



SOCIO-ECONOMIC TECHNICAL REPORT FOR THE TRANS MOUNTAIN PIPELINE ULC TRANS MOUNTAIN EXPANSION PROJECT

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Prepared for:



TRANSMOUNTAIN

Trans Mountain Pipeline ULC

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EXECUTIVE SUMMARY

Project Overview

The Trans Mountain Expansion Project (the “Project”) is an expansion of the existing Trans Mountain pipeline system (TMPL system), which has been operating for 60 years. The proposed expansion will increase capacity from 47,690 m³/d (300,000 bbl/d) to 141,500 m³/d (890,000 bbl/d) and will consist of 987 km of new buried pipeline (twinning with the existing pipeline), new and modified facilities (such as pump stations and tanks) and three new berths at the Westridge Marine Terminal in Burnaby, British Columbia (BC). The expansion has been developed in response to requests 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. Of the 141,500 m³/d (890,000) bbl/d capacity of the expanded system, up to 100,000 m³/d (630,000) bbl/d may be delivered by pipeline to the Westridge Marine Terminal for shipment.

The Project traverses a portion of east-central Alberta and the entire width of BC, originating at the Edmonton Terminal in Strathcona County, Alberta and terminating at the Westridge Marine Terminal on the Burrard Inlet in the City of Burnaby, BC. The proposed pipeline corridor crosses 18 incorporated municipalities, 7 counties or regional districts, and 10 Indian Reserves (IRs). Communities crossed by the Project range from small hamlets, villages and IRs; to sparsely populated rural areas; to moderately sized towns and cities; to large urban centres. There are 62 Aboriginal communities that have been identified as potentially affected by or as having interests in the Project.

Pending regulatory approval, construction of the pipeline and facilities is scheduled over an approximately 24-month period to achieve the planned in-service date of Q4 2017. Preliminary plans provide for seven pipeline construction spreads, ranging from approximately 34.2 km to 290.4 km in length. It is anticipated that all seven spreads will generally be constructed concurrently during the following consecutive construction seasons: summer 2016; winter 2016/2017; and summer 2017. It is estimated that the Project will require a construction workforce to provide over 1,324,000 worker-days in the 2016 to 2017 construction period, or over 60,100 full-time equivalent worker months. At peak construction, it is estimated the Project will require over 4,475 workers across Alberta and BC.

The total development cost of the Project is anticipated to be approximately \$5.5 billion (over the 2012–2018 period). The most current and comprehensive Project development and construction costs for the purposes of economic effects modelling are estimated to be approximately \$4.6 billion (in 2012 dollars price adjusted, financing costs excluded). The anticipated incremental operating costs of the Project are approximately \$118 million per year.

Report Overview

This report provides a discussion of existing socio-economic conditions and potential effects of the Project related to:

- social and cultural well-being;
- human occupancy and resource use (HORU);
- infrastructure and services;
- navigation and navigation safety; and
- employment and economy.

The discussion has been framed to meet the socio-economic requirements pertinent to the above elements within the National Energy Board *Filing Manual*.

Because of the large scale of the Project and because it passes through distinct and different geographical and administrative or political regions, six study regions have been defined for the socio-economic assessment. The borders of the six socio-economic regions are defined as follows.

- **Edmonton Region** – Strathcona County to the western boundary of Parkland County.
- **Rural Alberta Region** – eastern boundary of Yellowhead County to eastern boundary of Jasper National Park.
- **Jasper National Park Region** – eastern and western boundaries of Jasper National Park.
- **Fraser-Fort George/Thompson-Nicola Region** – western boundary of Jasper National Park (Alberta/BC border) to approximately half way between Merritt and Hope (to the border of the Thompson-Nicola Regional District [TNRD] and the Fraser Valley Regional District [FVRD]);
- **Fraser Valley Region** – half way between Merritt and Hope to the western boundary of the FVRD.
- **Metro Vancouver Region** – boundaries of Metro Vancouver or the Greater Vancouver Regional District (GVRD).

A Socio-economic regional study area (RSA) was established, split into the above six regions. The RSA considers the area where direct and indirect influences of other land uses and activities could overlap with Project-related effects and cause cumulative effects. The Socio-Economic RSA considers communities close enough to the proposed pipeline corridor and Project facilities to potentially be: a source of labour; a source of procured goods or services; a location of community infrastructure/services influenced by the Project; an accommodation or camp location for Project workers; or a Project construction office location. This may include the counties and regional districts crossed by the proposed pipeline corridor (or certain regional sub-areas) and communities up to approximately 50 km from the proposed pipeline corridor that could participate in or be affected by the Project. The Socio-Economic RSA is based on relevant regional administrative boundaries to reflect data availability, not strictly on distance. It also includes Aboriginal communities that are potentially affected by the Project.

A HORU local study area (LSA) and RSA were also established. The HORU LSA consists of a 2 km wide band extending from the centre of the proposed pipeline corridor or facility site (*i.e.*, the Footprint extending to 1 km on both sides). The HORU RSA was selected to reflect the resource-use related elements that could be indirectly affected by the Project (*e.g.*, consumptive and non-consumptive recreation, hunting, trapping and fishing) and includes the RSA boundaries of fish and fish habitat, wetlands, vegetation and wildlife elements. A Marine HORU LSA and RSA were established related to the potential marine effects associated with the construction and operation of the Westridge Marine Terminal. The Marine HORU LSA is the marine area extending 500 m from the Terminal; the Marine HORU RSA includes the Burrard Inlet east of the First Narrows Bridge.

A range of indicators were selected for the purposes of the assessment. Indicators (sometimes called Valued Social Components) represent a social or economic property or variable that society considers to be important and is assessed to predict Project-related changes; indicators focus the effects assessment on key issues. Indicators for each socio-economic element covered in this report are follows.

Social and cultural well-being: population and demographics; income levels and distribution; Aboriginal culture; and community way-of-life (which includes key community events and assets, crime rates and any identifiable and social issues, and community priorities and perspectives related to the Project).

Human occupancy and resource use: parks and protected areas; residential use; IRs, Métis settlements and asserted traditional territories; agricultural use; outdoor recreation use; other land and resource use (*i.e.*, non-traditional hunting, trapping and fishing; managed forest areas; minerals aggregates and oil and gas resources; industrial and commercial use); water supply and use; aesthetic attributes; and marine commercial, recreational and tourism use.

Infrastructure and services: transportation infrastructure; linear infrastructure and power supply; waste and water infrastructure; housing; educational services; emergency, protective services and social services; and recreational amenities.

Navigation and navigation safety: use of navigable watercourses.

Employment and economy: national and provincial economies; regional employment; municipal economies; contracting and procurement; training and capacity development; and business and livelihood disruption.

Existing Conditions

The Project traverses a diverse land base with land uses that differ based on geographic location, topography and settlement history. The Alberta portion of the proposed pipeline corridor crosses various areas of land use including agricultural, commercial, industrial, oil and gas, recreational, rural and urban residential and trapping areas. The BC portion of the proposed pipeline corridor also crosses various areas of land use, including agricultural, commercial, forestry, industrial, mining, recreational, rural and urban residential, trapping areas, guide-outfitting and tourism. In 2011, the Socio-Economic RSA had a population of over 3.9 million people, and approximately 4% of the regional population identified as Aboriginal.

As of 2011, there were approximately 2.2 million workers in the Socio-Economic RSA labour force, with notable distinctions amongst socio-economic regions. The labour force ranged from a low of approximately 2,500 workers in the Jasper National Park Region to a high of almost 1.3 million workers in the Metro Vancouver Region. The unemployment rate for the Socio-Economic RSA as a whole was 6.8% in 2011, and approximately 7.8% of the labour force was experienced in the construction industry.

Generally, both Alberta and BC are in a period of economic growth resulting in growing employment and a tightening in labour supply. From 2010 to 2021, Alberta's labour demand is projected to grow by an annual average rate of 2.4%, while occupational supply is anticipated to increase at a rate of 1.9% annually. Alberta could experience a labour shortage of approximately 114,000 workers by 2021 (Alberta Enterprise and Advanced Education 2013a). The BC Labour Market Outlook 2010-2020 indicates that by 2016 the number of workers need in BC is expected to exceed the number of workers available province wide. It is estimated that there will be a shortage of approximately 61,500 workers across BC by 2020 (WorkBC 2013a). BC as whole is experiencing net interprovincial out-migration of people, many of which are going to Alberta. This trend of migration from Alberta to BC is reflective of the relative strength of Alberta's labour market compared to BC, as well as higher incomes in Alberta compared to BC (TD Economics 2013).

Edmonton Region

The Edmonton Region contains the Edmonton Metropolitan Area (which includes the City of Edmonton and numerous surrounding cities, towns, villages, reserves and regions) and select other surrounding communities and regions that could provide labour or services to the Project in the Edmonton area. In 2011, the total population of the Edmonton Region was approximately 1.2 million, an 11.8% increase from 2006. In 2011, approximately 77.3% of the population was between the ages of 25 and 64 years old, and the median age was 39.8 (Statistics Canada 2012). Approximately 5.5 % of the population identified as Aboriginal (Statistics Canada 2013a). In 2011, the median income of adults (aged 15 and over) in the Edmonton Region was approximately \$39,800; the median income of those working full-year, full-time was approximately \$57,500 (Statistics Canada 2013a).

There are several IRs and Aboriginal communities located in this region; however, no IRs are crossed by the Project in the region. Incorporated communities crossed by the Project in the Edmonton Region include: Strathcona County, City of Edmonton, City of Spruce Grove, Town of Stony Plain, Village of Wabamun and Parkland County. Several unincorporated hamlets are also crossed by the proposed pipeline corridor, including Entwistle and Gainford.

