a trap made from willow that is shaped like a basket with a funnel pointing downstream. Fish are herded by four or five people into the funnel and are then trapped in the basket. Community members were concerned that construction will affect the quality of the water and in turn affect the quality of the fish.

A community member shared that Rock Lake is habitat for lake trout. Brook trout and brown trout inhabit the streams. In the summer, people fish for trout when it's warm. The best times to fish are in the morning and in the evening and the best time to ice fish is in February.

Community members shared that they have to travel farther away from their community than in the past to fish. One community member reported that she fishes in Slave Lake and surrounding watercourses as the fish are 'cleaner' there. In the past community members fished at Pigeon Lake, but due to mercury poisoning 15 years ago the fish became deformed so they can no longer fish there. Another community member indicated that the water is too warm for fish to thrive there and there is too much algae.

TABLE 5.1.4-5

FISHING SITES IDENTIFIED BY SAMSON CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
Crossed at RK 33.5	Fishing along North Saskatchewan River	Current	None
53 km south of RK 73.8	Fishing at Pigeon Lake	Past	None
66 km south of the RK 78.2	Fishing at Battle Lake	Current	None
188 km north of RK 118	Fishing at Slave Lake	Current	None
45 km south of RK 123	Fishing at Buck Lake	Current	None
At RK 135.6	Fishing along Pembina River	Current	Revisit site in spring/summer
124 km south of RK 195	Fishing at Shunda Creek	Current	None
At RK 224.3	Fishing along McLeod River	Current	Revisit site in spring/summer
90 km north of RK 269	Fishing at Smoke Lake and Little Smoke Lake	Current	None
40 km northwest of RK 338	Fishing at Rock Lake	Current	None
Project Footprint	Concern about the effects of construction on water and fish quality	--	None

Samson Cree Nation has requested spring/summer visits to fishing sites along the proposed crossing locations of the Pembina and McLeod rivers.

Trapping

Samson Cree Nation community members did not identify trapping sites during the TLU study for the Project.

A community member shared his technique for trapping rabbits so that they will not be eaten by predators such as coyotes. First, a trapper selects a tree that is flexible enough that its tip can be bent to the ground. The trapper bends the tree and uses two sticks to pin the tip of the tree to the ground and hold it in place. The sticks should be just deep enough to hold the tree in place. A snare wire is then strung between the two pin sticks. Once a rabbit gets itself caught, the motion from trying to struggle free will cause the pins to come loose. When the pins are loose the tree springs to an upright position, trapping the rabbit high off the ground, safe from predators.

A community member identified a heavily used rabbit trail that would be a good place to put a snare. Samson Cree Nation community members use snares to trap rabbits because the snare does not damage the fur the way bullets do. During ground reconnaissance a story was told by a community member about his father. He believes that his father was one of the last trappers. In the late 1940s he would trap lots of muskrat and sell the fur, which was used to make coats and hats. He would share the meat with family and friends. His grandmother also used to trap rabbit. She would take the furs and tie them together to make blankets which were so warm that it was like an electric blanket. She used to make hides, beadwork and bridles as well as beadwork on saddles. That is how she would make money during her down time.

A mink lodge was identified at RK 133 during ground reconnaissance (Plate 5.1.4-4). Community members expressed concern since mink is trapped locally. Community members requested that mink lodges be avoided or local trappers be allowed to harvest mink prior to construction.



Plate 5.1.4-4 Mink lodge observed 65 m north of RK 133.

No trapping sites were identified within the proposed pipeline corridor during the TLU study.

Gathering Places

Samson Cree Nation community members identified several gathering sites during the TLU study for the Project, detailed in Table 5.1.4-6.

Community members identified two traditional gathering places. One is at Lodgepole and the other is west of Lodgepole on the Pembina River. He reported the Lodgepole region was used as a campsite and the sweat lodge is still used in the spring and fall. He noted that evidence of the gatherings as flags and posts remain at this site. A community member also shared that sweat lodges take place at Lake Wabamun.

There is a region east of the Smallboy camp that is used as a gathering place for sundance ceremonies and camping. An Elder indicated that trees harvested in this area are known to heal blindness. The name of the tree was unknown.

TABLE 5.1.4-6

GATHERING PLACES IDENTIFIED BY SAMSON CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
70 km east of RK 9	Lodges at Beaverhill Lake	Current	None
At RK 154.7	Camp site	Current	None
55 km south of RK 156	Gathering area at Lodgepole	Current	None
50 km south of RK 218.2	Gatherings at Pembina River west of Lodgepole	Current	None
1.8 km south of RK 232.2	Dances between Edson and Freeman Lake	Current	None
75 km south of RK 248.8	Gatherings at Smallboy camp	Current	None

TABLE 5.1.4-6 Cont'd

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
378 m south of RK 311	Gatherings at Lake Wabamun	Current	None
25 km northwest of RK 311	Gatherings between Edson and Hinton, east of Wildhay	Current/Past	None

One campsite was identified within the proposed pipeline corridor, located at RK 154.7. No mitigation was requested for gathering places by Samson Cree Nation.

Sacred Areas

Samson Cree Nation community members identified several sacred areas during the TLU study for the Project, detailed in Table 5.1.4-7.

A sacred site was identified 65 m southeast of RK 300.1 at the edge of the existing TMPL right-of-way on the south side. There is a large boulder called the Grandfather Rock. The Elders named the rock long ago and the rock is used in sacred prayers. The rock has come a long way, over eons. It is believed that although the rock is old he has lots of energy, but in time the rock will move on. Tobacco and prayers were offered. The prayer, which was recited in Cree, was for the Grandfather spirits who receive the prayers of the children from generation to generation, and community members requested that the site remain undisturbed.

Community members asked for a site 13 m northwest of RK 338.8 to be marked as a possible grave site and requested avoidance if confirmed.

Community members reported the presence of a 'misti-napew wikih', or sacred being 2 m south of the existing right-of-way. Evidence of the 'misti-napew wikih', also known as Sasquatch or Bigfoot included broken and twisted branches (4 m above the ground) (Plate 5.1.4.5) and a lingering strange light smell. A community member shared that you can tell it was a sacred being because he twists the branch to provide shelter and to let other animals know it is him. The spirit wants to let other animals know he is still here, but not to disturb him. There was an area clear of snow under a tree where the sacred being may have slept. Community members reported that the sacred being is so elusive that he will never make his home in one place.



Plate 5.1.4-5 Broken and twisted branches are evidence of a Sasquatch presence at RK 124.6.



Plate 5.1.4-6 Mound identified 2 m south of the right-of-way at RK 141.7, believed to be a burial site.

A mound was observed 2 m south of RK 141.7 (Plate 5.1.4-6). An Elder believes this may be a burial site because it is in a clearing and covered in kinnikinnick. Other community members agreed. Community members reported concerns that this site is an ancient burial site and requested that the site be revisited in the summer and that Leonard Saddleback be bought to the site as he feels energies and can determine if it is in fact a burial site.

A king tree was identified at RK 174.1. A king tree has a solid base and a split that provides lodging for other creatures and is considered sacred and a rare find. Community members shared that the tree must be white or black poplar and it is used as the central tree in a ring of 13 trees in the sundance ceremony. Community members requested that the king tree not be disturbed during construction.

TABLE 5.1.4-7

SACRED AREAS IDENTIFIED BY SAMSON CREE FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
70 km east of RK 0.9	Beaverhill Lake	Current	None
110 km southeast of RK 9	Buffalo Lake	Past (1600s)	None
50 km south of RK 76.8	Pigeon Lake	Current	None
100 km south of RK 76.8	Gull Lake	Current	None
70 km south of RK 86.8	Twin Lakes	Current	None
11 km north of RK 91.8	Lac Ste. Anne	Current	None
120 m north of RK 44.4	Burial site	Current	Avoidance
135 m north of RK 101.3	Grave site	Current	Request to revisit site
20 km north of RK 102.9	Birch Lake	Current	None
22 m south of RK 118.8	Sacred tree ribbon site	Current	Avoidance
45 km south of RK 123	Buck Lake	Current	None
40 m south of RK 133.6	Sacred site	Current	Avoidance
2 m south of RK 141.7	Potential burial site	Current	Revisit site to determined whether it is a burial site
At RK 151.4	Ceremonial sundance site	Current	None
50 m south of RK 151.5	Sacred site with birch tress	Current	Avoidance and revisit site
1 km north of RK 157.9	Chip Lake	Current	None
At RK 174.26	Sacred King tree	Current	Avoidance
95 km south of RK 298.5	Sacred site	Current	Avoidance
183 m north of RK 298.8	Sacred site	Current	Avoidance
378 m south of RK 311	Lake Wabamun	Current	None
42 m southeast of RK 320.6	Prayer tree with coloured fabric tied to it	Current	Avoidance
At RK 332.4	Gravesites/fasting/vision quests on Willmore trail	Current	None
336 m south of RK 333.7	'Way-pih-nahs-so-nah' sacred site	Current	Avoidance
13 m northwest of RK 338.8	Possible grave site	Past	Avoidance
146 m north of RK 428	Potential burial site	Current	Request to revisit site

TABLE 5.1.4-7 Cont'd

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
85 km north of RK 248.8	Smoke Lake and Little Smoke Lake	Current	None

Samson Cree Nation requested avoidance and/or revisits of eight sacred areas within the proposed pipeline corridor listed in Table 5.1.2-8 above. Six of the sacred areas listed within Table 5.1.2-8 will be avoided by the current alignment of the proposed pipeline corridor.

5.1.5 Métis Nation of Alberta (Region 4)

Trans Mountain and Métis Nation of Alberta (Region 4) have engaged in discussions to determine the community’s interest and a process for their involvement in Project activities. Métis Nation of Alberta (Region 4) is currently conducting an independent, community-led engagement report for the Project.

Issues of concern, traditional use sites or features identified through ongoing engagement with Métis Nation of Alberta (Region 4) will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.1.6 O’Chiese First Nation

O’Chiese First Nation elected to conduct a third-party TLU study for the Project. A third-party consultant, Calliou Group, conducted community interviews and completed two field visits that focused on Crown lands within the asserted traditional territory of O’Chiese First Nation. Representatives from TERA were also in attendance for portions of the field visits.

A community meeting was held on September 10, 2013 at the O’Chiese First Nation Community Centre in Rocky Mountain House, AB. The purpose of this meeting was to present the findings of the TLU study and to provide O’Chiese First Nation community members with an opportunity to verify the information from the study. This meeting also provided the opportunity for O’Chiese First Nation members to review the maps and note any needed changes to the draft report prior to final submission.

The results of the O’Chiese First Nation TLU study received on September 13, 2013 are summarized below. Where available, approximate distances and directions of specific geographic areas from the proposed pipeline corridor were determined by TERA based on the information provided in the O’Chiese First Nation TLU study mapping and are described in Tables 5.1.6-1 to 5.1.6-8.

5.1.6.1 Community Participants

The following community members of O’Chiese First Nation offered their time and assistance as interview and/or field participants in the Calliou Group TLU study:

Elders: Roy Beaverbones, Jack Chipaway, Danny Daychief, Jimmy Littlejohn and Charlie Whitford.

Community Members: Donnie Beaverbones, Donnie Bremner, Gloria Beaverbones, Johnny Bremner, Susan Bremner, Rosie Bremner, Josephine (Thomas) Bremner, Jeffrey Daychief, Sarah Daychief, Harry Desjalais, Mike Magwa Daychief, Alice Strawberry, George Strawberry, Elizabeth Strawberry, Blondia Strawberry, Jerry Strawberry, Mary L. Strawberry, Jack Strawberry, Jean Strawberry, John Strawberry, Eva Ironbow, Linda Strawberry, Luella Strawberry, Marie Strawberry, Mary Wahpequenape, Percy Strawberry, Emma Whitford, Martin Ironbow and Les Yellowface.

5.1.6.2 Results

The map review, interviews and ground reconnaissance revealed eight TLU sites within the proposed pipeline corridor requiring mitigation as requested by O’Chiese First Nation.

Trails and Travelways

O’Chiese First Nation identified a number of trails and travelways during the TLU for the Project, detailed in Table 5.1.6-1. Community members reported different travel migration routes, used in the past and currently, for purposes such as traveling to ceremonial sites and seasonal migratory routes. These travel routes include wagon, foot and horse trails (Caillou Group 2013).

TABLE 5.1.6-1

TRAILS AND TRAVELWAYS IDENTIFIED BY O’CHIESE FIRST NATION

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
67 km south of RK 21.5	Trail from Hobema to O’Chiese IR 203	Current	None
At RK 27.9	Trail from Rocky Mountain House to Edmonton	Past	None
19 km south of RK 28	Trail from Saskatchewan to O’Chiese IR 203	Past	None
2.8 km south of RK 78.5	Trail from Medicine Lake to Wabamun IR 133A/B	Past	None
2.8 km south of RK 78.5	Trail from O’Chiese IR 203 to Wabamun IR 133A/B	Current	None
From RK 83.46 to RK 321.69	Trail network from Lac Ste Anne to Hinton	Past	None
93 km south of RK 118	Trail from Medicine Lake to the North Saskatchewan River and Baptiste River	Current/Past	None
At RK 120.2	Trail from Rimbey to Whitecourt	Past	None
45 km south of RK 123	Trail from O’Chiese IR 203 to Buck Lake	Past	None
45 km south of RK 123	Trail from Medicine Lake to Buck Lake	Past	None
93 km south of RK 156	Trail from O’Chiese IR 203 to Rimbey	Past	None
93 km south of RK 156	Trail from O’Chiese IR 203 to Medicine Lake	Past	None
At RK 172	Trail from O’Chiese IR 203 to Nojack to Mayerthorpe	Past	None
At RK 173	Trail from O’Chiese IR 203 to Whitecourt	Current/Past	None
1.8 km south of RK 232.6	Trail from O’Chiese IR 203 to Lodgepole to Embarass to Edson	Current/Past	None
36 km south of RK 272.5	Trail from O’Chiese IR 203 to Robb	Current	None
From RK 297.8 to RK 317.8	Trail network from Robb to traditional use sites northwest of Hinton	Past	None
At RK 322.6	Trail from O’Chiese IR 203 to Hinton	Current/Past	None
38.6 km southeast of RK 339	Trail from Lovetville to Cadomin	Current	None

Several trails and travelways were identified within the proposed pipeline corridor during the TLU study. No mitigation was requested for trails and travelways by O’Chiese First Nation (Caillou Group 2013).

Habitation Sites

O’Chiese First Nation identified various habitation sites during the TLU study for the Project, detailed in Table 5.1.6-2, including cabins, campsites, a trading post, cultural camps and settlement sites.

TABLE 5.1.6-2

HABITATION SITES IDENTIFIED BY O'CHIESE FIRST NATION

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
From RK 0 to RK 52.1	Edmonton Trading Post	Past	None
From RK 0 to RK 339.4	Campsites from Edmonton to Jasper, including between Edson and Hinton and around Marlboro and Edson and Mayerthorpe to Hinton along the old highway	Current/Past	None
67 km south of RK 21.5	Campsites along the trail from O'Chiese First Nation IR 203 to Hobbema	Past	None
102 km south of RK 81.5	Campsite and settlement site between the North Saskatchewan River and Rimbey	Past	Preserve site for future use
102 km south of RK 81.5	Campsite around Willesden Green and Rimbey	Past	None
From RK 83.4 to RK 331.1	Campsites from west of Lake Wabamun to Hinton	Past	None
From RK 83.5 to RK 321.7	Campsites from Hinton to Lac Ste. Anne	Past	None
93 km south of RK 118	Campsite along the way from Medicine Lake to Tofield	Past	None
93 km south of RK 118	Campsite west of Medicine Lake	Past	None
93 km south of RK 118	Cultural camp around Medicine Lake	Current	Preserve site for future use
45 km south of RK 123	Campsite between O'Chiese First Nation IR 203 and Buck Lake on the North Saskatchewan River	Past	None
45 km south of RK 123	Campsite around Buck Lake	Past	None
From RK 139.5 to RK 195.4	Camping sites between Nojack, Mayerthorpe and Whitecourt, including MacKay	Current/Past	None
34.6 km north of RK 143.5	Cabin around Mayerthorpe	Past	None
34.6 km north of RK 143.5	Campsite around Whitecourt and Mayerthorpe	Current/Past	None
54.9 km south of RK 155.5	Cabin south of Lodgepole near Drayton Valley	Current	None
93 km south of RK 156	Campsite around O'Chiese First Nation IR 203 to Rimbey in the east Rocky Mountain House in the south and to the Nordegg River in the west	Past	None
93 km south of RK 156	Settlement in the region of current O'Chiese First Nation IR 203 to Rimbey and Rocky Mountain House	Past	None
94 km south of RK 157	Campsite along the North Saskatchewan River	Past	None
From RK 171.7 to RK 187.9	Cabin and campsite near Nojack and south of MacKay	Past	None
68 km south of RK 176.5	Cabin northwest of the Brazeau reservoir	Current	None
59.5 km south of RK 179.5	Cabin and campsite around Whitecourt	Past	None
121 km south of RK 207.5	Campsite around the Brazeau Reservoir and the Nordegg River	Past	None
132 km south of RK 216.5	Campsite along the Nordegg River towards Bighorn IR 144A	Past	None
1.7 km south of RK 232	Campsite around Edson and the McLeod River	Current/Past	None
1.7 km south of RK 232	Campsite south of Edson and north of Bighorn IR 144A	Past	Preserve site for future use
62 km south of RK 248.5	Cabins in a valley near Lovettville	Current/Past	None
From RK 267.7 to RK 337.9	Cabin in the Hinton region	Past	None
35.8 km south of RK 274.5	Cabin, campsite and settlement southeast of Robb, northwest of Lovettville by a creek on Elk River Road, the foothills region south of Robb and between Nordegg	Current/Past	None

TABLE 5.1.6-2 Cont'd

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
38.2 km south of RK 290	Cabin south of Obed, east of Jasper	Current	None
52.7 km southeast of RK 312	Cabin between Robb, Lovetville and Cadomin	Current	None
At RK 322.6	Campsite and cabin near Hinton	Current/Past	None
From RK 324.4 to RK 333.2	Cabin near Entrance	Past	None
25.3 km southeast of RK 339	Cabin around Robb and west towards Jasper	Current	Preserve site for future use
25.3 km southeast of RK 339	Cultural camp around Robb	Current	None
38.6 km southeast of RK 339	Cultural camp south of Edson around Lovetville, Cadomin and Erith	Current	Preserve site for future use

O'Chiese First Nation has requested that five habitation sites be preserved for future use. These five sites will be avoided by the current alignment of the proposed pipeline corridor (Caillou Group 2013).

Plant Gathering

O'Chiese First Nation identified several plant gathering sites during the TLU for the Project, detailed in Table 5.1.6-3. Community members reported gathering a variety of berries including blackberries, blueberries, chokecherries, cranberries, huckleberries, raspberries, Saskatoon berries and strawberries. O'Chiese First Nation also reported gathering of different medicinal plant species including (but not limited to), bitter root, cedar, sage, moss, Seneca root, sweet grass, willow fungus, bark, chokecherry root and raspberry root.

During ground reconnaissance three of the ten species of importance identified by O'Chiese First Nation were located within the proposed pipeline corridor. One plant species was identified at RK 307 and two plant species were identified near the Hinton Pump Station at RK 320 (Caillou Group 2013).

TABLE 5.1.6-3

PLANT GATHERING IDENTIFIED BY O'CHIESE FIRST NATION

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
From RK 0 to RK 52.1	Berry picking from North Saskatchewan River east to Camrose and south from Edmonton to Red Deer	Current	None
From RK 0 to RK 339.4	Medicinal and other plant gathering between Jasper National Park and Wetaskiwin and between the Yellowhead highway and Rocky Mountain House	Current	None
3 km south of RK 6	Bitter root, medicinal and other plant gathering around Stoney Plain IR 135	Current	None
55.2 km south of RK 70	Berry picking around Pigeon Lake	Current	None
55.2 km south of RK 70	Medicinal and other plant gathering around Pigeon Lake	Current	None
102 km south of RK 81.5	Berry picking from the North Saskatchewan River to Rimbey	Past	Preserve site for future use
102 km south of RK 81.5	Bark, chokecherry root, sage, raspberry root, sweet grass, medicinal and other plant gathering between the North Saskatchewan River and Rimbey	Current/Past	Preserve site for future use

TABLE 5.1.6-3 Cont'd

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
From RK 83.4 to RK 321.7	Berry picking from Hinton to Lac Ste. Anne	Past	None
From RK 85.6 to RK 100.9	Seneca root, medicinal and other plant gathering near McLeod River	Current	None
From RK 116 to RK 132	Berry picking region between Moon Lake and Tomahawk	Current	None
93 km south of RK 118	Berry picking between North Saskatchewan River and Medicine Lake	Current	None
93 km south of RK 118	Berry picking around Medicine Lake	Current	Preserve site for future use
93 km south of RK 118	Medicinal and other plant gathering around Medicine Lake	Current	Preserve site for future use
20.6 km south of RK 119	Medicinal and other plant gathering around Tomahawk	Current	None
40.4 km south of RK 133	Berry picking around Drayton Valley	Current	None
1.6 km north of RK 136	Berry picking around Evansburg Medicinal and other plant gathering around Evansburg	Current	None
From RK 138.5 to RK 339.4	Sage and sweet grass gathering between Jasper and Drayton Valley and between Rocky Mountain House just north of the Yellowhead highway	Current	None
34.6 km north of RK 143.5	Medicinal plant habitat from Mayerthorpe north to Whitecourt and south to Hinton and berry picking around Mayerthorpe	Current	None
90 km south of RK 150	Medicinal and other plant gathering around the Nordegg River	Current	None
54.9 km south of RK 155.5	Medicinal plant habitat around Lodgepole	Current	None
54.9 km south of RK 155.5	Fungus gathering north of Rocky Mountain House and west of Drayton Valley	Current	None
93 km south of RK 156	Berry picking around O'Chiese First Nation IR 203	Current/Past	None
93 km south of RK 156	Medicinal and other plant gathering on the O'Chiese First Nation IR 203	Current	None
93 km south of RK 156	Berry picking, medicinal and other plant gathering between the O'Chiese First Nation IR 203 and Medicine Lake	Current	None
93 km south of RK 156	Medicinal and other plant gathering between Lovetville and O'Chiese First Nation IR 203, south to Bighorn IR 144A	Current	None
93 km south of RK 156	Berry picking in the region including O'Chiese First Nation IR 203, Rimbey and Buck Lake	Current	None
3.3 km north of RK 168.7	Bitter root, medicinal and other plant gathering around Chip Lake	Current	None
4.7 km north of RK 174	Berry picking south of MacKay	Current	None
125 km south of RK 206.5	Berry picking and sage gathering in the foothills near Nordegg	Current	None
From RK 215.5 to RK 322.9	Berry picking from Edson to Hinton	Current	None
From RK 222 to RK 339.4	Berry picking in the foothills region and north of Hinton	Current	None
From RK 222 to RK 339.4	Cedar, medicinal and other plant gathering in the foothills region and north of Hinton	Current	None
From RK 222.8 to RK 248.6	Seneca root, medicinal and other plant gathering around Edson and McLeod River	Current	None
From RK 222.8 to RK 289	Medicinal plant habitat between Obed and Edson	Current	None
From RK 228 to RK 237	Berry picking around and north of Edson	Current	None

TABLE 5.1.6-3 Cont'd

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
From RK 231.9 to RK 302.6	Berry picking from Obed to Bighorn IR 144A and east to Buck Lake	Current	None
1.7 km south of RK 232.1	Medicinal and other plant gathering south of Edson and north of Bighorn IR 144A	Current	Preserve site for future use
150 km south of RK 233	Medicinal and other plant gathering at the south end of Abraham Lake	Past	None
From RK 250 to RK 337.9	Berry picking from Willesden Green to Hinton	Current	None
From RK 250 to RK 337.9	Medicinal and other plant gathering from Willesden Green to Hinton	Current	None
From RK 251.5 to RK 261.8	Willow fungus gathering and medicinal plant habitat around Marlboro	Current	None
36 km south of RK 272.5	Plant gathering around Robb	Current/Past	None
36 km south of RK 273	Medicinal plant habitat and berry picking along Elk River Road	Current	None
At RK 307	Plant species of importance identified	Current	Avoidance of plant species of importance
From RK 314.4 to RK 329.9	Plant gathering around Hinton	Current	None
From RK 315 to RK 339.4	Plant gathering north of Hinton towards Muskeg River	Current/Past	None
At RK 320	Two plant species of importance identified	Current	Avoidance of plant species of importance
From RK 324.3 to RK 333.2	Plant gathering around Entrance	Current/Past	None
From RK 328.4 to RK 339.4	Berry gathering between Hinton and Jasper	Current	None
9 km west of RK 339.4	Sage, medicinal and other plant gathering around Jasper	Current	None
9 km west of RK 339.4	Plant gathering in the Rocky Mountain region (currently Jasper National Park)	Past	None
9 km west of RK 339.4	Medicinal and other plant gathering around Jasper and Talbot Lakes	Current	None
38.9 km southeast of RK 339.4	Berry picking around Cadomin, Robb, Embarass and Lovetville	Current	None
38.9 km southeast of RK 339.4	Medicinal and other plant gathering between Robb and Lovetville	Current	None
38.9 km southeast of RK 339.4	Berry picking between Robb and Lovetville	Current	None

O'Chiese First Nation has requested that five plant gathering locations be preserved for future use. These five locations will be avoided by the current alignment of the proposed pipeline corridor. O'Chiese First Nation has also requested avoidance of two locations of plant species of importance, at RK 307 and near the Hinton Pump Station at RK 320 (Caillou Group 2013).

Hunting

O'Chiese community members identified several hunting sites during the TLU for the Project, detailed in Table 5.1.6-4.

Community members hunt moose, elk, deer, caribou, bear, beaver, goose, duck and rabbits during all seasons, hunting deer when moose and elk are scarce. It was reported that O'Chiese First Nation community members do not traditionally hunt bear. Within O'Chiese's traditional territory good ungulate habitat, bird habitat and small game habitat were identified. As well, locations of calving sites, mineral licks, game trails and migration routes were reported.

During ground reconnaissance, locations were visited from RK 256.5 to RK 339.4. O’Chiese First Nation community members reported that they have traditionally hunted and continue to hunt along this section of the proposed pipeline corridor (Caillou Group 2013).

TABLE 5.1.6-4
HUNTING SITES IDENTIFIED BY O’CHIESE FIRST NATION

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
From RK 60 to RK 123	Moose hunting between Buck Lake and Pigeon Lake	Past	None
From RK 83.5 to RK 321.7	Hunting from Hinton to Lac Ste. Anne	Past	None
From RK 89.4 to RK 339.4	Elk, moose, muskrat and rabbit hunting along the North Saskatchewan River	Current/Past	None
63.6 km south of RK 90	Bear, beaver, deer, elk, moose and general hunting as well as historic moose habitat and current bird habitat between the North Saskatchewan River and Rimbey	Current/Past	Preserve site for future use
93 km south of RK 118	Rabbit and general hunting and mineral licks in the region between O’Chiese First Nation IR 203 and Medicine Lake	Current	None
93 km south of RK 118	Deer, elk and moose hunting between the North Saskatchewan River and Medicine Lake	Current	None
93 km south of RK 118	Elk and moose hunting north of O’Chiese IR 203 to Lodgepole	Current	None
93 km south of RK 118	Elk and rabbit hunting between O’Chiese First Nation IR 203 and Buck Lake along the North Saskatchewan River	Past	None
93 km south of RK 118	Moose hunting and habitat, elk habitat, rabbit habitat, general hunting and mineral licks around Medicine Lake	Current	Preserve site for future use
From RK 118 to RK 148	Moose habitat near Pembina, North Saskatchewan River and right after Tomahawk	Current	None
From RK 118 to RK 339.4	Elk and moose hunting from Edson to Bighorn IR144A and Alexis Cardinal IR 234 to O’Chiese First Nation IR 203	Current/Past	None
45 km south of RK 123	Hunting and mineral licks around Buck Lake	Current/Past	None
From RK 133 to RK 164	Game trail south of Cynthia, north of Rocky Mountain House and west of Drayton Valley	Current	None
From RK 139.5 to RK 274	Elk and moose hunting around Mayerthorpe, Nojack and Robb	Current	None
From RK 139.5 to RK 195.4	Caribou, deer, elk and moose hunting around Whitecourt, Mayerthorpe, Nojack and Pinedale	Current	None
34.6 km north of RK 143.5	Deer, elk and moose hunting around Mayerthorpe	Current	None
54.9 km south of RK 155.5	Elk and moose hunting and ungulate calving site and mineral licks around Drayton Valley, Lodgepole and Pembina	Current/Past	None
From RK 155.5 to RK 273	Deer, elk and moose hunting in the foothills around Lodgepole and Robb	Current	None
93 km south of RK 156	Elk and moose hunting around O’Chiese First Nation IR 203 reserve, the Brazeau River and south between O’Chiese IR 203 and Bighorn IR 144A	Current	None
93 km south of RK 156	Elk, moose and rabbit hunting, historic partridge habitat and mineral licks around O’Chiese IR 203	Current/Past	None
93 km south of RK 156	Hunting in the foothills region north of the Bighorn IR 144 A, west and south of Hinton, east of Cadomin, west of O’Chiese IR 203	Current	None

TABLE 5.1.6-4 Cont'd

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
100 km south of RK 157	Elk and moose game trail/migration route from the Rocky Mountains to the Brazeau River	Current	None
From RK 159 to RK 296	Hunting towards Trunk Road between Cadomin, Robb, Lodgepole	Current	None
55.2 km south of RK 166	Hunting around Lodgepole and Brazeau Reservoir	Current	None
4.7 km north of RK 174	Elk and moose hunting south of MacKay	Past	None
From RK 170.9 to RK 176.1	Elk and moose hunting around Nojack	Past	None
68 km south of RK 176.5	Elk, moose, general hunting and mineral licks in the region between Brazeau Reservoir, Nordegg river and Brazeau River	Current/Past	None
59.5 km north of RK 179.5	Deer, elk, moose and general hunting around Whitecourt	Current/Past	None
From RK 188.4 to RK 337.6	Elk, moose and general hunting in the foothills region	Past	None
125 km south of RK 206.5	Elk and moose hunting towards the mountains in Nordegg region	Current	None
From RK 206.5 to RK RK 235	Elk and moose hunting north of Edson, around Bighorn IR144A and Nordegg	Current	Preserve site for future use
From RK 222.8 to RK 248.9	Hunting around Marlboro and Edson	Current	None
From RK 222.8 to RK 289	Elk and moose hunting between Obed and Edson	Current	None
From RK 222.8 to RK 321.6	Elk and moose hunting between Edson and Hinton	Current	None
From RK 222.8 to RK 339.4	Deer, elk and moose hunting from Edson to Hinton and from Robb to north of Obed	Current/Past	None
From RK 230.2 to RK 303.6	Deer, duck, elk and goose hunting as well as moose habitat and hunting from Obed to Bighorn IR 144 A and east to Buck Lake	Current	None
1.8 km south of RK 232.6	Hunting between Lodgepole and Edson	Current	None
From RK 248.6 to RK 264.5	Elk and moose hunting and mineral licks around Marlboro	Past	None
From RK 250 to RK 337.9	Hunting from Willesden Green to Hinton	Current	None
30 km south of RK 270	Elk and moose hunting between Robb and Embarass	Past	None
36 km south of RK 273	Hunting for deer, elk, moose, rabbit and mineral licks around Robb and on Elk River Road towards Robb	Current	None
From RK 289 to RK 339.4	Caribou hunting and habitat north of Hinton and north of Obed	Current	None
From RK 296 to RK 321	Hunting from Bighorn IR 144 A, south of Hinton, west to Cadomin	Current	None
From RK 296 to RK 321	Caribou, elk and moose hunting between Hinton and Cadomin	Current	None
From RK 297.8 to RK 317.8	Elk and moose hunting around Hinton	Current	None
From RK 315 to RK 339.4	Elk, moose and general hunting north of Hinton towards the Muskeg River	Current/Past	None
From RK 319.2 to RK 339.4	Deer, elk and moose hunting from Alexis Cardinal IR 234 to Bighorn IR 144 A/B, including Abraham Lake	Current	None
1 km north of RK 328	Elk and moose hunting around Entrance	Past	None
38.9 km southeast of RK 339.4	Elk and moose hunting between Robb and Lovettville	Current	None
38.9 km southeast of RK 339.4	Elk and moose hunting in the foothills region between Robb, Cadomin and Lovettville	Past	Preserve site for future use
38.9 km southeast of RK 339.4	Hunting northeast of Lovettville	Current	None

No specific hunting sites were identified within the proposed pipeline corridor during the TLU study. O’Chiese First Nation requested that four hunting areas be preserved for future use. These four areas will be avoided by the current alignment of the proposed pipeline corridor.

Fishing

O’Chiese First Nation community members identified various fishing sites during the TLU for the Project, detailed in Table 5.1.6-5. Community members shared that they fish for a variety of species including trout, jackfish, pickerel, pike and whitefish (Caillou Group 2013).

TABLE 5.1.6-5

FISHING SITES IDENTIFIED BY O’CHIESE FIRST NATION

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
11 km north of RK 91	Jackfish fishing in Lac Ste. Anne	Current	None
347 m south of RK 113	Whitefish fishing at Wabamun Lake	Past	None
93 km south of RK 118	General fishing at Medicine Lake and surrounding creeks	Current	Preserve site for future use
45 km south of RK 123	Trout, jackfish and whitefish fishing in Buck Lake	Current	None
78.8 km south of RK 154.5	General fishing along the Nordegg River and the North Saskatchewan River	Current	None
93 km south of RK 156	Trout fishing around O’Chiese First Nation IR 203, the Brazeau river and south between Rocky Mountain House and Bighorn IR 144A	Past	None
3.3 km north of RK 168.7	Jackfish and whitefish fishing in Chip Lake	Current	None
68 km south of RK 176.5	Trout, jackfish, pickerel and pike fishing around the Nordegg River and the Brazeau Reservoir	Current	None
125 km south of RK 206.5	Trout fishing in creeks around Nordegg	Current	None
From RK 222.8 to RK 248.9	Trout fishing from Edson to Marlboro	Current/Past	None
From RK 230.2 to RK 303.6	General fishing from Obed to Bighorn IR 144A and east to Buck Lake	Current	None
102 km northwest of RK 333	Trout fishing in creeks around Grande Cache region	Current	None
From RK 319.2 to RK 339.4	Trout fishing and spawning around Cadomin and Abraham Lake	Current	None
9 km west of RK 339.4	General fish habitat in Jasper National Park	Current	None

No specific fishing sites were identified within the proposed pipeline corridor during the TLU study. O’Chiese First Nation requested that one fishing areas be preserved for future use. This area will be avoided by the current alignment of the proposed pipeline corridor.

Trapping

O’Chiese First Nation community members identified several trapping sites during the TLU for the Project, detailed in Table 5.1.6-6. Community members reported trapping for several species including bear, beaver, coyote, lynx, mink, marten, muskrat, rabbit, squirrel, prairie chicken, weasel and wolf (Caillou Group 2013).

TABLE 5.1.6-6

TRAPPING SITES IDENTIFIED BY O'CHIESE FIRST NATION

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
93 km south of RK 118	Beaver, muskrat, squirrel and Trapping by Medicine Lake	Current	Preserve site for future use
34.6 km north of RK 143.5	Trapping around Mayerthorpe	Past	None
90 km south of RK 150	Beaver, lynx, muskrat, squirrel and weasel trapping along the Nordegg River	Current	None
54.9 km south of RK 155.5	Beaver, coyote, squirrel and wolf trapping south of Lodgepole near Drayton Valley	Current	None
54.9 km south of RK 155.5	Beaver, lynx, muskrat and squirrel trapping north of O'Chiese First Nation IR 203 towards Lodgepole	Current/Past	None
93 km south of RK 156	Beaver, muskrat, prairie chicken, rabbit and squirrel trapping around O'Chiese First Nation IR 203	Current/Past	None
93 km south of RK 156	Bear, beaver, marten, muskrat and squirrel trapping in the foothills region north of the Bighorn IR 144A west and south of Hinton, east of Cadomin, west of O'Chiese First Nation IR 203	Current	None
93 km south of RK 156	Beaver and muskrat trapping between O'Chiese First Nation IR 203 and Rimbey	Past	None
94 km south of RK 157	Beaver, lynx, muskrat, squirrel and weasel trapping along the North Saskatchewan River	Current	None
100 km south of RK 157	Beaver, lynx, muskrat, squirrel and weasel trapping along the Brazeau River	Current	None
From RK 170.9 to RK 176.1	Beaver trapping around Nojack	Past	None
68 km south of RK 176.5	Beaver, mink, muskrat and squirrel trapping around the Brazeau Reservoir	Current	None
59.5 km north of RK 179.5	Trapping around Whitecourt	Past	None
From RK 219.1 to RK 338.3	Rabbit trapping and muskrat trapping around Marlboro	Past	None
From RK 222.8 to RK 248.9	Trapping from Edson to Marlboro	Current/Past	None
From RK 222.8 to RK 251.9	Squirrel and rabbit trapping from Edson to Hinton and from Robb to north of Obed	Current	None
From RK 248.6 to RK 264.5	Rabbit trapping around Marlboro	Past	None
From RK 250 to RK 337.9	Trapping from Willesden Green to Hinton	Current	None
27 km south of RK 267	Rabbit trapping between Robb and Embarras	Past	None
From RK 267.7 to RK 337.9	Trapping in the Hinton region	Past	None
36 km south of RK 272.5	Trapping around Robb and west towards Jasper	Current	Preserve site for future use
36 km south of RK 272.5	Beaver, marten, lynx and muskrat trapping by Pembina River near Robb	Current/Past	None
1 km north of RK 328	Muskrat and rabbit trapping around Entrance	Past	None
From RK 324.5 to RK 333.1	Beaver and rabbit trapping	Past	None
38.9 km southeast of RK 339.4	Rabbit and Trapping in the foothills around Robb, Cadomin and Lovetville	Current/Past	Preserve site for future use
38.9 km southeast of RK 339.4	Bear, beaver, marten, muskrat and squirrel trapping from Bighorn IR 144A to O'Chiese First Nation IR 203 south of Lodgepole, north of Lovetville, Robb and Pedley and west of Hinton	Current/Past	None

No specific trapping sites were identified within the proposed pipeline corridor during the TLU study. O’Chiese First Nation requested that three trapping areas be preserved for future use. These areas will be avoided by the proposed pipeline corridor.

Gathering Places

O’Chiese First Nation community members identified several gathering places during the TLU for the Project, detailed in Table 5.1.6-7 (Caillou Group 2013).

TABLE 5.1.6-7

GATHERING PLACES IDENTIFIED BY O’CHIESE FIRST NATION

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
102 km south of RK 81.5	Sundance site around Willesden Green and Rimbey	Current	None
102 km south of RK 81.5	Sweat site between the North Saskatchewan River and Rimbey	Past	Preserve site for future use
From RK 85.6 to RK 100.9	Sundance site near McLeod River	Current	None
11 km north of RK 91	Sundance site around Alexis IR 133	Current	None
From RK 95.6 to RK 117.9	Sundance site around Wabamun Lake	Current	None
93 km south of RK 118	Sundance and sweat site on the south side of Medicine Lake	Current	Preserve site for future use
45 km south of RK 123	Pipe ceremony and sweat site between O’Chiese First Nation IR 203 and Buck Lake on the North Saskatchewan River	Past	None
130 km south of RK 132	Sundance site north of Rocky Mountain House and east of the North Saskatchewan River	Current	None
54.9 km south of RK 155.5	Sundance site south of Lodgepole	Current	None
93 km south of RK 156	Sundance site at the O’Chiese First Nation IR 203 and Sunchild	Current	None
From RK 167.9 to RK 179.3	Sundance site around Nojack and southeast of Nojack	Current	None
126 km south of RK 202.5	Sundance site near Nordegg	Current	None
36 km south of RK 273	Sundance and sweat site in the foothills region from Hinton to Rocky Mountain House, including Robb	Current	None
From RK 301.8 to RK 327.3	Chicken dance, pipe ceremony and sweat site between Robb and Hinton	Current	None
From RK 315 to RK 329.5	Ceremonial site including sundances, chicken dances and cloth ceremonies around Hinton	Current	None
From RK 316.7 to RK 339.4	Pipe ceremony and sundance site in and around Hinton	Current	None
From RK 324.1 to RK 333.1	Pipe ceremony site west of Hinton	Past	None

No specific gathering places were identified within the proposed pipeline corridor during the TLU study. O’Chiese First Nation requested that two gathering areas be preserved for future use. These areas will be avoided by the current alignment of the proposed pipeline corridor.

Sacred Areas

O’Chiese First Nation community members identified several sacred areas during the TLU for the Project, detailed in Table 5.1.6-8. Community members reported particular burial sites and sweat sites and also expressed that people in the past were buried at habitation sites and camp locations when traveling (Caillou Group 2013).

TABLE 5.1.6-8

SACRED SITES IDENTIFIED BY O'CHIESE FIRST NATION

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
30 km south of RK 118	Burial site and sundance site between the North Saskatchewan River and Medicine lake	Past	None
93 km south of RK 118	Burial sites and Ceremonial site around Medicine Lake, including the area west side of the lake located north of Medicine Lake	Current/Past	Preserve site for future use
From RK 152.8 to RK 180.2	Burial sites around Nojack and Chip Lake, including area towards MacKay	Past	None
59.4 km north of RK 180.5	Burial sites and sundance site around Whitecourt and Swan Lake, including area around Mayerthorpe	Past	None
1.7 km south of RK 232	Ceremonial site south of Edson	Current	None
55.8 km south of RK 254.5	Burial sites by the Pembina River close to Robb and Lovetville, including the area on the west side of the Pembina River	Past	None
From RK 257.9 to RK 262.1	Burial sites near Marlboro	Past	None
36 km south of RK 272.5	Burial sites and Ceremonial sites near Robb, northwest of Robb and around Lovetville, including the region southeast of Robb, northwest of Lovetville, by creek on Elk River Road	Current/Past	None
36 km south of RK 273	Ceremonial site and sundance site in the Robb region	Past	None
35.8 km south of RK 274.5	Burial site along the river by the Trunk Road between Nordegg and Robb	Past	None
From RK 289.4 to RK 324.5	Ceremonial site in the foothills region between Hinton and O'Chiese First Nation IR 203	Current	None
From RK 301.8 to RK 327.3	Sweat site between Robb and Hinton	Current	None
52.7 km southeast of RK 312	Burial sites in the foothills between Robb, Cadomin and Lovetville	Past	Preserve site for future use
From RK 315 to RK 329.5	Ceremonial site including sundances, chicken dances and cloth ceremonies around Hinton	Current	None
1 km north of RK 320	Ceremonial site identified	Current	Avoidance of ceremonial site
From RK 324.1 to RK 333.1	Ceremonial site in the Entrance region	Current	None
3 km northwest of RK 336	Ceremonial site including chicken dances, pipe Ceremonies and sweats in Hinton	Current	None
56.4 km southeast of RK 339	Burial site near the Cardinal River and the Alexis Cardinal IR 234	Past	None
14.6 km west of RK 339.4	Ceremonial site in the Rocky Mountains region (currently Jasper National Park)	Past	None
38.9 km southeast of RK 339.4	Ceremonial site in Lovetville	Current	None

No specific sacred areas were identified within the proposed pipeline corridor during the TLU study. O'Chiese First Nation requested that three sacred areas be preserved for future use and/or avoided. These areas will be avoided by the current alignment of the proposed pipeline corridor.

5.1.7 Ermineskin Cree Nation

Ermineskin Cree Nation elected to conduct a TERA-facilitated TLU study for the Project. The TLU study included a map review, community and Elder interviews, overflight and ground reconnaissance that focused on Crown lands within the asserted traditional territory of Ermineskin Cree Nation crossed by the Project.

Ermineskin Cree Nation provided their 'Summary to the proposed approach to the environmental and socio-economic assessment for the Trans Mountain pipeline ULC Trans Mountain Expansion Project' to Trans Mountain in June 2013, that describes their preliminary interests in the Project, including:

- the need for biological assessments on wildlife (including species at risk), aquatics and vegetation (including soft and hardwood forests);
- environmental effects of the Project;
- potential of fire from pesticide build up in the ground;
- potential for spills; and
- emergency response planning and continuous monitoring.

Trans Mountain provided an initial response in a letter sent to Ermineskin Cree Nation on October 28, 2013.

The map review meeting and community and Elder interviews were held with Ermineskin Cree Nation on September 4, 2012 at the Ermineskin Elders Centre in Hobbema, Alberta. During this meeting, members of the Ermineskin Cree Nation examined the regional Project maps with TERA TLU facilitators to determine what sites would be surveyed during an overflight and ground reconnaissance (Figure 5.1.7-1). A helicopter overflight and ground reconnaissance occurred from September 5 to 7, 2013. Results review with Ermineskin Cree Nation and TERA was held on October 31, 2013.

The results of the Ermineskin Cree Nation TLU study for the Project are provided below.

5.1.7.1 Community Participants

TERA would like to thank the following community members of Ermineskin Cree Nation for their time and assistance.

Chief: Craig Makinaw.

Elders: Larry Cutarm, Ursula Goodarm, Elsie Littlechild, Jack Mackinaw and Clara Rattlesnake.

Community Members: Walter (Wally) Burns, Virgil Ermineskin, Marlon Littlechild, Wayland Littlechild, Chris Rattlesnake, Ralph Roasting, Delora Smallboy, Erik Smallboy and Carol Wildcat.

5.1.7.2 Results

The map review, interviews and ground reconnaissance revealed four TLU site requiring mitigation as requested by Ermineskin Cree Nation.

FIGURE 5.1.7-1
ERMINEKIN CREE NATION
TRADITIONAL LAND USE AREAS
IDENTIFIED DURING MAP REVIEW

TRANS MOUNTAIN
EXPANSION PROJECT

- Kilometre Post (KP)
- Terminal
- Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
- Pump Station (Reactivation)
- Existing Pump Station
- Trans Mountain Expansion Project Proposed Pipeline Corridor
- Trans Mountain Pipeline (TMPL)
- Highway
- Railway
- Provincial Park
- Indian Reserve (IR)
- Traditional Land Use:**
- Sacred Site
- Gathering Area
- Habitation Site (point)
- Trails & Travelways
- Hunting (general area)
- Sacred Site/Gathering Area
- Habitation Site (polygon)
- Hunting (specific area)
- Fishing
- Plant Harvesting

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Projection: UTM 11N. Baseline TMPL & Facilities: provided by KMC 2012; Proposed Pipeline Corridor V6: provided by UPI Aug. 23, 2013; Transportation: Natural Resources Canada 2012; Geopolitical Boundaries: Natural Resources Canada 2003, AltaLIS, 2012; Hydrology: Natural Resources Canada 2010; Parks and Protected Areas: Alberta Tourism, Parks and Recreation 2012, Natural Resources Canada 2013; Landsat 7 Panchromatic imagery: NASA Geospatial Interoperability Program 2005.

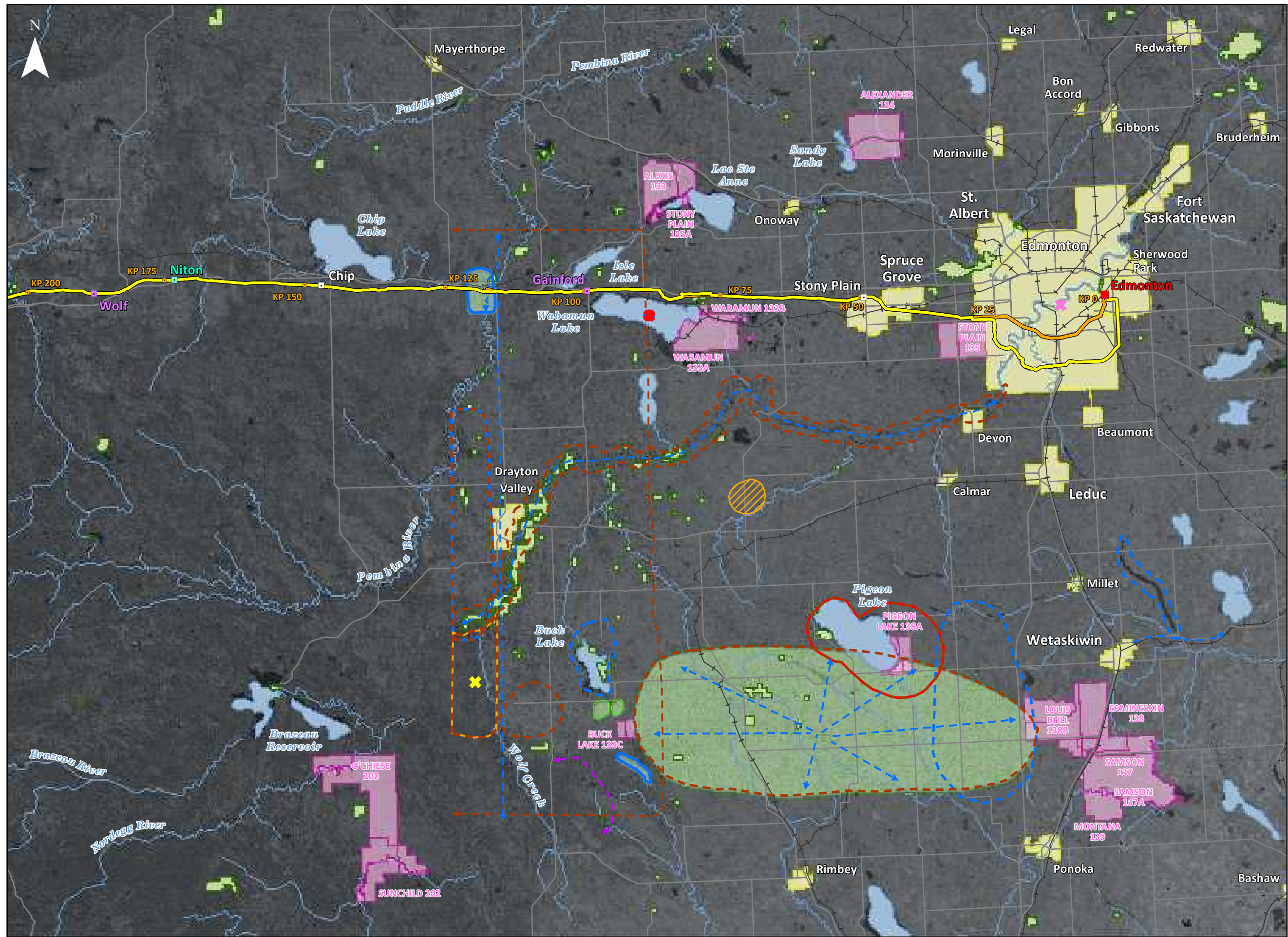


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MAP NUMBER	201310_MAP_TERA_TLU_00461_REV0	PAGE	SHEET 1 OF 1
DATE	December 2013	TERA REF.	7894
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0 6.5 13 19.5 km
 All Locations Approximate



Trails and Travelways

Ermineskin Cree Nation identified several trails and travelways during the TLU study for the Project, detailed in Table 5.1.7-1.

Community members reported that the existing road network was developed on top of many historic trails. Originally, roads were animal migration routes and eventually people began using the trails to travel first on foot, later by wagon and now many are paved over and function as modern highways. Some of the trails in the region were reported to have been used by Lewis and Clark.

Historically, many community members travelled from Pigeon Lake to Wabamun Lake for gathering activities, following the route that is currently Highway 770. Trails around Wabamun Lake were used to trade goods and attend sundance ceremonies on today's Paul Band First Nation Reserve lands.

An Elder indicated that historically, trails existed between Smithfield and Wabamun Lake Provincial Park and that these trails were traversed by wagon. No evidence of the wagon trails was observed during ground reconnaissance at Wabamun Lake.

Ermineskin Cree Nation community members reported that family members used a wagon trail from Pigeon Lake via Duffield to Lac Ste. Anne from 1900 to 1950, crossing the North Saskatchewan River by ferry approximately 2 km upstream from the Project. No evidence of the wagon trail was observed during ground reconnaissance. An Elder shared that he and his family walked from Ermineskin Cree Nation Reserve to Lac Ste. Anne in 1978, which took two days. He said that those who made this journey on foot endured sore feet and blisters and abstained from food and water. Walking such a long distance was a way of paying respect to the pain and suffering experienced by those who were ill since many people suffering from illness came to Lac Ste. Anne for its healing properties.

Elders still participate in the Lac Ste. Anne pilgrimage annually in July and pilgrims will also make the trip often by foot over three days. The pilgrims travel from Hobbema to Lac Ste. Anne using back roads where possible. Ermineskin Cree Nation provides food to the pilgrims through their travels.

During the map review, a network of access trails was identified between the western boundary of Buck Lake Reserve and the eastern boundary of Louis Bull Tribe Reserve, stretching north to Norbuck and south to Dick Lake. This network of trails provides modern day access to resources such as moose, elk, deer, berries and timber that are gathered in the region.

Highway 2 is a historic trail that originated south of Rimbey and extended north to Entwistle. It has been used over many generations as a trail by a number of different communities and the current road is still used. Highway 13 is also reported to be a historic wagon trail. Community members would use this route to travel to Saskatchewan.

Community members reported that the North Saskatchewan and Pembina rivers have been used as travelways. An Elder shared that the North Saskatchewan River was once a navigable waterway, accessible by canoe and was used during the fur trade for transportation of furs to market. A community member added that animal migration routes typically parallel major waterways such as the North Saskatchewan River. The Pembina River is another possible travelway as it is a navigable river. However, to the knowledge of community members present, it was not used as a modern day travelway by any Ermineskin Cree Nation community members.

TABLE 5.1.7-1

TRAILS AND TRAVELWAYS IDENTIFIED BY ERMINESKIN CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
49 km south of RK 15.4	Trail near Highway 13	Past	None
At RK 22.8	Trail near Highway 2	Past	None

TABLE 5.1.7-1 Cont'd

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
55 km southwest of RK 27.6	Trails in Buck Lake Reserve area	Current	None
At RK 33.5	Travelway on North Saskatchewan River	Past	None
700 m north of RK 95.5	Trail from Smithfield to Wabamun Lake Provincial Park	Past	None
1 km south of RK 95.7	Trail from Pigeon Lake to Wabamun Lake Trail from Pigeon Lake via Duffield to Lac Ste. Anne (used for pilgrimage).	Current	Avoid interruption to pilgrimage.
Crosses RK 135.6	Travelway on Pembina River	Past	None
67.1 km south of RK 203.4	Trail near Elk River Road	Current	None

Ermineskin Cree Nation has requested that construction of the Project not interfere with the pilgrimage to Lac Ste. Anne that occurs in July. This trail will be avoided by the current alignment of the proposed pipeline corridor.

Habitation Sites

Ermineskin Cree Nation members identified several habitation sites during the TLU study for the Project, detailed in Table 5.1.7-2.

Most of the habitation sites identified by Ermineskin Cree Nation community members were campsites. Lac Ste. Anne is still the site of an annual pilgrimage for First Nations people. Community members camp at Lac Ste. Anne during the pilgrimage and other religious gatherings. Community members shared that the Brazeau Dam was used as a campsite by the Ermineskin Cree Nation members for hunting and recreation. Although no specific site was identified, a community member reported that Ermineskin Cree Nation members frequently camp along the Elk River Road throughout the year to hunt, fish and for recreational purposes.

Old campsites were identified near the North Saskatchewan River and near St. Francis. During the overflight, a community Elder reported that Ermineskin Cree Nation members camped along the North Saskatchewan River during the 1950s where there was a historical ferry crossing. The region along Highway 7, south of St. Francis, was traditionally used as a campsite by voyagers travelling by wagon.

TABLE 5.1.7-2

HABITATION SITES IDENTIFIED BY ERMINESKIN CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
110 km southeast of RK 14	Tipi rings at Buffalo Lake	Current	None
51.8 km southwest of RK 29.9	Camping at Mission Beach, northeast corner of Pigeon Lake	Current/Past	None
17.6 km south of RK 85.6	Camping on North Saskatchewan River	Past (1950s)	None
32 km south of RK 85.6	Naoon Trail campsite	Past	None
13.3 km north of RK 95	Camp site at Lac Ste. Anne	Current	None
69.2 km south of RK 118.7	Habitation site at Buck Lake	Current	None
56 km south of RK 132	Camping at Alder Flats	Current	None
5.3 km south of RK 134.5	Cabins by Pembina River	Current	None
10 km south of RK 138	Region along Highway 7	Past	None
71.2 km south of RK 164.5	Camp site at Brazeau Dam	Current	None
67.1 km south of RK 203.4	Camp site at Elk River Road	Current	None

No habitation sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for habitation sites by Ermineskin Cree Nation.

Plant Gathering

Ermineskin Cree Nation community members identified several plant gathering places during the TLU study for the Project, detailed in Table 5.1.7-3.

In general, Ermineskin Cree Nation Elders and community members noted that medicines are gathered throughout their asserted traditional territory and that they consider the entire region to be their pharmacy. Prior to the reserve system, divisions between communities did not exist and family groups shared traditional resources in the region, so any site where traditionally used plants are found would be considered a potential plant gathering site.

Community members shared that sweet grass in particular is becoming more difficult to find and community members are concerned that further development will decrease availability of this important plant.

TABLE 5.1.7-3

PLANT GATHERING SITES IDENTIFIED BY ERMINESKIN CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
110 km southeast of RK 14	Berry picking at Buffalo Lake	Current	None
51.8 km southwest of RK 29.9	Plant gathering at Pigeon Lake	Current	None
60 km south of RK 72.2	Plant gathering at Battle Lake	Current	None
69 km southwest of RK 82	Berry picking at Lloyd Creek Provincial Natural Area	Current	None
17.6 km south of RK 85.6	Medicinal plant gathering along North Saskatchewan River	Past	None
13.3 km north RK 95	Berry picking and plant gathering at Lac Ste. Anne	Current	None
71 km south of RK 102	Plant gathering at Muskrat Creek and Mink Creek	Current	None
1 km south of RK 113	Plant gathering at Wabamun Lake	Current	None
69 km south of RK 118.7	Plant gathering at Buck Mountain/Buck Lake	Current	None
Crosses at RK 135.6	Medicinal plant gathering along Pembina River	Current	Transplanting of plants off right-of-way. No reseeding with foreign plants post-construction.
71.2 km south of RK 164.5	Medicinal plant gathering at Brazeau Dam	Current	None
67.1 km south of RK 203.4	Ceremonial plant gathering in Elk River region	Current	None
386 km northwest of RK 339	Plant gathering near Fort St. John	Current	None
Project Footprint	Sweet grass is becoming harder to find today and community members are concerned that further development will lead to less of this important plant	--	None
Project Footprint	Concerns raised about access to land for plant gathering and the growing scarcity of some plants	--	None

Ermineskin Cree Nation have requested that medicinal plants located at RK 135.6 be transplanted to undisturbed Crown land prior to construction and as part of reclamation disturbed lands should not be reclaimed by seeding with foreign plants.

Hunting

Ermineskin Cree Nation Elders and community members identified multiple hunting sites during the TLU study for the Project, detailed in Table 5.1.7-4.

Elders and community members indicated during the map review, overflight and ground reconnaissance that the proposed pipeline corridor is part of their traditional hunting grounds. During the overflight, they reported an abundance of good wildlife habitat, but no game was observed in these regions.

Ermineskin Cree Nation community members indicated that the Elk River region is an important hunting area for the community where they actively hunt for moose, elk, deer and bear year-round. Hunters come to this area frequently throughout the summertime and also do some hunting here in the winter.

Ermineskin Cree Nation members reported that hunters hunt for the community, not just for themselves. One moose feeds many people, not just the hunter. The animal hide, bones and other useable parts are distributed amongst the community and used by community members for art supplies and other activities.

TABLE 5.1.7-4

HUNTING SITES IDENTIFIED BY ERMINESKIN CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
240 km southwest of RK 28	Hunting region – Airdrie/foothills	Current/Past	None
61 km southwest of RK 59	Hunting site between Hobbema and Pigeon Lake	Current	None
1.3 km south of RK 95.7	Hunting site at Wabamun Lake	Past	None
63.1 km south of the RK 102	Hunting site – moose, elk and deer	Current	None
69.2 km south of RK 118.7	Hunting site at Buck Mountain	Current	None
56.6 km south of RK 132	Hunting site north side of Alder Flats, west to Banff and Jasper.	Current	None
1 km south of RK 135.3	Moose, deer and elk hunting site in Fox Creek.	Current	None
20 km south of RK 136.1	Moose, deer and elk hunting site in Drayton Valley.	Current	None
67.1 km south of RK 203.4	Hunting site – moose, elk, deer and bear – in Elk River region	Current	None
77.6 km southeast of RK 256	Elk hunting site at Thunder Lake	Current	None
Project Footprint	Concerns about animals being sick and displacement of animals due to development.	--	None
Project Footprint	Development causing community members to have to travel further distances to hunt and fish.	--	None

No hunting sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for hunting sites by Ermineskin Cree Nation.

Fishing

Ermineskin Cree Nation Elders and community members identified several fishing sites during the TLU study for the Project, detailed in Table 5.1.7-5.

Community members shared that they fish for a variety of species including whitefish, pickerel, perch, rainbow trout, pike, bull trout, jackfish, catfish, suckers, sturgeon, walleye, brook trout and grayling.

An Elder reported that he and fellow Ermineskin Cree Nation community members once fished for whitefish, pickerel, perch, rainbow trout, pike and bull trout in Wabamun Lake. However, due to an oil spill in 2005, the water quality is now poor and fishing is not ideal. The fish are small and are believed to be unhealthy due to pollution. Although Ermineskin Cree Nation community members do not travel to the lake to fish, community members from nearby bands still report it to be an important fishing site.

Community members report that some of their past fishing sites are no longer used. An Elder identified Pigeon Lake as a fishing site (Plate 5.1.7-1). Most fishing takes place at the south end of the lake. Historically, net fishing has been conducted. Community members reported that Buck Lake was the best spot to catch whitefish in the past. Chimney Creek, near Kootenay Plains, was also a known fishing site, now used for grazing livestock and not often used by Ermineskin Cree Nation members. A cabin was once situated there.



Plate 5.1.7-1 Pigeon Lake from helicopter overflight.

TABLE 5.1.7-5

FISHING SITES IDENTIFIED BY ERMINESKIN CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
31 km south of RK 15.4	Coal Lake	Current	None
51.8 km southwest of RK 29.9	Pigeon Lake	Current	None
24.6 km south of RK 61.4	Along North Saskatchewan River for trout, sturgeon, rainbow trout, catfish, suckers and walleye.	Current	None
1.3 km south of RK 95.7	Wabamun Lake	Past	None
80 km south of RK 102.4	Wilson Creek for brook trout	Current	None
69.2 km south of RK 118.7	Buck Lake for jackfish, pike and walleye	Current/Past	None
87 km south of RK 136	Crystal Creek/Horseshoe Creek for bull trout, rainbow trout, brook trout and grayling	Current	None

TABLE 5.1.7-5 Cont'd

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
67.1 km south of RK 203.4	Elk River region	Current	None
78 km southeast of RK 256	Thunder Lake	Current	None
82 km south of RK 263	Chimney Creek near Kootenay Plains	Past	None

No fishing sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for hunting sites by Ermineskin Cree Nation.

Trapping

Ermineskin Cree Nation community Elders and community members identified several traplines and trapping sites during the TLU study for the Project, detailed in Table 5.1.7-6.

Community members reported a historically used trapline near Alder Flats but were uncertain as to whether it was still in use.

TABLE 5.1.7-6

TRAPPING SITES IDENTIFIED BY ERMINESKIN CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
13.3 km north of RK 95	Trap lines at northwest end of Lac Ste. Anne	Past	None
51 km south of RK 100	Trap line in Brown Creek region in Brazeau County	Current	None
68 km south of RK 126.6	Trap line near Alder Flats	Past	None
5.3 km south of RK 134.5	Trappers' cabins along Pembina River	Current	None

No trapping sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trapping sites by Ermineskin Cree Nation.

Gathering Places

Ermineskin Cree Nation members identified several gathering places during the TLU study for the Project, detailed in Table 5.1.7-7.

Community members reported that powwows and sundances currently take place at Paul First Nation reserve on the eastern shore of Wabamun Lake. Many Ermineskin Cree Nation members travel there to attend these ceremonies and to trade food with other family members. Items traded include medicinal plants and berries.

Community members reported that gatherings and pilgrimages take place at Lac Ste. Anne, usually for 10 days in July (Plate 5.1.7-2). Most gatherings are Catholic-based; however, many traditional Cree prayers are also recited at Lac Ste. Anne.

Community Elders reported that Mission Beach, at the northeast corner of Pigeon Lake, is an historic gathering place. This place is associated with historic stories regarding the Cree language and survival of the Cree people. In the past, family groups from the four bands would gather at the east end of Pigeon Lake and share the whitefish harvest in late September and October.



Plate 5.1.7-2 Gathering site at Lac Ste. Anne.

A traditional bartering game called “stick game”, *wipiawake* in Cree, played by Ermineskin Cree Nation Elders, community members and other First Nations people across North America was described by an Elder. According to the Elder, tournaments are held throughout North America today and cash prizes are commonly awarded to the winners. Today, the Elder plays the game with community members on the Ermineskin Cree Nation Reserve, on the Paul Band Reserve and most recently in First Nation Casino near Seattle, Washington. In the past, the game was played for material goods such as art work. To play the game, two players square off face-to-face, each with a set of four bones (two bones are plain and two bones have stripes) and in between the players is a special bone called the “kick-stick”. The purpose of the game is to guess which hand is holding the plain bone by gesturing. There are different versions of the game but in the version played by the Elder, the gesture involved pointing to the left or right with the thumb. Traditional songs are recited while the game is played and are believed to indicate the location of the opponent’s plain bone to the best singer.

TABLE 5.1.7-7

GATHERING PLACES IDENTIFIED BY ERMINESKIN CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
51.8 km southwest of RK 29.9	Gatherings at Mission Beach, northeast corner of Pigeon Lake	Past	None
60 km south of RK 72.1	Gathering at Battle Lake	Current	None
13.3 km north of RK 95	Gatherings and annual pilgrimages at Lac Ste. Anne	Current	None
3.3 km southwest of RK 103.3	Pow wows and sundance ceremonies at Paul First Nation reserve	Current	None
69.2 km south of RK 118.7	Gatherings at Buck Lake	Current	None
87 km south of RK 136.1	Gatherings at Horseshoe Creek Provincial Natural Area	Past	None

No gathering places were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for gathering places by Ermineskin Cree Nation.

Sacred Areas

Ermineskin Cree Nation Elders and community members identified several sacred areas during the TLU study for the Project, detailed in Table 5.1.7-8.

Lac Ste. Anne is considered to be a sacred site by Ermineskin Cree Nation community Elders and people (Plate 5.1.7-3). It is the site of an annual 10 day pilgrimage for many First Nations people and numerous Ermineskin Cree Nation members attend the ceremonies. A community Elder reported that the waters at Lac Ste. Anne are known to have healing properties and thousands of community members travel from across Canada to visit the lake. During ground reconnaissance, a 'smudging rock' was observed along the shores of the lake.

It was reported that the Brazeau Dam is an important site for Ermineskin Cree Nation community members to gather stone for sacred and material use. The stones gathered include quartzite, soapstone, black chert and crushing stones. White quartzite is an important stone used in ceremonial rattles and sweats. The stone sparks when it is shaken, creating a loud noise. Soapstone is used for pipe work and carving. Black chert is used to make arrow heads and for tanning hides. Men and women use the stone to scrape the hides. It was reported that elk hide is the best to tan. Arrowhead-making is an important resurgent cultural activity. Crushing stones are used to prepare pemmican and to make jam by crushing berries. Community members report that the best stones are smooth. Colourful stones of all types are also collected and used for art and decoration. The community convenes at this site annually to gather rocks and stones.



Plate 5.1.7-3 Crutches inside the church at Lac Ste. Anne, which are evidence of the healing properties of the water in the lake.

An Elder identified Buck Mountain as a sacred site. There are stories that 'thunderbirds,' which are mysterious, small people, lived on that mountain.

During the map review, sacred burial grounds were identified within the City of Edmonton. These burial sites were commemorated with a reburial ceremony on August 28, 2006 and a built memorial including a

names wall, a pathway surrounding the site and seven interpretive panels honouring those buried at the site today were included.

Elders identified the region between Hobbema and Pigeon Lake as an historic sacred site. It was reported that during the 1600s, sundance ceremonies were held in this region.

TABLE 5.1.7-8

SACRED AREAS IDENTIFIED BY ERMINESKIN CREE NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
7 km west of RK 9	Burial sites in City of Edmonton	Past	None
42 km south of RK 27.6	Sundance gathering site between Hobbema and Buck Lake	Past (1600s)	None
51.8 km southwest of RK 29.9	Rundle Mission	Current	None
60 km south of RK 72.1	Burial site at Battle Lake	Past	None
13.3km north of RK 95	Lac Ste. Anne	Current	None
69.2 km south of RK 118.7	Buck Mountain	Current	None
71.2 km south of RK 164.5	Stone collecting site at Brazeau Dam	Current	None
36 km south of RK 272	South of Robb, west of Lodgepole	Past	None

No sacred areas were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for sacred areas by Ermineskin Cree Nation.

5.1.8 Montana First Nation

Montana First Nation elected to conduct a TERA-facilitated TLU study for the Project. The TLU study included a map review meeting and community interviews that focused on Crown lands within the asserted traditional territory of Montana First Nation crossed by the Project.

The map review meeting and community interviews were held with Montana First Nation from August 7 to 8, 2013 at the Montana Administrative Office in Hobbema, Alberta. During this meeting, Montana First Nation examined the regional Project maps with TERA TLU facilitators to determine what areas would be surveyed during planned ground reconnaissance (Figure 5.1.8-1). The results of the Montana First Nation TLU study completed to date for the Project are provided below.

5.1.8.1 Community Participants

TERA would like to thank the following community members of Montana First Nation for their time and assistance.

Elders: Rema Rabbit, Laurence Standing on the Road, Henry Arnold Strawhat, Mary Rabbit, Julia Rose Pipestem, JoAnna Louis, Emma Rabbit, Mary Rabbit, Eugene Buffalo, Roseanna Cattleman, Maria Rabbit, Phyllis Potts, Esther Mackinaw, Marylis Buffalo, Lucy Kammer, Alice Currie, Darrell Frederick Strongman Sr., Harley Louis, Joanne Rabbit, Morrice Rabbit, Leonard Standing on the Road, Patrick Charles Star, Maraya Rabbit and Harley Jones Lewis.

5.1.8.2 Results

The map review and interviews did not reveal any TLU sites within the proposed pipeline corridor requiring mitigation as requested by Montana First Nation.

FIGURE 5.1.8-1
MONTANA FIRST NATION
TRADITIONAL LAND USE AREAS
IDENTIFIED DURING MAP REVIEW

TRANS MOUNTAIN
EXPANSION PROJECT

- Kilometre Post (KP)
 - Terminal
 - Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
 - Pump Station (Reactivation)
 - Existing Pump Station
 - Trans Mountain Expansion Project Proposed Pipeline Corridor
 - Trans Mountain Pipeline (TMPL)
 - Highway
 - Railway
 - Provincial Park
 - Indian Reserve (IR)
- Traditional Land Use:
- Fishing
 - Hunting/Fishing/Plant Harvesting
 - Gathering Area
 - Fishing/Plant Harvesting
 - Sacred Site
 - Plant Harvesting

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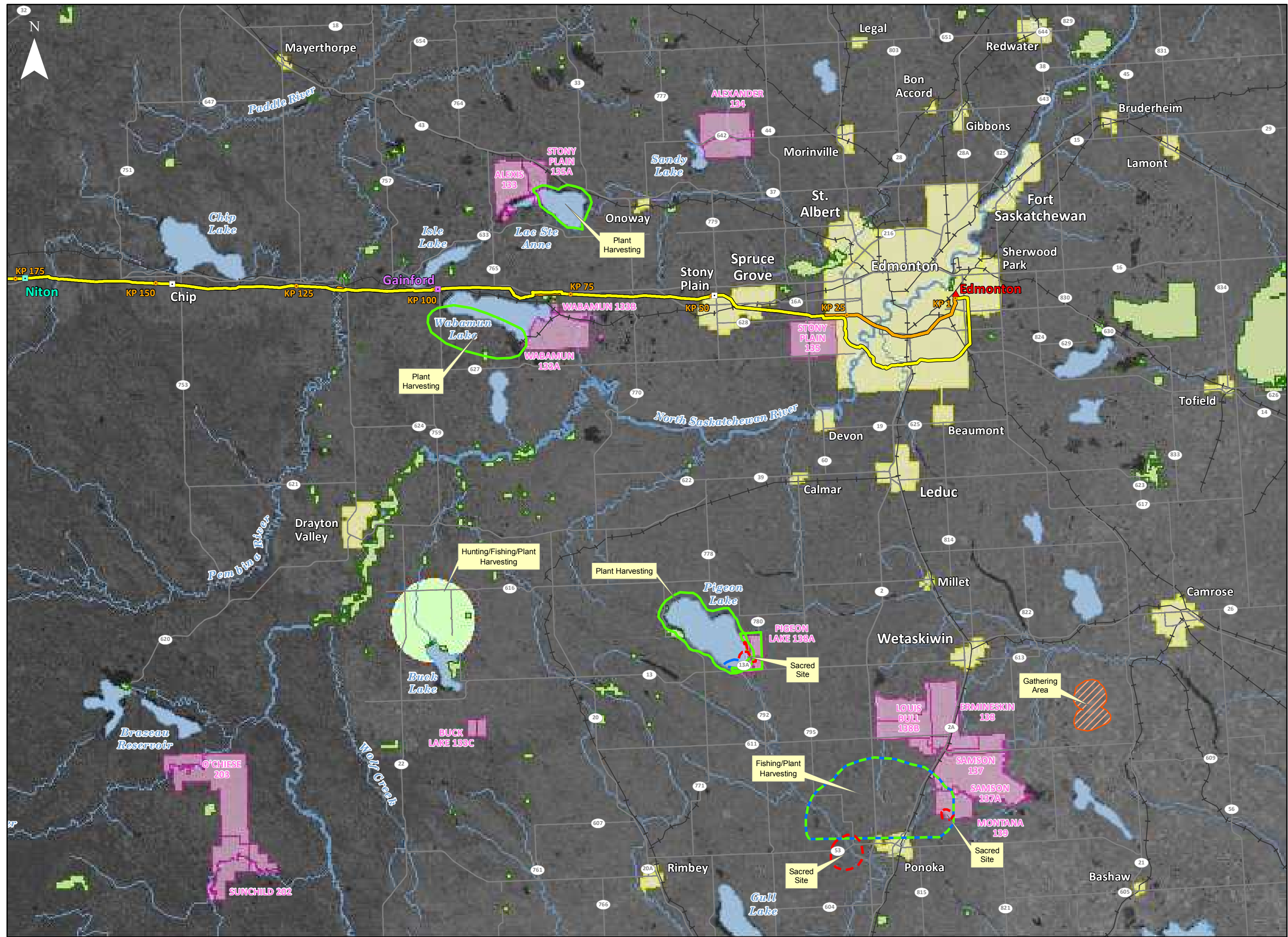


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MAP NUMBER	201311_MAP_TERA_TLU_00480_REV0	PAGE	SHEET 1 OF 1
DATE	December 2013	TERA REF.	7894
SCALE	1:650,000	PAGE SIZE	11x17
DRAWN	TPH	CHECKED	TGG
		DESIGN	TGG

6.5 0 6.5 13 19.5 km
 All Locations Approximate



Trails and Travelways

No trails and travelways were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trails and travelways by Montana First Nation.

Habitation Sites

No habitation sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for habitation sites by Montana First Nation.

Plant Gathering

Montana First Nation Elders and community members identified several plant gathering sites during the map review meeting, detailed in Table 5.1.8-1.

An Elder shared that they used to travel south for medicine that only grows in certain regions. The 'old people' would travel all over the place, from the mountains to the prairies, to find certain medicines and roots. Elders shared that they would gather pine, sweet pine (spruce gum) and flat leaf pine (Balsam fir). An Elder noted that you cannot just gather the plants and make medicine out of them; the medicinal knowledge must be gifted by someone who possesses the knowledge, which is earned, taught and gifted.

Elders shared that while a wide variety of plants grow in the region of Montana IR 139, it is a challenge to harvest locally because traditional plants and berries are less abundant. An Elder shared that a lot of traditional activities no longer take place in the community.

TABLE 5.1.8-1

PLANT GATHERING IDENTIFIED BY MONTANA FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
Project Footprint	Dust from gravel roads affecting environment	--	None
Project Footprint	Concern about the decline of traditional activities in the community	--	None
Project Footprint	Concern about the decline of berries and the effects of development on traditional plant sources	--	None
75 km south of RK 20	Berry picking, harvesting southwest of Montana IR 139	Current	None
45 km south of RK 60.8	Harvesting area – berries at	Current	None
50 km south of RK 60.8	Harvesting area – timber, herbs, berries and medicinal plants at Pigeon Lake IR 138A	Current	None
66 km south of RK 78	Harvesting – hay and willow at Battle Lake	Past	None
102 km south of RK 82	Berry picking at Rimbey	Past	None
14 km north of RK 91.8	Lac Ste. Anne. Concerns were expressed about potential effects of a spill.	Current	None
3 km south of RK 118	Berry picking site	Current	None
45 km south of RK 123	Buck Lake	Current	None

No plant gathering sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for plant gathering sites by Montana First Nation.

Hunting

Montana First Nation Elders and community members identified several hunting sites during the TLU study. Table 5.1.8-2 details hunting sites identified by Montana First Nation for the Project.

Elders also shared that community members used to depend a lot on muskrat, beaver and squirrels for food but depend less on traditional food sources now as many people go to the store for meat rather than acquiring it by more traditional means.

TABLE 5.1.8-2

HUNTING SITES IDENTIFIED BY MONTANA FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
Project Footprint	Concern about the decline of wildlife and effects of contamination of the land and water on wildlife	--	None
Project Footprint	Concern about the contamination of traditional use sites	--	None
10 km south of RK 0	Hunting around Edmonton – moose, deer and bear	Current	None
53 km south of RK 73.5	Hunting at Pigeon Lake. Concerns were expressed about potential effects of a spill.	Past	None
66 km south of RK 78	Hunting at Battle Lake	Past	None
102 km south of RK 82	Hunting at Rimbey	Current	None
63 km south of RK 121.5	Hunting at northwest end of Buck Lake	Current	None
135 km south of RK 131	Hunting at Rocky Mountain House	Current	None
55 km south of RK 157	Hunting at Lodgepole	Current	None
3.2 km north of RK 320.8	Hunting around Hinton – moose, deer and bear	Current	None

No hunting sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for hunting sites by Montana First Nation.

Fishing

Montana First Nation Elders and community members identified several fishing sites during the TLU study for the Project, detailed in Table 5.1.8-3.

Elders shared that Pigeon Lake has the best fishing for all different species of fish. While the whole lake contains fish, the south end of the lake has the best fishing.

TABLE 5.1.8-3

FISHING SITES IDENTIFIED BY MONTANA FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
Project Footprint	Concerns were expressed about contamination of traditional use sites and effects of a spill on water systems along the pipelines	--	None
75 km south of RK 20	Fishing site	Current	None
53 km south of RK 73.5	Fishing at Pigeon Lake. Concerns were expressed about potential effects of a spill.	Current	None
63 km south of RK 121.5	Fishing at Buck Lake for whitefish	Current	None

No fishing sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for fishing sites by Montana First Nation.

Trapping

No trapping sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trapping sites by Montana First Nation.

Gathering Places

Montana First Nation community members identified several gathering places during the TLU study for the Project, detailed in Table 5.1.8-4.

An Elder identified a former gathering site west and south of Duhamel near the border of Camrose County. The Elder shared that she went to festivals there as a child.

TABLE 5.1.8-4

GATHERING PLACES IDENTIFIED BY MONTANA FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
Project Footprint	Concerns were expressed about contamination of traditional use sites.	--	None
40 km southeast of RK 20	Gathering site and old festival grounds southwest of Duhamel at the edge of Camrose County.	Past	None
53 km south of RK 73.5	Camping and berry picking at Pigeon Lake. Concerns were expressed about potential effects of a spill.	Past	None
102 km south of RK 82	Camping and berry picking around Rimbey.	Past	None
13.5 km north of RK 95	Camping and harvesting at Lac Ste. Anne. Concerns were expressed about potential effects of a spill.	Current	None

No gathering places were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for gathering places by Montana First Nation.

Sacred Areas

Montana First Nation community members identified several sacred areas during the TLU study for the Project, detailed in Table 5.1.8-5.

Lac Ste. Anne was also identified as a sacred site during the TLU study. People would travel by foot to make a pilgrimage to Lac Ste. Anne, to collect blessed water from the lake. The water is thought to have healing properties.

TABLE 5.1.8-5

SACRED AREAS IDENTIFIED BY MONTANA FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
85 km south of RK 25	Burial site on the southwest corner of the Montana IR 139	Past	Avoidance
96 km south of RK 46	Sharp Head future burial site near Battle River	Current	Avoidance
53 km south of RK 73.5	Unmarked cemetery on east side of Pigeon Lake. Elders are concerned about erosion and collapse of graves. Concerns were also expressed about potential effects of a spill.	Past	Avoidance
13.5 km north of RK 95	Sacred site at Lac Ste. Anne. Concerns were expressed about potential effects of a spill.	Current	Avoidance

No sacred areas were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for sacred areas by Montana First Nation. The sacred areas listed above in Table 5.1.8-5 will be avoided by the current alignment of the proposed pipeline corridor.

5.1.9 Louis Bull Tribe

Trans Mountain has shared Project information and invited Louis Bull Tribe to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Louis Bull Tribe and to support Louis Bull Tribe participation in Project activities. Interest in a TLU study will be determined by Louis Bull Tribe.

Issues of concern, traditional use sites or features identified through ongoing engagement with Louis Bull Tribe will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.1.10 Alexis Nakota Sioux Nation

Alexis Nakota Sioux Nation elected to conduct a TERA-led TLU study for the Project. The TLU study included a map review, community and Elder interviews, overflight and ground reconnaissance that focused on Crown lands within the asserted traditional territory of Alexis Nakota Sioux Nation crossed by the Project.

A map review meeting was held with Alexis Nakota Sioux Nation on October 26, 2012 at the Alexis Nakota Sioux Nation Community Hall in Glenevis, Alberta. During this meeting, members of the Alexis Nakota Sioux Nation examined the regional Project maps with TERA TLU facilitators to determine what areas would be surveyed during the overflight and ground reconnaissance (Figure 5.1.10-1). A helicopter overflight occurred on November 5, 2012, ground reconnaissance occurred from November 6 to 10, 2012 and community and Elder interviews were held on May 16 to 17, 2013. The results of the Alexis Nakota Sioux Nation TLU study are provided below

5.1.10.1 Community Participants

TERA would like to thank the following community members of Alexis Nakota Sioux Nation for their time and assistance.

Chief: Cameron Alexis, Roderick Alexis.

Councillor: Councillor Bruce Potts, Councillor Darwin Alexis, Councillor Elmer Potts, Councillor Gloria Potts, Councillor Henry (Hank) Alexis, Councillor Sandy Alexis and Councillor Tony Alexis.

Elders: George Potts, John Aginas, Rennie Letendre, William Paintedstone, Leo Lefthand, Henry Bearhead, Alice Alexis, Marceline Potts, Russell Potts, Raymond Potts, Adele Agines, Isadore Letendre, Jason Potts, Francis Alexis, Helen Letendre, Mary Marie Alexis Espeseth, Ben Alexis, Madeline House, Jessie Jean Alexis, Susan Alexis, Alex Potts, Daniel Kootenay, Doreen Alexis, Larry Alexis, Rachel Jones, Mary Horsethief, Evelyn Potts, Mary Kootenayoo, Sylvia Aginas, Daisy Faye Potts, Louise Clara Alexis, Lawrence Potts, Susan Aginas, Isabelle Kootenay, Ida Philimina Alexis, Larry James Kootenayoo, Evelyn Alexis, Ted Clayton Kyme, Pamela Alexis, Agnis Kootenay, Katherine Petawaysine, Josephine Mustus, George Joseph Letendre, Elmer Sr. Potts, Deana Alexis, and Doreen Alexis

Community Members: Gilbert Potts, Jason Potts, Harley Potts, Joseph Brent Potts, Renita Alexis, Ashley Turner, Dennis Cardinal, Montana Wesley Jones, Jack Alexis, Ricky Sylis Richard Gladue, Alvin Harris, Stacy Rain, Elmer Jr. Potts, Ted Kyme, Katherine Petawaysine, Leo Lefthand and Tanya Harris (Administrative Assistant).

5.1.10.2 Results

The map review, interviews and ground reconnaissance revealed seven TLU site requiring mitigation as requested by Alexis Nakota Sioux Nation.

FIGURE 5.1.10-1
ALEXIS NAKOTA SIOUX NATION
TRADITIONAL LAND USE AREAS
IDENTIFIED DURING MAP REVIEW

- TRANS MOUNTAIN EXPANSION PROJECT**
- Kilometre Post (KP)
 - Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
 - Pump Station (Reactivation)
 - Existing Pump Station
 - Trans Mountain Expansion Project Proposed Pipeline Corridor
 - Trans Mountain Pipeline (TMPL)
 - Primary Highway
 - Railway
 - Provincial Park
 - Indian Reserve (IR)

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Projection: UTM 11N. Baseline TMPL & Facilities: provided by KMC 2012; Proposed Pipeline Corridor V6: provided by UPI Aug. 23, 2013; Transportation: Natural Resources Canada 2012; Geopolitical Boundaries: Natural Resources Canada 2003, AltaLIS, 2012; Hydrology: Natural Resources Canada 2010; Parks and Protected Areas: Alberta Tourism, Parks and Recreation 2012, Natural Resources Canada 2013; Landsat 7 Panchromatic imagery: NASA Geospatial Interoperability Program 2005.

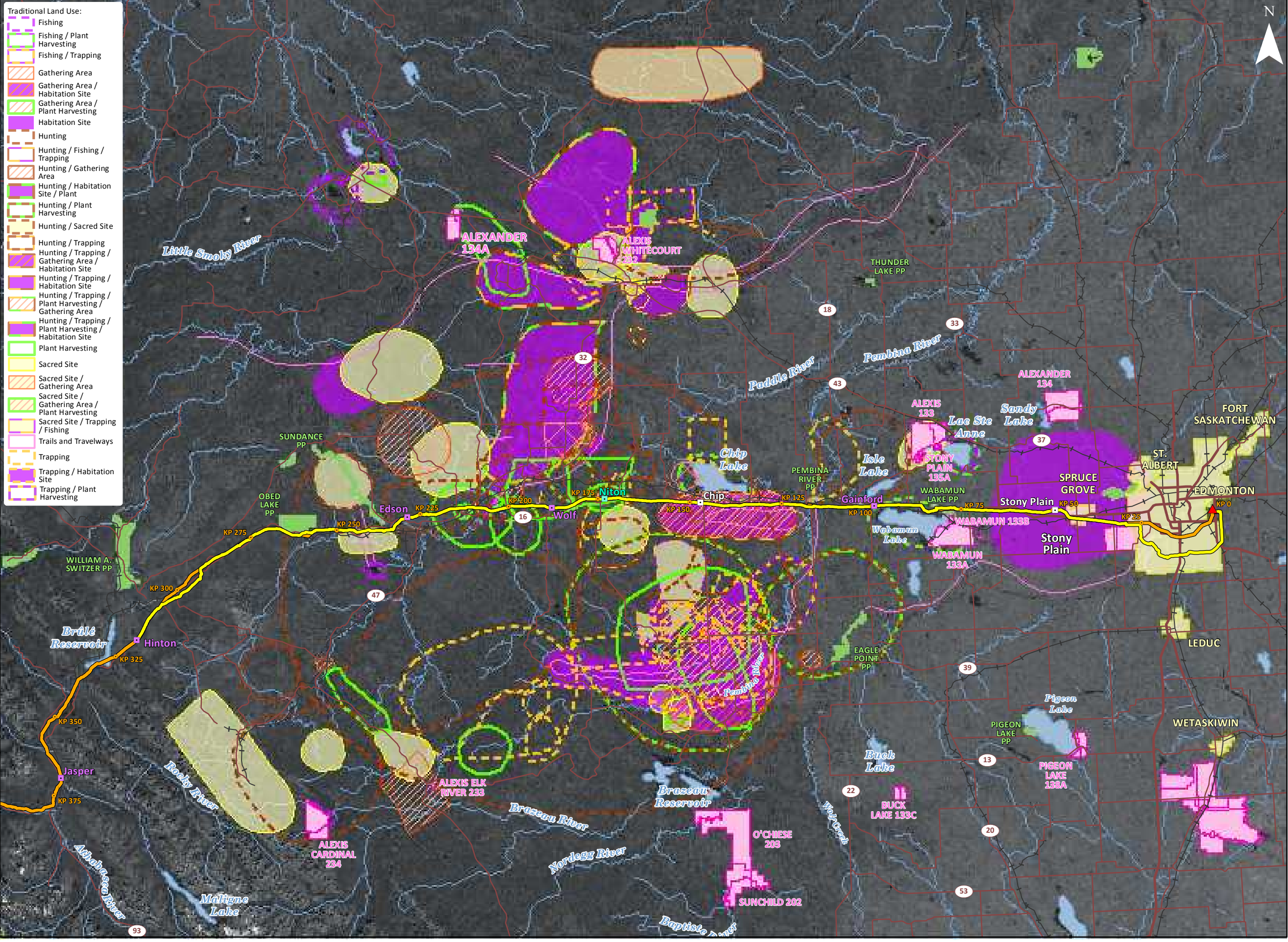


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MAP NUMBER	201307_MAP_TERA_TLU_00356_REV0	PAGE	SHEET 1 OF 1
DATE	December 2013	TERA REF.	7894
SCALE	1:1,000,000	PAGE SIZE	11x17
DRAWN	TPH	CHECKED	TGG
		DESIGN	TGG

All Locations Approximate



- Traditional Land Use:**
- Fishing
 - Fishing / Plant Harvesting
 - Fishing / Trapping
 - Gathering Area
 - Gathering Area / Habitation Site
 - Gathering Area / Plant Harvesting
 - Habitation Site
 - Hunting
 - Hunting / Fishing / Trapping
 - Hunting / Gathering Area
 - Hunting / Habitation Site / Plant
 - Hunting / Plant Harvesting
 - Hunting / Sacred Site
 - Hunting / Trapping
 - Hunting / Trapping / Gathering Area / Habitation Site
 - Hunting / Trapping / Habitation Site
 - Hunting / Trapping / Plant Harvesting / Gathering Area
 - Hunting / Trapping / Plant Harvesting / Habitation Site
 - Plant Harvesting
 - Sacred Site
 - Sacred Site / Gathering Area
 - Sacred Site / Gathering Area / Plant Harvesting
 - Sacred Site / Trapping / Fishing
 - Trails and Travelways
 - Trapping
 - Trapping / Habitation Site
 - Trapping / Plant Harvesting

Trails and Travelways

Alexis Nakota Sioux Nation Elders identified several trails during the TLU study for the Project, detailed in Table 5.1.10-1.

An Elder said he believes there was once an old trail around Fickle Lake that was used to travel to different sites.

Alexis Nakota Sioux Nation Elders used the North Saskatchewan, McLeod (Plate 5.1.10-1), Athabasca and Pembina rivers for travel. Community members also travelled by horse, pack-dogs and later wagons with the arrival of the settlers. Rafts were used to travel down the Pembina River to hunt beavers and birch bark canoes were used to travel up and down the Athabasca River to hunt, fish and harvest plants and berries. Quad trails that provide access to hunting and harvesting regions were also identified.



Plate 5.1.10-1 Riparian area of McLeod River (November 2012).