The Footprint and HORU LSA of the Edmonton Region are located in the boundaries of the Upper Athabasca Land Use Framework Planning Region and the North Saskatchewan Land Use Framework Planning Region. There are several municipal land use and development plans whose jurisdictions are crossed by the Project: Strathcona County Municipal Development Plan (MDP) Bylaw 1-2007; The Way We Grow: MDP, Bylaw 15100 (City of Edmonton); Your Bright Future: MDP 2010-2020 (City of Spruce Grove); Entwistle Area Structure Plan Bylaw No. 23-2012; Parkland County MDP, Bylaw No. 37-2007; Parkland County Land Use Bylaw No. 20-2009; Town of Stony Plain MDP 2005-2020; and Village of Wabamun MDP.

The Project crosses various land and resource use types in the Edmonton Region, including: industrial, utility corridors, oil and gas activities, agriculture and forestry. Within the City of Edmonton, the proposed pipeline corridor is within the existing Transportation and Utilities Corridor (TUC) for most of its length. No provincial parks or protected areas are directly crossed by the proposed pipeline corridor in the Edmonton Region; however, three municipal parks within the City of Edmonton are crossed by the proposed pipeline corridor. There are 2 provincial parks, 15 municipal parks, 1 nature reserve, 2 municipal sports parks, 1 municipal ball park and 1 municipal off-leash dog park crossed by the HORU LSA in this region.

Communities along the proposed pipeline corridor are serviced by a wide range of infrastructure and services. In the Edmonton Region, most of the proposed pipeline corridor generally parallels Highway 216 (Anthony Henday Drive) and Highway 16 (Yellowhead Highway). Highway 16 is anticipated to be the main highway utilized for the movement of equipment and materials to various pipeline spread locations in the Edmonton Region. Other highways in the Socio-Economic RSA that may be utilized by the Project for the purposes of moving equipment and materials to pipeline spread construction staging areas include Highways 14, 2 and 60. In terms of housing capacity, the private housing market in the Edmonton Region is large in certain areas (City of Edmonton) and small in other communities. Local municipal officials and real estate professionals indicate that there is a housing crunch in the region, with limited rental accommodation available. Data indicate that, as of 2012, there was a rental vacancy rate of 1.7% in the City of Edmonton, 1.5% in the City of Spruce Grove and 3.9% in the Town of Stony Plain (Canada Mortgage and Housing Corporation [CMHC] 2012a). There is a large temporary housing market in the Edmonton Region, with approximately 15,000 hotel rooms and over 10 campgrounds with over 1,100 sites in the area.

The proposed pipeline corridor in the Edmonton Region crosses one watercourse that is considered navigable: the North Saskatchewan River. The proposed pipeline corridor also crosses 12 potentially navigable watercourses and 46 potentially navigable wetlands.

The Edmonton Region's economic base has expanded from a provincial government and regional commercial centre to include agriculture, biofuels, chemicals and petrochemicals, commercial/retail, residential, forestry and related industries, infrastructure, institutional, mining, oil and gas, oil sands, other industrial, pipelines, power, and tourism and recreation. For the Edmonton Region overall within in the Socio-Economic RSA, in 2011 the most active industries (by industrial classification) were: retail trade (employing approximately 11.1% of the labour force); health care and social assistance (10.5%); and construction (9.8%). Public administration was another key industry (employing 8.1% of the labour force), as well as professional, scientific and technical services (6.9%) and educational services (7.4%) (Statistics Canada 2013a). For the Edmonton Region overall within in the Socio-Economic RSA, in 2011 there was a labour force of approximately 696,600 workers, with a participation rate of about 73.2% and an unemployment rate of 5.6% (Statistics Canada 2013a).

There is substantial reasonably foreseeable development proposed in the region, representing approximately \$24.5 billion of capital expenditures, which may coincide with the construction of the Project, thus competing for available labour. This includes numerous potential pipeline and energy-related developments (e.g., the Heartland Pipeline and Terminals Projects, Heartland Transmission Project, Polaris Expansion Project, Edmonton to Hardisty Pipeline Project, ACCESS Northeast Pipeline Expansion) and multiple municipal infrastructure and services projects (e.g., Edmonton Visual Performing Arts Centre, libraries, transit expansion, recreation facilities, hospital expansions, post-secondary

education institution expansions, and regional airport expansions). There are also numerous oil and gas wells anticipated.

Rural Alberta Region

The Rural Alberta Region includes the less industrial and more agricultural areas west of Edmonton, and includes the entire Yellowhead County. The Town of Edson and the Town of Hinton are crossed by the proposed pipeline corridor. In 2011, the total population of the Rural Alberta Region was approximately 29,300; a 3.5% increase from 2006. The median age of the Rural Alberta Region was 43.5 and 11.5% of the population identified as Aboriginal (Statistics Canada 2012). In 2011, the median income of adults in the Rural Alberta Region was approximately \$34,700; the median income of those working full-year full-time was approximately \$59,000 (Statistics Canada 2013a).

There are several IRs and Aboriginal communities located in this region; however, no IRs are crossed by the proposed pipeline corridor.

The Footprint and HORU LSA of the Rural Alberta Region are located in the boundaries of the North Saskatchewan Land Use Framework Planning Region. The Project also traverses land under the jurisdiction of the following municipal and regional plans: Yellowhead County MDP Bylaw No. 1.06; Yellowhead County Land Use Bylaw No. 2.06; Town of Edson MDP; Edson Urban Fringe Intermunicipal Development Plan; Town of Hinton MDP; Town of Hinton Community Development and Enhancement Plan; Hamlet of Evansburg Area Structure Plan Bylaw No. 12.03; Hamlet of Wildwood Area Structure Plan; Coal Branch Sub-Regional Integrated Resource Plan; and The Northern East Slopes Sustainable Resource and Environmental Management Strategy.

The land and resource uses crossed by the Project in the Rural Alberta Region include residential, recreational, industrial, oil and gas activities, agriculture and forestry. There are no known provincial or municipal parks or protected areas crossed by the proposed pipeline corridor in the Rural Alberta Region. There is one provincial park, one natural area, two provincial recreation areas and five municipal parks located in the HORU LSA in this region. The Project crosses residential land use areas in the Town of Stony Plain and the Town of Edson, as well as several hamlet growth areas (e.g., Niton, Wildwood, and Evansburg). There are 18 registered trapping tenures along the proposed pipeline corridor in the Rural Alberta Region.

Communities along the proposed pipeline corridor are serviced by a wide range of infrastructure and services. In the Rural Alberta Region, the proposed pipeline corridor generally parallels Highway 16, which also services communities in the region and is crossed by the proposed pipeline corridor at several points. Highway 16 is anticipated to be the main highway utilized for the movement of equipment and materials to various pipeline spread locations along this portion of the Project. Local municipal officials and real estate professionals indicate that there are rooms to accommodate workers. The rental housing market is generally robust. Data indicate that, as of 2012, there was a rental vacancy rate of 9.4% in the Town of Edson and 7.7% in the Town of Hinton (Alberta Municipal Affairs 2011). There is a notable temporary housing market in the Rural Alberta Region; with approximately 2,000 hotel rooms and over 20 campgrounds in the surrounding area.

The proposed pipeline corridor in the Rural Alberta Region crosses 3 watercourses that are considered navigable (Pembina River, McLeod River and Wolf Creek), 22 potentially navigable watercourses and 46 potentially navigable wetlands.

The Rural Alberta Region's economy is resource-based, with key sectors including forestry, coal, oil and gas, agriculture and tourism. The leading employers include Teck Coal, Hinton Pulp and Grande Yellowhead Regional School Division (Town of Hinton 2013). Across the Rural Alberta Region, the most active industries in 2011 (by industrial classification) were: mining, quarrying, and oil and gas extraction (employing approximately 16.6% of the labour force); retail trade (11.2%); construction (8.5%); and accommodation and food services (7.5%). In 2011, there was a labour force of approximately 17,000 workers in the region, with a participation rate of 73.2% and an unemployment rate of 5.9% (Statistics Canada 2013a).

There is other reasonably foreseeable development proposed in the region, representing approximately \$774 million of capital expenditures, which may coincide with the construction of the Project, competing for available regional labour. This includes the Vista Coal Mine Project and the Robb Trend Project (mine expansion), both near Hinton. There are also numerous oil and gas wells anticipated.

Jasper National Park Region

The Jasper National Park Region encompasses all of Jasper National Park, including the Municipality of Jasper. No pipeline construction is proposed in this region; proposed activity includes upgrades at the Jasper Pump Station and reactivation activities associated with the previously twinned Hinton to Hargreaves pipeline segment. In 2011, the total population of the Jasper National Park Region was 4,085, a 4.8 % decrease from 2006. The Municipality of Jasper is the only urban centre in the region. In 2011, 2.2 % of the population identified as Aboriginal (Statistics Canada 2012, 2013a). In 2011, the median income of adults in the Municipality of Jasper was approximately \$35,000; the median income of those working full-year, full-time was approximately \$50,000 (Statistics Canada 2013a).

There are no IRs are crossed by the existing TMPL right-of-way in this region or by the Jasper Pump Station. One Aboriginal community has interests potentially affected by the Project in the region.

The Jasper Pump Station and existing TMPL right-of-way are located on land under the jurisdiction of the Jasper Community Sustainability Plan and the Jasper National Park Management Plan. Key land uses within Jasper National Park include recreational activities including camping, hiking, wildlife viewing and skiing.