TABLE 5.1.10-1

TRAILS AND TRAVELWAYS IDENTIFIED BY ALEXIS NAKOTA SIOUX NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
20 km northeast of RK 3	Travelway between Cynthia and Wolf Lake	Past	None
Crosses at RK 224	Trails near McLeod River	Current	None
17.4 km southwest of RK 244.4	Old trail near Fickle Lake	Past	None
At RK 333.4	Horse riding trail and quad trails	Current	None

Two trails were identified that are crossed by the proposed pipeline corridor at RK 224 and RK 333.4. No mitigation was requested for trails and travelways by Alexis Nakota Sioux Nation.

Habitation Sites

Alexis Nakota Sioux Nation Elders and community members identified several habitation sites during the TLU for the Project, detailed in Table 5.1.10-2.

On the overflight one of the Elders shared that there are camping sites on freehold lands that are used in both summer and winter and added that there are no designated campgrounds for First Nations. All lands in the region are considered campsites. One community member recalls building a campfire under the spruce trees and camping there.

An Elder shared how his ancestors lived in the forest, alongside hills where they would use caves to store meat and vegetables. As the winter approached, potatoes, turnips and dried berries would be stored there. He recounted that the men would go hunting and the women would pick berries, wild rice and wild onions found along creek beds.

The foundation of a cabin of unknown origin was identified near McLeod River (Plate 5.1.10-2). A campsite was identified on the west side of Fickle Lake near Edson. Alexis Nakota Sioux Nation families still use the Fickle Lake site to hunt, fish, pick berries and harvest plants. An Alexis Nakota Sioux Nation community member discovered an old-fashioned water pump nearby and said that during the 1970s the government installed these water pumps and made the park open to the public, but now there are entrance fees to use the park.



Plate 5.1.10-2 Old cabin foundation near McLeod River (November 2012).

Russell Pott's cabin, built in 2000, was identified near Cynthia. An Elder still uses this cabin. He and his family visit it every summer to harvest medicine, trap and to smoke moose, elk and deer meat. The Elder's mother does not visit the cabin because of development in the region.

Many Alexis Nakota Sioux Nation Elders spent their summers in camps near creeks and treed areas where they had a place to cook and racks to dry meat. An Elder spent a considerable part of her childhood at lumber camps and another Elder's mother owned a store at one of the camps.

An Elder used to spend summer breaks with her husband and children at the campsites in Cynthia and Lodgepole. However, she no longer camps since much of the land is freehold land and there are many large trucks on the road due to increases in logging and oil and gas development. Remnants of the cabins still exist. Community members now camp near Cardinal River, which was named after a community member's grandfather. In Horse Lake there was a cabin and a watercourse where an Elder used to catch fish for her aunt and uncle who raised her.

Another Elder's grandfather lived near his trapline at Lodgepole. An Elder lived in cabins at Windy Point by Pembina near Drayton Valley during the winter and summer where they would pick berries and dry meat. These cabins have since burned down.

An Elder's family on her mother's side owned a cabin west of Nelson Flats and they used the water from the springs in the region for drinking. The foundation of the cabin still exists but it is quite overgrown.

An Elder was born under a tree and was raised by a blind grandfather who lived in a camp. They abandoned the camp after a great explosion of blue smoke and returned three years later to find that the majority of the people had been killed by scarlet fever.

An Elder grew up around Whitecourt and spent a lot of time moving around. She stayed in a handmade canvas tent which was struck by lightning near a spring. Her and her family picked berries and grew carrots and potatoes which they stored for winter in the cellar of their house.

Community members shared that every summer there is a community campout near Whitecourt at Shining Banks and at Wolf Creek.

TABLE 5.1.10-2

HABITATION SITES IDENTIFIED BY ALEXIS NAKOTA SIOUX NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
55 km southeast of RK 158	Campsites in Lodgepole	Past	None
36 km southeast of RK 168	Campsites and cabin near Cynthia	Current	None
29 km south of RK 172.2	Russell Potts' Cabin near Cynthia	Current	None
60 km northwest of RK 179	Habitation site near Whitecourt	Past	None
19 km southeast of RK 194	Traditional habitation area between Cynthia and Wolf Creek	Past	None
28.4 km north of RK 205	Community annual summer campsite at Shining Banks	Current	None
90 m south of RK 220.4	Community annual summer campsite at Wolf Creek	Current	None
689 m west at RK 223.3	Unknown cabin foundation near McLeod River	Past	None
145 km southeast of RK 253	Cabins at Windy point	Past	None
10 km south of RK 257.3	Campsites on west side of Fickle Lake	Current	None
10 km south of RK 258	Old fashioned water pump at Fickle Lake	Past	None
39 km southeast of RK 318	Habitation near a reserve near Cadomin	Past	None
50 km northeast of RK 318	Campsites near Cardinal River	Current	None
121 km southeast of RK 318	Cabin west of Nelson Flats	Past	None

No habitation sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for habitation sites by Alexis Nakota Sioux Nation.

Plant Gathering

Alexis Nakota Sioux Nation Elders and community members identified several plant gathering sites during the TLU for the Project, detailed in Table 5.1.10-3.

Elders said that Alexis Nakota Sioux Nation Elders and community members harvest medicine near Cynthia, Jasper and as far away as Saskatchewan. Community members and Elders harvest many medicines in the spring and summer to last the winter.

A variety of plants and berries are harvested including blueberries, raspberries, soapberries, chokecherries and Saskatoon berries, wild onion, carrot and potato. Sweet grass, rat root and wood are also harvested. An Elder noted that it is important to harvest the right kind of wood for different uses. An Elder shared that she uses medicinal plants from Edson, Cardinal River, Fox Creek, Jasper, Grande Cache and as far as South Dakota.

Spruce, poplar and ash trees used to grow on the reserve; however, trees are in decline. An increase in forest clearing, coal mining, chemical spraying and the introduction of invasive plants, such as yellow flower transferred through construction equipment, has lead to a decline of native plants including seneca root and berries. An Elder mentioned that they can no longer gather berries or medicinal plants in Wabanum Lake due to an oil spill in 2005. There is a substantial loss of connection to the land, as a result of development in the region. There is a prophecy among the Alexis Nakota Sioux Nation Elders that there will come a time when people will have to buy water and medicinal plants will stop growing.

During the overflight an Elder shared an old folk tale of how men would carve a special ‘courtship’ flute made of willow. The men would create their own distinctive tune and his ‘woman’ would know the tune. This was a secret tune and when his ‘woman’ heard it she would follow it into the bush to find the man. The last time the Elder heard this story was in 1954.

Elders described a ceremony called the ‘soup dance’ that takes place in the spring, where medicines are offered to the ancestral spirits. It marks the beginning of the medicinal plant growing season and gives the community an opportunity to pray and give thanks. The Elder stressed that the ceremony for harvesting is very important and involves an offering of tobacco and prayer. Alexis Nakota Sioux Nation community members and Elders believe that medicines harbour the spirit of the Grandfather which makes them especially sacred and important. The Elder relayed that a person, usually an Elder, must be compensated with an offering of tobacco, for knowledge imparted about the types and preparations of medicines.

A medicinal plant gathering site was identified near Peers and had ‘No Trespassing’ signs blocking its access due to development in the area. An Elder said that medicinal plants were harvested here every summer and have been since the 1930s. The medicines harvested here are rare and confidential in and fall within Alexis Nakota Sioux Nation’s asserted traditional territory. An Elder said that she wonders whether soil is even safe anymore and went on to say, “Medicinal plants are supposed to heal, but they could be poisoning us”.

An Elder shared that ancestors would travel in canoes alongside creek beds, lay a cloth in the canoe and bang the overhanging rice plants so that the rice would fall and collect in the cloth.

TABLE 5.1.10-3

PLANT GATHERING SITES IDENTIFIED BY ALEXIS NAKOTA SIOUX NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
762 m southwest of RK 113	Berry picking and medicinal plant gathering at Blueberry Hill near Wabamun Lake	Past	None
218 m north of RK 135.5	Medicinal plant gathering site along the Pembina River	Current	None
29 km south of RK 172.2	Plant harvesting near Russell Potts’ cabin	Current	None
20.4 km south of RK 191	Medicinal plant gathering site near Rat Creek	Current	None
104 m north of RK 193	Medicinal plant gathering site near Carrot Creek	Current	None

TABLE 5.1.10-3 Cont'd

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
7.7 km north of RK 201.1	Medicinal plant gathering site near Peers	Current	None
28.4 km north of RK 205	Plant gathering site near Shining Banks	Current	None
750 m south of RK 220.1	Willow patches observed growing near Wolf Creek	Current	None
Crosses at RK 224.3	Wood and mint gathering near McLeod River	Current	None
10 km south of RK 257.3	Medicinal plant gathering, food plant harvesting, and berry picking sites near Fickle Lake	Current	None
Project Footprint	Concern that an increase in forest clearing, coal mining, chemical spraying and the introduction of invasive plants, such as yellow flower through construction equipment, has lead to a decline of various plants including seneca root and berries.	--	None
Project Footprint	Concern about what happens to the timber removed from the proposed pipeline corridor.	--	None
Project Footprint	Concern about effects from construction to medicinal plants growing within the proposed pipeline corridor.	--	None

A wood and mint gathering site was identified at RK 224.3 by Alexis Nakota Sioux Nation. No mitigation was requested for plant gathering sites by Alexis Nakota Sioux Nation.

Hunting

Alexis Nakota Sioux Nation Elders and community members identified several hunting sites during the TLU for the Project, detailed in Table 5.1.10-4.

On the overflight a community member said that hunting grounds are becoming scarce and noted that there is so much development in the region and animal habitat is being disturbed. It was reported that salt licks are being damaged and can be found closer to roads where animals can be struck by vehicles. A hunting area was identified near Peers where an Elder shot a moose a few years ago. Now, there are ‘No Trespassing’ signs prohibiting access because of development. Alexis Nakota Sioux Nation Elders and community members have concerns that these land restrictions are minimizing the community’s connection to Mother Earth.

An Elder observed bear, coyote and fox dens on the overflight near McLeod Crossing. When asked how bears are dealt with the Elder said that if you talk to a bear they will leave you alone. *To’xomya* means “go away” in Sioux. He noted that grizzlies are more difficult to deal with.

An Elder explained swan feathers are used in cultural ceremonies and for consumption and added that often swan bones are used to make whistles. He said that swans are losing their sense of direction because of satellites and climate change is causing interference in their migration routes.

An Elder mentioned that hunting is not normally done around reserves because there are too many farms close by that use pesticides and fertilizers which can harm the animals. Community Elders and community members said that they can trust the animals, berries, medicines and fish at Fickle Lake because the region is clean and free of pollutants.

Community members and Elders hunt moose, elk, sheep, goats and dry or smoke the meat and tan the hides. It was shared that their grandparents used to hunt and eat bear as well.

An Elder shared that while hunting grouse, community members used to camp under spruce trees while the horses used the mineral licks. She expressed concern over the development in the region and believes it is driving wildlife like bears, cougars and wolves away from their natural habitat and into populated areas where they attack livestock and humans. Many animals are moving east due to the

expansion of the logging industry. She has witnessed animals hit by vehicles on Highway 43 almost daily. Another community Elder is concerned for the health of moose and duck, which they no longer consume.

A community member shared a coming-of-age story about hunting. When a boy kills his first moose a ceremony is performed for this important rite of passage. The ceremony signifies that the boy is now a man with greater responsibilities. The community member recalled that he killed his first moose at 11 years old. It was also shared that moose dislike walking through crusty snow as it scratches their shins. They stand in the snow and become prey for wolves and cougars.

When hunting moose, it is best to watch for fresh tracks and often the moose will be found lying down in a clearing. Walk around the moose and keep downwind because if it smells you it will run away. Once a hunter has walked around the moose, it will stand up and urinate. While the moose is urinating the hunter takes the shot. The moose is then butchered onsite. The head is cut off first and then it is skinned starting from the knees and working back towards the torso. The meat is then packed in manageable bundles. An Elder recounted a story about his people using spruce boughs to smoke meat, to give the meat extra flavour. Spruce trees are also commonly used when smoking and tanning hides.

An Elder recalled that in the past food would be prepared by putting large rocks and leaves around it as well as animal hides to let it soak and cook. He said this is the healthiest way to prepare food but now raw diets have changed to deep-fried diets which are causing Alexis Nakota Sioux Nation people to get cancers and diabetes.

An Elder remarked that in the past Natives did not go hungry because they knew where the food was and that it was healthier and more fulfilling with no chemicals. Another recalled his father teaching him to hunt and how the whole animal was used. He explained that the laces from the necklace he wore were made from moose hide and small eagle bones (large eagle bones are used for sundances). To clean the bones and to take the smell away bones are boiled with roots.

An Elder recounted a story about a brave man and his journey to becoming Chief. He explained that at first you have to become a brave warrior. In the Alexis Nakota Sioux Nation culture a warrior takes care of the women, children, Elders and disabled and makes sure no one goes hungry by being a good hunter and provider. Only after the man has proven himself in this way can he become Chief.

TABLE 5.1.10-4

HUNTING SITES IDENTIFIED BY ALEXIS NAKOTA SIOUX NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
35.8 km south of RK 163	Hunting near Cynthia	Current	None
29 km south of RK 173	Bear hunting near Russell Potts' Cabin	Current	None
114 m north of RK 193	Hunting near Carrot Creek	Current	None
7.7 km north of RK 201.1	Hunting site near Peers	Past	None
135 m west RK 220.3	Hunting near Wolf Creek (no trespassing signs)	Current	None
17.4 km southwest of RK 220.3	Hunting at Fickle Lake near Edson	Current	None
At RK 224.1	Game trail from McLeod River to Whitecourt	Current	None
639 m south of RK 224.3	Hunting near McLeod River	Current	None
2.3 km north of RK 256.1	Grizzlies travel from Sundance Creek to Fickle Lake	Current	None

A game trail was identified at RK 224.1 No mitigation was requested for hunting sites by Alexis Nakota Sioux Nation.

Fishing

Alexis Nakota Sioux Nation identified several fishing sites during the TLU for the Project, detailed in Table 5.1.10-5.

Historically Lac Ste. Anne, the lake nearest to the Alexis Reserve (#133) was fished but the fish are now contaminated and registered populations have decreased. In 2005 there was an oil spill at Wabamun Lake and community members report there is coal under the water at Moonlight Bay. An Elder recounted how she used to fish in Lac Ste. Anne as a girl, but now it is polluted by sewage and has too many residents. She also told the group that there was blue and green algae in Lac Ste. Anne last year and no one was supposed to touch the water. One Elder said the fishing site at Birch Lake has been drying up for the last two years and grasses have begun to grow there. An Elder said that the community’s main diet staple used to be fish, but there is too much pollution from development in the area now and their diets have changed.

Water is important to the community and their main concerns are the springs, lakes, rivers and creeks in their asserted traditional territory. An Elder explained that where there is water animals will come and because everything needs water. He shared that the community has water songs and dances. ‘Mmi’ is water in the Sioux language.

McLeod River is a fishing site where primarily grayling, whitefish, rocky mountain whitefish, jackfish and trout are fished. Grayling spawn at Wolf Creek in May and June. Community members fish both upstream and downstream on Wolf Creek at campgrounds along the river banks. Jackfish, flat fish, pike, whitefish, grayling and pickerel are net-fished in Shining Banks Lake in both winter and summer. Fickle Lake was identified as an important fishing area because it is not polluted by fertilizer or sewage from urban areas. A community member said they set nets for whitefish in the summer and use nets for fishing in the winter. A sigger is used to guide the nets.

TABLE 5.1.10-5

FISHING SITES IDENTIFIED BY ALEXIS NAKOTA SIOUX NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
120 km east of RK 11	Duck fish in Birch Lake	Current	None
12.9 km south of RK 95	Lac Ste. Anne	Past	None
527 m south of RK 96	Moonlight Bay north of Wabamun Lake	Past	None
31.3 km North RK 201	Shining Banks Lake	Current	None
Crosses at RK 220.3	Wolf Creek	Current	None
677 m south of RK 224.3	McLeod River	Current	None
9.1 km southeast of RK 253	Fickle Creek	Current	None
Project Footprint	Concerns about watercourses/ crossings and fish and fish habitat.	-	None

A fishing locale was identified at Wolf Creek which is crossed by the proposed pipeline corridor at RK 220.3. No mitigation was requested for fishing sites by Alexis Nakota Sioux Nation.

Trapping

Alexis Nakota Sioux Nation Elders and community members identified several traplines and trapping sites during the TLU for the Project, detailed in Table 5.1.10-6.

An Elder reported that he owns a trapline at Russell Potts’ cabin which has been in his family since his grandparents were trappers. Muskrat, lynx, rabbit and beaver are trapped here and are used for their meat and pelts. The Elder recalled that an oil company put an oil line that runs under the cabin without consulting him. They also blasted dynamite near the beaver dams which makes it more difficult to trap the

beavers. In order for a trapline to be considered active an owner must trap a minimum of 10 animals per year. Trapline regions used to be peaceful places but that has changed with the development of the oil and gas industry in the region. Many Elders and community members spent a lot of time near the traplines and stayed in cabins or tents. The traplines served an important role as a getaway from reservation life.

Beaver, muskrat and ducks are trapped in the summertime and duck eggs are eaten steamed and boiled. Trapping occurs at Bear Lake and Shining Banks where mink, otter, beaver and muskrats are caught. The meat and the pelts are sold and traded. Trapping is done on an owner's trapline only and trapping on farmer's fields is considered poaching. In 1978 there was a fire between Cynthia and Lodgepole that burnt down traplines and cabins. Soon after, the logging industry and the sawmill moved in, grazing leases were issued and now many traplines are out of reach due to padlocked gates and the risk of sour gas.

A community member recalled her late husband's grandparent's trapline and cabin near Cynthia. The cabin has since burned down and the trapline is being used by a non-Aboriginal trapper. She said that trapline was a place where she could hunt and just enjoy life. There were also natural springs nearby that have changed due to increased development in the region. She said, "I felt like I lost a best friend when I saw the changes, clearing of trees and medicines wiped out."

TABLE 5.1.10-6

TRAPPING SITES IDENTIFIED BY ALEXIS NAKOTA SIOUX NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
218 m north of RK 135.5	Trapping along the Pembina River	Current	None
1.6 km north of RK 136	Trapping and smoking near Evansburg	Current	None
44.4 km south of RK 169	Trapline at Blaze Road	Current	None
29 km south of RK 172.2	Trapline No. 491 at Russell Potts' cabin	Current	None
77 km northwest of RK 175	Trapline at Carson Lake	Past	None
49.4 km south of RK 179	Dan's Trapline near Cynthia	Current	None
60 km northwest of RK 179	Traplines near Whitecourt	Current	None
216 m northeast of RK 192	Trapline south of Carrot Creek and Cynthia, specific location unknown.	Current	None
28.4 km north of RK 205	Trapping at Shining Banks	Current	None
106 m south of RK 220.4	Beaver line at Wolf Creek	Current	None
10 km south of RK 257.3	Trapping at Fickle Lake	Current	None
239 km northwest of RK 318	Trapping at Bear Lake	Current	None

No trapping sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trapping sites by Alexis Nakota Sioux Nation.

Gathering Places

Alexis Nakota Sioux Nation identified two gathering places during the TLU for the Project, detailed in Table 5.1.10-7.

TABLE 5.1.10-7

GATHERING PLACES IDENTIFIED BY ALEXIS NAKOTA SIOUX NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
65 m south of RK 118.8	Campsite and potential sweat lodge	Past	None
640 m south of RK 224.3	Ceremonial site at McLeod River	Current	None

A campsite and potential sweat lodge were identified 65 m south of RK 118.8 by Alexis Nakota Sioux Nation. No mitigation was requested for gathering places by Alexis Nakota Sioux Nation.

Sacred Areas

Alexis Nakota Sioux Nation Elders and community members identified several sacred areas during the TLU for the Project, detailed in Table 5.1.10-8.

An Alexis Nakota Sioux Nation member told the group that gravesites and sacred sites, where people come to pray, are usually put on top of mountains. He mentioned Fraun Hill and Kataman Hill as places that once had Alexis Nakota Sioux Nation graves. These sites are now gone due to development. An Elder recalled that the last time he saw these graves was in 1958 when he was a boy. He also recalled seeing a stone circle here during the 1950s. The Elder explained that people would gather here and tell stories of the Alexis Nakota Sioux Nation people. These stories centred on the shortest and longest days of the year, where the buffalo star is and where the thunderbird star is going to be. The Elder remarked that his people's calendar is very similar to the Mayan calendar.

A natural spring called Wakunay (God's spring) and a grave site were identified. The gravesite belongs to a cousin of an Elder who passed away from a heart attack in 2008. There were colourful flags around a tree near the grave and when asked their significance the Elder explained that all the colours are for each Grandfather wind, sun and moon and the purple flag signifies the beauty of the human spirit. The Elder recalled a story about his grandfather coming to the spring to drink. One day a huge bull moose emerged from the water but his Grandfather did not have his gun to shoot it. Every time he visited the spring after that he brought his gun and one day the moose was there and he shot it. He also recounted first coming to Wakunay Spring as a boy with his brothers. One day his brother saw what he thought to be a deer, but all of a sudden two whooping cranes took off into the air.

A historic gravesite was identified at Cynthia on Lease Road just before entering Russell Potts' trapline and cabin area on the side of the road near the Pembina River (Plate 5.1.10-3). The grave belongs to an Elder's great, great grandmother. An Elder explained that graves were traditionally made of wood. The body and belongings of spiritual importance, such as rattles, would be wrapped in buck skin and buried along with the body. An Elder shared that in the past the head would face west and the feet would face east in the grave, but could not recall why the body was placed this way. The Elder also mentioned that when a gravesite is visited, tobacco must be sprinkled on the grave to show respect and pay tribute. The Elder said if this is not done the spirits will follow and haunt you. Tobacco was sprinkled over the Elder's great, great, grandmother's grave. The Elder reported that a pipeline was installed in the summer of 2011 and they were consulted about a section of the pipeline but were not consulted about an auxiliary pipeline that runs right beside the gravesite.



Plate 5.1.10-3 Stacy Rain, Alvin Harris, Elmer Potts Sr., Elmer Potts Jr., Raymond Potts, Deana Alexis, Francis Alexis, Russell Potts, Renee Letendre, George Potts and Harley Potts at grave site (November 2012).

A Culturally Modified Tree was also identified at Fickle Lake and an Elder said it had been modified to harvest the pitch and bark for different purposes (Plate 5.1.10-4).

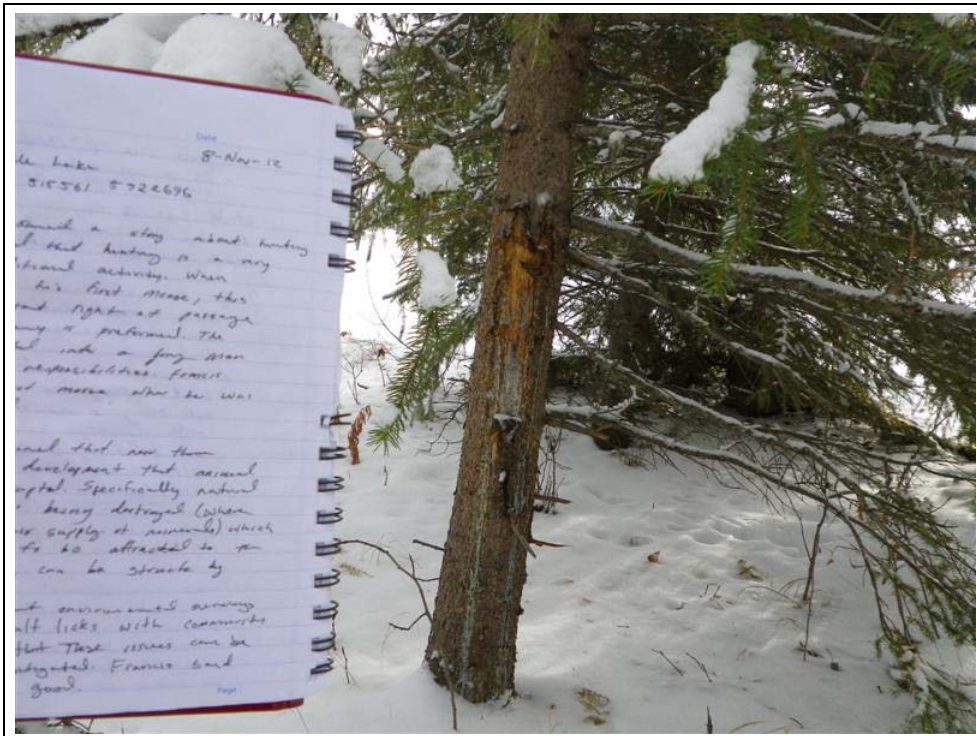


Plate 5.1.10-4 A Culturally Modified Tree identified near Fickle Lake (November 2012).

TABLE 5.1.10-8

SACRED SITES IDENTIFIED BY ALEXIS NAKOTA SIOUX NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
29.3 km south of RK 172	Burial site at Cynthia on Lease Road near Pembina River.	Current	None
29 km south of RK 173	Wakunay Spring and burial sites near Russell Potts' Cabin.	Past	None
28.4 km north of RK 205	Burial sites near Shining Banks.	Past	None
10 km south of RK 257.3	Burial sites on the west side of Fickle Lake.	Past	None
210 km south of RK 258	CMT near Fickle Lake.	Current	None
At RK 334	Ceremonial site; prayer flags tied to poplar trees bordering existing right-of-way.	Current	If cleared, tree must be respected and not burned
115 m west of RK 334.4	Sacred site.	Current	Avoidance

Alexis Nakota Sioux Nation has requested that if the ceremonial site tree at RK 334 is cleared during construction of the Project, the tree must be cleared in a respectful manner and not burned. The sacred site located 115 m west of RK 334.4 will be avoided by the current alignment of the proposed pipeline corridor.

5.1.11 Foothills Ojibway Society

Trans Mountain and Foothills Ojibway Society have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Foothills Ojibway Society declined participation in a TLU study electing instead to share their preliminary interests in the Project with Trans Mountain.

Foothills Ojibway Society provided their 'Preliminary letter of interests' to Trans Mountain on June 5, 2013, that describes their preliminary interests in the Project including:

- continued use of Foothills Ojibway Society's traditional territory for hunting, food and medicinal plant gathering, education of youth and performance of cultural and spiritual ceremonies;
- concerns about the reclamation process and Foothills Ojibway Society's involvement in this process; and
- reintroduction of specific native and medicinal plants to re-establish the existing ecosystem post-construction.

Trans Mountain provided an initial response in a letter sent to Foothills Ojibway Society on October 28, 2013.

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Foothills Ojibway Society will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.1.12 Paul First Nation

Paul First Nation elected to conduct a TERA-led TLU study for the Project. The TLU study included a map review meeting and community interviews that focused on Crown lands within the asserted traditional territory of Paul First Nation crossed by the Project.

Paul First Nation provided their 'Preliminary Aboriginal Interests with Respect to the Trans Mountain Expansion Project' to Trans Mountain on May 28, 2013, that describes their preliminary interests in the Project, including:

- effects on plants and restoration of plant life, including medicinal plants, during reclamation and rehabilitation works;
- the introduction of invasive plants introduced by equipment;
- noise and air quality during and after construction;
- cumulative effects to smaller wildlife species like insects, amphibians, bats, migratory birds and small mammals;
- negative effects to, or disruption of, wildlife registered populations;
- effects of construction on watercourse crossings and Wabamun Lake;
- effects of potential accidents on watercourse crossings and Wabamun Lake;
- ensuring there are no negative effects on fish and other aquatic species and their habitats;
- effects on wildlife and wildlife habitat, which are crucial sustainers of traditional practices and food provision;
- effects to culturally important sites including grave sites, ceremonial sites, hunting cabins, fishing sites, berry-harvesting sites, harvesting areas and trails;
- existing pipeline potential for leaks, long-term effects on environment and ecosystem health for future generations;
- water quality and quantity;
- fewer moose in region due to over-hunting and development increasing access to the area; and
- pipeline construction will adversely effect wildlife if it is too close to game trails or mineral licks.

Trans Mountain provided an initial response in a letter sent to Paul First Nation on October 28, 2013.

Site-specific interests included in the 'Preliminary Aboriginal Interests with Respect to the Trans Mountain Expansion Project' are included in the results below.

The map review meeting and community interviews were held with Paul First Nation on November 14, 2012, at the Band Hall in Wabamun, Alberta. During this meeting, members of Paul First Nation examined the regional Project maps with TERA TLU facilitators to determine what areas would be surveyed during planned ground reconnaissance (Figure 5.1.12.1). A helicopter overflight and ground reconnaissance occurred on December 3, 2012. A results review meeting was held with Paul First Nation on November 8, 2013.

The results of the Paul First Nation TLU study completed to date for the Project are provided below.

5.1.12.1 Community Participants

TERA would like to thank the following community members of Paul First Nation for their time and assistance.

Chief: Casey Bird.

Council: Councillor Carl Bird, Councillor Faron Bull, Councillor Rod Burnstick, Councillor Myrna Rabbit and Councillor Brenda Rain.

Elders: Olin Rain, Mary Lena Rain, Theresa Bird, William Bird, Louise Bird, Violet Poitras, Linda House, Elizabeth Adams, Charlie Adams and Peggy Paul.

Community Members: Keith Rain (Custodian of Knowledge), Dennis Paul (Consultation Manager), Dale Rain, Vanessa Bird, Glenna House (Office Coordinator), Perry House, Bill Bird (Hunter) and Nelson Adams (Hunter/Marksman).

5.1.12.2 *Results*

The map review, interviews and ground reconnaissance revealed six TLU sites requiring mitigation as requested by Paul First Nation.

FIGURE 5.1.12.1

**PAUL FIRST NATION
TRADITIONAL LAND USE AREAS
IDENTIFIED DURING MAP REVIEW**

**TRANS MOUNTAIN
EXPANSION PROJECT**

- Kilometre Post (KP)
 - Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
 - Pump Station (Reactivation)
 - Existing Pump Station
 - Trans Mountain Expansion Project Proposed Pipeline Corridor
 - Trans Mountain Pipeline (TMPL)
 - Primary Highway
 - Railway
 - Provincial Park
 - Indian Reserve (IR)
- Traditional Land Use:
- Travel Ways, Sacred Historical Campsites
 - Travel Ways, Camping
 - Cultural Gathering, Fishing, Hunting Harvest Sites
 - Medicinal Plant Harvesting
 - Hunting/Medicinal Harvesting
 - Hunting/Gathering/Berry Picking
 - Medicinal Plants
 - Plants/Gathering Areas/Camps
 - Plants/Medicinal/Hunting/Fishing/Gatherings
 - Sweat Lodge/Ceremonial Site
 - Traps
 - Traps/Sacred Sites

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Projection: UTM 11N. Baseline TMPL & Facilities: provided by KMC 2012; Proposed Pipeline Corridor V6: provided by UPI Aug. 23, 2013; Transportation: Natural Resources Canada 2012; Geopolitical Boundaries: Natural Resources Canada 2003, AltaLIS, 2012; Hydrology: Natural Resources Canada 2010; Parks and Protected Areas: Alberta Tourism, Parks and Recreation 2012, Natural Resources Canada 2013; Landsat 7 Panchromatic imagery: NASA Geospatial Interoperability Program 2005.

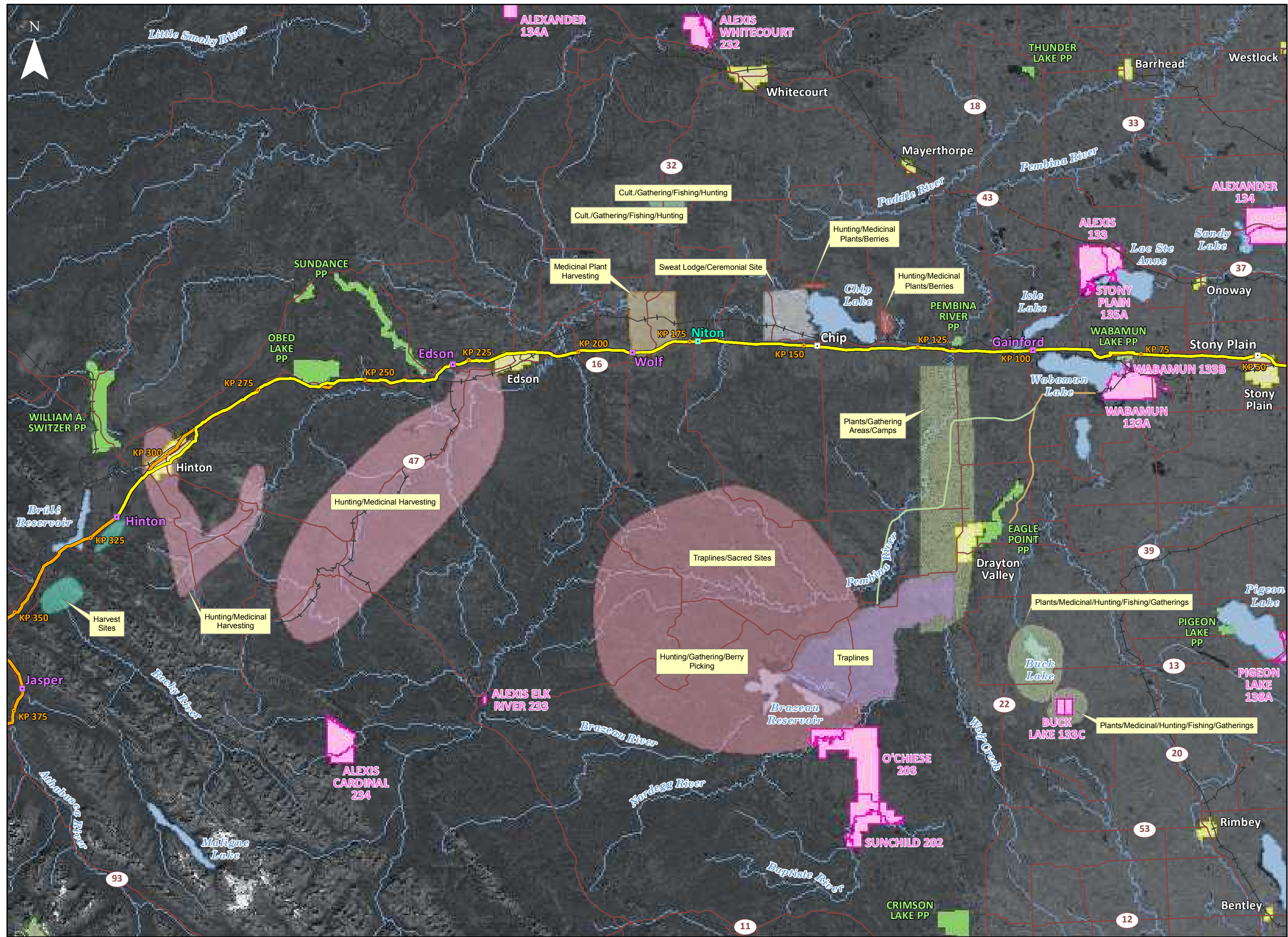


Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.



MAP NUMBER 201310_MAP_TERA_TLU_00447_REV0	PAGE SHEET 1 OF 1
DATE December 2013	TERA REF. 7894
SCALE 1:800,000	DISCIPLINE TLU
DRAWN TPH	DESIGN TGG

All Locations Approximate



Trails and Travelways

Paul First Nation Elders and community members identified two trails and travelways during the TLU for the Project, detailed in Table 5.1.12-1.

A historic trail dates back to the 1960s and leads from the Paul First Nation Reserve to Lodgepole. A community member noted that travel would occur in the summer when the water levels on the North Saskatchewan River were low. Another community member recalls that when she was a girl, community members would travel in caravans by horseback to Lodgepole.

TABLE 5.1.12-1

TRAILS AND TRAVELWAYS IDENTIFIED BY PAUL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
7.8 km south of RK 102	Travelway south of Wabamun Lake	Past	None
1.5 km northeast of RK 103	Old trail from the Paul First Nation Reserve to Lodgepole	Past (1960s)	None
Project Footprint	Concerns about poor road conditions that require maintenance.	--	None

No trails and travelways were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trails and travelways by Paul First Nation.

Habitation Sites

Paul First Nation Elders and community members identified several habitation sites during the TLU study for the Project, detailed in Table 5.1.12-2.

An old campsite south of Wabamun Lake was identified that dates back 13,000 years and is part of a Historical Resource Agreement held by Paul First Nation. An Elder shared that many bands such as Cree, Saulteau and Stoney also used to camp in the Chip Lake region.

An Elder recalled how Paul First Nation community members used to camp for days at a time to harvest plants and berries on Crown land, but now they travel to and from the sites by car or truck. These trips are typically made in July and August.

TABLE 5.1.12-2

HABITATION SITES IDENTIFIED BY PAUL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
7.8 km south of RK 102	Campsite south of Wabamun Lake	Past (13,000 years)	None
12.4 km south of RK 117.7	Campsite along the Pembina River	Current	None
2.8 km south of RK 132.1	Camping site near Drayton Valley and Round Valley	Current	None
6.1km northwest of RK 198.3	Camping near Peers, Alberta	Current	None
1.4km south of RK 231.2	Camping at Chip Lake	Past	None

No habitation sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trails and travelways by Paul First Nation.

Plant Gathering

Paul First Nation Elders and community members identified several plant gathering sites during the TLU study. Table 5.1.12-3 details plant gathering sites identified by Paul First Nation for the Project.

Community members shared that they harvest blueberries, raspberries and 'toe jam' (cranberries) gooseberries, Saskatoon berries, rat root and mint. Strawberry root, sap and pine tree root are also harvested.

An Elder told the group a story about an event that happened over a year ago during the summer. The Elder and her nephew entered the cutlines (Plate 5.1.12-1), to harvest medicine and about 1 km in she heard her nephew yelling because he had wandered between a bear and her cubs. He climbed a tree for safety but the mother bear would not leave the area. The bear was chattering its teeth as a warning sign and a threat to her nephew. Unseen by the bear, the Elder ran to the road to wave down help. Fish and Wildlife arrived with their guns, but by that time the bear and her cubs had left the area and the Elder's nephew was safe. He had been up in the tree for an hour and a half.

At the map review, a medicinal plant gathering site was identified by an Elder who said that Canadian National Railway (CNR) stores tanks here and there are rusty, oily fluids on the ground. The Elder said that a complaint was made to CNR, but it went nowhere.

An Elder shared a story about a unique plant gathering site where there is a 'No Trespassing' sign but she is allowed to go through the fence to harvest medicines and berries (Plate 5.1.12-2). She reported that plants here do not grow anywhere else and she visits the area for harvesting once per year.



Plate 5.1.12-1 Location where an Elder's nephew was treed by a bear (December 2012).



Plate 5.1.12-2 A unique medicinal plant gathering area with 'No Trespassing' sign (December 2012).

TABLE 5.1.12-3

PLANT GATHERING SITES IDENTIFIED BY PAUL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
59.4 km south of RK 121.6	Medicinal plant and berry harvesting at Buck Lake.	Current	None
2.8 km south of RK 132.1	Plant harvesting site near Drayton Valley and Round Valley	Current	None
Crosses at RK 135.6	Plant harvesting site along Pembina River	Current	None
20 m north of RK 171	Important medicinal plant harvesting area	Current	Avoidance
3.3 km north of RK 168	Medicinal plant harvesting and berry picking site near Chip Lake	Current	None
30.5 km south of RK 180.3	Berry picking site west of Pembina Provincial Grazing Reserve around Brazeau Reservoir	Current	None
5 km north of RK 180.4	Plant harvesting site at January Creek	Current	None
4.8 km north of RK 198.1	Medicinal plant harvesting site near Peers	Current	None
4.8 km northwest of RK 198.1	Medicinal plant harvesting site where CN stores tanks near Peers	Current	None
6.1 km northwest of RK 198.3	Unique medicinal plant harvesting down Compton McLeod Road	Current	None
From RK 196.6 to RK 206.6	Medicinal plant harvesting site near Peers south of McLeod Valley	Current	None
1.1 km south of RK 245.3	Medicinal plant harvesting site near Embarras Mercoal.	Current	None
100 m of RK 319.7	Medicinal plant harvesting in Hinton area north of Luscar	Current	None
1.2 km southwest of RK 339.4	Cedar and sage harvesting area near Jasper National Park	Current	None

Paul First Nation requested that the plant gathering site 20 m north of RK 171 be avoided by the Project.

Hunting

Paul First Nation Elders and community members identified several hunting sites during the TLU for the Project, detailed in Table 5.1.12-4.

A community member shared that moose are abundant in the Chip Lake area since there are abundant willows in the region and at times moose can be seen swimming across the lake. An Elder noted that moose spend a lot of time in the water especially in August to get away from flies and mosquitoes. During ground reconnaissance a moose was seen jumping a fence onto private land and entering a wooded area. Four moose were seen throughout the day within a 50 km radius. Community members reported that Wabamun Lake is polluted and there are no longer waterfowl there.

Another hunting area was identified north of Peers, on Highway 16 south to Brazeau and west to Elk River Road, where moose, deer, elk and wolves are typically hunted in the fall. In the past meat was dried to make pemmican.

A community member told a story about his grandmother’s second husband getting attacked by a bear. In defense he fought back and ripped the bear’s jaw apart with his hands, killing it instantly. He told another story about an event that occurred near Nordegg where a man unknowingly stood on top of a grizzly den. The grizzly jumped out and ripped the man’s arm off and the small dog that was with the man bit the bear and ran back to town. People saw the blood on the dog from the attack and the dog led the people back to his owner and saved him. From that day on the man was nicknamed ‘Old George Bear.’

TABLE 5.1.12-4

HUNTING SITES IDENTIFIED BY PAUL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
59.4 km south of RK 121.6	Hunting at Buck Lake.	Current	None
129 m north of RK 162.6	Hunting south of Chip Lake	Current	None
131 m north of RK 162.6	Hunting on Hwy#16 south to Brazeau and west to Elk River Road	Current	None
3.3 km north of RK 168.6	Hunting near Chip Lake	Current	None
30.5 km south of RK 180.3	Hunting near Brazeau Reservoir	Current	None
27.1 km north of RK 196.6	Hunting near Shining Lake and Mahaska	Current	None
6.1 km northwest of RK 198.3	Hunting north of Peers	Current	None
1.2 km south of RK 245.33	Hunting in the Embarras Mercoal area	Current	None
From RK 238.4 to 248.8	Hunting site	Current	None
At RK 319.7	Hunting south of Hinton (north of Luscar)	Current	None
40.4 km north of RK 133	Hunting in the Drayton Valley	Current	None
55 km north of RK 157	Hunting near Lodgepole	Current	None
Project Footprint	Concerns that development from the oil and gas industry will affect important traditional hunting areas	--	--

Two hunting sites were identified by Paul First Nation within the proposed pipeline corridor. No mitigation was requested for hunting sites by Paul First Nation.

Fishing

Paul First Nation identified several fishing sites during the TLU for the Project, detailed in Table 5.1.12-5.

Historically whitefish were caught in Wabamun and Lac Ste. Anne, but Elders report these lakes are polluted and algae, dead fish and oily rocks are often seen along the shorelines. It was shared that *Wabamun* means “mirror”.

Buck Lake was also identified as a place where Paul First Nation community members fish. Community members shared that they used to drink out of Wabamun Lake but cannot now since the lake was polluted by an oil spill from a train derailment in 2005.

TABLE 5.1.12-5
FISHING SITES IDENTIFIED BY PAUL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
11 km north of RK 91	Fishing in Lac Ste. Anne	Past	None
347 m south of RK 113	Fishing in Wabamun Lake	Past	None
59.4 km south of RK 121.6	Fishing at Buck Lake	Current	None
3.3 km north of RK 168.7	Fishing at Chip Lake	Current	None
27.1 km north of RK 196.6	Fishing site near Shining Lake and Mahaska	Current	None
6.1 km northwest of RK 198.3	Fishing north of Peers	Current	None
64.3 km south of RK 280	Fishing in Pembina River	Current	None

No fishing sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for fishing sites by Paul First Nation.

Trapping

Paul First Nation Elders and community members identified several traplines and trapping sites during the TLU for the Project, detailed in Table 5.1.12-6.

Muskrat, porcupine beaver and weasel are trapped north of Peers, on Highway 16 south to Brazeau and west to Elk River Road. Chip Lake was identified as a site for good muskrat trapping, but trapping no longer occurs there due to farmland in the area. Muskrat is used for the meat and its fur is used for clothing. A trapping area near Peers was identified and an Elder pointed out several rabbit tracks in the snow. The Elder added that rabbit can be boiled, fried or stuffed.

TABLE 5.1.12-6
TRAPPING SITES IDENTIFIED BY PAUL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
48 km south of RK 134.5	Traplines in the Brazeau Reservoir area	Current	None
1 km northwest of RK 198.3	Trapping near Peers	Current	None
1.4 km south of RK 231.2	Trapping at Chip Lake	Current	None
52.7 km south of RK 245.3	Traplines north of Brazeau Reservoir	Current	None
52.7 km south of RK 245.3	Trapline at Jack Knife Springs near Brazeau Reservoir	Current	None

No trapping sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trapping sites by Paul First Nation.

Gathering Places

Paul First Nation identified several gathering places during the TLU for the Project, detailed in Table 5.1.12-7.

TABLE 5.1.12-7

GATHERING PLACES IDENTIFIED BY PAUL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
59.4 km south of RK 121.6	Gathering area near the Buck Lake Reserve (IR 133C)	Current	None
2.8 km south of RK 132	Gathering area near Drayton Valley and Round Valley	Current	None
30.5 km south of RK 180.3	Gathering near the Brazeau Reservoir	Current	None
27.1 km north of RK 196.6	Gathering place near Shining Lake and Mahaska	Current	None

No gathering places were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for gathering places by Paul First Nation.

Sacred Areas

Paul First Nation Elders and community members identified several sacred areas during the TLU for the Project, detailed in Table 5.1.12-8.

A sacred site was identified by Elders in the Brazeau area, where sundances are held. This is the main site that Paul First Nation community members practice traditional activities. Community members explained the difference between sundances and powwows. Sundances are more spiritual than powwows and are used as a form of sacrifice and to show respect to Mother Earth. Typically, fasting takes place four days prior to and during a sundance. At powwows there are dancing and singing competitions and all are welcome to attend. Competitors from all over come to compete in dancing, singing and drumming.

TABLE 5.1.12-8

SACRED SITES IDENTIFIED BY PAUL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
7.8 km southwest of RK 102	Sacred and historical campsite on the Westside of Wabamun Lake	Past	None
1.1 km north of RK 134.5	Ceremonial site and sweat lodge site in the Chip Lake area	Current	None
27.1 km north of RK 196.6	Sacred site near Shining Lake and Mahaska	Current	None
52.7 km south of RK 201.9	Sacred site north of Brazeau Reservoir	Current	None
20 m north of RK 287.7	Sacred spring	Current	None

A sacred spring was identified by Paul First Nation 20 m north of RK 287.7. No mitigation was requested for sacred areas by Paul First Nation.

5.1.13 Nakcowinewak Nation of Canada

Nakcowinewak Nation of Canada elected to conduct a TERA-led TLU study for the Project. The TLU study included a map review meeting and community interviews that focused on Crown lands within the asserted traditional territory of Nakcowinewak Nation of Canada crossed by the Project.

Nakcowinewak Nation of Canada provided their 'Nakcowinewak Aboriginal Interests: Aboriginal Engagement Trans Mountain Expansion Project' to Trans Mountain on June 3, 2013, that describes their preliminary interests in the Project, including:

- potential effects from construction as a result of accidents;

- potential effects to rivers and streams;
- effects to wildlife habitat and registered populations;
- effects to fish, fish habitat and aquatic species;
- reclamation of plant life, especially medicinal plants;
- potential effects of noise and air quality on wildlife, plants and fish;
- potential effects on bats, birds, insects and small mammals; and
- the long-term preservation of important cultural and traditional sites, including ceremonial and gravesites, spiritual sites, food gathering places, fishing/harvesting sites, trees and rocks used for cooking or ceremonial purposes.

Trans Mountain provided an initial response in a letter sent to Nakcowinewak Nation of Canada on October 28, 2013.

Site-specific interests described in the 'Nakcowinewak Aboriginal Interests: Aboriginal Engagement Trans Mountain Expansion Project' are included in the results below.

The map review meeting and community interviews were held with Nakcowinewak Nation of Canada on September 19 and 20 and November 6, 2013 at the Band Office in Hinton, Alberta. During this meeting, members of Nakcowinewak Nation of Canada examined the regional Project maps with TERA TLU facilitators to determine what areas would be surveyed during the overflight and ground reconnaissance (Figure 5.1.13.1). Ground reconnaissance occurred on September 21 to 24 and November 5, 2013. Results review with Nakcowinewak Nation of Canada and TERA was held on November 25, 2013.

The results of the Nakcowinewak Nation of Canada TLU study completed to date for the Project are provided below.

5.1.13.1 Community Participants

TERA would like to thank the following community members of Nakcowinewak Nation of Canada for their time and assistance.

Elders: Maryanne Whitehorse, Mary Whitehorse, Bill Whitehorse, Mike Whitehorse, Sarah Whitehorse, Jacqueline Whitford and Florence Plante.

Community Members: Dan Whitehorse, Eric Newborn (visitor), Byron Whitehorse, Rosemary Strawberry, Isaac Plante, Burton Plante, Sarah Chipaway, Corrine Strawberry and Lavinia Strawberry.

Nakcowinewak Nation of Canada Staff: Jean Whitehorse and Lavinia Strawberry.

FIGURE 5.1.13.1
NAKOWINEWAK NATION
TRADITIONAL LAND USE AREAS
IDENTIFIED DURING MAP REVIEW

TRANS MOUNTAIN
EXPANSION PROJECT

- Kilometre Post (KP)
 - Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
 - Pump Station (Reactivation)
 - Existing Pump Station
 - Trans Mountain Expansion Project Proposed Pipeline Corridor
 - Trans Mountain Pipeline (TMPL)
 - Primary Highway
 - Railway
 - Provincial Park
 - Indian Reserve (IR)
- Traditional Land Use:**
- Fishing
 - Gathering Area
 - Habitation Site
 - Hunting
 - Hunting/Fishing/Plant Harvesting/Habitation Site
 - Hunting/Habitation Site
 - Plant Harvesting
 - Sacred Site
 - Sacred Site/Gathering Area
 - Sacred Site/Gathering Area/Habitation Site

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Projection: UTM 11N. Baseline TMPL & Facilities: provided by KMC 2012; Proposed Pipeline Corridor V6: provided by UPI Aug. 23, 2013; Transportation: Natural Resources Canada 2012; Geopolitical Boundaries: Natural Resources Canada 2003, AltaIS, 2012; Hydrology: Natural Resources Canada 2010; Parks and Protected Areas: Alberta Tourism, Parks and Recreation 2012, Natural Resources Canada 2013; Landsat 7 Panchromatic imagery: NASA Geospatial Interoperability Program 2005.

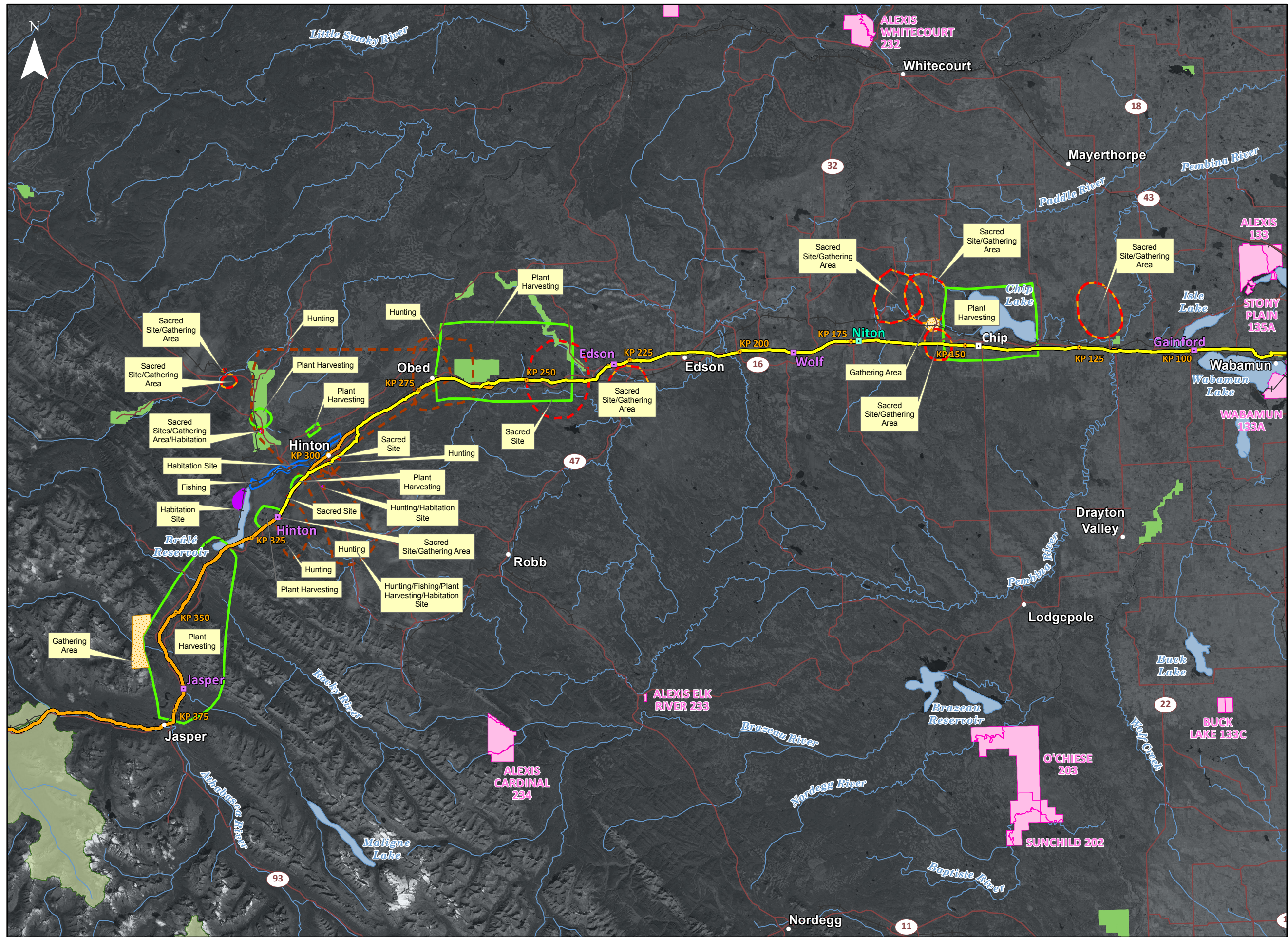


Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.



MAP NUMBER	201311_MAP_TERA_TLU_00481_REV0	PAGE	SHEET 1 OF 1
DATE	December 2013	TERA REF.	7894
SCALE	1:800,000	PAGE SIZE	11x17
DRAWN	TPH	CHECKED	TGG
		DESIGN	TGG

All Locations Approximate



5.1.13.2 Results

The map review, interviews and ground reconnaissance revealed 12 TLU sites within the proposed pipeline corridor requiring mitigation as requested by Nakcowinewak Nation of Canada.

Trails and Travelways

Nakcowinewak Nation of Canada Elders and community members identified two trails during the TLU for the Project, detailed in Table 5.1.13-1.

Historically there were no motor vehicles in Nakcowinewak Nation of Canada’s asserted traditional territory. Horse drawn sleds made of wood were used to transport timber and community members travelled by horse drawn wagons. An Elder shared that community members would travel by wagon using trails that wove in and out of a historic habitation site on the south side of McLeod River. Currently there are quad trails running throughout a region south of the Maskuta Creek Provincial Recreation Area, used to access hunting areas. Wagon trails along the present day Highway 16 were once used as a shortcut to the trail network that existed in the region.

TABLE 5.1.13-1

TRAILS AND TRAVELWAYS IDENTIFIED BY NAKCOWINEWAK NATION OF CANADA

Approximate Distance and Direction from Project	Description	Current/Past Use	Requested Mitigation
Crosses at RK 173.5	Range Road 114 was once a wagon trail	Past	None
1.7 km south of RK 260	Wagon trails on the south side of McLeod River	Past	None
1 km south of RK 337 to RK 339	Quad trails at Maskuta Creek Provincial Recreation area	Current	None
At RK 339	Highway 16 was once a wagon trail	Past	None

No trails and travelways were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trails and travelways by Nakcowinewak Nation of Canada.

Habitation Sites

Nakcowinewak Nation of Canada Elders and community members identified several habitation sites during the TLU for the Project, detailed in Table 5.1.13-2.

Community members and their families used to live in tents near the Gregg River. The families fished in the river and hunted and gathered plants in the region. There is a habitation site south of Nojack on both sides of the highway. Several community members were born there, including some of the Elders present during the TLU study. It is an important site where ceremonies are still held and a community member’s father is buried there. Three old habitation sites were identified, south of Marlboro, in Jasper National Park and near Bickerdike, where an Elder used to live.

There are two old habitation sites near Evansburg. The site closest to Evansburg was inhabited by community members in the 1960s and early 1970s and the house is still standing, but is now on freehold land. Twelve people lived in the house for eight months out of the year: nine children, two parents and one grandparent. A cabin was built next to the house by an Elder’s grandfather who passed away in 1971. The cabin had a dirt floor and the trees in the region were used for construction. Just as the floor of the cabin was built with a dirt floor, he requested that his grave have a dirt bottom. The foundation of an old cabin approximately 50 to 60 years old, were identified, community member shared that there were once many cabins. At that time people did not stay in one place for very long, but moved around often for work. The site is currently a fire base camp. Community members also recall farming, working in sawmills

and doing forestry work near Evansburg, 6 km south to Wildwood. At that time, horses were used to pull logs.

A habitation site was identified where two Elders were born and another Elder lived. All that remains of the house are a few logs where the house once stood. The site is now on Crown land and cannot be accessed.

Community members and Elders used to move with the seasonal round. Some said that it is getting harder and harder to find places to set up camps because of all the access roads and increased traffic in the region. An Elder shared that her relatives used to live on the west side of Chip Lake, but they moved east into the United States and into Saskatchewan looking for food.

Several community members and Elders worked on constructing the road from Hinton to Robb before Highway 40 was built. While working on the road an Elder shared that she and her family lived in tents or half cabins south of Marlboro and west of a Marlboro cemetery site. Another Elder reported that she and her family lived in a tent with a wooden base in the Gregg River region while working to construct the road and had a horse and sled to pull their belongings. They lived and worked there for six months. An Elder helped build Highway 40 by clearing land for roads. She also helped build small log cabins that people lived in while constructing the highway, but indicated that the cabins were later burnt down.

An old tree fort was identified around Gregg River that was built by two of the Elders and their nephew in 1975. While the tree fort was being built the whole family camped nearby for two summers and one winter. Evidence of cut wood used to build the tree fort can still be seen in the region. The Moberly homestead cabin was identified and an Elder explained how the cabin was insulated by sealing off the entire structure with grass and mud, filling the gaps in the wooden frame (Plate 5.1.13-1). Deer hide was used for covering the windows before glass was available.



Plate 5.1.13-1 The Ewan and Madeline Moberly homestead built in 1908 (September 2013).

TABLE 5.1.13-2

HABITATION SITES IDENTIFIED BY NAKCOWINEWAK NATION OF CANADA

Approximate Distance and Direction from Project Area	Description	Current/Past Use	Requested Mitigation
1.6 km north of RK 136	Habitation site at Evansburg	Past	None
5.6 km north of RK 136	Habitation site near Evansburg	Past	None
1.8 km southeast of RK 339	An Elder's parents lived at the entrance of Terrace Camp	Past	None
1.9 km north of RK 145	Camping site at Chip Lake	Current/Past	None
1.9 km north of RK 155.4	Habitation site on the west side of Chip Lake	Current/Past	None
1.8 km south of RK 173.5	Habitation site on Crown land	Past	None
679 m south of RK 174.1	Habitation site	Past	None
766 m south of RK 174.5	Cabin foundation next to Range Road 114b	Past (1940s-1950s)	None
3 km south of RK 245	Habitation site near Bickerdale	Past	None
900 m north of RK 256.4	Fall habitation site at Marlboro	Past	None
680 m south of RK 259.3	Habitation site and birth place south of Nojack	Current/Past	None
1 km south of RK 259.3	Habitation site during pipe ceremonies	Past	None
1.7 km south of RK 260	Habitation site near McLeod River	Past	None
1 km south of RK 290	Habitation site south of Marlboro	Past	None
19 km southeast of RK 319.5	Habitation site near Gregg River	Past	None
4 km south of RK 326	Campsite	Current	None
20 km south of RK 327	Habitation site (tents) near Gregg River	Past	None
6 km east of RK 350 to RK 365	Habitation site at Jasper National Park	Current/Past	None
18 km southeast of RK 338	Habitation site during road building at Gregg River	Past	None
18 km southeast of RK 338	Tree fort near Gregg River	Past (1975)	None
At RK 339	Camping on both sides of Highway 16.	Past	None
35.4 km southeast of RK 339	Moberly homestead	Past (1908)	None
109 km northeast of RK 468	Campsite	Past	None

One campsite was identified within the proposed pipeline corridor by Nakcowinewak Nation of Canada. No mitigation was requested for habitation sites by Nakcowinewak Nation of Canada.

Plant Gathering Sites

Nakcowinewak Nation of Canada Elders and community members identified several plant gathering sites during the TLU for the Project, detailed in Table 5.1.13-3.

A community member shared that she gathers medicines near Jasper and would like to learn more about medicines from Elders in the community.



Plate 5.1.13-2 Sage (September 2013).



Plate 5.1.13-3 Fungus (September 2013).

TABLE 5.1.13-3

PLANT GATHERING SITES IDENTIFIED BY NAKCOWINEWAK NATION OF CANADA

Approximate Distance and Direction from Project	Description	Current/Past Use	Requested Mitigation
Project Footprint	Concern about forest cover loss	-	Request that alder, spruce, poplar and willow be avoided where possible
55 km south of RK 137.5	Berry picking around Lodgepole	Current	None
1.9 km north of RK 145	Medicinal gathering site at Chip Lake	Current/ Past	None
59.3 km north of RK 182	Berry gathering near Whitecourt	Current	None
75.4 km south of RK 239	Berry gathering near Elk River Road	Current	None
680 m south of RK 259.3	Medicinal gathering site south of Nojack	Current/ Past	None
From RK 270 to RK 240	Medicinal plant and berry gathering	Current	None
At RK 305	Medicinal plant gathering	Current	None
13 km northeast of RK 305	Berry picking, medicinal and plant gathering site around Jarvis Lake	Current	None
35 m north of RK 320	Plant gathering site along hydro line	Current	None
8 km north of RK 322	Tipi pole gathering site around Fish Creek	Current	None
0 km to 2 km south of RK 331	Medicinal plant gathering north of Maskuta Creek	Current	None
35.4 km northeast of RK 338	Plant gathering site in Jasper near Cobblestone Creek	Current	None
At RK 339	Both sides of Highway 16 used to gather medicinal plants	Past	None
0 km to 2 km west of RK 339	Medicinal plant gathering in Wild horse Lakes site	Current	None
1.2 km southeast of RK 339	Plant and willow gathering site	Current	None
37 km southwest of RK 339	Berry and medicinal plant gathering in Jasper National Park	Current	None
36.6 km southeast of RK 339	Plant gathering site in Jasper near Moberly Flats.	Current	None
1.8 km southeast of RK 339	Terrace Campsite for tanning hides and preparing meat for drying.	Current	None
2 km northwest of RK 320	Medicinal gathering south of Hinton	Current	None

Nakcowinewak Nation of Canada requested that poplar, spruce, alder and willow encountered within the proposed pipeline corridor be avoided where possible.

Hunting

Nakcowinewak Nation of Canada Elders and community members identified several hunting sites during the TLU for the Project, detailed in Table 5.1.13-4.

Community members currently hunt for moose, elk, deer, chicken, rabbit, sheep and duck. An Elder shared about killing two moose when she was younger. She dried the meat and made moccasins and clothing out of the tanned hide. Another Elder shared that when she was young, community members would make moccasins and jackets out of moose hide to sell at a local store. Another recalls helping her mother tan hides and her father pull logs. To tan a hide it is hung over a small fire to dry out. After the hide dries, the skin and fur is scraped off. In the 1940s and 1950s moose hides would sell for five dollars and now they sell for \$1,500 to \$2,000.

Roads and quad trails are often used by community members as access to hunting areas. Bear markings on trees were also identified near Obed, reported to be approximately 10 years old (Plate 5.1.13-4). The Chip Lake region is ideal moose habitat that provides both food and water for the animals, however,

hunting is not practiced here due to development in the region. Although community members hunt year-round, the best time to hunt is in the fall when the animals have more fat on them.



Plate 5.1.13-4 Bear markings (September 2013).

Community members have to travel further and further away from their territory to hunt compared to when wildlife was abundant and there was less access to the region. Black spots have been observed on moose meat and community members think it is because of herbicide and pesticide use in the region. This is a major concern since a moose and elk are still hunted and the meat is a staple of the community’s diet. Elders and community members also have concerns about moose licks in proposed pipeline corridor and requested that they be avoided during construction.

There are concerns regarding fox dens since the animals and their young will return to their dens year after year and development may displace them.

TABLE 5.1.13-4

HUNTING SITES IDENTIFIED BY NAKCOWINEWAK NATION OF CANADA

Approximate Distance and Direction from Project Area	Description	Current/Past Use	Requested Mitigation
55 km south of RK 137.5	Hunting around Lodgepole	Current	None
59.3 km north of RK 189	Hunting near Whitecourt	Current	None
595 m northwest of RK 290	Hunting for moose, deer and elk near Obed Lake	Current	None
1 km north of RK 267 to RK 308	Hunting for moose, deer and elk	Current	None
At RK 322.8	Hunting region with game trails	Current	None
0 km to 500 km south of RK 323 to RK 324	Hunting for moose and elk south of Muskuta Creek Provincial Recreation Area	Current	None
4.1 km south of RK 326.2	Site near Cold Creek for tanning hides and smoking meat	Current	None

TABLE 5.1.13-4 Cont'd

Approximate Distance and Direction from Project Area	Description	Current/Past Use	Requested Mitigation
1 km south of RK 337 to RK 339	Hunting for moose, deer, elk and sheep across Folding Mountain.	Current	None
1.8 km southeast of RK 339	Terrace Camp for tanning hides and preparing meat for drying	Current	None
From RK 319 to RK 329	Moose, deer and elk hunting region south of Hinton and west to Highway 40 east.	Current	None
3.3 km northwest of RK 328	Hunting region on both sides of Highway 40 from the Athabasca River to Jarvis Creek	Current	None
Project Footprint	Declining frog and bird populations, possibly due to increased development	-	None
Project Footprint	Concerns about development displacing fox dens	-	None
Project Footprint	Black spots on moose meat, possible due to the use of herbicides and pesticides	-	None

One hunting site was identified within the proposed pipeline corridor during the TLU study. No mitigation was requested for hunting sites by Nakcowinewak Nation of Canada.

Fishing

Nakcowinewak Nation of Canada Elders and community members identified several fishing sites during the TLU for the Project, detailed in Table 5.1.13-5.

Community members shared that they fish in the Athabasca River region for grayling, brown and rainbow trout and jackfish, and on Berland River a tributary of Athabasca River. The Gregg River can be fished for brook trout, brown trout, whitefish and catfish. Elders indicated that both historic and current fishing practices occur at a site south of the MacLeod River where walleye, brown trout and whitefish are caught. Historically snares were used by community members for fishing. September is the best month to fish. An Elder mentioned that jackfish, sucker fish and possibly whitefish can be found in Chip Lake, although community members do not currently fish in this shallow lake, they said that fishing likely took place in the past.

One community member recalls when they could hear the leaves fall and the river flowing, but now only machines and traffic can be heard. Community members used to be able to drink the water at most watercourses in the region, but now they must buy water, since most of the watercourses have been polluted by development. Elders and community members are concerned for fish populations and would like fish protected.

TABLE 5.1.13-5

FISHING SITES IDENTIFIED BY NAKCOWINEWAK NATION OF CANADA

Approximate Distance and Direction from Project Area	Description	Current/Past Use	Requested Mitigation
1.7 km south of RK 260	Fishing site near McLeod River	Past	Revisit watercourses and crossings one year after pipeline construction
51 km north of RK 265	Fishing in Berland River (Athabasca River tributary)	Current	Revisit watercourses and crossings one year after pipeline construction
1 km north of RK 295 to RK 310	Fishing along the Athabasca River from the east side of Orchard Creek to the east side of Hinton	Current	Revisit watercourses and crossings one year after pipeline construction
18 km southeast of RK 338	Fishing on Gregg River	Current	Revisit watercourses and crossings one year after pipeline construction
3.8 km northwest of RK 339	Fishing on Maskuta Creek	Current	Revisit watercourses and crossings one year after pipeline construction
6 km east from RK 350 to RK 365	Fishing in Jasper National Park	Current/Past	Revisit watercourses and crossings one year after pipeline construction
Project Footprint	Water at most watercourses and crossings is not drinkable due to pollution	--	Revisit watercourses and crossings one year after pipeline construction

No fishing sites were identified within the proposed pipeline corridor during the TLU study; however, Elders and community members requested that all proposed watercourse crossings are re-visited a year after pipeline construction takes place to ensure these sites are returning to their natural state.

Trapping

Nakcowinewak Nation of Canada Elders and community members identified three trapping sites during the TLU for the Project, detailed in Table 5.1.13-6.

There is a historic and current trapline near Jarvis Lake, but community members and Elders were unsure who owns the trapline. A trapper’s stand was identified (Plate 5.1.13-5). An Elder shared that he used to trap bears, coyotes, squirrels, martens and muskrat for a living, earning 5 cents on smaller muskrat pelts and 10 to 15 cents for the larger ones. Coyote fur would sell for \$6. In 1974 another community member trapped wolf, squirrel, marten and bear near the Terrace Camp. Trappers must skin the animals as they trap them. All of the pelts would be sold out of Edmonton; coyotes would only be sold for their pelts, since the meat smells bad and is not fit to eat. Moose, beaver and elk would all be used both for their pelts and for meat. Community members shared that no one in the community really traps anymore.



Plate 5.1.13-5 Old trapper’s stand at RK 322.8 (September 2013).

TABLE 5.1.13-6

TRAPPING SITES IDENTIFIED BY NAKCOWINEWAK NATION OF CANADA

Approximate Distance and Direction from Project Area	Description	Current/Past Use	Requested Mitigation
At RK 322.8	Trapper’s stand	Past	None
1.6 km south of RK 339	Trapping near Terrace Camp	Past	None
109 km northeast of RK 468	Trapline near Jarvis Lake	Current/Past	None

A trapper’s stand was identified at RK 322.8. No mitigation was requested for trapping sites by Nakcowinewak Nation of Canada.

Gathering Places

Nakcowinewak Nation of Canada Elders and community members identified several gathering places during the TLU for the Project, detailed in Table 5.1.13-7.

The Terrace Camp was identified as an important gathering place. Cultural activities take place year-round. There is a watercourse at the Terrace Camp that is used for all cultural activities (Plate 5.1.13-6). There used to be an old mill in the region and many community members worked there. In 1980, there was major flooding in the region that swept away many trailers and homes. One community Elder woke everyone up in the middle of the night and got them to safety. Terrace camp is often vandalized and firewood is stolen. A moose hide hung for tanning had been torn apart by a grizzly and was observed during the TLU study.



Plate 5.1.13-6 Watercourse used for cultural activities at Terrace Camp (September 2013).

There is an important gathering place adjacent to Terrace Camp that is often used by the general public who leave garbage behind and generally disrespect the site. There was once a gate at the bridge to help keep trespassers out, but it has since been knocked down. In the early 1970s, a chicken dance occurred at Terrace Camp and the canvas and tree pole structure where the dance took place still exists.

TABLE 5.1.13-7

GATHERING PLACES IDENTIFIED BY NAKCOWINEWAK NATION OF CANADA

Approximate Distance and Direction from Project Area	Description	Current/Past Use	Requested Mitigation
1.6 km north of RK 136	Ceremonial sites at Evansburg	Past	None
1 km south of RK 290	Gathering place south of Marlboro	Past	None
2.1 km northwest of RK 320	Pipe ceremonies took place all over Grand Cache and Hinton area	Past	None
1.2 km southeast of RK 339	Culturally important site near Terrace Camp	Current	None
1.6 km southeast of RK 339	Terrace Camp	Current	Community would like site protected and respected.
1.8 km southeast of RK 339	Non-fish bearing watercourse at Terrace Camp used for cultural activities	Current	None
At RK 339	Ceremonial site where moose hides were prepared and on both sides of Highway 16	Past	None
6 km east of RK 350 to RK 365	Gathering and ceremonial site at Jasper National Park	Current/ Past	None

Nakcowinewak Nation of Canada requested that the Terrace Camp located 1.8 km southeast of RK 339 be protected. This site will be avoided by the current alignment of the proposed pipeline corridor. A

ceremonial site was also identified at RK 339, but no mitigation was requested by Nakcowinewak Nation of Canada.

Sacred Areas

Nakcowinewak Nation of Canada Elders and community members identified several sacred areas during the TLU for the Project, detailed in Table 5.1.13-8.

The Terrace Camp was identified as an important ceremonial site that was historically and currently used for a variety of sacred and traditional activities. Pipe ceremonies are typically held three times a year; in spring, summer and in late summer at the end of August. The community indicated that at one point pipe ceremonies became so large they had to be moved to different sites to accommodate larger numbers. ‘Beetong’ is the Cree word for pipe ceremony.

Some community members indicated they were born around Nojack where historic burial sites are located. One of the Elders indicated that her grandfathers held pipe ceremonies at Evansburg, which is now a forest fire camp. A sweat lodge that appeared to be built a year ago was also found nearby during the ground reconnaissance, but community members and Elders were unsure who built it.

Prayer flags were identified approximately 42 m off the existing TMPL right-of-way and more flags were found on the border of the existing right-of-way. An Elder suggested that the flags symbolized a fasting site and that the flags were about 10 years old. The flags were potentially placed at the site by community members from Hobbema or Manitoba since Nakcowinewak Nation of Canada community members use strips of cloth 1 m wide and the cloths were 2 m wide. Community members would like this site avoided.

There is a cemetery at Marlboro where four generations of community members were buried including 20 members of an Elder’s family. It was shared that traditional crosses are not put on graves to mark them. An Elder knew exactly where this gravesite would be because she had old photographs and had visited the site eight years ago, along with other community members and had cleared the brush away from the graves. An Elder’s great grandfather was buried in Marlboro and the grave still needs to be identified to ensure it is not disrupted by the proposed pipeline corridor. It is likely marked with a rock. There used to be a large tree beside it, but it has since fallen down. The burial site was visited in the early 1990s and is on freehold land.

Many family members of Elder’s are buried in Mackay Cemetery. The graves are unmarked and the only markers are indentations in the ground with logs.

TABLE 5.1.13-8

SACRED SITES IDENTIFIED BY NAKCOWINEWAK NATION OF CANADA

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
1.6 km north of RK 136	Ceremonial site – pipe ceremonies and sundances at Evansburg	Past	None
5.6 km north of RK 136	Ceremonial site near Evansburg	Past	None
1.9 km north of RK 145	Ceremonial site at Chip Lake	Current/Past	None
1.8 km south of RK 173.5	Sundance site	Past	None
4.7 km north of RK 174	Ceremonial site near MacKay	Past	None
8 km north of RK 174	Mackay Cemetery	Past	None
722 m south of RK 174.2	Ceremonial site – pipe ceremonies/fire camp and sweat lodge	Past	None
766 m south of RK 174.5	Pipe ceremony site	Past	None
4.5 km north of RK 187	Ceremonial site between Niton and Highway 751	Past	None
3 km south of RK 245	Ceremonial site near Bickerdale	Past	None

TABLE 5.1-13-8 Cont'd

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
900 m north of RK 256.4	Pipe ceremonies at Marlboro	Past	None
844 m northeast of RK 256.5	Unidentified gravesite near Marlboro on freehold land	Past	Avoidance
At RK 257.5	Grave site	Past	Request for further studies
680 m south of RK 259.3	Birth place and gravesite south of Nojack	Current/Past	None
1 km south of RK 259.3	Ceremonial site – pipe ceremonies	Past	None
7.1 km north of RK 263	Gravesite at Marlboro	Past (1910)	Avoidance
52.6 km northwest of RK 272	Gravesites near Coal Valley	Past	None
1 km south of RK 290	Gravesite south of Marlboro	Past	Avoidance
42 m southeast of RK 320.6	Prayer tree with coloured fabric tied to it	Current	Avoidance
29 km northwest of RK 328.4	Pipe ceremony site along Wildhay River off of Highway 40	Past	None
At RK 334	Ceremonial site, prayer flags tied to poplar trees bordering existing right-of-way	Current	Avoidance
1.6 km south of RK 339	Terrace camp (ceremonial site)	Current	Protection of site
Project Footprint	Concerns about burial sites being bulldozed during construction	-	Avoidance

Nakcowinewak Nation of Canada requested that two prayer flag locations within the proposed pipeline corridor listed in Table 5.1.13-8 above be avoided. Nakcowinewak Nation of Canada requested avoidance of three additional sacred areas listed in Table 5.1.13-8 above. These three locations will be avoided by the current alignment of the proposed pipeline corridor.

5.1.14 Sunchild First Nation

Trans Mountain and Sunchild First Nation have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Sunchild First Nation elected to conduct an independent, community led TLU study for the Project.

Sunchild First Nation provided their preliminary 'Sunchild First Nation Interests on the Trans Mountain Pipeline Expansion Project' to Trans Mountain on November 28, 2013, which describes their preliminary interests in the Project, including the potential for the Project to affect their members inherent rights and their ability to engage in their traditional way of life and traditional vocations including hunting, fishing, trapping, gathering and other cultural activities. Sunchild First Nation also identified broad concerns within their preliminary interests letter, including the following.

- Cumulative effects of industrialisation and other land uses.
- The Project's contribution to habitat loss, habitat fragmentation and impediments to wildlife movement are also affecting community members that have to travel further and spend more time trying to locate and hunt animals. The Project may also contribute to air, noise, water and soil pollution which effect health of animals, plants and water.

Issues of concern, traditional use sites or features identified through ongoing engagement with Sunchild First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.1.15 Aseniwuche Winewak Nation

Aseniwuche Winewak Nation elected to conduct a third-party TLU study for the Project. A third-party consultant, Aseniwuche Environmental Corporation, conducted a map review, community interviews and ground reconnaissance that focused on Crown lands within the asserted traditional territory of Aseniwuche Winewak Nation. Representatives from TERA were also in attendance during the ground reconnaissance.

The findings of the TLU study were presented to Aseniwuche Winewak Nation participants on October 9, 2013. Aseniwuche Winewak Nation participants were provided an opportunity to verify the information from the study, review the maps and voice any possible changes to the draft report prior to final submission.

The results of the Aseniwuche Winewak Nation TLU study received on November 18, 2013, are summarized below. Where available, approximate distances and directions of specific geographic areas from the proposed pipeline corridor were determined by TERA based on the information provided in the Aseniwuche Winewak Nation TLU study mapping and are described in Tables 5.1.15-1 to 5.1.15-4.

5.1.15.1 Community Participants

The following community members of Aseniwuche Winewak Nation offered their time and assistance as interview and/or field participants in the Aseniwuche Environmental Corporation TLU study.

5.1.15.2 Results

The map review, interviews and ground reconnaissance revealed 10 TLU sites within the proposed pipeline corridor requiring mitigation as requested by Aseniwuche Winewak Nation.

Trails and Travelways

Aseniwuche Winewak Nation identified several trails and travelways during the TLU for the Project, detailed in Table 5.1.15-1. Community members reported different travel migration routes, used in the past, for purposes such as traveling to trade horses and items not found in the Grande Cache area, to gather berries, hunt and camp. These travel routes include foot and horse trails (Aseniwuche Environmental Corporation 2013).

TABLE 5.1.15-1

TRAILS AND TRAVELWAYS IDENTIFIED BY ASENIWUCHE WINEWAK NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
8.1 km northwest of RK 339	Trail along the Athabasca River to Edmonton	Past	None
50.6 km southwest of RK 339	Trail from Jasper to Kamloops	Past	None
96.9 km northeast of RK 490	Trail from Grande Cache to McBride, Tête Jaune Cache or Kamloops	Past	None

No trails or travelways were identified within the proposed pipeline corridor during the TLU study. No mitigation was requested for trails and travelways by Aseniwuche Winewak Nation.

Habitation Sites

Aseniwuche Winewak Nation identified one habitation site during the TLU study for the Project, a historic homestead near Galloway, AB, located approximately 1.4 km south of RK 265.5 (Aseniwuche Environmental Corporation 2013).

No habitation sites were identified within the proposed pipeline corridor during the TLU study. No mitigation was requested for habitation sites by Aseniwuche Winewak Nation.

Plant Gathering

Aseniwuche Winewak Nation identified several plant gathering sites during the TLU for the Project, detailed in Table 5.1.15-2. During ground reconnaissance, community members identified many traditional (edible, inedible and medicinal) plants around Hinton, Alberta and Valemount, BC. Community members identified a variety of berries within the proposed pipeline corridor including (but not limited to) buffalo berries, thimbleberries, Logan berries, blueberries, bunchberries and bearberries. Aseniwuche Winewak Nation also identified medicinal plant species including (but not limited to) western wood lily, Indian paintbrush, muskeg tea, tamarack, bed straw, white poplar, fern, fireweed, western red cedar and Devil’s club (Aseniwuche Environmental Corporation 2013).

TABLE 5.1.15-2

PLANT GATHERING IDENTIFIED BY ASENIWUCHE WINEWAK NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
From RK 278 to RK 279	Medicinal plant gathering near Obed Lake	Current	None
From RK 283 to RK 284	Medicinal plant gathering near Obed Lake	Current	None
At RK 286.2	Medicinal plant gathering Obed Lake	Current	None
At RK 321	Medicinal plant gathering near Hinton	Current	None
2.5 km northwest of RK 324	Medicinal plant gathering near Hinton	Current	None
At RK 326	Medicinal plant gathering near Hinton	Current	None
At RK 332	Medicinal plant gathering	Current	None
At RK 494.5	Plant gathering near the Hargreaves Trap Site	Current	None
At RK 499	Medicinal plant gathering near the Rearguard Station	Current	None
At RK 500	Plant gathering near the Rearguard Station	Current	None
64.9 km northwest of RK 505	Plant gathering around McBride	Past	None
At RK 505.7	Plant gathering near the Rearguard Station	Current	None
From RK 538 to RK 540	Medicinal plant gathering near the Albreda Station	Current	None
From RK 562.1 to RK 563.1	Plant gathering	Current	None
Project Footprint	Reclamation of lands disturbed during Project construction.	--	Reclaim to preconstruction conditions and plant native vegetation where necessary

Several plant gathering sites were identified within the proposed pipeline corridor during the TLU study. No mitigation was requested for plant gathering sites by Aseniwuche Winewak Nation.

Hunting

Aseniwuche Winewak Nation identified two hunting sites during the TLU study for the Project, detailed in Table 5.1.15-3.

Community members explained that hunting is an important tradition for Aseniwuche Winewak Nation. Historically, community members would hunt while traveling far distances and whenever necessary during the year. Currently community members hunt near the proposed pipeline corridor near Hinton, Alberta and do not generally use the area west of Jasper. Aseniwuche Winewak Nation community members found evidence of culturally important animals such as deer, moose and wolves during ground reconnaissance (Aseniwuche Environmental Corporation 2013).

TABLE 5.1.15-3

HUNTING SITES IDENTIFIED BY ASENIWUCHE WINEWAK NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
1.4 km south of RK 265.5	Hunting in Galloway area	Current/Past	None
At RK 321	Hunting in Hinton area	Current	None

One hunting site was identified within the proposed pipeline corridor during the TLU study. No mitigation was requested for hunting sites by Aseniwuche Winewak Nation.

Fishing

Aseniwuche Winewak Nation community members identified two fishing sites during the TLU study for the Project, detailed in Table 5.1.15-4.

Historically, Aseniwuche Winewak Nation community members would travel to the Mount Robson area to fish salmon. They would use wooden poles with a metal spear head and spear the fish behind the gill.

Community members expressed concerns regarding Project effects on water quality and fish habitat throughout the proposed pipeline corridor. Aseniwuche Winewak Nation community members continue to rely on freshwater streams for drinking and expressed concern that increasing industrial activity will contaminate those sources (Aseniwuche Environmental Corporation 2013).

TABLE 5.1.15-4

FISHING SITES IDENTIFIED BY ASENIWUCHE WINEWAK NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
3.2 km northeast of RK 490	Salmon fishing near Mount Robson	Past	None
At RK 496.8	Fishing in the Fraser River	Past	None
Project Footprint	Concern about effect on water quality	Current	None
Project Footprint	Concern about effect on fish habitat	Current	Reduce disturbance to fish during Project construction

One fishing site was identified within the proposed pipeline corridor during the TLU study. No mitigation was requested for fishing sites by Aseniwuche Winewak Nation.

Trapping

Aseniwuche Winewak Nation community members did not identify trapping sites during the TLU for the Project.

Community members explained the importance of trapping to Aseniwuche Winewak Nation. Community members would trap martens for fur and meat. During ground reconnaissance, an active beaver lodge was found near Obed Lake, located 1.5 km north of RK 284.2 (Aseniwuche Environmental Corporation 2013).

No specific trapping sites were identified within the proposed pipeline corridor during the TLU study. Community members found evidence of trapping trees during ground reconnaissance and requested those trees be avoided.

Gathering Places

Aseniwuche Winewak Nation community members did not identify any gathering places during the TLU for the Project. No mitigation was requested for gathering places by Aseniwuche Winewak Nation.

Sacred Sites

Aseniwuche Winewak Nation community members did not identify specific sacred sites during the TLU for the Project.

Community members explained that the Hinton area is culturally important and presently used by Aseniwuche Winewak Nation community members, whereas the Valemount area is also culturally important, but not currently used. Community members did not expect to find sacred sites during ground reconnaissance due to extensive industrial development in Hinton and surrounding areas (Aseniwuche Environmental Corporation 2013).

Aseniwuche Winewak Nation requested notification if culturally relevant sites are found during Project construction and that the sites are protected by a 100 m buffer.

5.2 Hargreaves to Darfield Segment

The results of TLU studies conducted to date have identified TLU sites potentially affected by the Hargreaves to Darfield segment and associated Project components requiring mitigation.

5.2.1 Lheidli T'enneh

Lheidli T'enneh elected to conduct a third-party TLU study for the Project. A third-party consultant, Chignecto Consulting Group conducted a map review, community interviews and ground reconnaissance that focused on Crown lands within the asserted traditional territory of Lheidli T'enneh.

The findings of the TLU study have not been reviewed or approved by Lheidli T'enneh Chief and Council or community. The interim report is considered draft and any changes resulting from review with the Lheidli T'enneh community will be incorporated into the final report.

Additional Issues of concern, traditional use sites or features identified through ongoing engagement with Lheidli T'enneh will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

The results of the Lheidli T'enneh TLU study received on November 20, 2013 are summarized below. Where available, approximate distances and directions of specific geographic areas from the proposed pipeline corridor were determined by TERA based on the information provided in the Lheidli T'enneh TLU study and are described in Tables 5.2.1-1 to 5.2.1-2.

5.2.1.1 Community Participants

The names of participating Lheidli T'enneh community members were not released, as requested by Lheidli T'enneh. Thirteen community members were interviewed and 10 community members conducted ground reconnaissance, with support from Chignecto Consulting Group representatives.

5.2.1.2 Results

The map review, interviews and ground reconnaissance did not reveal any TLU sites within the proposed pipeline corridor requiring mitigation as requested by Lheidli T'enneh.

Trails and Travelways

Lheidli T'enneh community members did not identify any trails and travelways during the TLU for the Project. No mitigation was requested for trails and travelways by Lheidli T'enneh.

Habitation Sites

Lheidli T’enneh community members did not identify any habitation sites during the TLU study for the Project. No mitigation was requested for habitation sites by Lheidli T’enneh.

Plant Gathering

Lheidli T’enneh community members identified two plant gathering sites during the TLU for the Project, detailed in Table 5.2.2-1. In addition to the sites listed in Table 5.2.1-1, community members stated that the eastern area of Lheidli T’enneh traditional territory is currently used for general berry gathering (Chignecto Consulting Group 2013).

TABLE 5.2.1-1

PLANT GATHERING IDENTIFIED BY LHEIDLI T’ENNEH

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
3.2 km northeast of RK 490	Medicinal plant gathering around Mount Robson	Current/Past	None
1.7 km east of RK 523.3	Blueberry, raspberry and soapberry picking from Valemount to Tête Jaune Cache	Current/Past	None

No plant gathering sites were identified within the proposed pipeline corridor during the TLU study. No mitigation was requested for plant gathering sites by Lheidli T’enneh.

Hunting

Lheidli T’enneh community members identified one hunting site during the TLU for the Project, in the general area around Mount Terry Fox located 8.9 km east of RK 510. Community members stated that elk and moose were commonly hunted. In addition to the area around Mount Terry Fox, the western part of Lheidli T’enneh traditional territory is most commonly hunted (Chignecto Consulting Group 2013).

No hunting sites were identified within the proposed pipeline corridor during the TLU study. No mitigation was requested for hunting sites by Lheidli T’enneh.

Fishing

Lheidli T’enneh community members identified two fishing sites during the TLU study for the Project, detailed in Table 5.2.1-2.

Community members expressed concern regarding the health of the Fraser River and its tributaries with the construction and operation of the Project. Fishing has remained an important cultural tradition in the Lheidli T’enneh community and community members would like to preserve fish resources (Chignecto Consulting Group 2013).

TABLE 5.2.1-2

FISHING SITES IDENTIFIED BY LHEIDLI T’ENNEH

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
5.4 km northwest of RK 506	Rainbow and bull trout fishing around confluence of Fraser and McLennan rivers	Current/Past	None
6.7 km east of RK 530	Fishing area at north end of Kinbasket Lake	Current	None

No fishing sites were identified within the proposed pipeline corridor during the TLU study. No mitigation was requested for fishing sites by Lheidli T’enneh.

Trapping

Lheidli T'enneh community members did not identify any trapping sites during the TLU for the Project. No mitigation was requested for trapping sites by Lheidli T'enneh.

Gathering Places

Lheidli T'enneh community members identified one gathering place during the TLU for the Project, around Moose Lake which is located 18.2 km southeast of RK 490. Community members stated that this area was used in the past as a meeting area with tribes east of the Rocky Mountains (Chignecto Consulting Group 2013).

No gathering places were identified within the proposed pipeline corridor during the TLU study. No mitigation was requested for gathering places by Lheidli T'enneh.

Sacred Sites

Lheidli T'enneh community members identified one sacred site during the TLU study for the Project. During ground reconnaissance, a cache pit was found in the Tête Jaune Cache area, located 3 km northwest of RK 507 (Chignecto Consulting Group 2013).

No sacred sites were identified within the proposed pipeline corridor during the TLU study. No mitigation was requested for sacred sites by Lheidli T'enneh.

5.2.2 *Simpcw First Nation*

Trans Mountain and Simpcw First Nation have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Simpcw First Nation elected to conduct an independent, community led TLU study for the Project.

Issues of concern, traditional use sites or features identified through ongoing engagement with Simpcw First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.2.3 *Lhtako Dene Nation*

Lhtako Dene Nation elected to conduct a TERA-led TLU study for the Project. The TLU study will include field reconnaissance of areas of interest, concern or importance identified during the community map review.

Lhtako Dene Nation provided their preliminary 'Letter of Understanding in respect of the Trans Mountain Pipeline Expansion Project' to Trans Mountain on August 29, 2013, that describes their preliminary interests in the Project, including:

- effects of the Project on hunting, fishing, gathering medicinal plants and berry picking, which are an important part of the lives of Lhtako Dene Nation members;
- communal gatherings and outings to different parts of the traditional Lhtako Dene territory are conducted to keep the connection of the people to the land;
- historical village sites around the Bowron, Quesnel and Horsefly lakes;
- the sub-alpine regions in traditional Lhtako Dene territory are customarily used for hunting, harvesting of medicinal plants and berry-picking;
- there are important fishing sites in the traditional territory of Lhtako Dene Nation;
- Elders of Lhtako Dene Nation are opposed to the Project because of the risk of spills, however minimal;

- Lhtako Dene elders are the keepers of their traditional territory and speak for mother earth and the wildlife thereon;
- the fish and game wildlife are being poisoned; and
- areas in which medicinal plants are harvested are being encroached upon.