The main highway in the Jasper National Park Region is Highway 16, which also services the Municipality of Jasper. In Municipality of Jasper, the average rent for accommodations marginally increased (1.5%) from 2010 to 2011 (Alberta Municipal Affairs 2011). The Municipality of Jasper has approximately 20 hotels and motels and 1,500 rooms. Hotels in Jasper are often at full capacity during the summer months and have some availability in the winter months (Waterworth, Jenkins pers. comm.). There are a limited number of rental units available in the Municipality of Jasper (Mitchell pers. comm.).

The economy of the Jasper National Park Region is based primarily on tourism and recreation related to the presence of the Jasper National Park, as well as regional railway lines. Key employers in the Municipality of Jasper include Parks Canada, the Municipality of Jasper, CN Rail, Fairmount Jasper Park Lodge, Marmot Basin ski resort, and the wide range of businesses and services related to the hospitality tourism industry (Alberta Directory 2013). In 2011, there was a labour force of approximately 2,500 workers in the region, with a participation rate of 84.3% and an unemployment rate of 1.6% (Statistics Canada 2013a). There are no known proposed developments in the region potentially overlapping with the construction of the Project.

Fraser-Fort George/Thompson-Nicola Region

The Fraser-Fort George/Thompson-Nicola Region extends from the Alberta/BC border through Electoral Area H of the Regional District of Fraser-Fort George (RDFFG) and south the entire length of the Thompson-Nicola Regional District (TNRD). In 2011, the total population of the Fraser-Fort George/Thompson-Nicola Region was approximately 129,000, a 4.6% increase from 2006. Key incorporated population centres crossed by the Project in this region include the District of Clearwater, the City of Kamloops, the City of Merritt, as well as smaller unincorporated communities such as Blue River, Vavenby, Avola and Little Fort. Though not crossed by the proposed pipeline corridor, the Village of Valemount is close (approximately 400 m away from the proposed pipeline corridor) and is anticipated to be a construction hub for Project activities in the region; the District of Barriere is located along the existing TMPL right-of-way and on the Darfield to Black Pines reactivated segment. In 2011, the median age of the Fraser-Fort George/Thompson-Nicola Region was 45 and approximately 10.6% of the population identified as Aboriginal (Statistics Canada 2012). In 2011, the median income of adults in the Fraser-Fort George/Thompson-Nicola Region was approximately \$24,400; the median income of those working full-year full-time was approximately \$46,200 (Statistics Canada 2013a).

Numerous IRs and Aboriginal communities are located in this region; there are 3 IRs crossed by the proposed pipeline corridor in the region: Zoht 5; Zoht 4; and Joeyaksa 2 (Lower Nicola Indian Band).

In the Fraser-Fort George/Thompson-Nicola Region, the Project is located in the boundaries of the Robson Valley Land and Resource Management Plan (LRMP). It also traverses land under the jurisdiction of the following municipal and regional plans: Robson Valley-Canoe Upstream Official Community Plan (OCP); Valemout to Blue River Winter Recreation Sustainable Resource Management Plan (SRMP); Eight Peaks Winter Recreation SRMP; Blue River OCP; Avola OCP; District of Clearwater OCP; Nicola Valley OCP; Kamloops LRMP; KAMPLAN OCP (City of Kamloops); Kamloops North OCP; Kamloops Airport Area Land Use and Development Plan; Thompson-Nicola Regional District Zoning Bylaw No. 2400, 2012; City of Merritt OCP; and City of Merritt Zoning Bylaw No. 1894, 2004.

The land and resource uses in the vicinity of the Project in the Fraser-Fort George/Thompson-Nicola Region include residential, industrial, recreational, agricultural use and forestry. The proposed pipeline corridor crosses three provincial parks or protected areas in this region: Finn Creek Provincial Park; North Thompson River Provincial Park; and Lac du Bois Grasslands Protected Area. The proposed pipeline corridor also crosses two municipal parks in this region: Ord Road Municipal Park and Kenna Cartwright Municipal Park both in the City of Kamloops. In addition, there are 12 Class A provincial parks, 1 ecological reserve, 2 regional parks and 1 municipal park located in the HORU LSA in this region. The proposed pipeline corridor crosses various types of residential land use, from rural parcels to residences in small communities (e.g., Blue River, Avola, and Clearwater) and larger urban centres (e.g., Kamloops). There are 30 registered trapping tenures crossed by the proposed pipeline corridor a total of 50 times in the region. There is 1 guide outfitter operating along the proposed pipeline corridor, whose outfitting area is crossed twice.

Communities along the proposed pipeline corridor are serviced by a wide range of infrastructure and services. In the Fraser-Fort George/Thompson-Nicola Region, the Project generally parallels Highway 16 from approximately Highway 5 (Southern Yellowhead Highway) and Highway 5 (Coquihalla Highway). Both the Southern Yellowhead and Coquihalla sections of Highway 5 are the main vehicle route along the proposed pipeline corridor. The rental housing market in the Fraser-Fort George/Thompson-Nicola Region is generally limited, with little to no vacancy in most communities. The TNRD RGS aims to provide an adequate range of housing options to people within the region (TNRD 2000). There is a large temporary housing market in the region, with over 4,000 hotel rooms and over 20 campgrounds with approximately 900 sites in the surrounding area.

The proposed pipeline corridor in the Fraser-Fort George/Thompson-Nicola Region crosses 30 watercourses that are considered navigable, including: the Fraser River; North Thompson River; Thompson River; Nicola River; Canoe River; Coldwater River; Albreda River; Thunder River; 33 potentially navigable watercourses; and 62 potentially navigable wetlands.

The Fraser-Fort George/Thompson-Nicola Region's economic base includes forestry and wood products, agriculture, tourism and government services. For the Fraser-Fort George/Thompson-Nicola Region overall within in the Socio-Economic RSA, in 2011 the most active industries (by industrial classification) were: retail trade (employing approximately 12.5% of the labour force); health care and social assistance (12.3%); accommodation and food services (8.4%); and construction (7.7%) (Statistics Canada 2013a). In 2011 there was a labour force of approximately 63,200 workers in the region, with a participation rate of 63.7% and an unemployment rate of 9.4%. (Statistics Canada 2013a).

Other reasonably foreseeable developments are proposed in the region, representing approximately \$1.1 billion of capital expenditures, which may coincide with the construction of the Project and compete for available labour. This includes the Ajax Mine in Kamloops, Harper Creek Copper-Gold-Silver Project near Vavenby, Merritt Area Transmission Project, TransCanada Highway improvements, and various hydroelectric projects.

Fraser Valley Region

The Fraser Valley Region extends from the eastern border of the Fraser Valley Regional District (FVRD) (halfway between the City of Merritt and the District of Hope) to its western border with Metro Vancouver. It is a largely agricultural region, with key incorporated municipalities being the District of Hope, the City of Chilliwack and the City of Abbotsford. In 2011, the total population of the Fraser Valley Region was 274,400, an 8.1% increase from 2006. In 2011, the median age of the Fraser Valley Region was 42.6 and approximately 6.4% of the population identified as Aboriginal (Statistics Canada 2012). In 2011, the median income of adults in Fraser Valley Region was approximately \$23,400; the median income of those working full-year full-time was approximately \$45,700 (Statistics Canada 2013a).

Numerous IRs and Aboriginal communities are located in this region. Seven IRs are crossed by the proposed pipeline corridor in the region: Ohamil 1 (Shxw'ōwhámél First Nation); Peters 1 and 1A (Peters Band); Popkum 1 (Popkum First Nation); Grass 15 (several Aboriginal communities); Tzeachten 13 (Tzeachten First Nation); and Matsqui Main 2 (Matsqui First Nation).

The Project in the Fraser Valley Region traverses land under the jurisdiction of the following municipal and regional land use and development plans: FVRD OCP for Popkum-Bridal Falls part of Electoral Area "D"; FVRD OCP for Portions of Electoral Area "B" Yale, Emory Creek, Dogwood Valley and Choate Bylaw No. 150, 1998; FVRD OCP for Electoral Area "E" Bylaw No. 1115, 2011; Chilliwack Forest District SRMP; District of Hope OCP; City of Chilliwack OCP; City of Chilliwack Zoning Bylaw 2011; and City of Abbotsford OCP.

Land and resource uses in the vicinity of the Project in the Fraser Valley Region include forestry, urban development, recreation and agriculture. The main agricultural land use types within the region include: dairy production; poultry; field crops; mixed vegetable crops; floriculture; blueberries and other berries; pasture; and forested grazing. The proposed pipeline corridor crosses two provincial parks or protected areas in this region: Coquihalla Summit Recreation Area and a very small portion of F.H. Barber Provincial Park. The proposed pipeline corridor also crosses Cheam Lake Wetlands Regional Park in the FVRD and Straiton Municipal Park in the City of Abbotsford. In addition, there are 3 provincial parks, 1 regional park, 1 municipal nature reserve and 12 municipal parks located in the HORU LSA in this region. The proposed pipeline corridor crosses residential use areas in the District of Hope, the City of Chilliwack and the City of Abbotsford. There are five registered trapping tenures crossed by the proposed pipeline corridor and one guide outfitter operating along the proposed pipeline corridor in the Fraser Valley Region.