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Lhtako Dene Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.2.4 Canim Lake Band

Canim Lake Band elected to conduct a TERA-led TLU study for the Project. The TLU study included a map review, community and Elder interviews, overflight and ground reconnaissance that focused on Crown lands within the asserted traditional territory of Canim Lake Band crossed by the Project.

Canim Lake Band provided their 'Trans Mountain Expansion Project Consultation and Information Gathering: Report of Consultation between Canim Lake Band and Kinder Morgan Canada' to Trans Mountain on June 27, 2013, that describes their preliminary interests in the Project, including:

- potential for a spill and resultant effects on fish, wildlife and natural resources, which are the lifeblood of Txq'escenemc people;
- potential effects of a spill along water crossings on the food chain and on human health;
- effects to fish and fish habitat; and
- effects to archaeological sites or artifacts.

Trans Mountain provided an initial response in a letter sent to Canim Lake Band on October 28, 2013.

The map review meeting was held with Canim Lake Band on May 1, 2013 at the Canim Lake Community Hall in Canim Lake, BC. During this meeting, members of the Canim Lake Band examined the regional Project maps with TERA TLU facilitators to determine what areas would be surveyed during the overflight and ground reconnaissance (Figure 5.2.4-1). Community and Elder interviews and a helicopter overflight were held on October 9, 2013. Ground reconnaissance occurred on October 10, 2013. Results review with Canim Lake Band and TERA was held on November 5, 2013.

The results of the Canim Lake Band TLU study for the Project are provided below.

5.2.4.1 Community Participants

TERA would like to thank the following community members of Canim Lake Band for their time and assistance.

Chief: Michael Archie.

Council: Jesse Archie.

Elders: Antoinette Archie, Elsie Archie, Mitch Theodore, George Pete, Grace Archie, Rise Angus, Joyce Paul, Florence Thomas, Roy Christopher, M. Patricia Meag and Elizabeth Pete.

Community Members: Gladys Rowan and Ella (no last name provided).

Lands Department: Don Dixon, Pam Theodore, Irene Gilbert and Melvin Paul.

FIGURE 5.2.4-1
CANIM LAKE BAND (TSQ'ESCENEMC)
TRADITIONAL LAND USE AREAS
IDENTIFIED DURING MAP REVIEW

TRANS MOUNTAIN
EXPANSION PROJECT

- City/Town
- Kilometre Post (KP)
- Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
- Existing Pump Station
- Trans Mountain Expansion Project Proposed Pipeline Corridor
- Trans Mountain Pipeline (TMPL)

- Traditional Land Use:**
- Fishing
 - Harvesting
 - Hunting
 - Camp
 - Archaeological
 - Spiritual
 - Travelway
 - Primary Highway
 - Railway
 - Watercourse
 - Waterbody
 - Park, Protected or Conservancy Area
 - Indian Reserve (IR)

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Projection: UTM 10N. Baseline TMPL & Facilities: provided by KMC, 2012; Proposed Pipeline Corridor V6: provided by UPI, Aug. 23, 2013; Transportation: ESRI 2010, Natural Resources Canada 2012; Geopolitical Boundaries: Natural Resources Canada 2003, BC FLNRO 2007, ESRI 2005; Hydrology: Natural Resources Canada 2010; Parks and Protected Areas: Alberta Tourism, Parks and Recreation 2012, Natural Resources Canada 2013, BC FLNRO 2008; Landsat 7 Panchromatic imagery: NASA Geospatial Interoperability Program 2005.

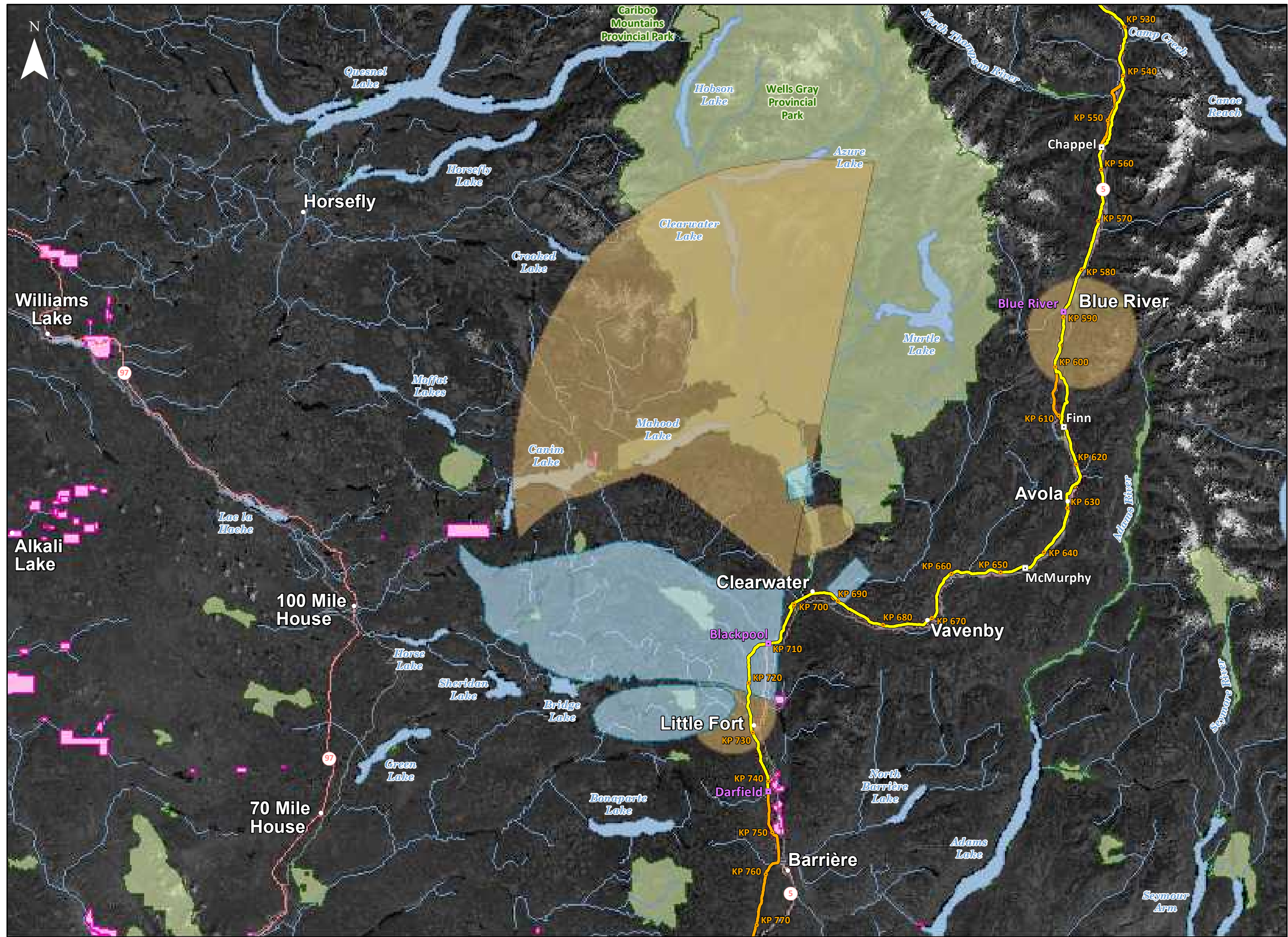


Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.



MAP NUMBER	201307_MAP_TERA_TLU_00363_REV0	PAGE	SHEET 1 OF 1
DATE	December 2013	TERA REF.	7894
REVISION	0		
SCALE	1:700,000	PAGE SIZE	11x17
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DESIGN			TGG

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 All Locations Approximate



5.2.4.2 Results

The map review, interviews and ground reconnaissance revealed three TLU sites within the proposed pipeline corridor requiring mitigation as requested by Canim Lake Band.

Trails and Travelways

Canim Lake Band Elders and community members identified several historic trails during the TLU study for the Project, detailed in Table 5.2.4-1.

Elders and community members shared about a number of historic trails in their traditional territory. They shared that peeled birch bark trees could be found along many of the trails and historically dugout canoes were left at major lakes for anyone to use. Community members did not say whether any of these trails are currently used.

TABLE 5.2.4-1

TRAILS AND TRAVELWAYS IDENTIFIED BY CANIM LAKE BAND

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
50 km north of RK 721.5	Trail from Spanish Lake to western shores of Clearwater Lake	Past	None
50 km north of RK 724	Trail from Canim Lake to Azure Lake	Past	None
2.5 km northwest of RK 725	Trail from Canim Lake IR 1 to Clearwater (now Logging road 8860)	Past	None
25 km north of RK 726.7	Trail from Rosehill Creek Provincial Park to the Clearwater River	Past	None
Crosses at RK 748.8	Trail from the Canim Lake IR 1 to Boulder on the North Thompson River	Past	None

One trail was identified that is crossed by the proposed pipeline corridor at RK 748.8. No mitigation was requested for trails and travelways by Canim Lake Band.

Habitation Sites

Canim Lake Band Elders and community members identified several habitation sites during the TLU study for the Project, detailed in Table 5.2.4-2.

Community members reported that years ago they would camp everywhere in their traditional territory as they travelled for days in search of berries and game. Several cabins, both historic and current were identified during the TLU study. A community member reported that approximately 40 cabins northwest of Clearwater had been destroyed during the Mason fire in the early 1800s. During ground reconnaissance an Elder identified an old cabin west of Little Fort near Lemieux Creek. He shared that he had lived in that cabin in the late 1940s when his father was working in the region. An Elder identified a location during the overflight named the “Horseshoe” where his grandparents had a cabin that was used for hunting, trapping and food gathering. Another site visited was that of an old swing bridge across the Thompson River, which has now been replaced by a modern bridge. Elders shared that when they were young the swing bridge was a foot bridge used to access the small train station where they helped a local woman pick up supplies.

Old pithouses and cache pits were identified in the North Thompson River Provincial Park between the North Thompson and Clearwater rivers. This site was an excellent camp location because it provided water, fish and travelways.

TABLE 5.2.4-2

HABITATION SITES IDENTIFIED BY CANIM LAKE BAND

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
130 m east of RK 670.3	Old swing bridge site	Past (1950s)	None
56.9 km north of RK 722.4	Campsites between Caribou Mountain and Clearwater Lake	Current	None
195 m south of RK 725.6	Pit house, cache pits at North Thompson River Provincial Park	Past	None
52 km north of RK 726	Central camping area near Spanish Lake	Current	None
35 km north of RK 726	Pithouse on the east side of Mahood Lake.	Past	None
27 km northwest of RK 726.7	Cabins destroyed in Mason Fire	Past (1800-1830)	None
45 km north of RK 739.6	Village (south Canim Lake - Rosehill Creek Provincial Park)	Past	None
1 km east of RK 748.9	Cabins (Mount Olie region)	Current	None
300 m east of RK 752.3	Old cabin west of Little Fort near Lemieux Creek	Past (1947-1950)	None

No habitation sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for habitation sites by Canim Lake Band.

Plant Gathering

Canim Lake Band Elders and community members identified several plant gathering sites during the TLU study for the Project, detailed in Table 5.2.4-3.

Edible plants and berries are important food sources for community members. Types of plants specifically mentioned were cow parsnip, wild rhubarb, wild cranberries, wild blueberries, huckleberries and mushrooms. Pine, spruce and birch trees are also used.

TABLE 5.2.4-3

PLANT GATHERING SITES IDENTIFIED BY CANIM LAKE BAND

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
55 km northwest of RK 615.1	Berry picking around Myrtle Lake	Current	None
1 km east of RK 615.8	Berry picking around Pine River Provincial Park (Blue River)	Current	None
From RK 646.9 to RK 666.7	Edible plants and berries	Current	None
From RK 617.8 to RK 670.7	Birch bark harvest along shores of North Thompson River	Current	None
76 km northwest of RK 725	Plant gathering around Crooked Lake	Current	None
105 km northwest of RK 726.7	Plant gathering around McIntosh Lake	Current	None
7.6 km northwest of RK 739.6	Edible plants and berries	Current	None
1.2 km north of RK 749.7	Edible plants and berries	Current	None
From 1 km east of RK 728.9 to 1 km east of RK 746.8	Medicinal and edible plant gathering (east of North Thompson River)	Current	None
3 km west of RK 751.8	Plant gathering area from North Thompson River west to Bridge Lake Provincial Park	Current	None
Project Footprint	Concerns about losing medicinal plants and berries during construction	--	None

No plant gathering sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for plant gathering sites by Canim Lake Band.

Hunting

Canim Lake Band Elders and community members identified several hunting sites during the TLU study for the Project, detailed in Table 5.2.4-4.

During the TLU study, Elders and community members identified several hunting sites within the Canim Lake traditional territory. Moose, deer, elk and bears are all hunted. Most hunting takes place during the fall when animals have fattened up for the winter.

**TABLE 5.2.4-4
 HUNTING SITES IDENTIFIED BY CANIM LAKE BAND**

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
At RK 607.4	Hunting near Blue River	Current	None
7.6 km north of RK 721.5	Bear hunting near Spahats Creek Provincial Park	Current	None
76 km northwest of RK 725	Hunting around Crooked Lake	Current	None
60 km north of RK 725	Hunting at Caribou Mountain	Current	None
30 km to 50 km northwest of RK 725	Hunting near Canim and Mahood Lakes	Current	None
105 km northwest of RK 726.7	Hunting around McIntosh Lake	Current	None
3 km west of RK 751.8	Hunting from North Thompson River west to Bridge Lake Provincial Park	Current	None
Project Footprint	Concerns about how wildlife will be protected during construction	-	None

A hunting site was identified at RK 607.4. No mitigation was requested for hunting sites by Canim Lake Band.

Fishing

Canim Lake Band Elders and community members identified several fishing sites during the TLU study for the Project, detailed in Table 5.2.4-5.

A Canim Lake Band Elder indicated that people from Canim Lake are also named ‘Lakes People’ because of the large number of lakes in the region. The Canim Lake area provides fishing year round. Several lakes in the region provide trout, kokanee, burbot and whitefish. Larger rivers and creeks provide salmon and trout. Community members shared that there is a fishing derby held in September in the North Thompson River, which coincides with the salmon run in the northern part of the river.

**TABLE 5.2.4-5
 FISHING SITES IDENTIFIED BY CANIM LAKE BAND**

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
From RK 668.7 to RK 736.8	Fishing on North Thompson River	Current	None
Crosses at RK 717.4	Fishing on Raft River	Current	None
18 km north of RK 721.3	Fishing on Clearwater River near Grouse Creek	Current	None

TABLE 5.2.4-5 Cont'd

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
47 km north west of RK 725	Fishing on Canim Lake	Current	None
36 km northwest of RK 725	Fishing on Mahood Lake	Current	None
11 km west of RK 748.8	Fishing on Emily Lake	Current	None

One fishing site was identified on Raft River crossed by the proposed pipeline corridor at RK 717.3. No mitigation was requested for fishing sites by Canim Lake Band.

Trapping

Canim Lake Band Elders and community members identified several traplines during the TLU study for the Project, detailed in Table 5.2.4-6.

Marten, lynx, mink, weasel, squirrel, wolverine, badger, cougar, fox, muskrat, beaver, rabbit and grouse are all currently trapped by Canim Lake Band community members. It was reported that all of these animals can be found in their traditional trapping areas, but community members now have to travel further to find and trap them.

TABLE 5.2.4-6

TRAPPING SITES IDENTIFIED BY CANIM LAKE BAND

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
21.8 km north of RK 722.4	Wells-Grey trapline	Current	None
4.3 km north of RK 726.5	Archie trapline	Current	None
77 km northeast of RK 726	Christopher trapline	Current	None

No trapping sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trapping sites by Canim Lake Band.

Gathering Places

Canim Lake Band identified four gathering places during the TLU study for the Project, detailed in Table 5.2.4-7.

There is a community at Little Fort where Canim Lake Band holds annual gatherings. Green Lake is a gathering place for the seventeen Shuswap nations that was used historically. There are many burial sites in this area.

TABLE 5.2.4-7

GATHERING PLACES IDENTIFIED BY CANIM LAKE BAND

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
70 km west of RK 726.7	Gathering place in Gateway/Buffalo Creek area north of 100 Mile House	Current	None
90 km northwest of RK 726.7	Gathering area at Lac La Hache (114 Mile House)	Current	None
70 km west of RK 756.8	North shore of Green Lake (Shuswap)	Current	None
1.5 km east of RK 756.9	Little Fork	Current	None

No gathering places were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for gathering places by Canim Lake Band.

Sacred Areas

Canim Lake Band Elders and community members identified several sacred areas during the TLU study for the Project, detailed in Table 5.2.4.8.

TABLE 5.2.4-8

SACRED SITES IDENTIFIED BY CANIM LAKE BAND

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
73 km north of RK 721.4	Horseshoe burial site near Horseshoe Bend	Past	None
1 km east of RK 751.8	Archaeological sites	Past	None
70 km west of RK 756.8	Burial site on north shore of Green Lake	Past	None
10 km west of RK 761.9	Burial site south of Machete Lake	Past	None

No sacred sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for sacred sites by Canim Lake Band.

5.2.5 Whispering Pines First Nation (Clinton Indian Band)

Whispering Pines First Nation elected to conduct a TERA-led TLU study for the Project. The TLU study included a map review meeting that focused on Crown lands within the asserted traditional territory of Whispering Pines First Nation crossed by the Project. Interest in conducting additional phases of a TLU study for the Project will be determined by Whispering Pines First Nation. Trans Mountain will continue to share Project information with Whispering Pines First Nation and to support Whispering Pines First Nation in Project activities.

The map review meeting was held with Whispering Pines First Nation on July 16, 2013 at the Dunes Golf Club in Kamloops, BC. During this meeting, Whispering Pines First Nation examined the regional Project maps with TERA TLU facilitators to determine what areas would be surveyed during the planned overflight and ground reconnaissance (Figure 5.2.5-1). Additional issues of concern, traditional use sites or features identified through ongoing engagement with Whispering Pines First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

The results of the Whispering Pines First Nation TLU study completed to date for the Project are provided below.

5.2.5.1 Community Participants

TERA would like to thank the following community members of Whispering Pines First Nation for their time and assistance.

Chief: Mike LeBourdais.

Community Members: Tammy LeBourdais, Richard LeBourdais, Jerry LeBourdais, Leslie LeBourdais, Sandy LeBourdais, Joe LeBourdais, Della Fellhauer, Ed LeBourdais, Susan Dionne, Tiffany Dick, Kurt Louis, Lorraine LeBourdais, Charlotte LeBourdais, Norah LeBourdais, Mary Hewitt, Violet LeBourdais and Marty LeBourdais.

5.2.5.2 *Results*

The map review revealed one TLU site within the proposed pipeline corridor requiring mitigation as requested by Whispering Pines First Nation.

FIGURE 5.2.5-1
WHISPERING PINES / CLINTON INDIAN BAND
TRADITIONAL LAND USE AREAS
IDENTIFIED DURING MAP REVIEW

TRANS MOUNTAIN EXPANSION PROJECT

- City/Town
 - Kilometre Post (KP)
 - Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
 - New Pump Station (Proposed)
 - Existing Pump Station
 - Trans Mountain Expansion Project Proposed Pipeline Corridor
 - Trans Mountain Pipeline (TMPL)
- Traditional Land Use:**
- Fishing
 - Gathering Area
 - Habitation Site
 - Plant Harvesting
 - Hunting
 - Hunting/Plant Harvesting
 - Sacred Site
 - Trapping
 - Trails & Travelways
 - Primary Highway
 - Railway
 - Watercourse
 - Waterbody
 - Park, Protected or Conservancy Area
 - Indian Reserve (IR)

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Projection: UTM 10N. Baseline TMPL & Facilities: provided by KMC, 2012; Proposed Pipeline Corridor V6: provided by UPI, Aug. 23, 2013; Transportation: ESRI 2010, Natural Resources Canada 2012; Geopolitical Boundaries: Natural Resources Canada 2003, BC FLNRO 2007, ESRI 2005; Hydrology: Natural Resources Canada 2010; Parks and Protected Areas: Alberta Tourism, Parks and Recreation 2012, Natural Resources Canada 2013, BC FLNRO 2008; Landsat 7 Panchromatic imagery: NASA Geospatial Interoperability Program 2005.

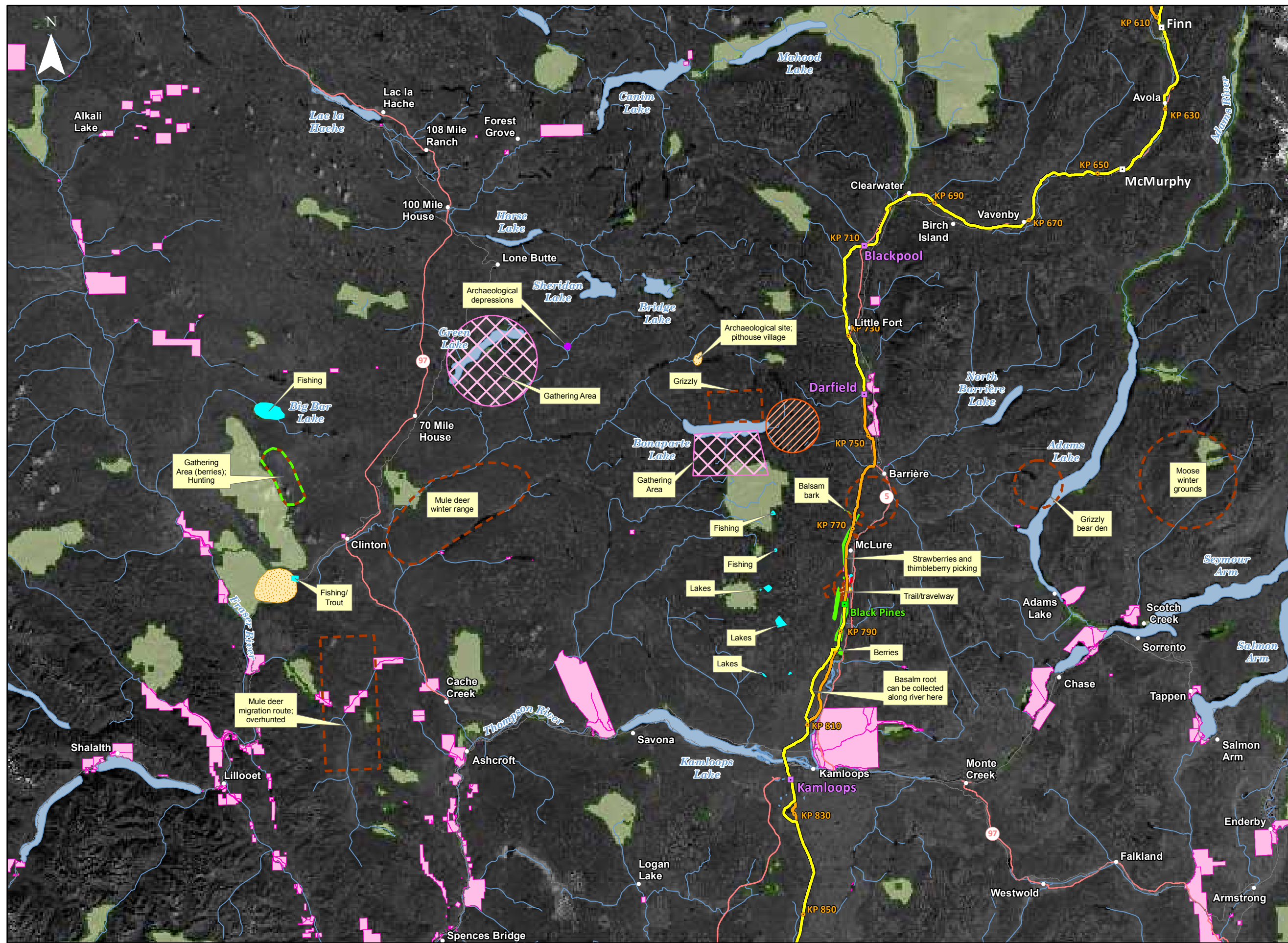


Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.



MAP NUMBER 201311_MAP_TERA_TLU_00479_REV0	PAGE SHEET 1 OF 1
DATE December 2013	TERA REF. 7894
SCALE 1:700,000	REVISION 0
DRAWN TGG	CHECKED CAS
	DESIGN TGG

7 0 7 14 21 km
 All Locations Approximate



201311_MAP_TERA_TLU_00479_REV0.mxd



Plate 5.2.5-1 Map review meeting on July 16, 2013 at the Dunes Golf Club in Kamloops.

Trails and Travelways

Whispering Pines First Nation community members identified two trails and travelways during the TLU map review meeting, detailed in Table 5.2.5-1.

TABLE 5.2.5-1

TRAILS AND TRAVELWAYS IDENTIFIED BY WHISPERING PINES FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
21 km southwest of RK 742	Wagon/horse trail around Bonaparte Lake	Current	None
Unknown location	Private JNL road along east side of Whispering Pines IR No. 4 – this road may not be accurate on map	Current	None

No trails and travelways were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trails and travelways by Whispering Pines First Nation.

Habitation Sites

Whispering Pines First Nation Elders and community members identified several habitation sites during the TLU for the Project, detailed in Table 5.2.5-2.

There is also an existing archaeological site consisting of an old village, 1 km west of RK 812 and west of an existing cattle guard. A large (20 cm long) basalt/dacite scraper was found here, in addition to other small artifacts.

TABLE 5.2.5-2

HABITATION SITES IDENTIFIED BY WHISPERING PINES FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
49 km west of RK 755.2	Campsite - depression	Past	None
30 km west of RK 761.3	Archaeological site (pithouse) west of Machete Lake	Past	None
109 km west of RK 768	Pithouses at Fifty-Nine Creek	Past	None
107 km west of RK 812	321 pithouses at Kelly Lake – used for ice fishing	Past	None
1 km west of RK 812	Old village site	Past	None
110 km west of RK 813	Pithouses at Pear Lake	Past	None
113 km west of RK 813	Pithouses at Cavanagh Creek	Past	None

No habitation sites were identified within the proposed pipeline corridor during the TLU Study and no mitigation was requested for habitation sites by Whispering Pines First Nation.

Plant Gathering

Whispering Pines First Nation Elders and community members identified several plant gathering sites during the TLU study for the Project, detailed in Table 5.2.5-3.

Community members shared that they harvest chokecherries, saskatoon berries, rosehips, hawthorn berries, soapberries, raspberries, wild strawberries, thimbleberries, 'black caps' (blackberries), bunchberries, skunk berries and blueberries. Skunk berries look like Saskatoon berries and smell like skunk. With soapberries, there is a cycle with a variance in the size of the crop during different years.

Berries (e.g., blueberries, raspberries and strawberries) are gathered by women and preserved. In the past the community would pick berries along streams as they followed migrating fish.

TABLE 5.2.5-3

PLANT GATHERING SITES IDENTIFIED BY WHISPERING PINES FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
Project Footprint	Concern about the need to travel further to find medicinal plants.	--	None
Project Footprint	Concerns about decline of berries as a result of industry and clear cutting and the decline of wild rose, possibly due to warmer average temperatures.	--	None
500 m west of RK 693.7	Balsam bark and Devil's Club harvesting in spring, near Poison Creek.	Current	None
69 km west of RK 755.8	Berry picking site south of Green Lake.	Current	None
21 km southwest of RK 769	Berry picking site south of Bonaparte Lake.	Current	None
25 km southwest of RK 769	Berry picking and plant gathering site at Whitewood Lake.	Current	None
96 km west of RK 812	Berry picking site northwest of Clinton.	Current	None
7 km northeast of RK 812	Cedar and cottonwood harvesting from Skull Hill to north tip of Gilead Island.	Current	None
15 km northwest of RK 814	Berry picking and plant gathering site at Wentworth Lake.	Current	None
12 km west of RK 814	Berry picking and plant gathering site at Inskip Lake.	Current	None
1.7 km west of RK 830.4	Balsam harvesting site.	Current	None
– At RK 820	Berry picking site.	Current	None

TABLE 5.2.5-3 Cont'd

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
5.6 km northwest of RK 828.6	Berry picking and plant gathering site at Isobel Lake.	Current	None
10 km west of RK 831.5	Berry picking and plant gathering site at Pass Lake.	Current	None

One berry picking site was identified within the proposed pipeline corridor. No mitigation was requested for plant gathering sites by Whispering Pines First Nation.

Hunting

Whispering Pines First Nation Elders and community members identified several hunting sites during the TLU study for the Project, detailed in Table 5.2.5-4.

There is important mule deer habitat approximately 75 km northwest of RK 812 and north of Loon Lake. This area has wet conditions, lots of food, shelter, shrubbery, alder and other deciduous vegetation. Important wildlife habitat is located just west and south of the Whispering Pines IR 4. Cougar, bear, coyote, lynx, bobcat, deer, elk, fox and badger can be found here, as well as birds including the bald and golden eagle, turkey vulture, hawk and blue heron.

One community member indicated that deer could be hunted practically in her backyard, although these deer are small. There are many elk in the region around Strawberry Lake. Community members used to eat bear, along with any other game that could be hunted.

The Marble Range was identified as good mule deer habitat that has deep valleys for shelter, as well as an abundance of water and minerals for animals.

TABLE 5.2.5-4

HUNTING SITES IDENTIFIED BY WHISPERING PINES FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
Unknown location	Moose hunting around Strawberry Lake – elk hunting in the past	Current/Past	None
17.5 km northeast of RK 812	Deer and moose hunting north of Skull Hill	Current	None
92 km northwest of RK 829	Hunting site northwest of Clinton	Current	None
97 km northwest of RK 831.5	Concern about overhunting along mule deer migration route southeast of Marble Range	Current	None
Project Footprint	Concern about increased public access and construction crews hunting in the area	--	None
Project Footprint	Ensure deer remain close to IR 4 so younger generation can learn to hunt	Current	None
Project Footprint	Concerns about species at risk and birds in particular	--	None

No hunting sites were identified within the proposed pipeline corridor during the TLU Study and no mitigation was requested for hunting sites by Whispering Pines First Nation.

Fishing

Whispering Pines First Nation Elders and community members identified several fishing sites during the TLU for the Project, detailed in Table 5.2.5-5.

Community members shared that they raft on the North Thompson River where they also fish for rainbow trout, Dolly Varden, steelhead, bullhead and sturgeon. Rainbow trout and Dolly Varden are only fished in the winter.

Community members shared that there are spawning sites all along the Thompson River and in Mahood Lake. Trout spawn in the late summer/early fall along in the Thompson River along the right-of-way. According to a community member, Chinook salmon were first recorded here in 1927. There are important salmon spawning sites just east of Whispering Pines IR 4. Beaver and otter are also present at this site.

TABLE 5.2.5-5

FISHING SITES IDENTIFIED BY WHISPERING PINES FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
Project Footprint	Concerns about the potential effects of erosion on fish	--	None
Project Footprint	Concerns about water quality and quantity and fish habitat	--	None
67 km west of RK 635.2	Fish spawning in Mahood Lake	Current	None
From RK 746.8 to 22 km south of RK 769	Fishing along Thompson River and tributaries (used minimally)	Current	None
50 km east of RK 752.8	Royfield River	Current	None
69 km west of RK 755.8	Trout fishing at Green Lake	Current	None
110 km west of RK 766	Meadow Lake	Current	None
113 km west of RK 768	Big Bar Lake	Current	None
113 km west of RK 768	Trout fishing at Big Bar Lake	Current	None
21 km southwest of RK 769	Trout fishing south of Bonaparte Lake	Current	None
107 km west of RK 812	321 pithouses at Kelly Lake – used for ice fishing	Past	None
96 km west of RK 812	Trout fishing northwest of Clinton	Current	None
107 km west of RK 814	Ice fishing on Kelly Lake	Current	None
61 km west of RK 814	Fishing in Hihium Lake	Current	None
68 km east if RK 819	Little White Lake	Current	None
70.8 km east of RK 962.7	Fishing in Glen Lake	Current	None
Project Footprint	Fishing along unspecified tributaries of Fraser River	Current	None

No fishing sites were identified within the proposed pipeline corridor during the TLU Study and no mitigation was requested for fishing sites by Whispering Pines First Nation.

Trapping

Whispering Pines First Nation community members identified three trapping sites during the TLU for the Project, detailed in Table 5.2.5-6.

TABLE 5.2.5-6

TRAPPING SITES IDENTIFIED BY WHISPERING PINES FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
16 km southwest of RK 769	Trapline east of Bonaparte Lake	Current	None
17 km south of RK 769	Trapline between Fishtrap Mountain and south to the North Thompson River	Current	None
Unknown location	Trapline	Current	None

No trapping sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trapping sites by Whispering Pines First Nation.

Gathering Places

Whispering Pines First Nation community members identified several gathering places during the TLU for the Project, detailed in Table 5.2.5-7.

Community members shared that there is a gathering place at Bonaparte Lake, where people would gather as they moved seasonally, following fish and picking berries. From there they would move all the way to east French Bar Creek, where weddings were traditionally held. Men would hunt, dry meat and fish while women would gather and preserve berries.

TABLE 5.2.5-7

GATHERING PLACES IDENTIFIED BY WHISPERING PINES FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
69 km west of RK 755.8	Gathering place at Green Lake	Current	None
113 km west of RK 768	Gathering place at Big Bar Lake	Current	None
148 km west of RK 768	Gathering place at French Bar Creek	Past	None
21 km southwest of RK 769	Gathering place south of Bonaparte Lake	Current	None
96 km west of RK 812	Gathering place northwest of Clinton	Current	None

No gathering places were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for gathering places by Whispering Pines First Nation.

Sacred Areas

Whispering Pines First Nation community members identified two sacred sites during the TLU for the Project, detailed in Table 5.2.5-8.

Community members reported the presence of two natural springs which are considered to be sacred due to their healing properties. Specific locations of both natural springs were not identified during the TLU study.

TABLE 5.2.5-8

SACRED SITES IDENTIFIED BY WHISPERING PINES FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
Project Footprint	Concerns about regions of historical importance and believe that development is encroaching on sacred areas	--	None
Unknown location	Natural springs	Current	None
Unknown location	Natural springs	Current	None

No sacred areas were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for sacred areas by Whispering Pines First Nation.

5.2.6 Métis Nation British Columbia

Trans Mountain and Métis Nation British Columbia have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Métis Nation British Columbia is currently completing an independent third-party engagement report for the Project.

Issues of concern, traditional use sites or features identified through ongoing engagement with Métis Nation British Columbia will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.3 Black Pines to Hope Segment

The results of TLU studies conducted to date have not identified any TLU sites potentially affected by the Black Pines to Hope Segment and associated Project components requiring mitigation.

5.3.1 Tk'emlúps te Secwepemc

Trans Mountain has shared Project information and invited Tk'emlúps te Secwepemc to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Tk'emlúps te Secwepemc and to support Tk'emlúps te Secwepemc participation in Project activities. Interest in a TLU study will be determined by Tk'emlúps te Secwepemc.

Issues of concern, traditional use sites or features identified through ongoing engagement with Tk'emlúps te Secwepemc will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.3.2 Skeetchestn Indian Band

Trans Mountain has shared Project information and invited Skeetchestn Indian Band to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Skeetchestn Indian Band and to support Skeetchestn Indian Band participation in Project activities. Interest in a TLU study will be determined by Skeetchestn Indian Band.

Issues of concern, traditional use sites or features identified through ongoing engagement with Skeetchestn Indian Band will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.3.3 Penticton Indian Band

Trans Mountain has shared Project information and invited Penticton Indian Band to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Penticton Indian Band and to support Penticton Indian Band participation in Project activities. Interest in a TLU study will be determined by Penticton Indian Band.

Issues of concern, traditional use sites or features identified through ongoing engagement with Penticton Indian Band will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.3.4 Upper Nicola Indian Band

Trans Mountain has shared Project information and invited Upper Nicola Indian Band to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Upper Nicola

Indian Band and to support Upper Nicola Indian Band participation in Project activities. Interest in a TLU study will be determined by Upper Nicola Indian Band.

Issues of concern, traditional use sites or features identified through ongoing engagement with Upper Nicola Indian Band will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.3.5 Lower Similkameen Indian Band

Trans Mountain has shared Project information and invited Lower Similkameen Indian Band to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Lower Similkameen Indian Band and to support Lower Similkameen Indian Band participation in Project activities. Interest in a TLU study will be determined by Lower Similkameen Indian Band.

Issues of concern, traditional use sites or features identified through ongoing engagement with Lower Similkameen Indian Band will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.3.6 Upper Similkameen Indian Band

Trans Mountain has shared Project information and invited Upper Similkameen Indian Band to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Upper Similkameen Indian Band and to support Upper Similkameen Indian Band participation in Project activities. Interest in a TLU study will be determined by Upper Similkameen Indian Band.

Issues of concern, traditional use sites or features identified through ongoing engagement with Upper Similkameen Indian Band will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.3.7 Lower Nicola Indian Band

Trans Mountain and Lower Nicola Indian Band have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Lower Nicola Indian Band elected to conduct an independent, community led TLU study for the Project.

A third-party consultant, Sa'lish Archaeology and CRM Ltd., conducted an in-depth literature review and community interviews and surveys that focused on Crown lands within the asserted traditional territory of Lower Nicola Indian Band.

The interim results of the Lower Nicola Indian Band TLU study received on November 26, 2013 are summarized below. The study has identified 75 separate uses or use areas with multiple uses along the proposed route and 150 traditionally used species within the Lower Nicola Indian Band TLU study area. Location specific data was not provided in the interim results. The interim results also report that:

"...to date, we have not found one conclusive reason to oppose this project based on the direct negative effect of a traditional use by this project. Thus, there is no indication of a complete opposition based on the concerns of this TLUS specific to the proposed Kinder Morgan - Trans Mountain expansion project development area." (Sa'lish Archaeology and CRM Ltd. 2013).

Lower Nicola Indian Band also identified broad concerns within their interim report, including:

- pipeline integrity;
- safety to human use;
- effects on all levels of animal and bird and fish habitat, water, plants; and

- disturbing the natural habitat of the environment now and over the duration of pipeline operations.

Recommendations with respect to mitigation strategies will be provided in the final report (Sa'lish Archaeology and CRM Ltd. 2013).

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Lower Nicola Indian Band will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.3.8 Coldwater Indian Band

Trans Mountain has shared Project information and invited Coldwater Indian Band to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Coldwater Indian Band and to support Coldwater Indian Band participation in Project activities. Interest in a TLU study will be determined by Coldwater Indian Band.

Issues of concern, traditional use sites or features identified through ongoing engagement with Coldwater Indian Band will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.3.9 Shackan Indian Band

Trans Mountain and Shackan Indian Band have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Shackan Indian Band elected to conduct a joint third-party TLU study for the Project with Nicomen Indian Band and Nooaitch Indian Band led by Nicola Tribal Association.

Issues of concern, traditional use sites or features identified through ongoing engagement with Shackan Indian Band will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.3.10 Nicomen Indian Band

Trans Mountain and Nicomen Indian Band have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Nicomen Indian Band elected to conduct a joint third-party TLU study for the Project with Shackan Indian Band and Nooaitch Indian Band led by Nicola Tribal Association.

Issues of concern, traditional use sites or features identified through ongoing engagement with Nicomen Indian Band will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.3.11 Nooaitch Indian Band

Trans Mountain and Nooaitch Indian Band have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Nooaitch Indian Band elected to conduct a joint third-party TLU study for the Project with Nicomen Indian Band and Shackan Indian Band led by Nicola Tribal Association.

Issues of concern, traditional use sites or features identified through ongoing engagement with Nooaitch Indian Band will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.3.12 Yale First Nation

Trans Mountain and Yale First Nation have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Yale First Nation elected to conduct a third-party TLU study for the Project.

Issues of concern, traditional use sites or features identified through ongoing engagement with Yale First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.3.13 Métis Nation British Columbia

Trans Mountain and Métis Nation British Columbia have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Métis Nation British Columbia is currently completing an independent third-party engagement report for the Project.

Issues of concern, traditional use sites or features identified through ongoing engagement with Métis Nation British Columbia will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4 Hope to Burnaby Segment

The results of TLU studies conducted to date have identified TLU sites potentially affected by the Hope to Burnaby Segment and associated Project components requiring mitigation.

5.4.1 Union Bar First Nations

Trans Mountain and Union Bar First Nations have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Trans Mountain will continue to share Project information with Union Bar First Nations and to support Union Bar First Nations participation in Project activities. Interest in a TLU study will be determined by Union Bar First Nations.

Issues of concern, traditional use sites or features identified through ongoing engagement with Union Bar First Nations will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.2 Chawathil First Nation

Trans Mountain and Chawathil First Nation have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Chawathil First Nation elected to conduct an independent, community led TLU study for the Project.

Issues of concern, traditional use sites or features identified through ongoing engagement with Chawathil First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.3 Shxw'ōwhámel First Nation

Shxw'ōwhámel First Nation elected to conduct the map review phase of their TLU study for the Project with TERA, that focused on Crown lands within the asserted traditional territory of Shxw'ōwhámel First Nation crossed by the Project. Shxw'ōwhámel First Nation is currently completing the remaining phases of their community led TLU study independently for the Project.

Shxw'ōwhámel First Nation provided their Shxw'ōwhámel Community Review of the Proposed KM Pipeline Project' to Trans Mountain on August 13, 2013, that describes their preliminary interests in the Project, including:

- potential effects of a spill on land, water, fish and Shxw'ōwhámel First Nation's water supply;
- potential effects of a spill on Shxw'ōwhámel First Nation's traditional hunting, gathering, fishing and ceremonial sites and activities;
- potential effects of the Project on salmon and water aquifers;
- increased marine traffic in Burrard Inlet;
- cumulative effects of the pipeline; and
- the effect on and potential destruction of culturally important historic pithouses and other archaeological sites within the proposed pipeline corridor.

Trans Mountain provided an initial response in a letter sent to Shxw'ōwhámel First Nation on October 28, 2013.

Site-specific interests included in the 'Preliminary Aboriginal Interests with Respect to the Trans Mountain Expansion Project' are included in the results below.

A TLU study was held with Shxw'ōwhámel First Nation on May 28, 2013, at the Band Hall in Hope, BC (Plate 5.4.3-1). During this meeting, members of Shxw'ōwhámel First Nation examined the regional Project maps with TERA TLU facilitators to determine what areas would be surveyed during the overflight and ground reconnaissance (Figure 5.4.3-1). The results of the Shxw'ōwhámel First Nation TLU study for the Project completed to date are provided below.

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Shxw'ōwhámel First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.3.1 *Community Participants*

TERA would like to thank the following community members of Shxw'ōwhámel First Nation for their time and assistance.

Siy:am: Leona Kelly, Vanessa Elkins-Gomez, Lenora Fraser, Irene Smith.

Elders: Mike Kelly.

Community Members: List unavailable.

Lands Department: Roger Andrews, Lenora Fraser.

5.4.3.2 *Results*

To date, the TLU study revealed four TLU sites within the proposed pipeline corridor requiring mitigation as requested by Shxw'ōwhámel First Nation.



Plate 5.4.3-1 TLU study held with Shxw'ōwhámel First Nation on May 28, 2013, at the Band Hall in Hope, BC.

FIGURE 5.4.3-1

**SHXW'OWHAMEL FIRST NATION
TRADITIONAL LAND USE AREAS
IDENTIFIED DURING MAP REVIEW**

**TRANS MOUNTAIN
EXPANSION PROJECT**

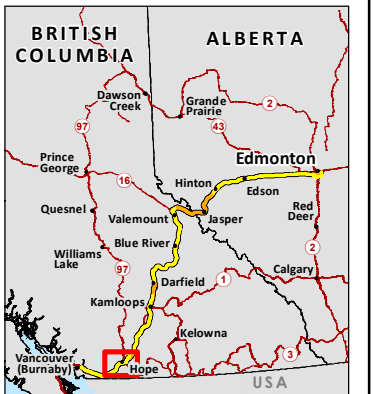
- City/Town
 - Kilometre Post (KP)
 - ▲ Terminal
 - Existing Pump Station
 - Trans Mountain Expansion Project Proposed Pipeline Corridor
 - Trans Mountain Pipeline (TMPL)
 - Primary Highway
 - Railway
 - Watercourse
 - Waterbody
 - Park, Protected or Conservancy Area
 - Indian Reserve (IR)
- Traditional Land Use:**
- Fishing
 - Gathering Area
 - Habitation Site
 - Hunting
 - Hunting/Plant Harvesting
 - Plant Harvesting
 - Sacred Site/Gathering Area
 - Trapping

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Projection: UTM 10N. Baseline TMPL & Facilities: provided by KMC 2012; Proposed Pipeline Corridor V6: provided by UPI Aug. 23, 2013; Transportation: ESRI 2010, Natural Resources Canada 2012; Geopolitical Boundaries: Natural Resources Canada 2003, BC FLNRO 2007, ESRI 2005; Hydrology: Natural Resources Canada 2010; Parks and Protected Areas: Alberta Tourism, Parks and Recreation 2012, Natural Resources Canada 2013, BC FLNRO 2008; Landsat 7 Panchromatic imagery: NASA Geospatial Interoperability Program 2005.

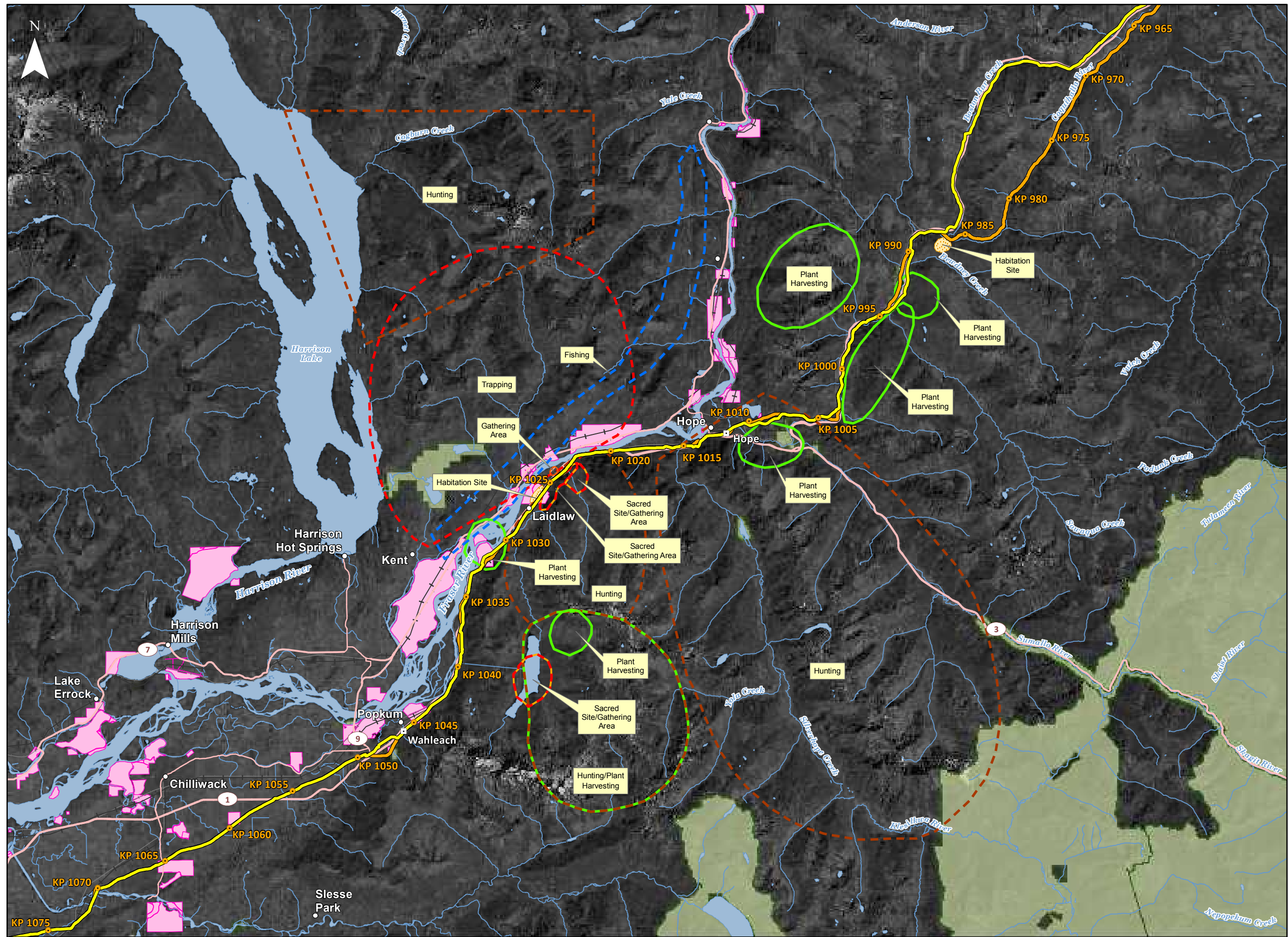


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MAP NUMBER 201312_MAP_TERA_TLU_00501_REV0	PAGE SHEET 1 OF 1
DATE December 2013	REVISION 0
SCALE 1:250,000	DISCIPLINE TLU
DRAWN TPH	DESIGN TGG

0 2.5 5 7.5 km
All Locations Approximate



Trails and Travelways

Shxw’ówhámel First Nation Elders and community members identified one trail during the TLU study. Community members shared that women and children would travel the trail, located 1 km from RK 1059 south to Wahleach Lake.

No trails and travelways were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trails and travelways by Shxw’ówhámel First Nation.

Habitation Sites

Shxw’ówhámel First Nation Elders and community members identified two habitation sites during the TLU study, detailed in Table 5.4.3-1

There are historic pithouses just west of the proposed pipeline corridor in the Ruby Creek region. A community member shared that there is another possible archaeological site just south of the Coquitlam River, which abuts the south side of the proposed pipeline corridor at RK 1058.

TABLE 5.4.3-1

HABITATION SITES IDENTIFIED BY SHXW’ÓWHÁMEL FIRST NATION

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
900 m north of RK 1018	Potential archaeological site	Past	None
At RK 1058	Pithouses	Past	None

Historic pithouses were identified within the proposed pipeline corridor at RK 1058. No mitigation was requested for habitation sites by Shxw’ówhámel First Nation.

Plant Gathering

Shxw’ówhámel First Nation Elders and community members identified several plant gathering sites during the TLU study, detailed in Table 5.4.3-2

Community members shared that they gather berries, roots, cedar bark mushrooms, western yew and other medicinal plants in their traditional territory.

TABLE 5.4.3-2

PLANT GATHERING IDENTIFIED BY SHXW’ÓWHÁMEL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
From RK 1024 to RK 1026	Gathering mushrooms	Current	None
From 300 m west of RK 1025 to 0.4 km east of RK 1036	Gathering tea and medicinal plants	Current	None
2 km northwest of RK 1029.3	Gathering berries	Current	None
At RK 1042	Gathering blueberries	Current	None
4.2 km southeast of RK 1063	Gathering cedar roots and bark	Current	None
100 m west of RK 1063	Berry picking on islands	Current	None

One plant gathering site was identified within the proposed pipeline corridor. No mitigation was requested for plant gathering sites by Shxw’ówhámel First Nation.

Hunting

Shxw’ōwhámel First Nation Elders and community members identified several hunting sites during the TLU study, detailed in Table 5.4.3-3

Community members shared that they hunt long-haired mountain goats over a wide range south of the Cascade Mountains, just east of Wahleach Lake. They hunt grouse, swans and ducks west of the proposed pipeline corridor along the Fraser River. They hunt for bear in an area just south of the proposed pipeline corridor and south of Kawkawa Lake. They also hunt along Jones Creek.

Community members also shared that they hunt for deer and moose over a broad region ranging from Hope, west of Isola Peak, east as far as Mount Tearse and south through the Skagit Mountains and into the Cascade Mountain range. Hunting in this region is shared with a tribe from Washington State.

TABLE 5.4.3-3

HUNTING SITES IDENTIFIED BY SHXW’ŌWHÁMEL FIRST NATION

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
From RK 1036.8 to RK 1049.2	Hunting for deer and moose	Current	None
At RK 1042	Hunting for bear	Current	None
From 20 km west of RK 1045 to RK 1065.2	Hunting for grouse and waterfowl	Current	None
Approximately 3 km east of RK 1071.5	Hunting south of Cascade Mountains	Current	None
Project Footprint	Concerns about effects to vegetation	-	None

One hunting site was identified within the proposed pipeline corridor at RK 1042. No mitigation was requested for hunting sites by Shxw’ōwhámel First Nation.

Fishing

Shxw’ōwhámel First Nation Elders and community members identified the Fraser River, from 20 km west of RK 1045 to RK 1065.2, as a current fishing area during the TLU study.

Community members shared that they fish for a variety of species including sockeye, chum, pink and coho salmon, halibut, crayfish and eulachon.

No mitigation was requested for fishing sites by Shxw’ōwhámel First Nation.

Trapping

Shxw’ōwhámel First Nation Elders and community members identified several trapping sites during the TLU study for the Project, detailed in Table 5.4.3-4

There is a shared trap line that begins west of Peters Indian Reserve 1 and follows an arc to the northwest around the Lillooet Ranges to just north of Chawathil Indian Reserve 4. Community members also trap lynx and other animals along Ruby Creek and Jones Creek.

TABLE 5.4.3-4

TRAPPING SITES IDENTIFIED BY SHXW’ŌWHÁMEL FIRST NATION

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
From 3 km north of RK 1051 to 5 km west of RK 1062	Shared trapline around Lillooet Ranges	Current	None
2 km northwest of RK 1057	Shared trapline along Ruby Creek	Current	None

No trapping sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trapping sites by Shxw’ōwhámel First Nation.

Gathering Places

Shxw’ōwhámel First Nation community members identified one gathering place during the TLU study. Community members shared that there is a lookout point along the Fraser River, 20 km west of RK 1056.1, that was used historically to watch for the Haida Gwaii. Enemy raiders would sometimes take their women, children and dried fish stocks.

No gathering places were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for gathering places by Shxw’ōwhámel First Nation.

Sacred Areas

Shxw’ōwhámel First Nation community members identified two sacred sites during the TLU study, detailed in Table 5.4.3-5.

Hunter Creek was identified as a place of ceremonial significance, both historically and currently. There is also a bathing area that is reserved for masked dancers and fasting grounds for both men and women of all ages. There is another men’s fasting and ceremonial ground approximately 3 km east of Peters Indian Reserve 1.

TABLE 5.4.3-5

SACRED SITES IDENTIFIED BY SHXW’ŌWHÁMEL FIRST NATION

Approximate Distance and Direction from Project Area	Site Description	Current/Past Use	Requested Mitigation
From RK 1054.1 to RK 1059	Sacred site	Current	None
1.5 km southeast of RK 1061	Men’s fasting grounds	Current	None

A sacred area was identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for sacred areas by Shxw’ōwhámel First Nation.

5.4.4 Cheam First Nation

Trans Mountain and Cheam First Nation have engaged in discussions to determine the community’s interest and a process for their involvement in Project activities. Cheam First Nation elected to conduct a joint third-party Integrated Cultural Assessment (ICA) for the Project with Sumas First Nation, Aitchelitz First Nation, Kwaw-kwaw-apilt First Nation, Shxw’ōwhámel Village, Skowkale First Nation, Skwah First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation and Yakweakwioose First Nation led by Ts’elxweyeqw Tribe Management Limited.

Cheam First Nation provided their ‘CFN Community Engagement Workshop – KMC Trans Mountain Pipeline Expansion Project’ to Trans Mountain on March 21, 2013, that describes their preliminary interests in the Project, including:

- potential effects on recreational, cultural and traditional spiritual use sites;
- potential effects on hunting and food and medicine gathering areas;
- air and water quality; and
- increased marine traffic in Burrard Inlet.

Trans Mountain provided an initial response in a letter sent to Cheam First Nation on October 28, 2013.

Third-party consultants, Ts'elxwéyeqw Tribe Management Limited (TTML), Stó:lō Research and Resource Management Centre and Human Environment Group, conducted community interviews and surveys, organized regional, community and community staff/administration meetings and attended Grandmother's council meetings and other community events. These discussions focused on Crown lands within the asserted traditional territory of the Stó:lō communities. The results of the draft Indicator Report of the TTML ICA received on November 15, 2013 are summarized below.

Stó:lō community members indicated a number of potential Project-related stressors that may affect the traditional land use within their asserted traditional territory, including:

- tree clearing;
- trenching;
- blasting;
- stripping;
- overburden storage;
- slash storage and disposal;
- weeds and invasive species;
- increased access;
- culvert installation;
- alteration of water flow in watercourses;
- water quality and quantity;
- alteration of fish habitat;
- removal of riparian and wetland vegetation;
- dust;
- noise;
- herbicide use;
- pipeline rupture and spills;
- land use restrictions;
- routine monitoring and maintenance; and

- air, water and terrestrial contamination (TTML *et al.* 2013).

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Cheam First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.4.1 Community Participants

Interviews were conducted with following Stó:lō community members, as well as Simpc'w First Nation community members; a Cheam First Nation community member; and a Skowkale First Nation community member.

Stakeholder group meetings were held with youth, parents, the Sí:le (Grandmother council), the Working Group, an Aitchelitz First Nation community member and Soowahlie First Nation community staff. Community staff meetings were held with Skwah First Nation community staff, Sumas First Nation community staff, Skowkale First Nation community staff, Tzeacheten First Nation community staff, Yakweawkwoose First Nation community staff, Kwaw Kwaw Apilt First Nation community staff and the Lands officer for Aitchelitz First Nation, Skowkale First Nation, Skwah First Nation, Shxw'ōwhámél First Nation and Yakweawkwoose First Nation (TTML *et al.* 2013).

5.4.4.2 Results

The draft Indicator Report provides information regarding the subsistence and cultural activities that are practiced throughout Stó:lō asserted traditional territory. Site-specific TLU information was not provided in the draft Indicator Report.

Trails and Travelways

Stó:lō community members stated that, historically, transportation routes, as well as trade and communication networks, were established and maintained throughout their asserted traditional territory. Stó:lō used both waterways, particularly the Fraser River and its tributaries, and overland routes as a means of travel and transportation. These routes and networks supported socio-economic connections and factored into identity and cultural values. Community members used these routes and networks to participate in spiritual and ceremonial activities and to gather, hunt and fish. Today, historical trails and transportation routes continue to be used by some community members; however, resource development, modern infrastructure and increased restrictions on land use have resulted in community members using motorized vehicles and traveling further to access trailheads (TTML *et al.* 2013).

Habitation Sites

Stó:lō explained that, historically, habitation sites varied in size and nature. Some were designed to host community gatherings, some were located at fishing sites and places of importance while others were located at specific resource sites. Two common types of houses could be found: pit-houses in the lower valley and plank houses throughout Stó:lō traditional territory. Settlements formed networks of assistance and reciprocity. Households were frequently linked by the sharing of game, fish, transportation and services. Housing structures have changed considerably, with community members residing on and off reserve, although some people continue to live in longhouses (TTML *et al.* 2013).

Plant Gathering

Stó:lō community members identified several plant materials that continue to be gathered for food, medicine, building materials and ceremonial items. These plant materials include: cedar roots; buds and bark; mushrooms; wild potatoes; berries; nettles; crab-apples; hazelnuts; and medicines. Many Stó:lō community members continue to identify plant gathering as an important cultural activity, and ceremonial plant materials, such as cedar, remain a critically important resource.

Hunting

Stó:lō community members hunt big game, including deer, wild birds, and water fowl all year round. Deer hunting, in particular, continues to be considered an important cultural activity. In addition to consuming the meat, deer hide and duck feathers, as well as parts of other animals, are used to make ceremonial drums and regalia.

Fishing

Stó:lō community members stated that fishing, fish and fish habitat remain critical to Stó:lō community members for food, as well as for social, ceremonial and economic aspects of their society. In particular, salmon has always been and remains a staple food source that is used extensively in ceremonies, including dances, funerals, marriages and gatherings.

Trapping

Stó:lō community members stated that there are still trap lines operating in several communities. While trapping is now rare among Stó:lō communities, it is still valued.

Gathering Places

Stó:lō community members discussed the continued importance of cultural activities in maintaining their connections to and knowledge of the land, traditions and culture. They maintain a cultural landscape that contains landmarks, sacred places, ancestors and histories throughout their asserted traditional territory. Historically, specific ceremonies were held for each season, some of which were conducted in the longhouses and others in bathing sites and secluded forested places. Today, some ceremonies continue year round, particularly during the summer, although many are practiced in longhouses during the winter as a result of infringement on the land leading to the loss of other traditional gathering sites.

Sacred Areas

Historically, Stó:lō burial sites were located and maintained close to habitation sites. Stó:lō community members indicated that the Fraser River remains the main focus of their spiritual life, activities and oral tradition. Most spiritual and sacred sites have a direct linkage to the river; sites are often located along the river, back-eddies, pools, rocks and sloughs. Most of these sites have a Stó:lō name and story associated with them.

5.4.5 Sumas First Nation

Trans Mountain and Sumas First Nation have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Sumas First Nation elected to conduct a joint third-party ICA for the Project with Cheam First Nation, Aitchelitz First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village, Skowkale First Nation, Skwah First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation and Yakweakwoose First Nation led by Ts'elxweyeqw Tribe Management Limited.

Results of the third-party draft Indicator Report completed by TTML on behalf of Sumas First Nation can be found in Section 5.4.4 above.

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Sumas First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.6 Peters Band

Trans Mountain has shared Project information and invited Peters Band to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Peters Band and to support Peters Band participation in Project activities. Interest in a TLU study will be determined by Peters Band.

Issues of concern, traditional use sites or features identified through ongoing engagement with Peters Band will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.7 *Seabird Island Band*

Trans Mountain and Seabird Island Band have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Trans Mountain will continue to share Project information with Seabird Island Band and to support Seabird Island Band participation in Project activities. Interest in a TLU study will be determined by Seabird Island Band.

Issues of concern, traditional use sites or features identified through ongoing engagement with Seabird Island Band will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.8 *Popkum First Nation*

Popkum First Nation elected to conduct a TERA-led TLU study for the Project. The TLU study included a map review meeting and community interviews that focused on Crown lands within the asserted traditional territory of Popkum First Nation crossed by the Project.

The map review meeting and community interviews were held with Popkum First Nation on April 24, 2013, at the Stó:lō Nation Administration Office in Chilliwack, BC. During this meeting, Popkum First Nation examined the regional Project maps with TERA TLU facilitators to determine what areas would be surveyed during planned ground reconnaissance (Figure 5.4.8-1). Ground reconnaissance occurred from November 13 to 14, 2013.

The results of the Popkum First Nation TLU study for the Project are provided below.

5.4.8.1 *Community Participants*

TERA would like to thank the following community members of Popkum First Nation for their time and assistance.

Chief: James Murphy.

5.4.8.2 *Results*

The map review, ground reconnaissance and interviews revealed two TLU sites within the proposed pipeline corridor requiring mitigation as requested by Popkum First Nation.

FIGURE 5.4.8-1
POPKUM FIRST NATION
TRADITIONAL LAND USE AREAS
IDENTIFIED DURING MAP REVIEW

TRANS MOUNTAIN
EXPANSION PROJECT

- City/Town
- Kilometre Post (KP)
- Terminal
- Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
- Pump Station (Decommission)
- Trans Mountain Expansion Project Proposed Pipeline Corridor
- Trans Mountain Pipeline (TMPL)
- Fishing
- Hunting/Plant Harvesting
- Sacred Site
- Primary Highway
- Railway
- Watercourse
- Waterbody
- Park, Protected or Conservancy Area
- Indian Reserve (IR)

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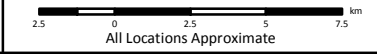
Projection: UTM 10N. Baseline TMPL & Facilities: provided by KMC 2012; Proposed Pipeline Corridor V6: provided by UPI Aug. 23, 2013; Transportation: ESRI 2010, Natural Resources Canada 2012; Geopolitical Boundaries: Natural Resources Canada 2003, BC FLNRO 2007, ESRI 2005; Hydrology: Natural Resources Canada 2010; Parks and Protected Areas: Alberta Tourism, Parks and Recreation 2012, Natural Resources Canada 2013, BC FLNRO 2008; Landsat 7 Panchromatic imagery: NASA Geospatial Interoperability Program 2005.



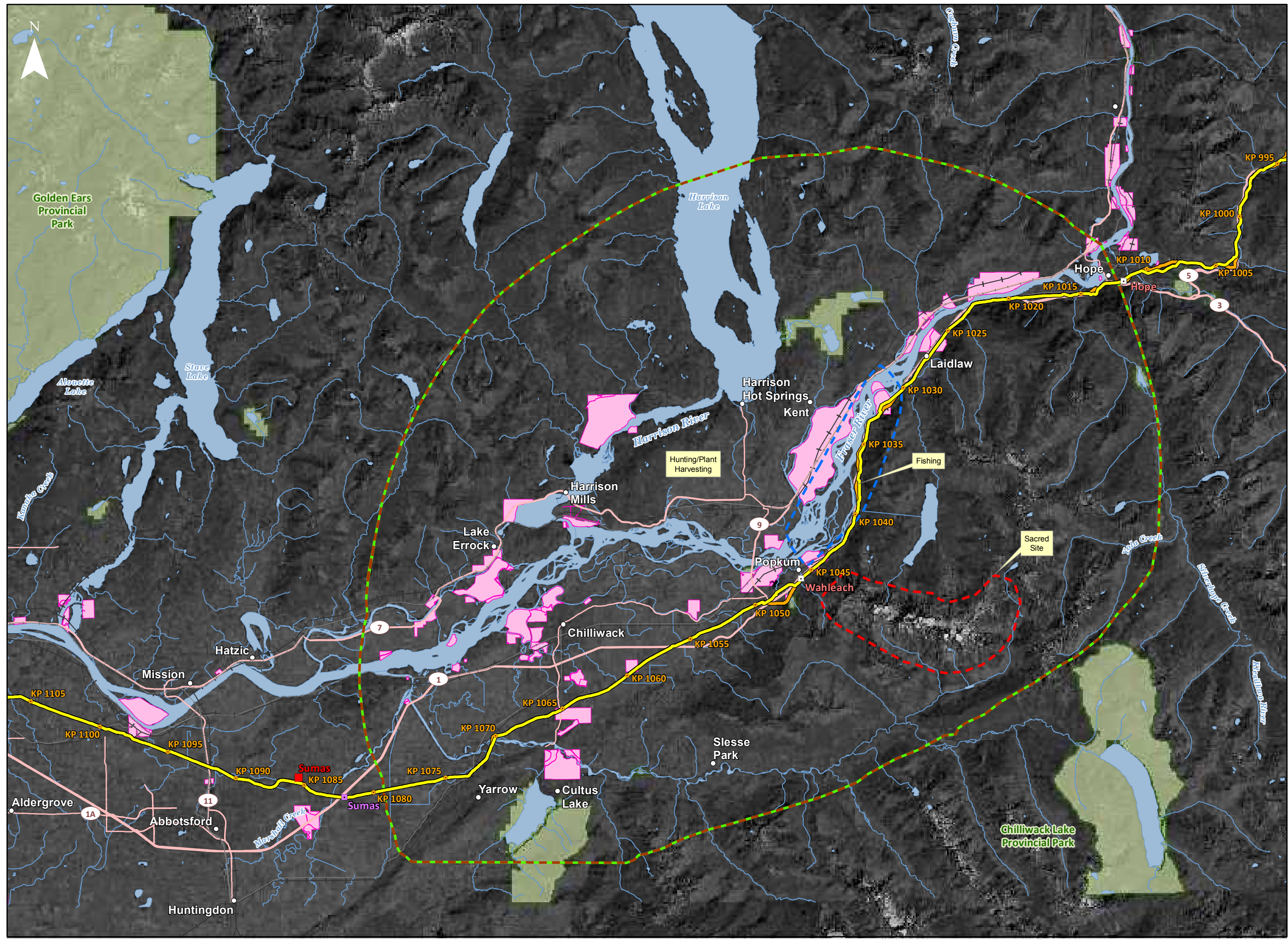
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MAP NUMBER	201307_MAP_TERA_TLU_00361_REV0	PAGE	SHEET 1 OF 1
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Trails and Travelways

Popkum First Nation identified recreational trails and one travelway during the TLU study for the Project. The travelway on the Fraser River is approximately 100 m north of RK 1072 is used by community members for access to fishing.

No trails and travelways were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trails and travelways by Popkum First Nation.

Habitation Sites

Popkum First Nation identified two habitation sites during the TLU study for the Project. An unknown location on Blue Ridge Ranch used to have large long houses approximately 1115 sq m (12,000 sq ft), one of the largest in the valley. There are also pit houses along the Fraser River approximately 10 m north of RK 1060. Community members report that habitation sites are typically found near watercourses.

Pit houses were identified along the Fraser River approximately 10 m north of RK 1060. No mitigation was requested for habitation sites by Popkum First Nation.

Plant Gathering

Popkum First Nation identified several plant gathering sites during the TLU study for the Project, detailed in Table 5.4.8-1.

Community members specifically identified huckleberries, salmonberries, stinging nettle and devil’s club as traditionally important plants. Stinging nettle and salmonberry were identified as indicators for salmon runs. Historically, cedar was used to make baskets.

TABLE 5.4.8-1

PLANT GATHERING SITES IDENTIFIED BY POPKUM FIRST NATION

Approximate Distance and Direction from Project	Description	Current/Past Use	Requested Mitigation
4.5 km east of RK 1073	Plant gathering around Wahleach Lake	Current	None
7.5 km south of RK 1087	Plant gathering in Cascade Mountains around Chilliwack River	Current	None
21 km north of RK 1091	Plant gathering in Coast Mountains on East and West side of Harrison Lake	Current	None
Project Footprint	Concerns about loss of devil’s club	--	None

No plant gathering sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for plant gathering sites by Popkum First Nation.

Hunting

Popkum First Nation identified several hunting sites during the TLU study for the Project, detailed in Table 5.4.8-2. Popkum First Nation indicated that they mostly hunt deer, which is one of the main staples of their diet and the hides are used in drum making. Deer populations remain steady in the region. Although there are few hunters in the community the option to hunt is important for current community members and for future generations.

Mountain goats have cultural importance to Popkum First Nation community members and are known for their traditional “goat” blankets. Goats are still found in the region, but less so now.

TABLE 5.4.8-2

HUNTING SITES IDENTIFIED BY POPKUM FIRST NATION

Approximate Distance and Direction from Project	Description	Current/Past Use	Requested Mitigation
2 km southeast of RK 1078	Hunting near Mount Cheam	Current	None
4 km south of RK 1100	Hunting near Cultus Lake	Current	None
4.5 km east of RK 1073	Hunting near Wahleach Lake	Current	None
7.5 km south of RK 1087	Hunting in Cascade Mountains around Chilliwack River	Current	None
21 km north of RK 1091	Hunting area in Coast Mountains on East and West side of Harrison Lake	Current	None

No hunting sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for hunting sites by Popkum First Nation.

Fishing

Popkum First Nation identified two fishing sites during the TLU study for the Project, detailed in Table 5.4.8-3. The Fraser River is a traditional fishing location for Popkum First Nation community members. Salmon species including sockeye, Chinook, coho and chum as well as steelhead and sturgeon are fished using a set-net method. Fishing activities occur between April and December depending on what fish species are in the river. It was mentioned that Popkum First Nation community members do not over-fish and that they fish only for sustenance and not for profit. It was also reported that some fishing restrictions apply to certain fish species at certain times of year.

Historically, community members travelled upstream to fish and more recently, community members fish closer to the reserve where set net fishing is practiced from the banks of Fraser River.

TABLE 5.4.8-3

FISHING SITES IDENTIFIED BY POPKUM FIRST NATION

Approximate Distance and Direction from Project	Description	Current/Past Use	Requested Mitigation
244 km northwest of RK 331	Jones Lake – trout bearing	Current	None
10 m north of RK 1061	Fishing on the Fraser River	Current/Past	None
Project Footprint	Concerns about fish and fish habitat and construction related water contamination	--	None

One fishing site was identified within the proposed pipeline corridor 10 m north of RK 1061 during the TLU study. However, no mitigation was requested for fishing sites by Popkum First Nation.

Trapping

No trapping sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trapping sites by Popkum First Nation.

Gathering Places

No gathering places were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for gathering places by Popkum First Nation.

Sacred Areas

Popkum First Nation identified several sacred areas during the TLU study, detailed in Table 5.4.8-4. Mount Cheam, approximately 2 km east of RK 1078, as an important sacred site. The mountain ridge behind Mount Cheam is also considered sacred by community members.

Community members report that there used to be a cemetery along the Fraser River, but it got washed away.

TABLE 5.4.8-4

SACRED AREAS IDENTIFIED BY POPKUM FIRST NATION

Approximate Distance and Direction from Project	Description	Current/Past Use	Requested Mitigation
1 km north of RK 1077	Archaeology site where sharp blade was found (potential for more artifacts to be found)	Past	None
1 km north of RK 1077	Existing cemetery	Past (Late 1800s/ early 1900s)	None
2 km east of RK 1078	Mount Cheam	Current	None

No sacred areas were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for sacred sites by Popkum First Nation.

5.4.9 Scowlitz First Nation

Scowlitz First Nation elected to conduct a TERA-led TLU study for the Project. The TLU study included a map review meeting that focused on Crown lands within the asserted traditional territory of Scowlitz First Nation crossed by the Project.

The map review meeting was held on May 16, 2013 with Scowlitz First Nation. During this meeting, Scowlitz First Nation examined the regional Project maps with TERA TLU facilitators to determine what areas would be surveyed during planned ground reconnaissance. Additional issues of concern, traditional use sites or features identified through ongoing engagement with Scowlitz First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

The results of the Scowlitz First Nation TLU study completed to date for the Project are provided below.

5.4.9.1 Community Participants

TERA would like to thank the following community member of Scowlitz First Nation for his time and assistance.

Chief: James Murphy.

5.4.9.2 Results

The map review did not reveal any TLU sites within the proposed pipeline corridor requiring mitigation as requested by Scowlitz First Nation.

Trails and Travelways

Scowlitz First Nation identified the importance to the Fraser River used as a travel way by past and present occupants in the area. Travelways on land used to be very wide and used by thousands of travellers.

No trails and travelways were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trails and travelways by Scowlitz First Nation.

Habitation Sites

Scowlitz First Nation spoke of “old Scowlitz” which was located in proximity to the Fraser River. Communities and families resided in pit houses, which have now been excavated. An ancient village site was mentioned to be called Berrial and used to be a hub and meeting point for local occupants and travellers.

No habitation sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for habitation sites by Scowlitz First Nation.

Plant Gathering

Community members identified huckleberries, salmonberries, stinging nettle, wild strawberry and licorice as traditionally important plants. Only a handful of members stick pick and preserve berries. There is a small group of community members that gather medicinal plants and hold workshops on the uses of these plants.

No plant gathering sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for plant gathering sites by Scowlitz First Nation.

Hunting

Scowlitz First Nation indicated that few members mostly hunt deer. Although there are few hunters in the community the opportunity to hunt is important for current community members and for future generations.

No hunting sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for hunting sites by Scowlitz First Nation.

Fishing

The Fraser River is a traditional fishing location for Scowlitz First Nation community members. Salmon species including pink, Chinook, coho and chum were fished using drift and set-net method. Fishing of other species occurs from spring to October in the region.

No fishing sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for fishing sites by Scowlitz First Nation.

Trapping

No trapping sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trapping sites by Scowlitz First Nation.

Gathering Places

No gathering places were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for gathering places by Scowlitz First Nation.

Sacred Areas

Scowlitz First Nation spoke of burial locations with the region, near the Fraser River and at Sand Piper Golfcourse. The old burial mounds are now part of the golf course. At Reso Creek, community members spoke of spiritual baths

No sacred areas were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for sacred sites by Scowlitz First Nation.

5.4.10 Skowkale First Nation

Trans Mountain and Skowkale First Nation have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Skowkale First Nation elected to conduct

a joint third-party ICA for the Project with Cheam First Nation, Sumas First Nation, Aitchelitz First Nation, Kwaw-kwaw-apilt First Nation, Shxw̓ha:y Village, Skwah First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation and Yakwekwioose First Nation led by Ts'elxweyew Tribe Management Limited.

On behalf of Skowkale First Nation, Ts'elxweyew Tribe Management Limited provided their 'Ts'elxweyew Tribe Preliminary Draft of Interests' to Trans Mountain on July 22, 2013, that describes their preliminary interests in the Project, including:

- maintaining access to, use of and privacy of spiritual sites;
- preserving access to and use of berry patches, plant gathering locations and traditional hunting grounds;
- potential effects on fishing, hunting and gathering rights and activities and related practices;
- reduction in the quality and quantity of wildlife habitat from linear disturbances, removal of trees and vegetation and use of herbicides;
- vegetation management along pipelines and the use of herbicides;
- increased erosion and run-off;
- effects from land loss from rights-of-way and buffer zones;
- existing and new rights-of-way on S'olh Temexw, Ts'elxweyew Tribe's traditional territory, as they relate to access to spiritual practices, traditional areas, important landmarks and disturbance and destruction of traditional sites and cultural areas;
- disruption of traditional trails;
- effects to the value of Ts'elxweyew Tribe's land;
- increased carcinogens in Ts'elxweyew Tribe's traditional territory;
- effects on wildlife, plants and aquatic species, especially salmon;
- reduction of foods and medicine from the land;
- effects on their connection to the land;
- non-indigenous access to Ts'elxweyew Tribe's traditional territory; and
- alteration and destruction of fish-bearing rivers and streams.

Ts'elxweyew Tribe also identified broad concerns within their "Initial List of Aboriginal Interests" including:

- risk of spills and accidents and the resources available in case of a spill;
- effects on air quality and the ozone layer;
- the length of time it will take to completely remediate after construction and whether complete remediation is possible;
- effects of earthquakes on pipelines;
- erosion of existing and new pipes and potential for underground contamination; and

- overseas shipping resulting in transfer of pollution like ballast water or invasive species being emptied into the ocean.

Trans Mountain provided an initial response in a letter sent to Ts'elxweyeqw Tribe Management Limited on October 28, 2013.

Results of the third-party draft Indicator Report completed by TTML on behalf of Skowkale First Nation can be found in Section 5.4.4.

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Skowkale First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.11 Yakweakwioose First Nation

Trans Mountain and Yakweakwioose First Nation have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Yakweakwioose First Nation elected to conduct a joint third-party ICA for the Project with Cheam First Nation, Sumas First Nation, Skowkale First Nation, Aitchelitz First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village, Skwah First Nation, Soowahlie First Nation, Squiala First Nation and Tzeachten First Nation led by Ts'elxweyeqw Tribe Management Limited.

On behalf of Yakweakwioose First Nation, Ts'elxweyeqw Tribe Management Limited provided their 'Ts'elxweyeqw Tribe Preliminary Draft of Interests' to Trans Mountain on July 22, 2013, that describes their preliminary interests and concerns in the Project, detailed in Section 5.4.10 above.

Results of the third-party draft Indicator Report completed by TTML on behalf of Yakweakwioose First Nation can be found in Section 5.4.4.

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Yakweakwioose First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.12 Aitchelitz First Nation

Trans Mountain and Aitchelitz First Nation have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Aitchelitz First Nation elected to conduct a joint third-party ICA for the Project with Cheam First Nation, Sumas First Nation, Skowkale First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village, Yakweakwioose First Nation, Skwah First Nation, Soowahlie First Nation, Squiala First Nation and Tzeachten First Nation led by Ts'elxweyeqw Tribe Management Limited.

On behalf of Aitchelitz First Nation, Ts'elxweyeqw Tribe Management Limited provided their 'Ts'elxweyeqw Tribe Preliminary Draft of Interests' to Trans Mountain on July 22, 2013, that describes their preliminary interests and concerns in the Project, detailed in Section 5.4.10 above.

Results of the third-party draft Indicator Report completed by TTML on behalf of Aitchelitz First Nation can be found in Section 5.4.4.

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Aitchelitz First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.13 Skwah First Nation

Trans Mountain and Skwah First Nation have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Skwah First Nation elected to conduct a joint third-party ICA for the Project with Cheam First Nation, Sumas First Nation, Skowkale First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village, Yakweakwioose First Nation, Aitchelitz First Nation, Soowahlie First Nation, Squiala First Nation and Tzeachten First Nation led by Ts'elxweyeqw Tribe Management Limited.

On behalf of Skwah First Nation, Ts'elxweyeqw Tribe Management Limited provided their 'Ts'elxweyéqw Tribe Preliminary Draft of Interests' to Trans Mountain on July 22, 2013, that describes their preliminary interests and concerns in the Project, detailed in Section 5.4.10 above.

Results of the third-party draft Indicator Report completed by TTML on behalf of Skwah First Nation can be found in Section 5.4.4.

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Skwah First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.14 Kwaw-kwaw-apilt First Nation

Trans Mountain and Kwaw-kwaw-apilt First Nation have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Kwaw-kwaw-apilt First Nation elected to conduct a joint third-party ICA for the Project with Cheam First Nation, Sumas First Nation, Skowkale First Nation, Shxwha:y Village, Yakweakwioose First Nation, Aitchelitz First Nation, Skwah First Nation, Soowahlie First Nation, Squiala First Nation and Tzeachten First Nation led by Ts'elxweyeqw Tribe Management Limited.

On behalf of Kwaw-kwaw-apilt First Nation, Ts'elxweyeqw Tribe Management Limited provided their 'Ts'elxweyéqw Tribe Preliminary Draft of Interests' to Trans Mountain on July 22, 2013, that describes their preliminary interests and concerns in the Project, detailed in Section 5.4.10 above.

Results of the third-party draft Indicator Report completed by TTML on behalf of Kwaw-kwaw-apilt First Nation can be found in Section 5.4.4.

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Kwaw-kwaw-apilt First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.15 Soowahlie First Nation

Trans Mountain and Soowahlie First Nation have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Soowahlie First Nation elected to conduct a joint third-party ICA for the Project with Cheam First Nation, Sumas First Nation, Skowkale First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village, Yakweakwioose First Nation, Aitchelitz First Nation, Skwah First Nation, Kwaw-kwaw-apilt First Nation, Squiala First Nation and Tzeachten First Nation led by Ts'elxweyeqw Tribe Management Limited.

On behalf of Soowahlie First Nation, Ts'elxweyeqw Tribe Management Limited provided their 'Ts'elxweyéqw Tribe Preliminary Draft of Interests' to Trans Mountain on July 22, 2013, that describes their preliminary interests and concerns in the Project, detailed in Section 5.4.10 above.

Results of the third-party draft Indicator Report completed by TTML on behalf of Soowahlie First Nation can be found in Section 5.4.4.

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Soowahlie First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.16 Shxwha:y Village

Trans Mountain and Shxwha:y Village have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Shxwha:y Village elected to conduct a joint third-party ICA for the Project with Cheam First Nation, Sumas First Nation, Skowkale First Nation, Kwaw-kwaw-apilt First Nation, Soowahlie First Nation, Yakweakwoose First Nation, Aitchelitz First Nation, Skwah First Nation, Kwaw-kwaw-apilt First Nation, Squiala First Nation and Tzeachten First Nation led by Ts'elxweyeqw Tribe Management Limited.

On behalf of Shxwha:y Village, Ts'elxweyeqw Tribe Management Limited provided their 'Ts'elxweyéqw Tribe Preliminary Draft of Interests' to Trans Mountain on July 22, 2013, that describes their preliminary interests and concerns in the Project, detailed in Section 5.4.10 above.

Results of the third-party draft Indicator Report completed by TTML on behalf of Shxwha:y Village can be found in Section 5.4.4.

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Shxwha:y Village will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.17 Tzeachten First Nation

Trans Mountain and Tzeachten First Nation have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Tzeachten First Nation elected to conduct a joint third-party ICA for the Project with Cheam First Nation, Sumas First Nation, Skowkale First Nation, Kwaw-kwaw-apilt First Nation, Soowahlie First Nation, Shxwha:y Village, Yakweakwoose First Nation, Aitchelitz First Nation, Skwah First Nation, Kwaw-kwaw-apilt First Nation and Squiala First Nation led by Ts'elxweyeqw Tribe Management Limited.

On behalf of Tzeachten First Nation, Ts'elxweyeqw Tribe Management Limited provided their 'Ts'elxweyéqw Tribe Preliminary Draft of Interests' to Trans Mountain on July 22, 2013, that describes their preliminary interests and concerns in the Project, detailed in Section 5.4.10 above.

Results of the third-party draft Indicator Report completed by TTML on behalf of Tzeachten First Nation can be found in Section 5.4.4.

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Tzeachten First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.18 Squiala First Nation

Trans Mountain and Squiala First Nation have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Squiala First Nation elected to conduct a joint third-party ICA for the Project with Cheam First Nation, Sumas First Nation, Skowkale First Nation, Kwaw-kwaw-apilt First Nation, Soowahlie First Nation, Yakweakwoose First Nation, Aitchelitz First Nation, Skwah First Nation, Kwaw-kwaw-apilt First Nation and Tzeachten First Nation led by Ts'elxweyeqw Tribe Management Limited.

On behalf of Squiala First Nation, Ts'elxweyeqw Tribe Management Limited provided their 'Ts'elxweyéqw Tribe Preliminary Draft of Interests' to Trans Mountain on July 22, 2013, that describes their preliminary interests and concerns in the Project, detailed in Section 5.4.10 above.

Results of the third-party draft Indicator Report completed by TTML on behalf of Squiala First Nation can be found in Section 5.4.4.

Additional issues of concern, traditional use sites or features identified through ongoing engagement with Squiala First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.4.19 *Leq'á:mel First Nation*

Leq'á:mel First Nation elected to conduct a TERA-led TLU study for the Project. The TLU study included a map review meeting and community interviews that focused on Crown lands within the asserted traditional territory of Leq'á:mel First Nation crossed by the Project.

The map review meeting and community interviews were held with Leq'á:mel First Nation on April 23, 2013, at the Leq'á:mel Band office in Deroche, BC. During these meetings, members of the Leq'á:mel First Nation examined the regional Project maps with TERA TLU facilitators to determine what areas would be surveyed during planned ground reconnaissance (Figure 5.4.19-1). The helicopter overflight occurred on September 11, 2013 and the ground reconnaissance occurred from September 11 to 13, 2013. A results review with Leq'á:mel First Nation and TERA was held on November 8, 2013.

The results of the Leq'á:mel First Nation TLU study for the Project are provided below.

FIGURE 5.4.19-1

LEQ'A:MEL FIRST NATION TRADITIONAL LAND USE AREAS IDENTIFIED DURING MAP REVIEW

TRANS MOUNTAIN EXPANSION PROJECT

- City/Town
- Kilometre Post (KP)
- Terminal
- Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
- Pump Station (Decommission)
- Trans Mountain Expansion Project Proposed Pipeline Corridor
- Trans Mountain Pipeline (TMPL)
- Fishing
- Fishing/Plant Harvesting
- Fishing/Plant Harvesting/Habitation Site
- Habitation Site
- Habitation Site/Sacred Site
- Hunting
- Hunting/Fishing
- Hunting/Plant Harvesting
- Plant Harvesting
- Plant Harvesting/Trails and Travelways
- Trails and Travelways
- Sacred Site
- Trails and Travelways
- Primary Highway
- Railway
- Watercourse
- Waterbody
- Park, Protected or Conservancy Area
- Indian Reserve (IR)

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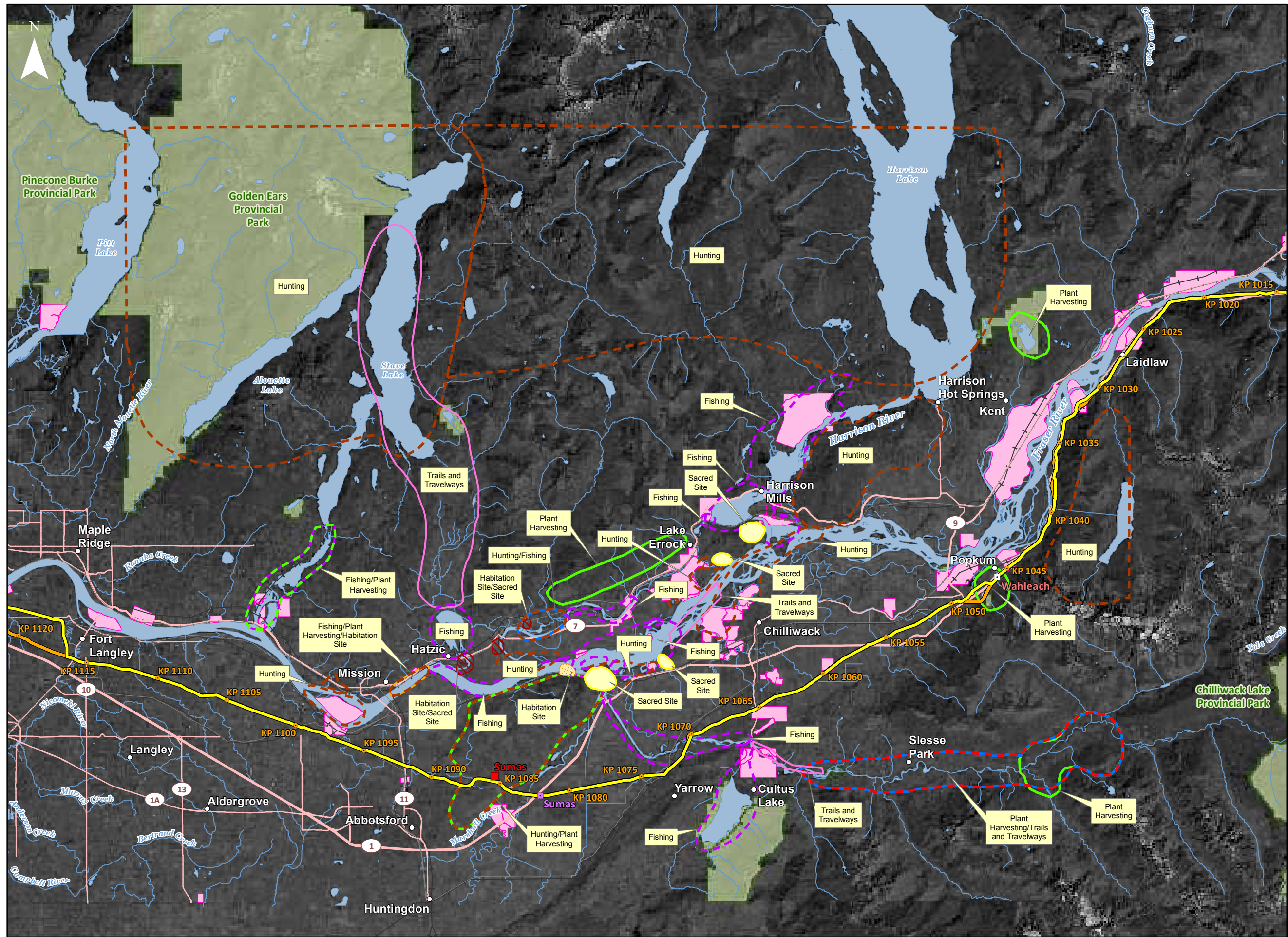
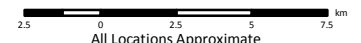
Projection: UTM 10N. Baseline TMPL & Facilities: provided by KMC 2012; Proposed Pipeline Corridor V6: provided by UPI Aug. 23, 2013; Transportation: ESRI 2010, Natural Resources Canada 2012; Geopolitical Boundaries: Natural Resources Canada 2003, BC FLNRO 2007, ESRI 2005; Hydrology: Natural Resources Canada 2010; Parks and Protected Areas: Alberta Tourism, Parks and Recreation 2012, Natural Resources Canada 2013, BC FLNRO 2008; Landsat 7 Panchromatic Imagery: NASA Geospatial Interoperability Program 2005.



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.



MAP NUMBER	201307_MAP_TERA_TLU_00359_REV0	PAGE	SHEET 1 OF 1
DATE	December 2013	TERA REF.	7894
SCALE	1:250,000	PAGE SIZE	11x17
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5.4.19.1 Community Participants

TERA would like to thank the following community members of Leq’á:mel First Nation for their time and assistance.