Communities along the proposed pipeline corridor are serviced by a wide range of infrastructure and services. In the Fraser Valley Region, the Project parallels Highway 5 (Coquihalla Highway) and Highway 1 (TransCanada Highway). Highway 5 and Highway 1 are the main vehicle routes located in the area. Highway 5 continues to be a north-south two lane route with numerous portions expanded to four lanes. In terms of housing capacity, in the Fraser Valley Region the demand for housing has expanded with population and economic growth, related to its proximity to Metro Vancouver. There are numerous temporary accommodations throughout the region. The District of Hope and area has over 400 hotel and motel rooms and over 450 camping and RV sites (Mattheis, Wilson pers. comm.). In Chilliwack, there are 9 hotels and motels with over 400 units, and 15 campgrounds and RV parks with over 320 units; in the City of Abbotsford there are 9 hotels and motels in with over 500 units (Destination BC 2013, Tourism Chilliwack 2013). Harrison Hot Springs is another source of commercial accommodation in the region with over 500 hotel/motel rooms available. Summer is the busy tourist season when hotel occupancy is highest (Misumi, Fortoloczky pers. comm.). Many temporary agricultural workers stay in local hotels during the summer months, which further decreases hotel capacity.

The proposed pipeline corridor in the Fraser Valley Region crosses 17 watercourses that are considered navigable, including the Coquihalla River, Sumas River and Chilliwack/Vedder River, 30 potentially navigable watercourses and 12 potentially navigable wetlands.

The economy of the Fraser Valley Region is based primarily on agriculture, manufacturing and construction. The FVRD generates the largest annual farm receipts of any Regional District in BC and is

one of the most intensively farmed areas in Canada. While the economies of the City of Abbotsford and the City of Chilliwack have diversified and grown, the economies in many smaller communities remain resource dependent (FVRD 2010). For the Fraser Valley Region overall within in the Socio-Economic RSA, in 2011 the most active industries (by industrial classification) were: retail trade (employing approximately 11.6% of the labour force); health care and social assistance (10.0%); construction (9.9%); and manufacturing (8.5%) (Statistics Canada 2013a). In 2011 there was a labour force of approximately 138,500 workers in the region, with a participation rate of 64.7% and an unemployment rate of approximately 8% (Statistics Canada 2013a).

Other reasonably foreseeable developments are proposed in the region, representing over \$400 million of capital expenditures, which may coincide with the construction of the Project and compete for available labour. This includes numerous hydroelectric projects, power line development, and the Abbotsford Airport Expansion project.

Metro Vancouver Region

Metro Vancouver is the third largest Metropolitan Area in Canada. It consists of numerous municipalities and one rural electoral area that together are known as Metro Vancouver (or the GVRD). In 2011, the total population of the Metro Vancouver Region was over 2.3 million, a 9.3% increase from 2006. In 2011, the median age of the Metro Vancouver Region was 41 and 2.4% of the population identified as Aboriginal (Statistics Canada 2012). In 2011, the median income for adults in the Metro Vancouver Region was approximately \$32,400; the median income of those working full-year full-time in 2011 was approximately \$53,100 (Statistics Canada 2013a).

Communities crossed by the Project in this region are the Township of Langley, City of Surrey, City of Coquitlam and City of Burnaby. There are several IRs and Aboriginal communities in this region; however, no IRs are crossed by the Project.

The Project in the Metro Vancouver Region traverses land under the jurisdiction of the following municipal and regional land use and development plans: GVRD OCP; Township of Langley OCP; City of Coquitlam Citywide OCP; Coquitlam Lougheed Neighbourhood Plan; City of Surrey OCP; Burnaby OCP; Port Metro Vancouver (PMV) Consolidated Land Use Plan; and Vancouver Fraser Port Authority Land Use Plan.

The land and resource use in the vicinity of the Project in the Metro Vancouver Region is predominantly urban development. The proposed pipeline corridor crosses residential use areas in the Township of Langley, City of Coquitlam and the City of Surrey. There are some agricultural use areas crossed by the proposed pipeline corridor mainly located in the Salmon River valley near Fort Langley, BC. There are no registered trapping tenures or registered guide outfitters located along the proposed pipeline corridor in the Metro Vancouver Region. The proposed pipeline corridor directly crosses the Surrey Bend Regional Park, Burnaby Mountain Municipal Conservation Area, Westridge Municipal Neighbourhood Park and Brunette River Municipal Conservation Area in the City of Burnaby, as well as several other municipal parks and a Canadian Heritage River (Fraser River). In addition, there is 1 municipal conservation area, 7 municipal natural areas, 30 municipal/municipal neighbourhood parks and 1 regional nature park located in the HORU LSA in this region.

Communities along the proposed pipeline corridor are serviced by a wide range of infrastructure and services. In the Project area, Highway 1 services the Township of Langley, and the cities of Surrey, Coquitlam and Burnaby. Highway 1 and Highway 7 (Lougheed Highway) are anticipated to be key highways utilized for the movement of equipment and materials to various pipeline spread locations in this region. Key roads in the region crossed by the proposed pipeline corridor include: Highway 1; Highway 7; Golden Ears Way in the Township of Langley; the South Fraser Perimeter Road in the City of Surrey; Brunette Avenue in the City of Coquitlam; and Burnaby Mountain Parkway and Barnet Road in the City of Burnaby.

In terms of housing, the Metro Vancouver Region has a large private housing market, but low rental vacancy rates. The Vancouver area has one of the lowest vacancy rates in BC, even though vacancy rates have increased slightly in recent years. There is a large temporary housing market, with over 3,300

hotel rooms and approximately 15 campgrounds with over 650 sites in the municipalities crossed by the Project (City of Coquitlam 2013, Destination BC 2013, Tourism Langley 2013, Tourism Surrey 2013).

Canada's busiest port, PMV, is located in the region on the Burrard Inlet (BIEAP 2011). PMV contains 28 major cargo terminals, 23 of which are in Burrard Inlet. Vancouver is the homeport for the Vancouver–Alaska cruise ship industry. Commercial vessel traffic in Burrard Inlet is comprised of vessels accessing the various marine terminals, including: cargo ships (forest products, steel products, machinery, grains, coal, chemicals, potash and sulphur); oil tankers (petroleum products); cruise ships; and container ships (household goods) (PMV 2013). There is a wide range of marine recreational and tourism users in the Burrard Inlet.

The proposed pipeline corridor in the Metro Vancouver Region crosses two watercourses that are considered navigable (the Fraser River and Salmon River), 7 potentially navigable watercourses and 10 potentially navigable wetlands. The Westridge Marine Terminal is located on the marine waters of the Burrard Inlet, a key marine navigation channel.

The Metro Vancouver Region's economic base is diverse and includes trade and commerce, manufacturing, goods distribution, professional services, tourism, education and agriculture. Most of the employment is in sales and service, business, finance and administration, and trades and related occupations (Metro Vancouver 2010a, PMV 2009, Vancouver Economic Commission 2012). For the Metro Vancouver Region as a whole in 2011 the most active industries (by industrial classification) were: retail trade (employing approximately 10.4% of the labour force); health care and social assistance (9.6%); accommodation and food services (7.8%); and professional, scientific and technical services (9.2%) (Statistics Canada 2013a). PMV is a notable economic contributor to the region, making considerable contributions to regional employment and the provincial economy, as well as to jobs, wages, and gross domestic product (GDP) across Canada. In 2011, there was a labour force of approximately 1.3 million workers in the Metro Vancouver Region, with a participation rate of 66.1% and an unemployment rate of approximately 7.1% (Statistics Canada 2013a).

There is substantial other reasonably foreseeable development proposed in the region, representing over \$16.7 billion of capital expenditures, that may coincide with the construction of the Project and compete for available labour. This includes the Roberts Bank Terminal 2 Expansion, expansion at Vancouver International Airport, rail and transit developments, residential developments, road works, substations, and multiple other municipal utility, infrastructure and services projects.

Potential Project-Related Effects

Pipeline and facility construction have the potential to directly and indirectly affect socio-economic elements through a range of pathways.

Potential Project interactions related social and cultural well-being may include the following.

The Project will create benefits related to: Project-related employment and contracting opportunities; spin-off effects for businesses associated with worker spending during the construction phase, regionally, provincially and nationally; and increased municipal taxes that can support a range of community objectives and initiatives.

Construction-related disturbances to land, water and wildlife patterns could affect traditional Aboriginal practices of hunting, trapping, gathering and fishing in identified traditional use areas, which could, in turn, have cultural and livelihood implications for Aboriginal communities. Cultural sites may also be disturbed. On the other hand, employment and income opportunities for Aboriginal people may enhance the ability of some to support equipment needed for traditional harvesting practices. Further, Project-supported Traditional Land Use studies may support broader cultural objectives within Aboriginal communities.

Labour demand during the construction phase may result in an influx of temporary workers leading to short-term regional population and demographic change. Population growth could be perceived as positive, negative or neutral depending on the community (e.g., depending on community size,

services/housing capacity, community growth goals). Population growth in the context of economic development and appropriately scaled infrastructure and services is typically considered desirable by municipal governments.

Presence of temporary workers during the construction phase may lead to increased incidences of social issues, as often seen in communities that host resource development. This is tied to the demographics of temporary construction workers who tend to be young to middle-aged and male with higher-than-average disposable income. While presenting economic opportunities, the presence of temporary workers can also lead to increased capacity pressure on certain community infrastructure, such as housing, recreation, and water and waste services.

As noted, Project-related employment and business opportunities are anticipated to create substantial regional economic opportunity particularly during the construction phase, leading to increased incomes. While increased incomes typically contribute to a sense of well-being, gender and age differentials in income may occur to the extent that direct Project opportunities are in construction and pipeline-related industries that tend to be male dominated and have a young to middle-aged worker demographic (Alberta Enterprise and Advanced Education 2013b, Statistics Canada 2013a, Canadian Construction Council 2010). Income differentials are likely to only be discernible in less-populated communities; in large communities temporary Project-workers will be readily absorbed in the into local population and any income would be considered in the normal range of variability.

The construction of the Project may disrupt key community assets or use areas that are in the vicinity of the construction activities (*i.e.*, schools, playgrounds, municipal parks, or other public facilities). Construction activity and temporary workers could disrupt key community events in construction hub communities if hotels and campgrounds are being used by workers during events or during times of year where large numbers of tourists are typically present.

The construction of the Project may affect HORU through the temporary physical disturbance of land or resources that have a human use. For example, construction in the right-of-way or temporary workspace may cause disturbances to land used for parks and protected areas, IRs or traditional use areas, agriculture and livestock use, outdoor recreational use, non-traditional hunting, trapping and fishing, as well as managed forest areas. There may be physical disturbances to residential areas or industrial/commercial areas where the Project crosses municipal boundaries as well as temporary disturbances water resources that have a human use (*e.g.*, community water supply purposes). The construction of the Project may also have implications for access to certain use areas where certain access roads are crossed during specific periods during construction. Construction and site-specific maintenance activities and the presence of heavy equipment and vehicles may also contribute to sensory disturbance in terms of nuisance air and noise emissions or lighting. Temporary visual disruption may also occur related to construction activities, clearing vegetation, presences of stock-piles and equipment lay-down storage, and any temporary facilities (*e.g.*, construction camps, worksite offices).

Effects on HORU during the operations phase, once full reclamation has been completed, would be limited to areas where new or expanded facilities requiring additional land footprint beyond current Trans Mountain property lines (*e.g.*, new or select expanded pump stations), select areas where the corridor deviates from the existing TMPL right-of-way (and thus there is incremental permanent clearing), or short periods of site-specific maintenance that may cause visual or sensory disturbance (*i.e.*, integrity digs). Longer-term changes in viewshed may occur related to any new or notably altered above ground facilities. The presence of the new pipeline may have effects on proximate subsurface activities (*i.e.*, municipal water/sewer lines), due to activity restrictions in the vicinity of the NEB-regulated pipelines as per the NEB *Pipeline Crossing Regulations*. Expansion of the Westridge Marine Terminal will be visible from various standpoints on the north and south shore of the Burrard Inlet in the Metro Vancouver region. The expanded dock complex and the increased presence of moored tankers may contribute to alteration of views and sensory disturbance during the operations phase, as well as to alternation in marine access and use patterns in parts of the Burrard Inlet due to construction and operations at the terminal.

The construction of the Project could affect infrastructure and services through direct physical disturbance to physical infrastructure that exists in the right-of-way or through increased use of certain infrastructure and services related to direct or indirect Project needs. During the construction phase, there may be direct physical disturbance to roads or other community infrastructure that are crossed by the Project or located in areas required for construction lay-down. Further, the presence of temporary Project workers, indirect or induced workers, and speculative workers in construction hub communities may lead to increases in capacity pressure on certain community infrastructure, such as housing, recreational amenities, and municipal water and waste services. This may be exacerbated if some workers choose to relocate to the region with their families, further increasing population and demand pressures. Presence of temporary or speculative workers during the construction phase may lead to increases in certain social issues or community-worker interactions when temporary workers are away from their homes and away from their typical support relationships. Any increase in social issues that require a demand response could further exacerbate pressure on certain community services, such as police, healthcare and social services. Given the relatively small number of incremental permanent workers anticipated during the operations phase, capacity pressure effects on infrastructure and services during Project operations are not anticipated.

The construction of the pipeline and certain facilities will require crossing of navigable watercourses. Impediments to watercourse users on navigable watercourses may occur during construction and site-specific maintenance. During pipeline construction, the navigability of some watercourses may be affected if open water conditions occur during a trenched crossing or installation of a temporary vehicle crossing as part of construction or site-specific maintenance activities (e.g., integrity dig). Also, during the construction phase, there may be an increase in marine vessel traffic around Westridge Marine Terminal associated with construction tugs and barges, which may reduce the available marine area for passage of other marine users, leading to an increased possibility of marine collisions, vessel damages or injury. Marine users may also inadvertently enter the construction zone. This may have implications for the safety of commercial, recreational, tourism and Aboriginal users of Burrard Inlet who typically travel in the vicinity of the Westridge Marine Terminal. Some minor disruption to marine access and use patterns may occur during operations related to the presence of the expanded dock at the Westridge Marine Terminal and its increased footprint in the Burrard Inlet.

The construction and operation of the Project will create substantial economic benefits and opportunities locally, regionally, provincially and nationally. Given the size of the Project, development (construction) phase capital spending will have notable effects on economic output, GDP and labour income. Further, numerous direct, indirect and induced employment and procurement opportunities will be created related to Project construction. During the operations phase, the Project will result in increased tax revenues at the municipal, provincial and federal level. There will also be direct, indirect, and induced employment effects during operations. During both construction and operations, the Project will support training initiatives to provide opportunities for Aboriginal people to enhance skills that will be transferrable to other projects and industries. In addition, employment and contract experience related to the Project will contribute to increases in the general experience and capacity level of the local and regional workforce and business community that have been involved with the Project. During the construction phase, and periods of site-specific maintenance during operations, the Project may result in disturbances to some commercial businesses and resource-based livelihoods.

A range of mitigation and enhancement measures have been recommended to reduce potential adverse socio-economic effects and to enhance potential socio-economic opportunities and benefits related to the Project, as discussed in Section 11.0 of this technical report.

The potential residual effects on social and cultural well-being, HORU, infrastructure and services, navigation and navigation safety, and employment and economy indicators are identified, discussed and evaluated for significance in Section 7.0 of Volume 5B, which should be read in conjunction with this technical report.

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DEFINITIONS AND ACRONYM LIST

Definition/Acronym	Full Name
AAC	annual allowable cut
AADT	annual average daily traffic
AANDC	Aboriginal Affairs and Northern Development Canada
AB	Alberta
AESO	Alberta Electric System Operator
AESRD	Alberta Environment and Sustainable Resource Development
AER	Alberta Energy Regulator
AEUB	Alberta Energy and Utilities Board
AIIC	Alberta Indian Investment Corporation
ALC	Agricultural Land Commission
ALR	Agricultural Land Reserve
ASETS	Aboriginal Skills and Employment Training Strategy
ATEP	Aboriginal Training to/for Employment Program
ATK	Aboriginal Traditional Knowledge
ATPR	Alberta Tourism, Parks and Recreation
ATV	all-terrain vehicle
Avoidance	a means to prevent a potential adverse effect through routing/siting of the project, changes to project design or construction timing
BC	British Columbia
BC Hydro	BC Hydro and Power Authority
BC MCFD	British Columbia Ministry of Children, Family and Development
BC MFLNRO	British Columbia Ministry of Forests, Lands and Natural Resource Operations
BC MOF	British Columbia Ministry of Forests
BC MOFR	British Columbia Ministry of Forests and Range
BC MOE	British Columbia Ministry of Environment
BC MOT	British Columbia Ministry of Transportation
BC MOTI	British Columbia Ministry of Transportation and Infrastructure
BIEAP	Burrard Inlet Environmental Action Program
BNSF	Burlington Northern Santa Fe Corp.
CAER	Community Awareness and Emergency Response
CANSIM	Canadian Socio-Economic Information Management System
CAO	Chief Administrative Officer
CD	census divisions
CEA	Canadian Environmental Assessment
CEA Agency	Canadian Environmental Assessment Agency
CCG	Canadian Coast Guard
CHRS	Canadian Heritage Rivers System
CMHC	Canada Mortgage and Housing Corporation
CN	Canadian National Railway Company
Compensation	a means intended to compensate unavoidable and potentially significant or unacceptable effects any may consist of offsets (no net loss), research, education programs, and financial compensation (considered only when all other options have been exhausted)
CPCN	Certificate of Public Convenience and Necessity
CPR	Canadian Pacific Railway
DFO	Fisheries and Oceans Canada
DUC	Ducks Unlimited Canada
EAA	<i>Environmental Assessment Act</i>
EAPUOC	Edmonton Area Pipeline and Utility Operators' Committee
EMBC	Emergency Management British Columbia
EMS	emergency management system
EPEA	<i>Environmental Protection and Enhancement Act</i>
EPP	Environmental Protection Plan
ERCB	Energy Resources Conservation Board
ERP	Emergency Response Plan
ESA	Environmental and Socio-economic Assessment
EWMC	Edmonton Waste Management Centre
FVRD	Fraser Valley Regional District

Definition/Acronym	Full Name
FVREB	Fraser Valley Real Estate Board
GDP	gross domestic product
GIS	geographic information system
GVSDD	Greater Vancouver Sewerage and Drainage District
GVRD	Greater Vancouver Regional District
GVWD	Greater Vancouver Water District
HORU	Human Occupancy and Resource Use
ICS	Incident Command Standards
ID	Improvement District
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.
ILMB	Integrated Land Management Bureau
IR	Indian Reserve
ITO	Industry Training Authority
JAMES	Joint Abbotsford Mission Environmental Systems
JCSP	Jasper Community Sustainability Plan
KAMPLAN	City of Kamloops Official Community Plan
km	kilometre
KMC	Kinder Morgan Canada Inc.
Labour force	adults (persons 15 years of age and over) who are employed, actively looking for work, or willing to work
LRMP	Land and Resource Management Plan
LSA	local study area
MADT	monthly average daily traffic
MCRTU	marine commercial, recreation and tourism use
MDP	Municipal Development Plan
Mitigation	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; or a means of reducing or managing a project's adverse socio-economic effects
MU	Management Unit
MWHS	Mike Wiegele Helicopter Skiing
NAICS	North American Industry Classification System
NDIT	Northern Development Initiatives Trust
NEB	National Energy Board
n/a	Not applicable
NGO	non-governmental organization
NHS	National Household Survey (Statistics Canada)
NPA	Navigation Protection Act
OCP	Official Community Plan
O.D.	outside diameter
OGMA	old growth management area
OSCAR	oil spill containment and recovery
OV	observer viewpoint
Participation rate	the proportion of the adult population that is in the labour force
PHRCC	Petroleum Human Resources Council of Canada
PMV	Port Metro Vancouver
Post-construction monitoring	a type of monitoring program that may be used to verify that mitigation measures effectively mitigated the predicted adverse environmental effects
RCMP	Royal Canadian Mounted Police
RDFFG	Regional District of Fraser-Fort George
RGS	Regional Growth Strategy
RMZ	resource management zone
RSA	regional study area
RV	recreational vehicle