Chief: Alice Thompson.

Council: Shawn Gabriel, Daniel Kelly, Mike Kelly, Justin Laslo, Barb Leggat and Darrel McCarney.

Elders: Grace Kelly, Jorge Seymour, Barbara Still, Mike P. Kelly and Terry-Ann Stowell.

Community Members: Sandi Baker, Tim Baker, Margaret Clark, Shane Green, Shelley Jacobs, Gerald Kelly, Jaimie Kelly, Lawrence Kelly, Victoria Kelly, Susan Lewis, Jackie Louis, Allan McDonald, Curtis McDonald, Dean McDonald, Peter McDonald, Sandy McDonald, Susan McCarney, Betty Paul, Curtis Paul, Elizabeth Paul, Gary Paul Sr., Gary Paul Jr., Jeffrey Paul, Vernon Paul, Ashley Reid, William Schapley, Sheri Seymour, Michael Shepherd, Michael Sherwood, Phil Sherwood, Kathy Still, Rose Still, Lisa Tereposky, Jason Thompson, Terry-Ann Stowell and Sheridan Conlin.

Lands Department: Barb Leggat and Stacey Goulding.

5.4.19.2 Results

The map review and interviews did not reveal any TLU sites within the proposed pipeline corridor requiring mitigation as requested by Leq’á:mel First Nation.

Trails and Travelways

Leq’á:mel First Nation Elders and community members identified several trails and a travelways during the TLU study for the Project, detailed in Table 5.4.19-1.

Historically the Fraser River was a major travelway for many First Nations people. An Elder indicated that cedar canoes were frequently used for transportation, as well as fishing. Leq’á:mel First Nation community members continue to use the Fraser River to access traditional fishing locations on the river by boat. A community member also shared that historically there were trails running from the Fraser River to Stave Lake and Lillooet that were used for trading.

TABLE 5.4.19-1

TRAILS AND TRAVELWAYS IDENTIFIED BY LEQ’Á:MEL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
1.9 km south of RK 1098.1	Vedder River	Current	None
5.8 km north of RK 1100.4	Fraser River	Current	None
8.8 km northwest of RK 1101.9	Boat launch at McDonald Landing	Current	None
5.7 km north of RK 1133	Old trail from Fraser River to Stave Lake and Lillooet	Past	None

No trails and travelways were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trails and travelways by Leq’á:mel First Nation.

Habitation Sites

Leq’á:mel First Nation community members identified several habitation sites during the TLU study for the Project, detailed in Table 5.4.19-2.

McDonald Landing boat launch was described as a very important location to the people of Leq’á:mel First Nation. Some community members refer to this area as McDonald Island. McDonald Landing currently provides excellent access to fishing sites along the Fraser River. Fish camps were traditionally

set up at this location for the duration of the fishing season, which sometimes lasted all summer. Families would camp at the landing and catch and process fish for the winter food supply. An Elder reported that when she was young her family would stay at McDonald Landing every summer to camp and catch salmon. She shared that she does not stay there anymore but that people still launch boats from that location. Current fishing regulations and minimal fishing openings have reduced the number of days people spend at this camp each year. Since the length of time of an opening is unpredictable, they may only stay at the landing for a day or two.

A location was identified near the confluence of the Fraser and Vedder rivers where a historic family home once stood during the early 1900s. This location was also referred to as the Devil's Run. Community members indicated that a camp and a fishing site were located in the same area. Three locations were identified in the Lower Hatzic and the Nicomen Slough area where historic longhouses once stood. Longhouses are large houses generally made of cedar that house several families.

TABLE 5.4.19-2

HABITATION SITES IDENTIFIED BY LEQ'Á:MEL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
8 km north of RK 1109.1	Devil's Run - former habitation site	Past (1900s)	None
7.5 km north of RK 1110	Camping site	Past	None
10.5 km northeast of RK 1117.1	Old Longhouse location	Past	None
8.5 km north of RK 1118.1	Old Longhouse location	Past	None
7 km northeast of RK 1123.1	Old Longhouse location	Past	None
4 km north of RK 1126.4	Camping site along Fraser River	Current	None

No habitation sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for habitation sites by Leq'á:mel First Nation.

Plant Gathering

Leq'á:mel First Nation Elders and community members identified several plant gathering sites during the TLU study for the Project, detailed in table 5.4.19-3.

Leq'á:mel First Nation Elders gather plants throughout their entire asserted traditional territory. The types of plants they harvest include devil's club, stinging nettle, snowberries, salal, Oregon grape, trailing blackberries, rosehips, wild strawberries, bracken fern, licorice fern and cedar.

TABLE 5.4.19-3

PLANT GATHERING SITES IDENTIFIED BY LEQ'Á:MEL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
From RK 1077.6 to RK 1079.9	Medicinal plant gathering at Bridal Falls	Current	None
1 km south of RK 1078.7	Cedar trees with signs of bark stripping	Past	None
4 km north of RK 1063.9	Plant gathering at Hicks Lake	Current	None
10.7 km south of RK 1081.3	Plant gathering along Chilliwack River	Current	None
5 km south of RK 1094.6	Cedar and berry gathering along Chilliwack River	Current	None
11.3 km north of RK 1101.9	Berry picking along southern base of Coast Mountains	Current	None
8.8 km northwest of RK 1101.9	Plant gathering at McDonald Landing	Current	None

TABLE 5.4.19-3 Cont'd

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
From RK 1116 to RK 1119.7	Medicinal plant gathering on Sumas Mountain	Current	None
4 km northeast of RK 1126.4	Medicinal plant gathering along Fraser River	Current	None

No plant gathering sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for plant gathering sites by Leq'á:mel First Nation.

Hunting

Leq'á:mel First Nation Elders and community members identified several hunting sites during the TLU study for the Project, detailed in Table 5.4.19-4.

A community member shared that people from Leq'á:mel First Nation are allowed to hunt year-round but most community members that hunt follow regulations and hunt only at certain times of the year because the quality of the animal meat is better. Fall and winter are the best time to hunt deer and fall is the best time to hunt black bear.

A large territory ranging from the west side of Stave Lake to the east side of Harrison Lake was identified as traditional hunting grounds. There are gravel roads throughout this mountainous region, which allow for good access to hunting. Traditionally elk, deer and bear are hunted in this territory but as the number of elk is low, government restrictions have been implemented to assist in their recovery. Community members are waiting for elk numbers to increase and for permission from the government before they start hunting elk again.

A community member also reported that in the past people hunted around Sumas Mountain but since the development of houses, private land and gravel pits, hunting is now prohibited.

TABLE 5.4.19-4

HUNTING SITES IDENTIFIED BY LEQ'Á:MEL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
8 km northwest of RK 1065.5	Stave Lake to Harrison Lake	Current	None
1 km south of RK 1074	Hunting for deer, elk and black bear around Wahleach Lake	Current	None
9 km north of RK 1096.7	Hunting for duck, geese, pheasant, grouse and deer – Skumalasp/Queens Island	Current	None
From RK 1116 to RK 1119.7	Hunting around Sumas Mountain	Past	None
10.5 km north of RK 1117.1	Hunting bear near Nicomen and Deroche mountains	Current	None

No hunting sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for hunting sites by Leq'á:mel First Nation.

Fishing

Leq'á:mel First Nation community members identified several fishing sites during the TLU study for the Project, detailed in Table 5.4.19-5.

Elders and community members indicated that the Fraser River is an important fishing location, both historically and currently. The Fraser River is accessed at locations such as McDonald Landing (Plate 5.4.19-1), which was identified as a current fishing site on the south side of the river. Salmon is the

fish that is most frequently caught as it is a good food source and it supports the community economy. Different types of salmon are caught at different times of the year. A community member and long-time fisherman indicated that sockeye salmon are caught at the end of June, chinook salmon are caught from February to April and August to October, chum salmon are caught from October to January and pink salmon are caught from August to the end of October. Sockeye and Chinook salmon were reported to be the most desirable type of salmon. Different First Nations have different sections of river for accessing fish but some of the boundaries overlap.

There is a section of the Fraser River just above the confluence of the Fraser and Sumas Rivers known as the 'big eddy.' Where there is an eddy, especially in a large river, there is excellent fishing because the water is calm and fish will hold up there. Community members shared that the big eddy in the Fraser River is not currently as productive as it was in the past due to natural siltation that has caused the area to become shallow. One community member reported that the fishing is good just below the big eddy and near Hatzic. Boats are used to navigate the river and both drift and set nets are used to catch fish. Salmon kept for personal consumption are smoked, dried, canned or salted.



Plate 5.4.19-1 Aerial view of McDonald Landing from southern side of Fraser River.

Hatzic Lake was identified as a good location for recreational fishing. Fish species reported to be in the lake include sturgeon, rainbow and cutthroat trout, chum salmon and northern pike minnow.

Community members explained the importance of spawning and rearing sites to the survival of fish. The Vedder River is crossed by the Project and while community members indicate they do not fish in this river, the river and all its tributaries provide important rearing and spawning habitat for all types of salmon, as well as steelhead, cutthroat and rainbow trout. The Harrison River, approximately 13 km north of the Project, was reported to have a high Chinook return and one community member indicated that there are several smaller rivers and streams that flow into Harrison River that provide excellent Chinook habitat. A community member mentioned that there used to be sockeye salmon present in the slough, as it had more depth and flow before it was blocked from the river.

The salmon fishery on the Fraser River is regulated and there are only certain times in the year when community members can fish with nets. One community member indicated that the sockeye fishery

closed early this year due to low numbers, resulting in a shortage of fish for winter food supplies. He believes the low number of sockeye is a result of the commercial fishery downstream catching all the fish. He also shared that seals are travelling further up the Fraser River searching for salmon and in many cases robbing their nets of fish. Sturgeon was once fished in the Fraser River and sometimes they will still catch one but due to low numbers sturgeon are no longer fished. Eulachon were once abundant in the Fraser River but now the numbers are low and they only come up the Fraser River as far as Maple Ridge. This was speculated to be a result of climate change.

TABLE 5.4.19-5
FISHING SITES IDENTIFIED BY LEQ'Á:MEL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
8.5 km north of RK 1100 to RK 1101.9	Fraser River fishing location	Current	None
8.8 km northwest of RK 1101.9	McDonald Landing	Current	None
9.8 km northeast of RK 1117.1	Fishing for coho, chum, carp and crayfish at Nicomen Slough	Current	None
7.7 km northeast of RK 1123.1	Haztic Lake – recreational fishing	Current	None
4 km northeast of RK 1126.4	Fraser River fishing location	Current	None
6.1 km north of RK 1134.4	Important fish habitat on Stave River	Current	None
Project Footprint	Concern about spawning habitat and low fish returns	--	None
Project Footprint	Concern about tanker traffic	--	None
Project Footprint	Concern about potential for spills	--	None

No fishing sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for fishing sites by Leq'á:mel First Nation.

Trapping

No trapping sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for trapping sites by Leq'á:mel First Nation.

Gathering Places

No gathering places were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for gathering places by Leq'á:mel First Nation.

Sacred Areas

Leq'á:mel First Nation Elders and community members identified several sacred areas during the TLU study for the Project, detailed in Table 5.4.19-6.

During the map review a community member reported that it used to be tradition to place the deceased in coffin-like boxes and raise them up into trees, on poles or on mountains; the deceased were never buried. He explained that it was not until the railroads were built approximately 100 years ago that the government deemed this tradition inhumane and made the people bury their dead.

Sacred sites were identified on the east side of Harrison Knob next to the Harrison River and on the west side of Harrison Hill. These sites are within an old village site, where the remains of longhouses, mounds and artifacts have been documented.

A community member shared a story about Bridal Falls. He explained that in the story, the nearby Mount Cheam represents a Mother and the larger Mount Washington represents the Father. The Mother and Father were living humans before they were turned into mountains by the Creator. Mount Cheam holds her two daughters, represented by two smaller mountains next to her. A third daughter is represented by the mountain at Bridal Falls. Mount Cheam looks after the people of the valley all the way down the

Fraser River to the coast and island. The third daughter, the mountain at Bridal Falls, could not be held by Mount Cheam to see down the Fraser River as could the other two daughters. The waterfall at Bridal Falls is said to be the tears of the third daughter who was not in the arms of her mother.

TABLE 5.4.19-6

SACRED SITES IDENTIFIED BY LEQ'Á:MEL FIRST NATION

Approximate Distance and Direction from Project	Site Description	Current/Past Use	Requested Mitigation
1.1 km south of RK 1079	Sacred site at Bridal falls	Past	None
10.5 km north of RK 1090.3	Sacred site on Harrison Knob	Past	None
9.4 km north of RK 1095.7	Sacred site on Harrison Hill	Past	None
6 km northwest of RK 1101.9	Burial site on northeast side of Sumas mountain	Past	None
4.6 km north of RK 1101.9	Burial site on west side of Chilliwack mountain	Past	None

No sacred sites were identified within the proposed pipeline corridor during the TLU study and no mitigation was requested for sacred areas by Leq'á:mel First Nation.

5.4.20 Métis Nation British Columbia

Trans Mountain and Métis Nation British Columbia have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Métis Nation British Columbia is currently completing an independent third-party engagement report for the Project.

Issues of concern, traditional use sites or features identified through ongoing engagement with Métis Nation British Columbia will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.5 Burnaby to Westridge Segment

The results of TLU studies conducted to date have not identified any TLU sites potentially affected by the Burnaby to Westridge segment and associated Project components requiring mitigation.

5.5.1 Peters Band

Trans Mountain has shared Project information and invited Peters Band to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Peters Band and to support Peters Band participation in Project activities. Interest in a TLU study will be determined by Peters Band.

Issues of concern, traditional use sites or features identified through ongoing engagement with Peters Band will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.5.2 Semiahmoo First Nation

Semiahmoo First Nation is currently conducting an independent, community led TLU/TMRU study for the Project and has provided their 'Initial List of Aboriginal Interests' to Trans Mountain on August 6, 2013 that describes their preliminary interests in the Project including:

- potential for spills within Semiahmoo First Nation's traditional territory, which could eliminate any traditional or cultural fishing;
- potential effects to land and water and in particular the ability to practice their traditions and culture; and

- potential effects to traditional fishing and shellfish gathering sites.

Semiahmoo First Nation also identified broad concerns within their 'Initial List of Aboriginal Interests' including:

- Semiahmoo First Nation's fishery including salmon and shellfish are limited to small areas on the Fraser River because of cumulative effects of development on the ocean;
- closure of salmon and shellfish fisheries due to pollution in traditional fishing areas including Little Campbell, Serpentine and Nicomekl rivers; and
- cumulative effects of land alienation and development within Semiahmoo First Nation's traditional territory, which have resulted in Semiahmoo First Nation being on a permanent boil water advisory.

Trans Mountain provided an initial response in a letter sent to Semiahmoo First Nation on October 28, 2013.

Issues of concern, traditional use sites or features identified through ongoing engagement with Semiahmoo First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.5.3 Matsqui First Nation

Trans Mountain has shared Project information and invited Matsqui First Nation to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Matsqui First Nation and to support Matsqui First Nation participation in Project activities. Interest in a TLU study will be determined by Matsqui First Nation.

Issues of concern, traditional use sites or features identified through ongoing engagement with Matsqui First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.5.4 Kwantlen First Nation

Trans Mountain has shared Project information and invited Kwantlen First Nation to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Kwantlen First Nation and to support Kwantlen First Nation participation in Project activities. Interest in a TLU study will be determined by Kwantlen First Nation.

Issues of concern, traditional use sites or features identified through ongoing engagement with Kwantlen First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.5.5 Katzie First Nation

Trans Mountain has shared Project information and invited Katzie First Nation to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Katzie First Nation and to support Katzie First Nation participation in Project activities. Interest in a TLU study will be determined by Katzie First Nation.

Issues of concern, traditional use sites or features identified through ongoing engagement with Katzie First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.5.6 Kwikwetlem First Nation

Trans Mountain has shared Project information and invited Kwikwetlem First Nation to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Kwikwetlem First Nation and to support Kwikwetlem First Nation participation in Project activities. Interest in a TLU study will be determined by Kwikwetlem First Nation.

Issues of concern, traditional use sites or features identified through ongoing engagement with Kwikwetlem First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.5.7 Qayqayt First Nation

Trans Mountain has shared Project information and invited Qayqayt First Nation to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Qayqayt First Nation and to support Qayqayt First Nation participation in Project activities. Interest in a TLU study will be determined by Qayqayt First Nation.

Issues of concern, traditional use sites or features identified through ongoing engagement with Qayqayt First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.5.8 Squamish Nation

Trans Mountain has shared Project information and invited Squamish Nation to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Squamish Nation and to support Squamish Nation participation in Project activities. Interest in a TLU study will be determined by Squamish Nation.

Issues of concern, traditional use sites or features identified through ongoing engagement with Squamish Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.5.9 Tsleil-Waututh Nation

Trans Mountain has shared Project information and invited Tsleil-Waututh Nation to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Tsleil-Waututh Nation and to support Tsleil-Waututh Nation participation in Project activities. Interest in a TLU study will be determined by Tsleil-Waututh Nation.

Issues of concern, traditional use sites or features identified through ongoing engagement with Tsleil-Waututh Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.5.10 Musqueam Indian Band

Trans Mountain has shared Project information and invited Musqueam Indian Band to participate in the development of a TLU study. Trans Mountain will continue to share Project information with Musqueam Indian Band and to support Musqueam Indian Band participation in Project activities. Interest in a TLU study will be determined by Musqueam Indian Band.

Issues of concern, traditional use sites or features identified through ongoing engagement with Musqueam Indian Band will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.5.11 Tsawwassen First Nation

Trans Mountain and Tsawwassen First Nation have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Trans Mountain will continue to share Project information with Tsawwassen First Nation and to support Tsawwassen First Nation participation in Project activities. Interest in a TLU study will be determined by Tsawwassen First Nation.

Issues of concern, traditional use sites or features identified through ongoing engagement with Tsawwassen First Nation will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

5.5.12 Métis Nation British Columbia

Trans Mountain and Métis Nation British Columbia have engaged in discussions to determine the community's interest and a process for their involvement in Project activities. Métis Nation British Columbia is currently completing an independent third-party engagement report for the Project.

Issues of concern, traditional use sites or features identified through ongoing engagement with Métis Nation British Columbia will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

6.0 DISCUSSION AND MITIGATION RECOMMENDATIONS

This section presents an overview of the potential effects and associated mitigation measures related to traditional land and resource use. This overview considers the potential interactions discussed in Section 3.1 in the context of the Project and the existing traditional land and resource use presented in previous sections.

The issues raised by participating Aboriginal communities through identified preliminary interests and TLU studies for the Project are summarised below in Table 6.1. The identified issues in Table 6.1 have also informed other volumes of the ESA. Section 3.0 of Volumes 5A and 5B describe where the issues that were raised are considered in the ESA. Additional response summaries are also provided in Section 3.0 of Volumes 5A and 5B. Specific TLU sites within the proposed pipeline corridor are discussed in Section 6.2.

Trans Mountain will continue to engage Aboriginal communities through all phases of the Project. Ongoing TLU study work with participating Aboriginal communities is scheduled for completion prior to construction of the Project. Information gathered during ongoing TLU studies will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

TABLE 6.1

ISSUES OR CONCERNS IDENTIFIED BY PARTICIPATING ABORIGINAL COMMUNITIES

Site Description/Summary of Interest or Concern	Approximate Distance and Direction from Project	Response Summary ¹
Enoch Cree Nation		
Construction affecting moose and elk salt licks	Project Footprint	Mitigation measures to reduce effects on habitat, limit barriers to movement, avoid attraction of wildlife to the work site, minimize sensory disturbance and protect site-specific habitat features of importance are discussed in Section 7.2.10 of Volume 5A and the Pipeline EPP (Volume 6B).
Alexander First Nation		
Effects of Project on medicinal plants	Project Footprint	Trans Mountain will implement the Reclamation Management Plan (Appendix C of Volume 6B) that includes construction reclamation measures to be implemented prior to, during and following pipeline installation in order stabilize and revegetate affected lands that in time achieve land productivity along the right-of-way equivalent to the adjacent land use and ensuring the ability of the land to support various land uses. Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members. See Table 6.3 for additional measures pertaining to the potential alteration of plant harvesting sites. Further discussion is provided under vegetation in Section 7.2.9 of Volume 5B. Mitigation measures for vegetation are outlined in the Pipeline EPP (Volume 6B).
Pembina River – medicinal plants including red willow. Harvest medicines prior to construction	227 m north of RK 135.6	
Sweet grass is difficult to find and needs to be preserved	Project Footprint	
Trapline marker 911-212. Discuss with trapper prior to construction	600 m southeast of RK 220.4	Trans Mountain will contact trappers of affected registered fur management areas and traplines and guide-outfitters in relevant wildlife management units prior to clearing and construction activities, providing maps and schedule information to enable them to select alternate areas for their activities. See Table 6.3 for additional measures pertaining to the potential disruption of subsistence trapping activities.
McLeod River crossing – erosion of river banks	At RK 223.8	If wind or water erosion is evident during the construction phase of the Project, contractor equipment and personnel will be made available to control the erosion.

TABLE 6.1 Cont'd

Site Description/Summary of Interest or Concern	Approximate Distance and Direction from Project	Response Summary ¹
Avoid sacred site; use existing pipeline corridor and avoid clearing around site	132 m northwest of RK 334.5	This site will be avoided by the current alignment of the proposed pipeline corridor. See Table 6.3 for additional measures pertaining to the potential disturbance of sacred sites.
Use of herbicides and pesticides	Project Footprint	Trans Mountain will utilize an Integrated Vegetation Management (IVM) approach to carry out problem vegetation management practices for the Project and to meet the overall objectives of IVM for all Trans Mountain pipelines and facilities. Trans Mountain will consult with the public, adjacent landowners and Aboriginal communities affected by the Project regarding problem vegetation management and methods of treatment.
Effects of construction on moose, elk and deer.	Project Footprint	Mitigation measures to reduce effects on habitat, limit barriers to movement, avoid attraction of wildlife to the work site, minimize sensory disturbance and protect site-specific habitat features of importance are discussed in Section 7.2.10 of Volume 5A and the Pipeline EPP (Volume 6B).
Effects of the Project on snowshoe hare populations in the region	Project Footprint	
Samson Cree Nation		
Avoid burial site	120 m north of RK 44.4	These sites will be avoided by the current alignment of the proposed pipeline corridor. See Table 6.3 for additional measures pertaining to the potential disturbance of sacred sites.
Grave site; request to revisit site	135 m north of RK 101.3	
Avoid sacred site	95 km south of RK 298.5	
Avoid sacred site	183 m north of RK 298.8	
Avoid 'way-pih-nahs-so-nah' sacred site	336 m south of RK 333.7	
Potential burial site; request to revisit site	146 m north of RK 428	
Effects of construction on water and fish quality	Project Footprint	Crossing methods specific to each watercourse will be determined in consultation with engineering and environmental specialists, as well as applicable regulatory authorities. Further discussion is provided under fish and fish habitat in Sections 5.7 and 7.2.7 of Volume 5B. Mitigation measures for fish and fish habitat are outlined in the Pipeline EPP (Volume 6B).
O'Chiese First Nation		
Campsite and settlement site; sweat site; and plant gathering between the North Saskatchewan River and Rimbey. Preserve site for future use	102 km south of RK 81.5	Trans Mountain is fully committed to environmental management, protection and stewardship of the land during the construction and operations of all its facilities. A comprehensive ESA has been completed for the Project. Over 30 types of environmental surveys have been completed by local and regional biologists and resource specialists in support of the ESA. Species of special status have been identified and assessed as part of this Project. Pipeline construction is a sequential series of activities, which do not remain in one area for an extended period of time. EPPs and Environmental Alignment Sheets form part of the application submitted to the NEB, and provide mitigation strategies to help avoid or minimize environmental effects from construction. The Pipeline and Facilities EPPs and Environmental Alignment Sheets can be found in Volumes 6B, 6C, and 6E respectively. These sites will be avoided by the current alignment of the proposed pipeline corridor. Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members.
Hunting as well as historic moose habitat and current bird habitat between the North Saskatchewan River and Rimbey. Preserve site for future use	63.6 km south of RK 90	
Medicine Lake: cultural camp; trapping; berry picking; fishing; plant gathering; hunting and mineral licks; sundance and sweat site; and burial sites and ceremonial sites. Preserve site for future use	93 km south of RK 118	
Campsite south of Edson and north of Bighorn IR 144A. Preserve site for future use	1.7 km south of RK 232	

TABLE 6.1 Cont'd

Site Description/Summary of Interest or Concern	Approximate Distance and Direction from Project	Response Summary ¹
Campsite south of Edson and north of Bighorn IR 144A. Preserve site for future use (cont'd)	See above	See Table 6.3 for additional measures pertaining to the potential effects to subsistence activities and sites and cultural sites.
Medicinal and other plant gathering south of Edson and north of Bighorn IR 144A. Preserve site for future use	1.7 km south of RK 232.1	<p>Trans Mountain is fully committed to environmental management, protection and stewardship of the land during the construction and operations of all its facilities. A comprehensive ESA has been completed for the Project. Over 30 types of environmental surveys have been completed by local and regional biologists and resource specialists in support of the ESA. Species of special status have been identified and assessed as part of this Project. Pipeline construction is a sequential series of activities, which do not remain in one area for an extended period of time. EPPs and Environmental Alignment Sheets form part of the application submitted to the NEB, and provide mitigation strategies to help avoid or minimize environmental effects from construction.</p> <p>The Pipeline and Facilities EPPs and Environmental Alignment Sheets can be found in Volumes 6B, 6C, and 6E respectively.</p> <p>These sites will be avoided by the current alignment of the proposed pipeline corridor.</p> <p>Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members. See Table 6.3 for additional measures pertaining to the potential effects to subsistence activities and sites and cultural sites.</p>
Hunting north of Edson, around Bighorn IR144A and Nordegg. Preserve site for future use	From RK 206.5 to RK RK 235	
Trapping around Robb and west towards Jasper. Preserve site for future use	36 km south of RK 272.5	
Burial sites in the foothills between Robb, Cadomin and Lovetville. Preserve site for future use	52.7 km southeast of RK 312	
Avoid ceremonial site identified	1 km north of RK 320	
Cabin around Robb and west towards Jasper. Preserve site for future use	25.3 km southeast of RK 339	
Cultural camp south of Edson around Lovetville, Cadomin and Erith	38.6 km southeast of RK 339	
Hunting and trapping in the foothills region between Robb, Cadomin and Lovetville. Preserve site for future use	38.9 km southeast of RK 339.4	
Ermineskin Cree Nation		
Trail from Pigeon Lake to Wabamun Lake. Trail from Pigeon Lake via Duffield to Lac Ste. Anne (used for pilgrimage). Avoid interruption to pilgrimage	1 km south of RK 95.7	<p>These sites will be avoided by the current alignment of the proposed pipeline corridor.</p> <p>Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members.</p> <p>The objectives of the Traffic and Access Control Management Plan (Appendix C of Volume 6B) will be accomplished by minimizing the development of access routes, controlling public access along the construction right of way, selecting appropriate access routes that cause the least disturbance to high quality, sensitive wildlife habitat, managing traffic on these routes and determining appropriate construction reclamation.</p>
Sweet grass is becoming harder to find today and community members are concerned that further development will lead to less of this important plant	Project Footprint	<p>Trans Mountain will implement the Reclamation Management Plan (Appendix C of Volume 6B) that includes construction reclamation measures to be implemented prior to, during and following pipeline installation in order stabilize and revegetate affected lands that in time achieve land productivity along the right-of-way equivalent to the adjacent land use and ensuring the ability of the land to support various land uses.</p> <p>Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members. See Table 6.3 for additional measures pertaining to the potential alteration of plant harvesting sites.</p>
Access to land for plant gathering and the growing scarcity of some plants	Project Footprint	
Animals being sick and displacement of animals due to development	Project Footprint	

TABLE 6.1 Cont'd

Site Description/Summary of Interest or Concern	Approximate Distance and Direction from Project	Response Summary ¹
Development causing community members to have to travel further distances to hunt and fish	Project Footprint	Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members. See Table 6.3 for additional measures pertaining to the potential effects to subsistence activities and sites and cultural sites.
Development causing community members to have to travel further distances to hunt and fish	Project Footprint	Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members. See Table 6.3 for additional measures pertaining to the potential effects to subsistence activities and sites and cultural sites.
Development causing community members to have to travel further distances to hunt and fish	Project Footprint	Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members. See Table 6.3 for additional measures pertaining to the potential effects to subsistence activities and sites and cultural sites.
Montana First Nation		
Dust from gravel roads affecting environment	Project Footprint	Noise, dust and other disturbances will be mitigated to avoid the effects on people near the construction. Every effort is made to minimize effects to traditional land and resource users from surveying and staking the right-of-way to final clean-up.
Decline of traditional activities in the community	Project Footprint	Trans Mountain respects the Aboriginal and treaty rights, unique culture, diversity, languages and traditions of Aboriginal people. Trans Mountain acknowledges the importance of teaching, the significance of culture and language and the considerable traditional knowledge that has been passed on for generations and as such is committed to continued listening, learning and working with Aboriginal people to ensure that knowledge and advice is considered and incorporated in the Project.
Decline of berries and the effects of development on traditional plant sources	Project Footprint	Trans Mountain will implement the Reclamation Management Plan (Appendix C of Volume 6B) that includes construction reclamation measures to be implemented prior to, during and following pipeline installation in order stabilize and revegetate affected lands that in time achieve land productivity along the right-of-way equivalent to the adjacent land use and ensuring the ability of the land to support various land uses. Further discussion is provided under vegetation in Section 7.2.9 of Volume 5B. Mitigation measures for vegetation are outlined in the Pipeline EPP (Volume 6B).
Decline of wildlife and effects of contamination of the land and water on wildlife	Project Footprint	All crossings of wetlands and watercourses will be planned during suitable ground and weather conditions. Additionally, water quality will be monitored during all instream activity. Each watercourse will be approached correctly so the cumulative effects of changes to all the crossings and the surrounding watershed will be limited. Further discussion is provided under fish and fish habitat and wetlands in Sections 7.2.7 and 7.2.8. Mitigation measures for fish and fish habitat and wetlands are outlined in the Pipeline EPP (Volume 6B). Mitigation to reduce effects on habitat, limit barriers to movement, avoid attraction of wildlife to the work site, minimize sensory disturbance and protect site-specific habitat features of importance is discussed in Section 7.2.10 of Volume 5A and the Pipeline EPP (Volume 6B).

TABLE 6.1 Cont'd

Site Description/Summary of Interest or Concern	Approximate Distance and Direction from Project	Response Summary ¹
Contamination of traditional use sites and effects of a spill on water systems along the pipelines	Project Footprint	<p>Safety is a top priority and is at the core of who Trans Mountain is as a company. Dedicated staff work to maintain the integrity of the pipeline through Trans Mountain's maintenance, inspection, and awareness programs. While no spill is acceptable to Trans Mountain, accidents can happen.</p> <p>Trans Mountain has comprehensive spill response plans in place for the Trans Mountain pipeline and facilities. These plans are constantly being updated to keep them current and are regularly practiced through deployment exercises. While the specific strategies used in response to a spill will vary depending on the circumstances, the primary objectives in all cases are to ensure safety and to minimize environmental damage.</p> <p>Trans Mountain is conducting environmental studies along the proposed pipeline corridor to gather data for the environmental assessment. This assessment will consider the potential environmental effects of the construction, operations and maintenance of the pipeline; ways in which these effects can be minimized or avoided altogether; and mitigation and reclamation strategies that will further reduce these effects.</p> <p>See Table 6.3 for additional measures pertaining to the potential effects to subsistence activities and sites and cultural sites.</p>
Avoid burial site on the southwest corner of the Montana IR 139	85 km south of RK 25	These sites will be avoided by the current alignment of the proposed pipeline corridor.
Avoid Sharp Head future burial site near Battle River	96 km south of RK 46	See Table 6.3 for additional measures pertaining to the potential disturbance of sacred sites.
Unmarked cemetery on east side of Pigeon Lake. Elders are concerned about erosion and collapse of graves.	53 km south of RK 73.5	
Avoid sacred site at Lac Ste. Anne	13.5 km north of RK 95	
Alexis Nakota Sioux Nation		
Increase in forest clearing, coal mining, chemical spraying and the introduction of invasive plants, such as yellow flower through construction equipment, has lead to a decline of various plants including seneca root and berries	Project Footprint	<p>Trans Mountain will utilize an IVM approach to carry out problem vegetation management practices for the Project and to meet the overall objectives of IVM for all Trans Mountain pipelines and facilities.</p> <p>Trans Mountain will consult with the public, adjacent landowners and Aboriginal communities affected by the Project regarding problem vegetation management and methods of treatment.</p>
What happens to the timber removed from the proposed pipeline corridor	Project Footprint	<p>Trees, stumps, brush and other vegetation will be cleared from the construction right-of-way; temporary work sites; and permanent facilities that are not located on existing TMPL previously cleared easements. Timber harvesting and/or land clearing and debris disposal activities will be coordinated according to Provincial legislation or agreements.</p> <p>Trans Mountain will apply all mitigation measures pertaining to timber outlined in the Timber Salvage Management Plan of the Pipeline EPP (Volume 6B).</p>
Effects from construction to medicinal plants growing within the proposed pipeline corridor	Project Footprint	<p>Trans Mountain will implement the Reclamation Management Plan (Appendix C of Volume 6B) that includes construction reclamation measures to be implemented prior to, during and following pipeline installation in order stabilize and revegetate affected lands that in time achieve land productivity along the right-of-way equivalent to the adjacent land use and ensuring the ability of the land to support various land uses.</p> <p>Trans Mountain will ensure the contractor installs signage notifying of construction activities in the area.</p>

TABLE 6.1 Cont'd

Site Description/Summary of Interest or Concern	Approximate Distance and Direction from Project	Response Summary ¹
Effects from construction to medicinal plants growing within the proposed pipeline corridor (cont'd)	See above	Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members. See Table 6.3 for additional measures pertaining to the potential alteration of plant harvesting sites. Further discussion is provided under vegetation in Section 7.2.9 of Volume 5B. Mitigation measures for vegetation are outlined in the Pipeline EPP (Volume 6B).
Watercourses/crossings and fish and fish habitat	Project Footprint	Crossing methods specific to each watercourse will be determined in consultation with engineering and environmental specialists, as well as applicable regulatory authorities. Further discussion is provided under fish and fish habitat in Sections 5.7 and 7.2.7 of Volume 5B. Mitigation measures for fish and fish habitat are outlined in the Pipeline EPP (Volume 6B).
Paul First Nation		
Poor road conditions that require maintenance	Project Footprint	The objectives of the Traffic and Access Control Management Plan (Appendix C of Volume 6B) will be accomplished by minimizing the development of access routes, controlling public access along the construction right of way, selecting appropriate access routes that cause the least disturbance to high quality, sensitive wildlife habitat, managing traffic on these routes and determining appropriate construction reclamation.
Development from the oil and gas industry will affect important traditional hunting areas	Project Footprint	Mitigation to reduce effects on habitat, limit barriers to movement, avoid attraction of wildlife to the work site, minimize sensory disturbance and protect site-specific habitat features of importance is discussed in Section 7.2.10 of Volume 5A and the Pipeline EPP (Volume 6B). Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members. All sensitive resources identified on the Environmental Alignments Sheets and environmental tables within the immediate vicinity or the right-of-way will be clearly marked before the start of clearing. See Table 6.3 for additional measures pertaining to the potential effects to subsistence activities and sites and cultural sites.
Nakcowinewak Nation Of Canada		
Avoid unidentified gravesite near Marlboro on freehold land	844 m northeast of RK 256.5	Trans Mountain is fully committed to environmental management, protection and stewardship of the land during the construction and operations of all its facilities. A comprehensive ESA has been completed for the Project. Over 30 types of environmental surveys have been completed by local and regional biologists and resource specialists in support of the ESA. Species of special status have been identified and assessed as part of this Project. Pipeline construction is a sequential series of activities, which do not remain in one area for an extended period of time. EPPs and Environmental Alignment Sheets form part of the application submitted to the NEB, and provide mitigation strategies to help avoid or minimize environmental effects from construction. The Pipeline and Facilities EPPs and Environmental Alignment Sheets can be found in Volumes 6B, 6C, and 6E respectively. These sites will be avoided by the current alignment of the proposed pipeline corridor.
Fishing site near McLeod River. Revisit watercourses and crossings one year after pipeline construction	1.7 km south of RK 260	
Avoid gravesite at Marlboro	7.1 km north of RK 263	
Fishing in Berland River (Athabasca River tributary). Revisit watercourses and crossings one year after pipeline construction	51 km north of RK 265	
Avoid gravesite south of Marlboro	1 km south of RK 290	
Fishing along the Athabasca River from the east side of Orchard Creek to the east side of Hinton	1 km north of RK 295 to RK 310	
Fishing on Gregg River. Revisit watercourses and crossings one year after pipeline construction	18 km southeast of RK 338	

TABLE 6.1 Cont'd

Site Description/Summary of Interest or Concern	Approximate Distance and Direction from Project	Response Summary ¹
Protect Terrace camp (ceremonial site)	1.6 km south of RK 339	Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members. See Table 6.3 for additional measures pertaining to the potential effects to subsistence activities and sites and cultural sites.
Fishing on Maskuta Creek. Revisit watercourses and crossings one year after pipeline construction	3.8 km northwest of RK 339	
Fishing in Jasper National Park. Revisit watercourses and crossings one year after pipeline construction	6 km east from RK 350 to RK 365	
Forest cover loss. Request that alder, spruce, poplar and willow be avoided where possible	Project Footprint	Trans Mountain aims to return the right-of-way to preconstruction conditions, to the extent possible. Post-construction monitoring and ongoing right-of-way maintenance will continue following construction. If warranted, site-specific mitigation measures based on location and species will be determined once the route is finalized in accordance with the Rare Ecological Community and Rare Plant Population Management Plan (Appendix C of Volume 6B). Further discussion is provided under vegetation in Section 7.2.9. Mitigation measures for vegetation are outlined in the Pipeline EPP (Volume 6B).
Declining frog and bird populations, possibly due to increased development	Project Footprint	Restricted Activity Periods (RAPs), least risk work windows and setback distance guidelines will be considered under AB and BC frameworks to provide effective management for selected wildlife species. Further discussion is provided under wildlife and species at risk in Sections 7.2.10 and 7.2.11. Mitigation measures for wildlife and species at risk are outlined in the Pipeline EPP (Volume 6B).
Development displacing fox dens	Project Footprint	In Alberta, in the event an active mammal den is found, a 100 m setback is recommended. Mitigation may include monitoring the den and/or modifying the construction schedule to avoid activity until the den is inactive.
Black spots on moose meat, possible due to the use of herbicides and pesticides	Project Footprint	Trans Mountain will utilize an IVM approach to carry out problem vegetation management practices for the Project and to meet the overall objectives of IVM for all Trans Mountain pipelines and facilities. Trans Mountain will consult with the public, adjacent landowners and Aboriginal communities affected by the Project regarding problem vegetation management and methods of treatment.
Water at most watercourses and crossings is not drinkable due to pollution. Revisit watercourses and crossings one year after pipeline construction	Project Footprint	Trans Mountain will continue to engage Aboriginal communities through all phases of the Project including the procurement of Aboriginal Monitors. Trans Mountain's commitment to retain Aboriginal Monitors through the construction of commissioning of the Project is further described in Volume 6A.
Burial sites may be bulldozed during construction. Avoid burial sites	Project Footprint	Trans Mountain is conducting environmental studies along the proposed pipeline corridor to gather data for the environmental assessment. This assessment will consider the potential environmental effects of the construction, operations and maintenance of the pipeline; ways in which these effects can be minimized or avoided altogether; and mitigation and reclamation strategies that will further reduce these effects. See Table 6.3 for additional measures pertaining to the potential disturbance of sacred sites.

TABLE 6.1 Cont'd

Site Description/Summary of Interest or Concern	Approximate Distance and Direction from Project	Response Summary ¹
Sunchild First Nation		
Cumulative effects of the Project on traditional practices	Project Footprint	Trans Mountain is conducting environmental studies along the proposed pipeline corridor to gather data for the environmental assessment. This assessment will consider the potential environmental effects of the construction, operations and maintenance of the pipeline; ways in which these effects can be minimized or avoided altogether; and mitigation and reclamation strategies that will further reduce these effects. Potential Project-related cumulative effects will be mitigated with implementation of the following design and construction measures. <ul style="list-style-type: none"> • Align the proposed pipeline corridor to follow existing linear features such as pipelines and disturbed areas such as facilities/clearings to the extent practical. • Encourage rapid regeneration of natural vegetation. The Project's contribution to cumulative effects with reasonably foreseeable developments is assessed in Section 8.0. See Table 6.3 for additional measures pertaining to the potential effects to subsistence activities and sites and cultural sites.
Effect on hunting due to habitat loss, habitat fragmentation and impediments to wildlife movement	Project Footprint	Mitigation to reduce effects on habitat, limit barriers to movement, avoid attraction of wildlife to the work site, minimize sensory disturbance and protect site-specific habitat features of importance is discussed in Section 7.2.10 of Volume 5A and the Pipeline EPP (Volume 6B). See Table 6.3 for additional measures pertaining to the potential disruption of subsistence hunting activities.
Effect on animals, plants and water due to air, noise, water and soil pollution	Project Footprint	Trans Mountain takes a multi-layered approach to pipeline safety, including adopting measures such as strategically placed pipeline valves near waterways and trenchless river crossings at some locations. Trans Mountain will ensure equipment is well-maintained during construction to minimize air emissions and unnecessary noise. Standard mitigation plus noise-specific mitigation measures will be implemented along with compliance with local noise by-laws.
Aseniwuche Winewak Nation		
Reclamation of lands disturbed during Project construction. Reclaim to preconstruction conditions and plant native vegetation where necessary	Project Footprint	Trans Mountain will implement the Reclamation Management Plan (Appendix C of Volume 6B) that includes construction reclamation measures to be implemented prior to, during and following pipeline installation in order stabilize and revegetate affected lands that in time achieve land productivity along the right-of-way equivalent to the adjacent land use and ensuring the ability of the land to support various land uses. Restoration and monitoring activities typically extend for a number of years following construction to ensure areas disturbed during construction are satisfactorily restored. Further discussion is provided under vegetation in Section 7.2.9 of Volume 5A. Mitigation measures for vegetation are outlined in the Pipeline EPP (Volume 6B).
Notification if cculturally relevant sites identified during construction and implement 100 m buffer	Project Footprint	Trans Mountain is conducting environmental studies along the proposed pipeline corridor to gather data for the environmental assessment. This assessment will consider the potential environmental effects of the construction, operations and maintenance of the pipeline; ways in which these effects can be minimized or avoided altogether; and mitigation and reclamation strategies that will further reduce these effects.