Definition/Acronym	Full Name
SEMP	Socio-Economic Management Plan
SFPR	South Fraser Perimeter Road
SRMP	Sustainable Resource Management Plan
SRY	Southern Railway of British Columbia
Supplemental studies	studies to be conducted post submission of the application to provide supplemental information in support of the Application
TEK	traditional ecological knowledge
TERA	TERA Environmental Consultants
TERMPOL	Technical Review Process of Marine Terminal Systems and Transshipment Sites
the Project	Trans Mountain Expansion Project
TIABC	Tourism Industry Association of British Columbia
TLU	Traditional Land Use
TMEP	Trans Mountain Expansion Project
TMPL	Trans Mountain pipeline
TNRD	Thompson-Nicola Regional District
TSA	timber supply area
TUC	Transportation Utilities Corridor
UBC	University of British Columbia
UEL	University Endowment Lands
Unemployment rate	the percentage of the labour force that is unemployed
UNESCO	United Nations Educational, Scientific and Cultural Organization
VAC	visual absorption capacity
VARDA	Valemount Area Recreation Development Association
VMA	Viewshed Modelling Analysis
VQO	valued quality objective
WCMRC	Western Canada Marine Response Corporation
WMU	Wildlife Management Unit
YVR	Vancouver International Airport
ZOI	zone of influence

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., 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.
- 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 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.

Figure 1.1 provides an overview of the proposed Project.

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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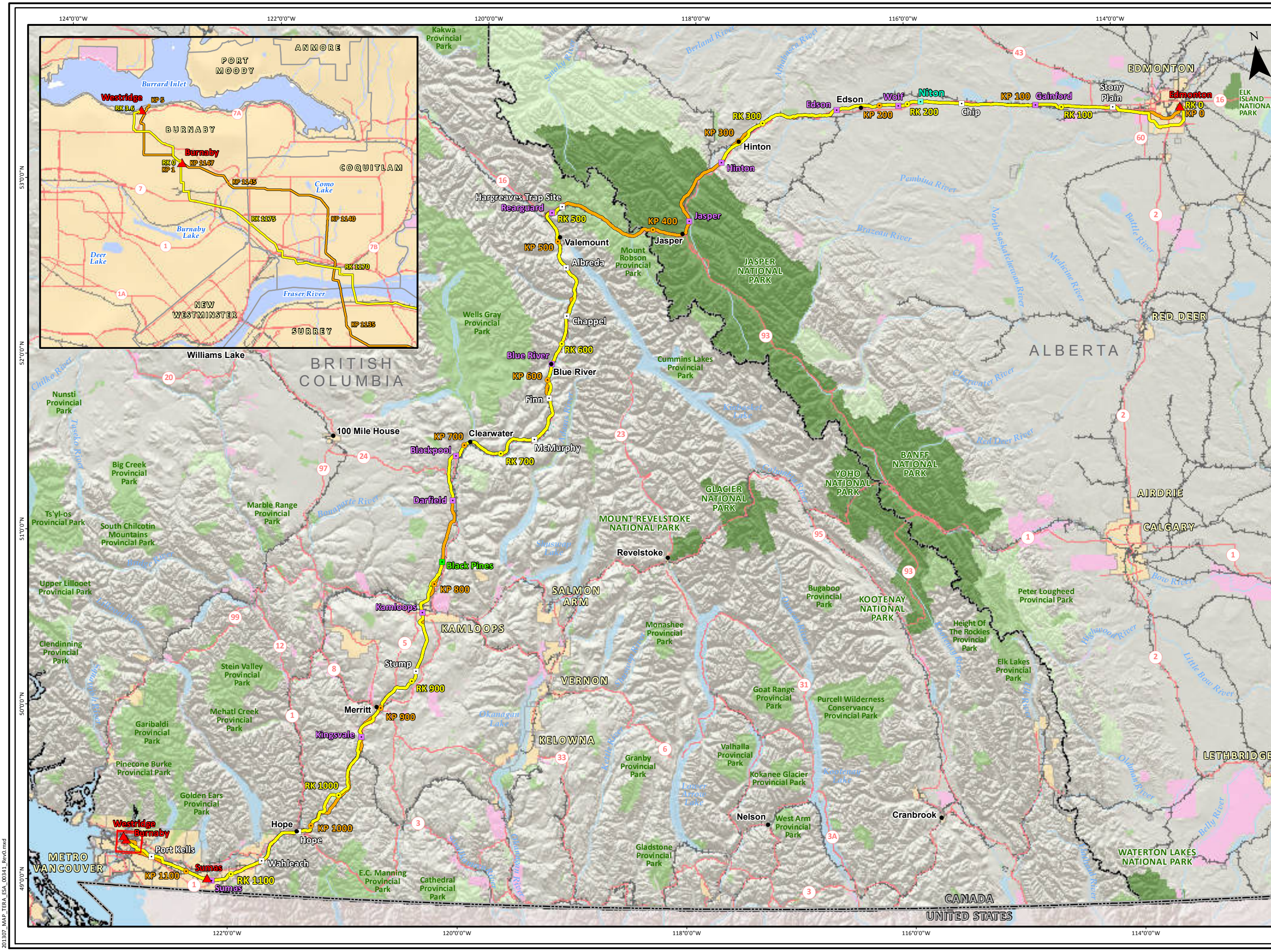


Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.



MAP NUMBER	201307_MAP_TERA_ESA_00341_REV0	PAGE	SHEET 1 OF 1
DATE	December 2013	TERA REF.	7894
REVISION	0	DISCIPLINE	ESA
SCALE	1:2,250,000	PAGE SIZE	11x17
DRAWN	AJS	CHECKED	TGG
		DESIGN	TGG

0 25 50 75 100 km
 ALL LOCATIONS APPROXIMATE



201307_MAP_TERA_ESA_00341_REV0.mxd

1.1.1 Cost, Schedule and Workforce

Full Project details are provided in Volume 2 and are also discussed in Section 2.0 of Volume 5B. Certain Project cost, schedule and workforce information is provided below, as this information provides key context for the socio-economic elements discussed in this report.

1.1.1.1 Project Costs

If approved, the TMEP is expected to cost approximately \$5.5 billion, with expenditures taking place over a seven-year period. Adjusted for price increases, that is equivalent to \$4.9 billion in 2012 dollars (price adjusted cost excluding financing costs is \$4.6 billion). Parts of the Project, such as planning and regulatory application filings have already begun, and, therefore, Project development is expected to cover the 2012 and 2018 period. However, the bulk of the spending activity is expected to take place in 2016 and 2017, when construction activity peaks (Conference Board of Canada 2013). The incremental operating costs are estimated at approximately \$118 million, annually.

1.1.1.2 Schedule

Pending regulatory approval of the Project, construction of the pipeline and facilities is scheduled over an approximately 24 month period to achieve the planned in-service date of Q4 2017. Preliminary plans provide for seven pipeline construction spreads, ranging from approximately 34.2 km to 290.4 km in length. It is anticipated that all seven spreads will generally be constructed concurrently during the following consecutive construction seasons: summer 2016; winter 2016/2017; and summer 2017. The length of the construction period for each spread depends on, among other variables, length, land uses, terrain and construction techniques for each spread.

Activities associated with reactivation of the existing pipeline segments from Hinton to Hargreaves and Darfield to Black Pines will occur over a period of several months, with in-line inspection activities planned for September and October 2016, and excavation, repair and testing activities taking place from April to September 2017, with operations planned during late 2017.

Construction and equipment installation at pump stations and terminals is expected to begin in Q1 2016 and take approximately 8 to 10 months for each pump station and between 14 and 24 months at the terminals, depending on, among other variables, scope, and land use and construction techniques for each facility. The construction period for the Westridge Marine Terminal is expected to commence in Q4 2015 with the first two berths completed near the end of 2017. Construction of the third new berth will commence in mid-2016 and will be in operation by late 2017. Demolition of the existing berth will occur in Q2 2018 once the new berths are commissioned.