TABLE 6.1 Cont'd

Site Description/Summary of Interest or Concern	Approximate Distance and Direction from Project	Response Summary¹
Notification if cculturally relevant sites identified during construction and implement 100 m buffer (cont'd)	See above	Trans Mountain will continue to engage Aboriginal communities through all phases of the Project. See Table 6.3 for additional measures pertaining to the potential disturbance of sacred sites.
Effect of construction on water quality	Project Footprint	Trans Mountain takes a multi-layered approach to pipeline safety, including adopting measures such as strategically placed pipeline valves near waterways and trenchless river crossings at some locations. Crossing methods specific to each watercourse will be determined in consultation with engineering and environmental specialists, as well as applicable regulatory authorities. Further discussion is provided under water quality and quantity, fish and fish habitat and wetlands in Sections 5.3, 5.7, 5.8, 7.2.3, 7.2.7 and 7.2.8 of Volume 5A. Mitigation measures are outlined in the Pipeline EPP (Volume 6B).
Reduce disturbance to fish during Project construction	Project Footprint	
Camlin Lake Band		
Loss of medicinal plants and berries during construction	Project Footprint	Trans Mountain will implement the Reclamation Management Plan (Appendix C of Volume 6B) that includes construction reclamation measures to be implemented prior to, during and following pipeline installation in order stabilize and revegetate affected lands that in time achieve land productivity along the right-of-way equivalent to the adjacent land use and ensuring the ability of the land to support various land uses. Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members. See Table 6.3 for additional measures pertaining to the potential alteration of plant harvesting sites. Further discussion is provided under vegetation in Section 7.2.9 of Volume 5B. Mitigation measures for vegetation are outlined in the Pipeline EPP (Volume 6B).
Protection of wildlife during construction	Project Footprint	Mitigation to reduce effects on habitat, limit barriers to movement, avoid attraction of wildlife to the work site, minimize sensory disturbance and protect site-specific habitat features of importance is discussed in Section 7.2.10 of Volume 5A and the Pipeline EPP (Volume 6B).
Whispering Pines First Nation (Clinton Indian Band)		
Need to travel further to find medicinal plants	Project Footprint	Trans Mountain will implement the Reclamation Management Plan (Appendix C of Volume 6B) that includes construction reclamation measures to be implemented prior to, during and following pipeline installation in order stabilize and revegetate affected lands that in time achieve land productivity along the right-of-way equivalent to the adjacent land use and ensuring the ability of the land to support various land uses. Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members. See Table 6.3 for additional measures pertaining to the potential alteration of plant harvesting sites. Further discussion is provided under vegetation in Section 7.2.9 of Volume 5B. Mitigation measures for vegetation are outlined in the Pipeline EPP (Volume 6B).
Decline of berries as a result of industry and clear cutting and the decline of wild rose, possibly due to warmer average temperatures	Project Footprint	

TABLE 6.1 Cont'd

Site Description/Summary of Interest or Concern	Approximate Distance and Direction from Project	Response Summary ¹
Increased public access and construction crews hunting in the area	Project Footprint	The objectives of the Traffic and Access Control Management Plan (Appendix C of Volume 6B) will be accomplished by minimizing the development of access routes, controlling public access along the construction right of way, selecting appropriate access routes that cause the least disturbance to high quality, sensitive wildlife habitat, managing traffic on these routes and determining appropriate construction reclamation. Mitigation measures will be implemented to reduce the potential effects of the Project on wildlife habitat, movement and mortality risk. Mitigation to reduce effects on habitat, limit barriers to movement, avoid attraction of wildlife to the work site, minimize sensory disturbance and protect site-specific habitat features of importance is discussed in the Section 7.2.10 and the Pipeline EPP (Volume 6B).
Ensure deer remain close to IR 4 so younger generation can learn to hunt	Project Footprint	
Effects to species at risk and birds in particular	Project Footprint	RAPs, least risk work windows and setback distance guidelines will be considered under AB and BC frameworks to provide effective management for selected wildlife species. Trans Mountain will discuss the timing of their activity with provincial regulatory authorities and maintain contact during the construction period to advise them of the construction progress and anticipated completion date within sensitive and/or key ecological areas. Further discussion is provided under wildlife and species at risk in Sections 7.2.10 and 7.2.11. Mitigation measures for wildlife and species at risk are outlined in the Pipeline EPP (Volume 6B).
Lower Nicola Indian Band		
Pipeline integrity	Project Footprint	The TMEP will be incorporated into Trans Mountain's existing Pipeline Integrity Program. Trans Mountain's Pipeline Integrity Program has years of experience maintaining the existing TMPL. Through the Pipeline Integrity Program, Trans Mountain performs aerial surveillance to monitor for geotechnical events – such as landslides, hydrological (stream or river crossings) or third-party activity at least once a month for every section of the route. Additionally, on-ground surveys of all water crossings take place on a regularly scheduled basis.
Safety to human use	Project Footprint	Trans Mountain has comprehensive spill response plans in place for the Trans Mountain pipeline and facilities. These plans are constantly being updated to keep them current and are regularly practiced through deployment exercises. While the specific strategies used in response to a spill will vary depending on the circumstances, the primary objectives in all cases are to ensure safety and to minimize environmental damage.
Effects on all levels of animal and bird and fish habitat, water, plants	Project Footprint	Trans Mountain is fully committed to environmental management, protection and stewardship of the land during the construction and operations of all its facilities. A comprehensive ESA has been completed for the Project. Over 30 types of environmental surveys have been completed by local and regional biologists and resource specialists in support of the ESA. Species of special status have been identified and assessed as part of this Project. Pipeline construction is a sequential series of activities, which do not remain in one area for an extended period of time. EPPs and Environmental Alignment Sheets form part of the application submitted to the NEB, and provide mitigation strategies to help avoid or minimize environmental effects from construction.
Disturbing the natural habitat of the environment now and over the duration of pipeline operations	Project Footprint	

TABLE 6.1 Cont'd

Site Description/Summary of Interest or Concern	Approximate Distance and Direction from Project	Response Summary ¹
Disturbing the natural habitat of the environment now and over the duration of pipeline operations (cont'd)	See above	The Pipeline and Facilities EPPs and Environmental Alignment Sheets can be found in Volumes 6B, 6C, and 6E respectively.
Shxw'ówhámél First Nation		
Effects to vegetation	Project Footprint	<p>Trans Mountain will implement the Reclamation Management Plan (Appendix C of Volume 6B) that includes construction reclamation measures to be implemented prior to, during and following pipeline installation in order stabilize and revegetate affected lands that in time achieve land productivity along the right-of-way equivalent to the adjacent land use and ensuring the ability of the land to support various land uses.</p> <p>Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members. See Table 6.3 for additional measures pertaining to the potential alteration of plant harvesting sites.</p> <p>Further discussion is provided under vegetation in Section 7.2.9 of Volume 5B. Mitigation measures for vegetation are outlined in the Pipeline EPP (Volume 6B).</p>
Popkum First Nation		
Fish and fish habitat and construction related water contamination	Project Footprint	<p>All crossings of wetlands and watercourses will be planned during suitable ground and weather conditions. Additionally, water quality will be monitored during all instream activity. Each water course will be approached correctly so the cumulative effects of changes to all the crossings and the surrounding watershed will be limited.</p> <p>Further discussion is provided under fish and fish habitat and wetlands in Sections 7.2.7 and 7.2.8. Mitigation measures for fish and fish habitat and wetlands are outlined in the Pipeline EPP (Volume 6B).</p>
Loss of devil's club	Project Footprint	<p>Trans Mountain will implement the Reclamation Management Plan (Appendix C of Volume 6B) that includes construction reclamation measures to be implemented prior to, during and following pipeline installation in order stabilize and revegetate affected lands that in time achieve land productivity along the right-of-way equivalent to the adjacent land use and ensuring the ability of the land to support various land uses.</p> <p>Trans Mountain will work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members. See Table 6.3 for additional measures pertaining to the potential alteration of plant harvesting sites.</p> <p>Further discussion is provided under vegetation in Section 7.2.9 of Volume 5B. Mitigation measures for vegetation are outlined in the Pipeline EPP (Volume 6B).</p>
Ts'elxweyew Tribe Management Limited		
Tree clearing, trenching, blasting and stripping	Project Footprint	<p>During the 2012 and 2013 field seasons, a number of environmental and engineering field programs were conducted to assess existing conditions and types of land use in the Project area, as well as identify possible socio-economic effects. These programs occurred in both Alberta and BC, and involved the work of a number of teams in various disciplines.</p> <p>Trees, stumps, brush and other vegetation will be cleared from the construction right-of-way; temporary work sites; and permanent facilities that are not located on existing TMPL previously cleared easements. Timber harvesting and/or land clearing and debris disposal activities will be coordinated according to Provincial legislation or agreements.</p>
Overburden storage and slash storage and disposal	Project Footprint	

TABLE 6.1 Cont'd

Site Description/Summary of Interest or Concern	Approximate Distance and Direction from Project	Response Summary ¹
Overburden storage and slash storage and disposal (cont'd)	See above	Where present in non-forested areas, topsoil or strippings will be salvaged to ensure that soil productivity is maintained. The width and depth of topsoil or strippings salvage will depend on the land use, soil conditions, microtopography, regulatory authority requests and grading requirements. Any salvaged topsoil or root zone material will be separated from spoil piles and stored along the construction right-of-way and at facility sites in low-profile berms or windrows. Equipment used during topsoil or strippings handling activities will include bulldozers, graders and backhoes.
Weeds and invasive species	Project Footprint	Trans Mountain will utilize an IVM approach to carry out problem vegetation management practices for the Project and to meet the overall objectives of IVM for all Trans Mountain pipelines and facilities. Trans Mountain will consult with the public, adjacent landowners and Aboriginal communities affected by the Project regarding problem vegetation management and methods of treatment.
Land use restrictions	Project Footprint	The objectives of the Traffic and Access Control Management Plan (Appendix C of Volume 6B) will be accomplished by minimizing the development of access routes, controlling public access along the construction right of way, selecting appropriate access routes that cause the least disturbance to high quality, sensitive wildlife habitat, managing traffic on these routes and determining appropriate construction reclamation.
Increased access	Project Footprint	
Culvert installation	Project Footprint	Trans Mountain takes a multi-layered approach to pipeline safety, including adopting measures such as strategically placed pipeline valves near waterways and trenchless river crossings at some locations. All crossings of wetlands and watercourses will be planned during suitable ground and weather conditions. Additionally, water quality will be monitored during all instream activity. Each watercourse will be approached correctly so the cumulative effects of changes to all the crossings and the surrounding watershed will be limited. Crossing methods specific to each watercourse will be determined in consultation with engineering and environmental specialists, as well as applicable regulatory authorities. Further discussion is provided under fish and fish habitat and wetlands in Sections 7.2.7 and 7.2.8. Mitigation measures for fish and fish habitat and wetlands are outlined in the Pipeline EPP (Volume 6B).
Alteration of flow in watercourses	Project Footprint	
Effect on water quality and quantity	Project Footprint	
Alteration of fish habitat	Project Footprint	
Removal of riparian and wetland vegetation	Project Footprint	As part of Trans Mountain's commitment to environmental protection, Trans Mountain will minimize potential adverse effects to wetlands by expediting construction in and around wetlands, by restoring wetlands to their original configurations and contours, by segregating topsoil during excavation, by permanently stabilizing upland areas near wetlands as soon as possible after backfilling, by inspecting the right-of-way periodically during and after construction, and by repairing any erosion control or restoration features until permanent revegetation is successful. Trans Mountain will comply with the applicable permit conditions issued by federal, provincial and local permitting agencies to restore baseline wetland function.

TABLE 6.1 Cont'd

Site Description/Summary of Interest or Concern	Approximate Distance and Direction from Project	Response Summary ¹
Dust and noise	Project Footprint	Noise, dust and other disturbances will be mitigated to avoid the effects on people near the construction. Every effort is made to minimize effects to traditional land and resource users from surveying and staking the right-of-way to final clean-up.
Herbicide use	Project Footprint	<p>Trans Mountain will utilize an IVM approach to carry out problem vegetation management practices for the Project and to meet the overall objectives of IVM for all Trans Mountain pipelines and facilities.</p> <p>Trans Mountain will consult with the public, adjacent landowners and Aboriginal communities affected by the Project regarding problem vegetation management and methods of treatment.</p>
Pipeline maintenance, rupture and spills Air, water and terrestrial contamination	Project Footprint	<p>Safety is a top priority and is at the core of who Trans Mountain is as a company. Dedicated staff work to maintain the integrity of the pipeline through Trans Mountain's maintenance, inspection, and awareness programs. While no spill is acceptable to Trans Mountain, accidents can happen.</p> <p>Trans Mountain has comprehensive spill response plans in place for the Trans Mountain pipeline and facilities. These plans are constantly being updated to keep them current and are regularly practiced through deployment exercises. While the specific strategies used in response to a spill will vary depending on the circumstances, the primary objectives in all cases are to ensure safety and to minimize environmental damage.</p>
Routine monitoring and maintenance	Project Footprint	<p>Trans Mountain is fully committed to environmental management, protection and stewardship of the land during the construction and operations of all its facilities.</p> <p>A comprehensive ESA has been completed for the Project. Over 30 types of environmental surveys have been completed by local and regional biologists and resource specialists in support of the ESA. Species of special status have been identified and assessed as part of this Project.</p> <p>Pipeline construction is a sequential series of activities, which do not remain in one area for an extended period of time. EPPs and Environmental Alignment Sheets form part of the application submitted to the NEB, and provide mitigation strategies to help avoid or minimize environmental effects from construction.</p> <p>The Pipeline and Facilities EPPs and Environmental Alignment Sheets can be found in Volumes 6B, 6C, and 6E respectively.</p>
Leq'a:mel First Nation		
Fish spawning habitat and low fish returns	Project Footprint	<p>Crossing methods specific to each watercourse will be determined in consultation with engineering and environmental specialists, as well as applicable regulatory authorities.</p> <p>Further discussion is provided under fish and fish habitat in Sections 5.7 and 7.2.7 of Volume 5B. Mitigation measures for fish and fish habitat are outlined in the Pipeline EPP (Volume 6B).</p>
Tanker traffic	Project Footprint	<p>The existing shipping lanes are used by marine vessel traffic for recreational, commercial, tourism and passenger transit on a daily basis. The expected increased Project-related marine vessel traffic is not anticipated to pose a capacity problem for the internationally regulated shipping lanes.</p> <p>Currently tankers associated with operations at the Westridge Marine Terminal make for roughly 3% of vessel traffic through Port Metro Vancouver.</p>

TABLE 6.1 Cont'd

Site Description/Summary of Interest or Concern	Approximate Distance and Direction from Project	Response Summary ¹
Tanker traffic (cont'd)	See above	The Project is expected to increase Trans Mountain-associated tanker traffic to roughly 14% of total Port Metro Vancouver vessel traffic. Tankers themselves are held to strict internationally accepted build, manning, maintenance and operating quality standards mandated by IMO and <i>Canada Shipping Act</i> and verified by Class Societies. Additionally, WCMRC marine-based spill response plans ensure quick action in the event of a spill. The marine ESA considers the potential effects of increased Project-related marine vessel traffic on traditional marine resource users (Volume 8A).
Potential for spills	Project Footprint	Safety is a top priority and is at the core of who Trans Mountain is as a company. Dedicated staff work to maintain the integrity of the pipeline through Trans Mountain's maintenance, inspection, and awareness programs. While no spill is acceptable to Trans Mountain, accidents can happen. Trans Mountain has comprehensive spill response plans in place for the Trans Mountain pipeline and facilities. These plans are constantly being updated to keep them current and are regularly practiced through deployment exercises. While the specific strategies used in response to a spill will vary depending on the circumstances, the primary objectives in all cases are to ensure safety and to minimize environmental damage.

Note: 1 Detailed mitigation measures are outlined in the Project-specific EPPs (Volumes 6B, 6C and 6D).

6.1 Traditional Land Use Sites

To date, the results of TERA-facilitated and community directed TLU studies as well as the preliminary interests summarized as identified by participating Aboriginal communities, revealed TLU sites within the proposed pipeline corridor requiring mitigation, described in Table 6.2. Upon Footprint finalization, applicable mitigation options listed in Table 6.3 and in the TLU Sites Contingency Plan (Appendix B of Volumes 6B and 6C) will be confirmed based on the following criteria: the location of the site with respect to the proposed area of development, the relative importance of the site to the community, and the potential for an alternative mitigation strategy to reduce or avoid Project-related effects. The proposed measures described in Table 6.3 will be implemented to mitigate the potential adverse effects of the Project on these site types and will be dependent upon the type of site identified.

TABLE 6.2

TRADITIONAL LAND USE SITES IDENTIFIED WITHIN THE PROPOSED PIPELINE CORRIDOR IDENTIFIED BY PARTICIPATING ABORIGINAL COMMUNITIES

Approximate Distance and Direction from Project	Site Description	Identified By
Hunting Sites		
At RK 135	South of Evansburg – hunting site for moose and rabbit	Alexander First Nation
RK 141.7	Moose hunting area	Samson Cree Nation
RK 175	Elders and community members hunt moose and grouse	Alexander First Nation
24 m north of RK 205.4	Well-used elk trail about 50 m long, 2 m wide as well as habitat (elk antler rub on nearby trees) – elk hunting in general region	Alexander First Nation
10 m north of RK 221.8	Hunting along nearby Wolf Creek	Alexander First Nation
RK 224.1	Game trail from McLeod River to Whitecourt	Alexis Nakota Sioux Nation

TABLE 6.2 Cont'd

Approximate Distance and Direction from Project	Site Description	Identified By
From RK 238.4 to 248.8	Hunting site	Paul First Nation
RK 319.7	Hunting south of Hinton (north of Luscar)	Paul First Nation
RK 321	Hunting in Hinton area	Aseniwuche Winewak Nation
RK 322.8	Hunting with game trails	Nakcowinewak Nation Of Canada
30 m southeast of RK 325 to RK 416	Hunting region	Samson Cree Nation
12 m southeast of RK 336.4	Game trail	Samson Cree Nation
RK 607.4	Hunting near Blue River	Camín Lake Band
RK 1042	Hunting for bear	Shxw'ówhámél First Nation
Trapping Sites		
13 m north of RK 135.6	Pembina River - trapping	Alexander First Nation
RK 322.8	Trapper's stand	Nakcowinewak Nation Of Canada
Fishing Sites		
Crossed at RK 33.5	Fishing along North Saskatchewan River	Samson Cree Nation
RK 135.6	Pembina River crossing – locale for net or rod fishing	Alexander First Nation Samson Cree Nation
Crosses at RK 220.3	Fishing on Wolf Creek	Alexis Nakota Sioux Nation
RK 224.3	Fishing along McLeod River	Samson Cree Nation
RK 496.8	Fishing on Fraser River	Aseniwuche Winewak Nation
Crosses at RK 717.3	Fishing on Raft River	Camín Lake Band
10 m north of RK 1061	Fishing on Fraser River	Popkum First Nation
Plant Gathering Sites		
30 m southeast of RK 118.5	Plant gathering site	Samson Cree Nation
RK 118.7	Plant gathering site	Samson Cree Nation
RK 118.8	Plant gathering site	Samson Cree Nation
RK 132.9	Plant gathering site	Samson Cree Nation
Crosses at RK 135.6	Medicinal plant gathering along Pembina River	Samson Cree Nation Paul First Nation Ermineskin Cree Nation
RK 135.9	Plant gathering site	Samson Cree Nation
RK 141.3	Plant gathering site	Samson Cree Nation
RK 141.7	Plant gathering site	Samson Cree Nation
RK 141.7	Plant gathering site	Samson Cree Nation
RK 141.9	Plant gathering site	Samson Cree Nation
RK 142.4	Plant gathering site	Samson Cree Nation
RK 160	South of Chip Lake – fungus gathering	Alexander First Nation
20 m north of RK 171	Important medicinal plant harvesting area	Paul First Nation
5 m north of RK 174.1	Plant gathering site	Samson Cree Nation
RK 175.9	Plant gathering site	Samson Cree Nation
RK 176	Plant gathering site	Samson Cree Nation
10 m south of RK 176.1	Plant gathering site	Samson Cree Nation
1 m south of RK 176.2	Plant gathering site	Samson Cree Nation
20 m south of RK 179.1	Plant gathering site	Samson Cree Nation
From RK 196.6 to RK 206.6	Medicinal plant harvesting site near Peers south of McLeod Valley	Paul First Nation
10 m south of RK 205.8	Blue diamond willow	Alexander First Nation
RK 220.4	Plant gathering site	Samson Cree Nation
47 m north of RK 223.6	Berry picking site	Alexander First Nation
8 m south of RK 223.7	Blue diamond willow tree	Alexander First Nation
Crosses at RK 224.3	Wood and mint gathering near McLeod River	Alexis Nakota Sioux Nation
RK 243.8	Plant gathering site	Samson Cree Nation
RK 244	Plant gathering site	Samson Cree Nation

TABLE 6.2 Cont'd

Approximate Distance and Direction from Project	Site Description	Identified By
RK 244.2	Plant gathering site	Samson Cree Nation
RK 271	Berry picking site at Medicine Lodge	Enoch Cree Nation
RK 286.2	Medicinal plant gathering Obed Lake	Aseniwuche Winewak Nation
At KP 305	Medicinal plant gathering	Nakcowinewak Nation Of Canada
RK 307	Plant species of importance identified	O'Chiese First Nation
RK 320	Two plant species of importance identified	O'Chiese First Nation Nakcowinewak Nation Of Canada
RK 321	Medicinal and plant gathering near Hinton	Aseniwuche Winewak Nation
RK 326	Medicinal plant gathering near Hinton	Aseniwuche Winewak Nation
RK 332	Medicinal plant gathering	Aseniwuche Winewak Nation
Crosses at RK 333.5	Plant gathering North Saskatchewan River	Samson Cree Nation
RK 339	Both sides of Highway 16 used to gather medicinal plants	Nakcowinewak Nation Of Canada
RK 494.5	Plant gathering near the Hargreaves Trap Site	Aseniwuche Winewak Nation
RK 499	Medicinal plant gathering near the Rearguard Station	Aseniwuche Winewak Nation
RK 500	Plant gathering near the Rearguard Station	Aseniwuche Winewak Nation
RK 505.7	Plant gathering near the Rearguard Station	Aseniwuche Winewak Nation
RK 820	Berry picking site	Whispering Pines First Nation (Clinton Indian Band)
RK 1042	Gathering blueberries	Shxw'ōwhámél First Nation
Trails and travelways		
RK 22.8	Trail near Highway 2	Ermieskin Cree Nation
RK 27.9	Trail from Rocky Mountain House to Edmonton	O'Chiese First Nation
RK 33.5	Travelway on North Saskatchewan River	Ermieskin Cree Nation
From RK 76.8 to RK 86.8	Wagon trail from Hobbema to Lac Ste. Anne	Samson Cree Nation
RK 100.8	Quad trail	Samson Cree Nation
RK 120.2	Trail from Rimbey to Whitecourt	O'Chiese First Nation
RK 135.6	Travelway on Pembina River	Alexander First Nation Samson Cree Nation Ermieskin Cree Nation
RK 172	Trail from O'Chiese IR 203 to Nojack to Mayerthorpe	O'Chiese First Nation
RK 173	Trail from O'Chiese IR 203 to Whitecourt	O'Chiese First Nation
RK 173.5	Range Road 114 was once a wagon trail	Nakcowinewak Nation Of Canada
RK 223.8	Quad trail	Alexander First Nation
RK 224	Trails near McLeod River	Alexis Nakota Sioux Nation
RK 322.6	Trail from O'Chiese IR 203 to Hinton	O'Chiese First Nation
RK 332.4	Willmore trail from Jasper to Grand Cache	Samson Cree Nation
RK 333.4	Horse riding trail and quad trails	Alexis Nakota Sioux Nation
RK 334	Horse riding trail	Samson Cree Nation
RK 339	Old trading trail that is now Highway 16	Samson Cree Nation
RK 339	Highway 16 was once a wagon trail	Nakcowinewak Nation Of Canada
RK 748.8	Trail from the Canim Lake IR 1 to Boulder on the North Thompson River	Camín Lake Band
Habitation Sites		
70 m south of RK 178.6	Foundation of log cabin	Alexander First Nation
RK 322.6	Campsite and cabin near Hinton	O'Chiese First Nation
RK 339	Camping on both sides of Highway 16	Nakcowinewak Nation Of Canada
RK 1058	Pithouses	Shxw'ōwhámél First Nation
10 m north of RK 1060	Pithouses	Popkum First Nation
Gathering Places		
65 m south of RK 118.8	Campsite and potential sweat lodge	Alexis Nakota Sioux Nation
50 m north of RK 129.2	Sweat lodge and ceremonial site	Alexander First Nation
RK 135	Youth gatherings at Pembina River	Enoch Cree Nation

TABLE 6.2 Cont'd

Approximate Distance and Direction from Project	Site Description	Identified By
RK 154.7	Camp site	Samson Cree Nation
RK 339	Ceremonial site where moose hides were prepared and on both sides of Highway 16	Nakcowinewak Nation Of Canada
Sacred Areas		
RK 91	Enoch Cree Nation Gravesite 1	Enoch Cree Nation
22 m south of RK 118.8	Sacred tree ribbon site	Samson Cree Nation
40 m south of RK 133.6	Sacred site	Enoch Cree Nation Samson Cree Nation
2 m south of RK 141.7	Potential burial site	Samson Cree Nation
RK 151.4	Ceremonial sundance site	Samson Cree Nation
50 m south of RK 151.5	Sacred site with birch tress	Samson Cree Nation
RK 174.2	Sacred King tree	Samson Cree Nation
RK 257.5	Grave site	Nakcowinewak Nation Of Canada
20 m north of RK 287.7	Sacred spring	Paul First Nation
42 m southeast of RK 320.6	Prayer tree with coloured fabric tied to it	Alexander First Nation Samson Cree Nation Nakcowinewak Nation Of Canada
RK 332.4	Gravesites/fastings/vision quests on Willmore trail	Samson Cree Nation
RK 334	Ceremonial site, prayer flags tied to poplar trees bordering existing right-of-way	Alexis Nakota Sioux Nation Nakcowinewak Nation Of Canada
13 m northwest of RK 338.8	Possible grave site	Samson Cree Nation
From RK 1054.1 to RK 1059	Sacred site	Shxw'ōwhámel First Nation

6.2 Recommended Mitigation

The potential effects on traditional land and resource use indicators associated with the construction and operation of the pipeline listed in Table 6.3 were identified based on the results of the literature review, desktop analysis, the results of engagement with Aboriginal community representatives, the collection of TEK during biophysical field study participation and TLU studies conducted with potentially affected Aboriginal communities for the Project.

The discussion of potential effects and mitigation recommendations is presented in an integrated manner for the Project as a whole (e.g., pipeline, pump stations, tanks, other ancillary facilities and Westridge Marine Terminal) since the communities and regions in which the Project occurs will experience Project-related activities in a combined manner. Any unique land or resource use effects associated with a particular Project component have been highlighted in Table 6.3.

A summary of recommended mitigation measures provided in Table 6.1 was principally developed in accordance with industry and provincial regulatory guidelines including current industry-accepted practices and procedures and with Trans Mountain standards as well as through engagement with Aboriginal communities, experience gained from other pipeline projects with similar environmental and socio-economic conditions and professional judgement. The mitigation measures presented in this report were discussed with the participating Aboriginal communities that have been involved in TLU studies for the Project. A comprehensive review of all the issues raised by each Aboriginal community and the mitigation measures proposed was conducted with each participating community. Concerns were addressed by mitigation measures described in the EPP to be implemented for the Project and agreed upon during the field surveys and during community results review follow-up.

In the event that additional TLU sites within the proposed pipeline corridor requiring mitigation are identified during ongoing TLU studies for the Project and/or during construction, the accepted and proven mitigation strategies outlined in this TLU Study Report (Table 6.3) and in the TLU Sites Discovery Contingency Plan will be implemented (Appendix B of Volumes 6B and 6C).

TABLE 6.3

**POTENTIAL EFFECTS AND MITIGATION MEASURES - TRADITIONAL
 LAND AND RESOURCE USE - PROJECT CONSTRUCTION AND OPERATION**

Potential Effect	Project Component(s)	Spatial Boundary ¹	Key Recommendations/Mitigation Measures [EPP Reference] ²
1. Traditional Land and Resource Use Indicator – Subsistence Activities and Sites			
1.1 Disruption of use of trails and travelways	New pipeline segments Temporary facilities Black Pines Pump Station and power line Kingsvale Pump Station and power line At locations identified in Table 6.2	Footprint	<ul style="list-style-type: none"> Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. Install signage notifying of construction activities in the area [Section 4.0]. Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. See Section 7.2.6 Navigation and Navigation Safety for measures regarding navigable watercourses. Upon Footprint finalization, applicable mitigation options listed below for previously identified trails and travelways within the proposed pipeline corridor (Table 6.2) will be confirmed based on the following criteria: the location of the site with respect to the proposed area of development, the relative importance of the site to the community, and the potential for an alternative mitigation strategy to reduce or avoid sensory disturbance. Should additional trails and travelways be identified during ongoing engagement with Aboriginal communities, implement the TLU Sites Contingency Plan [Appendix B]. Mitigation may include one or more of the following measures: <ul style="list-style-type: none"> detailed recording and mapping to within 100 m on both sides of the pipeline right-of-way; in partnership with community representatives, a decision is then made about the relative importance of the trail and, if warranted, how best to maintain and control access; signage or scheduling construction during periods of least effect; and/or alternative site-specific mitigation strategies recommended by participating Aboriginal communities. Implement appropriate measures identified in the Heritage Resource Discovery Contingency Plan [Appendix B]. Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).
	All components	RSA	<ul style="list-style-type: none"> Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. Install signage notifying of construction activities in the area [Section 4.0]. Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. See Section 7.2.6 Navigation and Navigation Safety for measures regarding navigable watercourses. Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).
1.2 Loss of habitation sites or reduced use of habitation sites	New pipeline segments Temporary facilities Black Pines Pump Station and power line	Footprint	<ul style="list-style-type: none"> Upon Footprint finalization, applicable mitigation options listed below for previously identified habitation sites within the proposed pipeline corridor (Table 6.2) will be confirmed based on the following criteria: the location of the site with respect to the proposed area of development, the relative importance of the site to the community, and the potential for an alternative mitigation strategy to reduce or avoid sensory disturbance.

TABLE 6.3 Cont'd

Potential Effect	Project Component(s)	Spatial Boundary ¹	Key Recommendations/Mitigation Measures [EPP Reference] ²
1.2 Loss of habitation sites or reduced use of habitation sites (cont'd)	Kingsvale Pump Station and power line At locations identified in Table 6.2	See above	<ul style="list-style-type: none"> • Avoid disturbance of built features during final route selection, to the extent practical [SEMP Section 4.6]. • Reduce the amount of land disturbed by using previously disturbed areas for stockpiles, staging areas and camps where possible [SEMP Section 4.6]. • Narrow the construction right-of-way at key locations to avoid valued built or natural features, to the extent practical [SEMP Section 4.6]. • Should additional habitation sites be identified during ongoing engagement with Aboriginal communities, implement the TLU Sites Contingency Plan [Appendix B]. Mitigation may include one or more of the following measures: <ul style="list-style-type: none"> – detailed mapping, photographic recording and avoidance of the location by the development; – should avoidance of a site not be feasible, mitigation measures consisting of detailed recording and controlled excavations may be implemented; and/or – alternative site-specific mitigation strategies recommended by participating Aboriginal communities. • See Section 7.2.6 Acoustic Environment of Volume 5A for additional mitigation measures. • Implement appropriate measures identified in the Heritage Resource Discovery Contingency Plan [Appendix B]. Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).
	All components	RSA	<ul style="list-style-type: none"> • Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. • Install signage notifying of construction activities in the area [Section 4.0]. • Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. • See Section 7.2.6 Acoustic Environment of Volume 5A for additional mitigation measures. • Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).
1.3 Alteration of plant harvesting sites	All components At locations identified in Table 6.2	LSA	<ul style="list-style-type: none"> • Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. • Install signage notifying of construction activities in the area [Section 4.0]. • Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. • Ensure equipment arrives at all construction sites clean and free of soil or vegetative debris. Inspect and identify equipment deemed to be acceptable with a suitable marker, such as a sticker. Do not allow any equipment arriving in a dirty condition on-site until it has been cleaned [Section 7.0]. • Should additional plant harvesting sites be identified during ongoing engagement with Aboriginal communities, implement the TLU Sites Contingency Plan [Appendix B]. Mitigation may include one or more of the following measures: <ul style="list-style-type: none"> – limiting the use of chemical applications; – replacement of plant species during reclamation; – alternative site-specific mitigation strategies recommended by participating Aboriginal communities.

TABLE 6.3 Cont'd

Potential Effect	Project Component(s)	Spatial Boundary ¹	Key Recommendations/Mitigation Measures [EPP Reference] ²
1.3 Alteration of plant harvesting sites (cont'd)	See above	See above	<ul style="list-style-type: none"> See Section 7.2.9 Vegetation of Volume 5A for additional mitigation measures. Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).
	All components	RSA	<ul style="list-style-type: none"> Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. Install signage notifying of construction activities in the area [Section 4.0]. Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. Ensure equipment arrives at all construction sites clean and free of soil or vegetative debris. Inspect and identify equipment deemed to be acceptable with a suitable marker, such as a sticker. Do not allow any equipment arriving in a dirty condition on-site until it has been cleaned [Section 7.0]. See Section 7.2.9 Vegetation of Volume 5A for additional mitigation measures. Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).
1.4 Disruption of subsistence hunting activities	All components	LSA	<ul style="list-style-type: none"> Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. Install signage notifying of construction activities in the area [Section 4.0]. Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. See Section 7.2.10 Wildlife and Wildlife Habitat of Volume 5A for mitigation relevant to sensory disturbance, loss or alteration of wildlife habitat, injury and mortality. Should additional hunting sites be identified during ongoing engagement with Aboriginal communities, implement the TLU Sites Contingency Plan [Appendix B]. Mitigation may include one or more of the following measures: <ul style="list-style-type: none"> adhering to species-specific timing constraints to the extent feasible; leaving breaks in the pipeline trench to allow animals to cross; limiting the use of chemical applications; and/or alternative site-specific mitigation strategies recommended by participating Aboriginal communities. See Section 7.2.6 Acoustic Environment of Volume 5A for additional mitigation measures. Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).
	At locations identified in Table 6.2	RSA	<ul style="list-style-type: none"> Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. Install signage notifying of construction activities in the area [Section 4.0]. Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. See Section 7.2.10 Wildlife and Wildlife Habitat of Volume 5A for mitigation relevant to sensory disturbance, loss or alteration of wildlife habitat, injury and mortality.

TABLE 6.3 Cont'd

Potential Effect	Project Component(s)	Spatial Boundary ¹	Key Recommendations/Mitigation Measures [EPP Reference] ²
1.4 Disruption of subsistence hunting activities (cont'd)	See above	See above	<ul style="list-style-type: none"> • See Section 7.2.6 Acoustic Environment of Volume 5A for additional mitigation measures. • Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).
1.5 Disruption of subsistence fishing activities	All components At locations identified in Table 6.2	LSA	<ul style="list-style-type: none"> • Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. • Install signage notifying of construction activities in the area [Section 4.0]. • Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. • Prohibit recreational fishing by Project personnel on or in the vicinity of the construction right of way. The use of the construction right of way to access fishing sites is prohibited [Section 7.0]. • Should additional fishing sites be identified during ongoing engagement with Aboriginal communities, implement the TLU Sites Contingency Plan [Appendix B]. Mitigation may include one or more of the following measures: <ul style="list-style-type: none"> – recording and mapping of fishing locales; – strict adherence to the regulations, standards and guidelines set by provincial and federal regulatory authorities for watercourse crossings; and/or – alternative site-specific mitigation strategies recommended by participating Aboriginal communities. • See Section 7.2.3 Water Quality and Quantity of Volume 5A for mitigation measures relevant to potential effects on water quality and quantity. • See Section 7.2.7 Fish and Fish Habitat of Volume 5A for mitigation measures relevant to potential effects on fish and fish habitat. • See Section 7.6.9 Marine Fish and Fish Habitat for mitigation measures relevant to potential effects on marine habitat, injury and mortality. • Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).
	All components	RSA	<ul style="list-style-type: none"> • Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. • Install signage notifying of construction activities in the area [Section 4.0]. • Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. • Prohibit recreational fishing by Project personnel on or in the vicinity of the construction right of way. The use of the construction right of way to access fishing sites is prohibited [Section 7.0]. • See Section 7.2.3 Water Quality and Quantity of Volume 5A for mitigation measures relevant to potential effects on water quality and quantity. • See Section 7.2.7 Fish and Fish Habitat of Volume 5A for mitigation measures relevant to potential effects on fish and fish habitat. • Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).

TABLE 6.3 Cont'd

Potential Effect	Project Component(s)	Spatial Boundary ¹	Key Recommendations/Mitigation Measures [EPP Reference] ²
1.6 Disruption of subsistence trapping activities	All components At locations identified in Table 6.2	LSA	<ul style="list-style-type: none"> • Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. • Install signage notifying of construction activities in the area [Section 4.0]. • Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. • Prohibit the vandalism or theft on trapper equipment or trapped animals if they are observed on the construction right of way or the construction site prior to clearing [Section 7.0]. • See Section 7.2.4 HORU for measures regarding trapping activities. • Should additional trapping sites or trap line equipment be identified during ongoing engagement with Aboriginal communities, implement the TLU Sites Contingency Plan [Appendix B]. Mitigation may include one or more of the following measures: <ul style="list-style-type: none"> – maintaining access to the trap line; – moving of trap line equipment by the trapper prior to construction; and/or – alternative site-specific mitigation strategies recommended by participating Aboriginal communities. • See Section 7.2.6 Acoustic Environment of Volume 5A for additional mitigation measures. • See Section 7.2.10 Wildlife and Wildlife Habitat of Volume 5A for mitigation relevant to sensory disturbance, loss or alteration of wildlife habitat, and wildlife mortality.
	All components	RSA	<ul style="list-style-type: none"> • Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs). • Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. • Install signage notifying of construction activities in the area [Section 4.0]. • Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. • Prohibit the vandalism or theft on trapper equipment or trapped animals if they are observed on the construction right of way or the construction site prior to clearing [Section 7.0]. • See Section 7.2.4 HORU for measures regarding trapping activities. • See Section 7.2.6 Acoustic Environment of Volume 5A for additional mitigation measures. • See Section 7.2.10 Wildlife and Wildlife Habitat of Volume 5A for mitigation relevant to sensory disturbance, loss or alteration of wildlife habitat, and wildlife mortality. • Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).
2. Traditional Land and Resource Use Indicator – Cultural Sites			
2.1 Disturbance of gathering places	New pipeline segments Temporary facilities Black Pines Pump Station and power line Kingsvale Pump Station and power line	Footprint	<ul style="list-style-type: none"> • Upon Footprint finalization, applicable mitigation options listed below for previously identified gathering places within the proposed pipeline corridor (Table 6.2) will be confirmed based on the following criteria: the location of the site with respect to the proposed area of development, the relative importance of the site to the community, and the potential for an alternative mitigation strategy to reduce or avoid sensory disturbance. • Avoid disturbance of known gathering places during right-of-way finalisation, to the greatest extent practical. • Narrow construction right-of-way at key locations to avoid known gathering places.

TABLE 6.3 Cont'd

Potential Effect	Project Component(s)	Spatial Boundary ¹	Key Recommendations/Mitigation Measures [EPP Reference] ²
2.1 Disturbance of gathering places (cont'd)	At locations identified in Table 6.2	See above	<ul style="list-style-type: none"> • Reduce the amount of land disturbed by using previously disturbed areas for stockpiles, staging areas and camps where possible. • Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. • Install signage notifying of construction activities in the area [Section 4.0]. • Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. • Should additional gathering places be identified during ongoing engagement with Aboriginal communities, implement the TLU Sites Contingency Plan [Appendix B]. Mitigation may include one or more of the following measures: <ul style="list-style-type: none"> – detailed recording, mapping and avoidance; – assess visual effect; and/or – additional mitigation measures will be refined and optimised through community discussions.. • See Section 7.2.4 Air Emissions, Section 7.2.5 GHG Emissions and Section 7.2.6 Acoustic Environment of Volume 5A for measures pertaining to nuisance air and noise emissions, respectively. • Implement appropriate measures identified in the Heritage Resource Discovery Contingency Plan [Appendix B]. • Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).
	All components	RSA	<ul style="list-style-type: none"> • Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. • Install signage notifying of construction activities in the area [Section 4.0]. • Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. • See Section 7.2.4 Air Emissions, Section 7.2.5 GHG Emissions and Section 7.2.6 Acoustic Environment of Volume 5A for measures pertaining to nuisance air and noise emissions, respectively. • Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).
2.2 Disturbance of sacred sites	New pipeline segments Temporary facilities Black Pines Pump Station and power line Kingsvale Pump Station and power line At locations identified in Table 6.2	Footprint	<ul style="list-style-type: none"> • Upon Footprint finalization, applicable mitigation options listed below for previously identified sacred sites within the proposed pipeline corridor (Table 6.2) will be confirmed based on the following criteria: the location of the site with respect to the proposed area of development, the relative importance of the site to the community, and the potential for an alternative mitigation strategy to reduce or avoid sensory disturbance. • Avoid disturbance of known sacred areas during right-of-way finalisation, to the greatest extent practical. • Narrow construction right-of-way at key locations to avoid known sacred areas. • Reduce the amount of land disturbed by using previously disturbed areas for stockpiles, staging areas and camps where possible. • Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. • Install signage notifying of construction activities in the area [Section 4.0]. • Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0].

TABLE 6.3 Cont'd

Potential Effect	Project Component(s)	Spatial Boundary ¹	Key Recommendations/Mitigation Measures [EPP Reference] ²
2.2 Disturbance of sacred sites (cont'd)	See above	See above	<ul style="list-style-type: none"> • Should additional sacred areas be identified during ongoing engagement with Aboriginal communities, implement the TLU Sites Contingency Plan [Appendix B]. Mitigation may include one or more of the following measures: <ul style="list-style-type: none"> – detailed recording, mapping and avoidance; – assess visual effect; and/or – additional mitigation measures will be refined and optimised through community discussions.. • See Section 7.2.4 Air Emissions, Section 7.2.5 GHG Emissions and Section 7.2.6 Acoustic Environment of Volume 5A for measures pertaining to nuisance air and noise emissions, respectively. • Implement appropriate measures identified in the TLU Sites Discovery Contingency Plan in the event of discovery of sacred areas during construction activities [Appendix B]. • Implement appropriate measures identified in the Heritage Resource Discovery Contingency Plan [Appendix B]. • Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).
	All components	RSA	<ul style="list-style-type: none"> • Provide Aboriginal communities with the anticipated construction schedule and pipeline route maps, a minimum of two weeks prior to the start of construction in the vicinity of their respective communities [Section 4.0]. • Install signage notifying of construction activities in the area [Section 4.0]. • Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. • See Section 7.2.4 Air Emissions, Section 7.2.5 GHG Emissions and Section 7.2.6 Acoustic Environment of Volume 5A for measures pertaining to nuisance air and noise emissions, respectively. • Implement applicable mitigation measures listed above during maintenance activities (e.g., integrity digs).
3. Traditional Land and Resource Use Indicator – Traditional Marine Resource Use			
3.1 Disruption of subsistence activities	Westridge Marine Terminal	Marine TLRU RSA	<ul style="list-style-type: none"> • Provide Aboriginal communities with the anticipated construction schedule, a minimum of two weeks prior to the commencement of construction [Section 4.0]. • Install signage (e.g., Warning – Construction in the Vicinity) off shore and on shore, notifying of construction activities in the area [Section 4.0]. • Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. • Ensure equipment is well-maintained during construction to minimize air and noise emissions [Section 7.0]. • Noise abatement and construction scheduling will be considered during noise-sensitive times, to limit disruption to sensitive receptors (i.e., neighbouring landowners, wildlife migratory periods, nesting birds, etc.) [Section 7.0]. • Enclose noisy equipment and use baffles, where and when feasible, to limit the transmission of noise beyond the construction site [Section 7.0]. • Vessel operators will avoid rapid acceleration to control noise [Section 8.2]. • Direct the lighting for all construction activities downward and, where feasible, positioned to avoid or reduce effect to nearby residents [Section 7.0].

TABLE 6.3 Cont'd

Potential Effect	Project Component(s)	Spatial Boundary ¹	Key Recommendations/Mitigation Measures [EPP Reference] ²
3.1 Disruption of subsistence activities (cont'd)	See above	See above	<ul style="list-style-type: none"> Design lighting requirements at the Westridge Marine Terminal to meet the Canada Labour Code and Transport Canada - International Ship and Port Requirements [Section 7.0]. Use low level and low intensity lighting and reduce night lighting, when feasible [Section 7.0]. See all other noise, light and air emissions-related mitigation measures in the Westridge Marine Terminal EPP. See Section 7.6.9 Marine Fish and Fish Habitat for mitigation measures relevant to potential effects on marine habitat, injury and mortality. See Section 7.6.11 Marine Mammals of Volume 5A for mitigation relevant to sensory disturbance and injury. See Section 7.6.12 Marine Birds of Volume 5A for mitigation relevant to sensory disturbance, change in habitat quality or availability, and wildlife mortality.
3.2 Disturbance of cultural sites	Westridge Marine Terminal	Marine TLRU RSA	<ul style="list-style-type: none"> Provide Aboriginal communities with the anticipated construction schedule, a minimum of two weeks prior to the commencement of construction [Section 4.0]. Install signage (e.g., Warning – Construction in the Vicinity) off shore and on shore, notifying of construction activities in the area [Section 4.0]. Work with Aboriginal communities to develop strategies to most effectively communicate the construction schedule and work areas to its members [Section 4.0]. Ensure equipment is well-maintained during construction to minimize air and noise emissions [Section 7.0]. Noise abatement and construction scheduling will be considered during noise-sensitive times, to limit disruption to sensitive receptors (i.e., neighbouring landowners, wildlife migratory periods, nesting birds, etc.) [Section 7.0]. Enclose noisy equipment and use baffles, where and when feasible, to limit the transmission of noise beyond the construction site [Section 7.0]. Vessel operators will avoid rapid acceleration to control noise [Section 8.2]. Direct the lighting for all construction activities downward and, where feasible, positioned to avoid or reduce effect to nearby residents [Section 7.0]. Design lighting requirements at the Westridge Marine Terminal to meet the Canada Labour Code and Transport Canada - International Ship and Port Requirements [Section 7.0]. Use low level and low intensity lighting and reduce night lighting, when feasible [Section 7.0]. See all other noise, light and air emissions-related mitigation measures in the Westridge Marine Terminal EPP.

- Notes:**
- 1 LSA = TLRU LSA; RSA = TLRU RSA.
 - 2 Detailed mitigation measures are outlined in the Project-specific EPPs (Volumes 6B, 6C and 6D).

6.3 Supplemental Studies

The progress of each participating community's TLU study at the time of application filing is described in Table 3.3. Ongoing TLU study work is scheduled to occur with participating Aboriginal communities for the Project prior to construction. Additional information gathered during ongoing TLU studies will be incorporated into Project planning, including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB. Further details regarding additional studies are provided in Section 9.0 of Volume 5B.

6.4 Post-Construction Monitoring

Trans Mountain will conduct a Post-Construction Environmental Monitoring (PCEM) Program during a period up to the first five complete growing seasons (or during years one, three and five) following commissioning of the Project or as per Certificate Conditions. The PCEM Program will be initiated following clean-up, in order to identify any unresolved issues upon the completion of construction.

Trans Mountain will track unresolved issues and the outcomes of Project-specific mitigation strategies, where applicable. The Project will develop an issues tracking process, as noted in the Environmental Compliance Program in Volume 6A. A description of the planned PCEM Program is also provided in Section 9.0 of Volume 6A.

7.0 SUMMARY

The proposed expansion of the TMPL system will comprise of the following:

- pipeline segments that complete a twinning (or “looping”) of the pipeline in Alberta and BC with about 987 km of new buried pipeline;
- new and modified facilities, including pump stations and tanks; and
- three new berths at the Westridge Marine Terminal in Burnaby, BC, each capable of handling Aframax class vessels.

The results of the literature/desktop review, TLU studies conducted and preliminary interests identified to date indicate that Aboriginal communities have historically used and presently use the Traditional Land and Resource Use Regional Study Area (TLRU RSA) to maintain a traditional lifestyle and continue to use environmental resources throughout the TLRU RSA for a variety of purposes including hunting, trapping, fishing, trapping, plant gathering, and spiritual/cultural pursuits.

The potential effects of Project on traditional land and resource use include: disruption of subsistence hunting, fishing, trapping and plant gathering activities; disruption of use of travelways and habitation sites; and the disturbance of gathering places and sacred areas.

To date, TLU studies for the Project have identified the following TLU sites within the proposed pipeline corridor requiring mitigation:

- 19 trails and travelways;
- 5 habitation sites;
- 43 plant gathering sites;
- 14 hunting sites;
- 7 fishing sites;
- 2 trapping sites;
- 5 gathering places; and
- 14 sacred areas.

Trans Mountain will continue to engage Aboriginal communities through all phases of the Project. Ongoing TLU study work with participating Aboriginal communities is scheduled for completion prior to construction of the Project. Additional information gathered during ongoing TLU studies will be considered for incorporation into Project planning including the EPPs and the Environmental Alignment Sheets, as appropriate. The results of these ongoing engagement efforts will be provided to the NEB.

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8.2 GIS Data and Mapping References

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