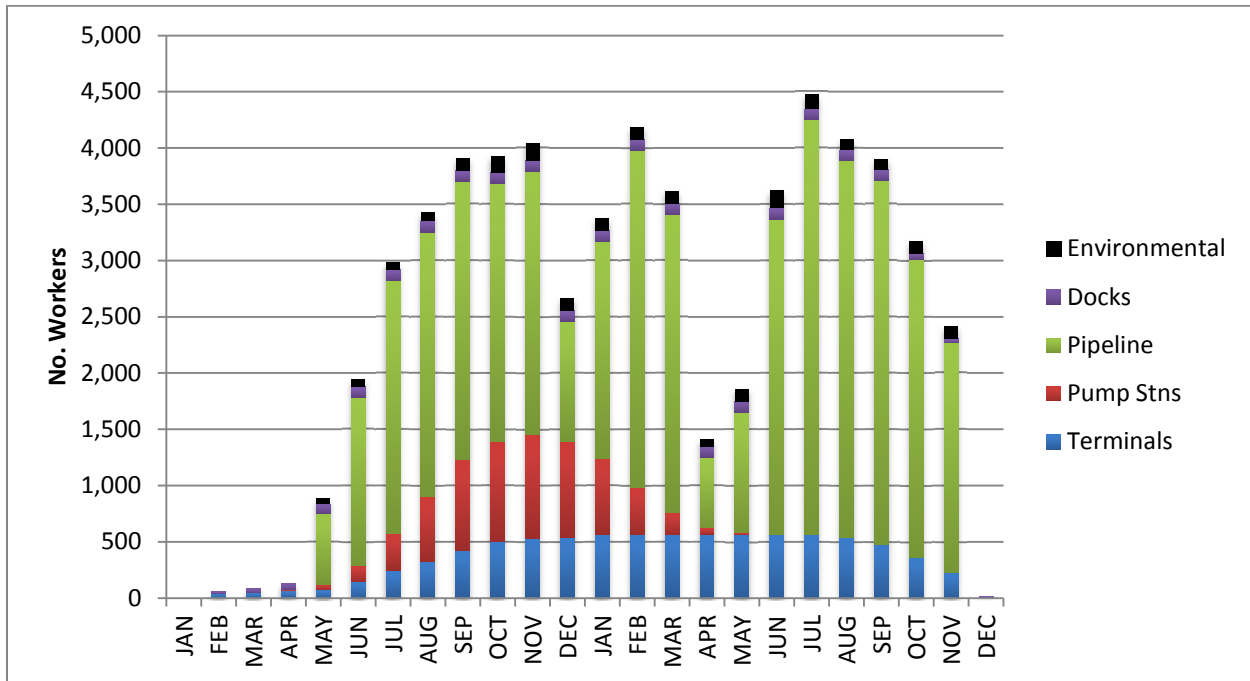
1.1.1.3 Workforce

It is estimated that the Project will require a construction workforce to provide over 1,324,000 worker-days in the 2016 to 2017 construction period, or over 60,100 full-time equivalent worker months.

Pipeline spreads will require approximately 400 to 600 workers per spread depending on, among other variables, length and timing of each spread, region and construction techniques utilized. Construction at terminals will require approximately 60 to 370 workers, depending on the number of new tanks to be installed and other activities. Construction activities at pump stations will require in the range of 55 to 80 workers, depending on the number new pumps required and other activities. Construction at the Westridge Marine Terminal will require approximately 95 workers over much of the construction period.

Peak construction workforce for the entire Project (*i.e.*, peak activities combined between all Project components) is anticipated to be 4,475 workers during July 2017. Figure 1.1-1 outlines the anticipated direct construction workforce (full-time worker equivalents) broken down month-by-month and by Project component over the 2016–2017 construction period. Workforce estimates will be refined as the Project proceeds.

Figure 1.1-1 Estimated Direct Construction Workforce, 2016 to 2017



Source: KMC 2013a

Note: Workforce expressed in full-time equivalent worker-months

Required workforce skills will be varied and will include surveyors, heavy equipment operators, welders, electricians, mechanics, skilled labourers, truck drivers, supervisors, inspectors and monitors. The number of personnel working at any location along the pipeline or facility site will depend on the respective construction phase (e.g., clearing, soil handling, grading, pump and tank installation, dock construction, testing and clean-up).

Large mainline crews construct most of the pipeline within each spread, while smaller specialty crews, working in parallel with mainline crews, complete construction in non-standard sections of the pipeline such as at road, rail, utility and watercourse crossings. Specialty contractors will likely be used for construction in urban or industrial development areas to ensure safe pipeline and facilities installation given the existing utilities and infrastructure situated in the Project area.

Construction of the pipeline is the largest component of the Project workforce, accounting for approximately 70% of total required workers. Tank construction requires approximately 14% of the total workforce, followed by the pump station construction at 10% of the total required workforce. The breakdown of Project component workforce requirements as a proportion of the total of the Project overall workforce requirements is presented in Table 1.1-1.

TABLE 1.1-1

DIRECT CONSTRUCTION WORKFORCE, BY PROJECT COMPONENT

Project Component	Worker Month Equivalents Over 2 Year Construction Period	Percentage of Project Workforce
Tanks	8,500	14%
Pump Stations	5,941	10%
Pipeline	41,938	70%

TABLE 1.1-1 Cont'd

Project Component	Worker Month Equivalents Over 2 Year Construction Period	Percentage of Project Workforce
Westridge Marine Terminal Docks	1,818	3%
Environmental	1,986	3%
Total	60,183	100%

Source: KMC 2013a

Based on early construction planning, Trans Mountain has estimated the number of direct workers that may be required in certain communities or “construction hubs” along the proposed corridor considering the various Project components and their anticipated timing. Table 1.1-2 provides more detail on the anticipated workforce by construction hub over the course of the Project aggregated for all Project components. While these construction workforce estimates are subject to change as detailed engineering and construction planning continues, they provide order-of-magnitude estimates of required workers for the purposes of labour force analysis and population-based effects that drive parts of the socio-economic assessment.

TABLE 1.1-2

DIRECT CONSTRUCTION WORKFORCE ESTIMATES, BY ANTICIPATED CONSTRUCTION HUB

Community/Construction Hub	Full-Time Worker Month Equivalents (Total)	Workers per Month (Low)	Workers per Month (High)	Workers per Month (Avg.)	No. Construction Months
Edmonton Area	7,154	136	734	377	19
Edson	5,365	53	896	383	14
Hinton	1,499	4	336	101	15
Valemount	4,621	9	629	289	16
Blue River	1,936	14	287	121	16
Vavenby/Clearwater	4,906	41	570	327	15
Kamloops	5,949	9	889	297	20
Merritt	5,496	9	820	323	17
Hope	4,002	93	399	250	16
Chilliwack	1,635	61	202	149	11
Abbotsford	2,543	9	262	150	17
Metro Vancouver	15,054	14	1,204	655	23

Source: KMC 2013a

During operations, there are anticipated to be approximately 90 new direct full-time positions related to the Project. Of these, 40 are anticipated to be in Alberta and 50 are anticipated to be in BC. New operations positions may include: control centre operators; pipeline maintenance technicians; electrical/mechanical/instrumentation technicians, pipeline integrity/pipeline protection technicians; technical and line supervisors; tank operations technicians; marine operations technicians, terminal manager, and office/support staff.

1.1.2 Contracting

The contracting and procurement requirements of the Project are anticipated to be substantial. They will be highest during the construction phase of the Project. Approximately \$4.6 billion (2012 dollars, financing

costs excluded) is anticipated for capital expenditures over the 2012 to 2018 period. Of this, approximately 69.5% will be spent to construct the BC portion of the Project and approximately 30.5% will be spent to construct the Alberta portion (see Volume 2).

Procurement of goods and services for Project construction will be through a combination of Trans Mountain direct procurement activities and procurement by the General Contractors engaged by Trans Mountain to construct the pipeline and facilities, including the Westridge Marine Terminal. Trans Mountain will procure some major goods and some services directly which may include:

- most goods and services required for the Project development phase;
- contracts for engineering, and for engineering, procurement and construction management;
- contracts for environmental and socio-economic studies and management plans;
- contracts for construction of the pipeline and associated facilities;
- contracts for construction camps (as required on the basis of the Worker Accommodation Strategy);
- major materials and equipment and long lead time materials and equipment such as pipe, large diameter valves and pumps and motors packages; and
- selected contracts with businesses in the Socio-Economic RSA to support participation in the Project by Aboriginal communities and Socio-Economic RSA residents and businesses; these contracts may in turn be managed by one of the Project General Contractors.

The scope of work for General Contractors will include all aspects of construction of one or more segments of the proposed pipeline corridor or at one or more of the pump stations or terminals. Most Project-related contracts for goods and services will be awarded by these General Contractors through a subcontracting process.

While it should not be considered exhaustive, the typical types of subcontracting opportunities related to pipeline construction are listed below. Given the proposed location of the Project adjacent to existing pipeline routes, some of the following contracts may not be issued at all locations.

- right-of-way clearing;
- clearing and site preparation;
- road access clearing;
- hydrovac (crossings);
- pipe/equipment hauling;
- water hauling;
- fuel supply;
- reclamation (seeding, shrub planting);
- emergency medical services;
- traffic management;
- trucking;
- janitorial services;
- horizontal directional drilling/boring;
- miscellaneous equipment supply (generators, lighting towers, pumps);
- security services;
- flag personnel;
- gravel supply and hauling;
- pressure testing;
- security services;
- quality control (non-destructive testing);
- environmental inspections;
- equipment rental and lease; and
- maintenance.

Trans Mountain is committed to maximizing the contracting opportunities for businesses and suppliers from the Project area.

1.2 Objectives

This report provides baseline information and discussion of potential effects and mitigation for the following elements of the socio-economic environment:

- social and cultural well-being;
- human occupancy and resource use (HORU);
- infrastructure and services;
- navigation and navigation safety; and
- employment and economy.

Social and Cultural Well-Being examines a range of factors that influence social and cultural change in a community or region. This includes: population and demographics; income levels and distribution; incidence of crime and social issues; key community events, assets or use areas; and Aboriginal culture. It also considers the perspectives that community residents have about the Project and how it may or may not affect them. Many issues related to other biophysical and socio-economic elements (e.g., human health risk, public health, air quality, acoustic environment, water quality and quantity, employment and economy, infrastructure and services) play a role in the general sense of well-being at a community level. This section, however, focuses on social and cultural factors not captured elsewhere.

HORU examines human uses of land and natural resources. It considers a wide range of human uses, including: parks and protected areas; residential use; agricultural use; outdoor recreation use; non-traditional, non-recreational hunting, trapping and fishing; managed forest areas; Indian Reserves (IRs), Métis Settlements and asserted traditional territories; minerals, aggregates and oil and gas resources; commercial and industrial use; water supply and use; and marine commercial, recreational and tourism use. Direct disturbance or enhancement of human land and resource use areas is examined, as well as access to use areas. HORU also considers aesthetic attributes, such as sensory disturbance and visual effects and viewshed alteration, as they pertain to all land and resource users.

Infrastructure and Services examines a range of physical and community infrastructure and services. It considers physical infrastructure such as transportation infrastructure (e.g., roads, rail, airports, and ports); linear infrastructure (e.g., subsurface lines, transmission lines) and power supply; and water and waste infrastructure. It also considers community infrastructure such as housing; emergency, protective and social services; educational services; and recreational amenities. It examines the potential for direct disturbance to infrastructure and services related to Project activities, as well as capacity pressures associated with Project-related increases in demand on infrastructure and services.

Navigation and Navigation Safety examines the use of watercourses for navigation purposes and the potential for Project activities to impede safe and reliable use of such watercourses. This may include terrestrial watercourses such as rivers, creeks, wetlands, unnamed creeks and tributaries, as well as the marine waters of the Burrard Inlet around the Westridge Marine Terminal.

Employment and Economy examines the potential for economic benefits, opportunities, and issues related to the Project, including: national and provincial economic growth and output; regional employment opportunities and labour income; government revenues (e.g., fiscal effects at municipal, provincial and federal level); procurement and contracting opportunities; and training and capacity development. It also examines the potential for economic effects related business and livelihood disruption. Baseline information that informs the understanding of Project-related effects on employment and economy includes: economic activity and trends in the Project area; labour force characteristics; and educational attainment. Certain land and resource use patterns discussed in HORU are also key to understanding the potential for business and livelihood disruption.

Other socio-economic elements as defined in the NEB *Filing Manual* (2013), namely Heritage Resources, Traditional Land and Resource Use, and Human Health, are addressed in separate technical reports in Volume 5D.

The objectives of the Socio-Economic Technical Report are to:

- provide an understanding of existing social and economic conditions and trends in the Project area, and in doing so set the context against which to understand potential socio-economic effects;
- identify and discuss potential Project interactions with the above elements of the socio-economic environment;
- identify potential socio-economic effects and opportunities related to the Project; and
- present recommended mitigation and enhancement measures which will enhance positive socio-economic effects and reduce negative socio-economic effects associated with the Project.

This report describes the methods of the socio-economic assessment, including the approach to and results of data collection and field work and outcomes of discipline-specific consultation and engagement activities.

This report does not identify or discuss potential residual socio-economic effects or potential cumulative effects, nor does it provide evaluations of significance of effects. Section 7.0 of Volume 5B provides the effects assessment related to socio-economic elements, and Section 8.0 of Volume 5B provides a discussion of the cumulative effects related to socio-economic elements, both including an evaluation of significance. This report should be read in conjunction with Volume 5B.

Separate technical reports in Volume 5D provide further detail related to certain socio-economic elements discussed in this report, as follows.

The Agricultural Assessment Technical Report describes existing conditions, potential effects, and recommended mitigation related to agricultural use areas, including potential effects related to livestock, within the context of the HORU element.

The Managed Forest Areas and Forest Health Technical Report describes existing conditions, potential effects and recommended mitigation related to managed forest areas (e.g., forestry areas, Old Growth Management Areas), within the context of the HORU element.

The Viewshed Modelling Analysis Technical Report describes the visual modelling process and outcomes related to new and notably altered above ground Project facilities, within the context of the HORU element.

The Worker Expenditures Along the Pipeline Corridor Technical Report describes the methods and outcomes of analysis to estimate community-level economic benefits associated with Project construction worker spending, within the context of the Employment and Economy element.

The quantitative modelling of economic effects associated with the development and operation of the Project are provided in a separate report: the Conference Board of Canada report entitled *Expansion of the Trans Mountain Pipeline: Understanding the Economic Benefits for Canada and its Regions* in Volume 2.

These separate technical reports should be read in conjunction with the Socio-Economic Technical Report.

1.3 Regulatory Standards

The Environmental and Socio-Economic Assessment (ESA) supported by this report is being conducted in accordance with requirements pursuant to Guide A.2 of the NEB *Filing Manual*. In particular, this report contains information required to meet the NEB filing requirements for socio-economic elements pertaining to social and cultural well-being, HORU, infrastructure and services, navigation and navigation safety and employment and economy as outlined in Table A-3 of the NEB *Filing Manual*.

The assessment has been conducted such that other federal and provincial requirements pertaining to socio-economic assessment are also satisfied, including those in the legislation, regulations and guidance documents pertaining to the *Canadian Environmental Assessment Act, 2012 (CEA Act 2012)*, BC *Environmental Assessment Act (EAA)*, and the *Alberta Environmental Protection and Enhancement Act (EPEA)*.

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. ATK is considered within the assessment of socio-economic elements as per guidance from the NEB *Filing Manual* (2013) and Section 19(3) of the *CEA Act 2012*.

2.0 CONSULTATION AND ENGAGEMENT

Trans Mountain and its consultants have conducted a number of consultative 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. This section summarizes consultation activities that have focused on identifying and assessing potential issues and concerns related to social and cultural well-being, HORU, infrastructure and services, navigation and navigation safety and employment and economy which may be affected by the construction and operation of the Project. Some of these activities were a key part of the socio-economic data collection and verification 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 in the assessment of social and cultural well-being, HORU, infrastructure and services, navigation and navigation safety, and employment and economy in Volume 5B.

In addition, concerns related to the potential effects of spills on social and cultural well-being, HORU, infrastructure and services, navigation and navigation safety, and employment and economy were also raised, and detailed information on pipeline spills is provided in Volume 7A.

The full description of the public consultation, Aboriginal engagement and landowner relations programs are located in Volumes 3A, 3B and 3C, respectively. Section 3.0 of Volume 5B summarizes the consultation and engagement activities that have focused on identifying and assessing potential issues and concerns related to social and cultural well-being, HORU, infrastructure and services, navigation and navigation safety, and employment and economy which may be affected by the construction and operation of the Project. Information collected through the public consultation, Aboriginal engagement and landowner relations programs for the Project was considered in the development of this technical report, and the assessment of social and cultural well-being, HORU, infrastructure and services, navigation and navigation safety, and employment and economy in Volume 5B.

2.2 Socio-Economic Technical Consultation

Stakeholder consultation is an integral part of the socio-economic data collection and assessment process. The socio-economic team conducted a range of meetings with various stakeholders and key informed sources. While sharing information about the Project, discussions with stakeholders and key informed sources allowed the study team to:

- verify socio-economic information and trends identified through desktop review and secondary sources;
- identify additional sources of socio-economic data;
- collect qualitative information about socio-economic conditions and trends from key informed sources;

- seek input and feedback on the scope of the assessment, including key issues, indicators, methods, and study area parameters; and
- seek feedback and input on potential socio-economic effects and mitigation and enhancement measures.

A range of stakeholders were consulted during the process of the socio-economic research and issues-scoping, including: municipal, regional and government officials; local service providers; local recreational and resource use organizations; Aboriginal communities, non-governmental organizations; and select landowners and resource users.

A summary of stakeholder consultation activities conducted by the socio-economic team during the socio-economic assessment process is found in Table 2.1-1.

2.3 Aboriginal Engagement

Engagement provides those Aboriginal communities potentially affected by the Project with the opportunity to provide input throughout the ESA and Project planning. Engagement activities with Aboriginal communities focused on the exchange of Project information and the collection of ATK and socio-economic information as well as identifying Project-related issues and concerns. Traditional Land Use (TLU) studies and the collection of Traditional Ecological Knowledge (TEK) during biophysical field studies for the Project were initiated separately from this socio-economic assessment. However, a range of socio-economic interviews were conducted with participating Aboriginal communities to specifically explore the socio-economic setting and interests of these communities, economic interests and capabilities, traditional livelihoods and culture, services and infrastructure, community health and overall community way-of-life. At the time of writing, the following Aboriginal communities had participated in socio-economic interviews with representatives of TERA Environmental Consultants (TERA):

- Enoch Cree First Nation;
- Ermineskin First Nation;
- Leq'amel First Nation;
- Montana First Nation;
- Nakcowinewak Nation of Canada;
- Paul First Nation (Wabamun);
- Popkum First Nation;
- Scowlitz First Nation; and
- Whispering Pines (Clinton Indian Band).

TEK/TLU studies and socio-economic interviews are anticipated to continue with participating Aboriginal communities as the Project progresses.

Certain Aboriginal communities chose not to participate in TERA-led studies, instead conducting independent TLU and/or socio-economic/cultural studies related to the Project.

Given the inherent interconnection between traditional land use, livelihoods and culture in the Aboriginal context, information related to socio-economic elements (*e.g.*, resource use, cabin and other cultural use locations and employment and economic interests) is often provided during meetings and discussions associated with TLU and TEK. As a result, information made publicly available in the Traditional Land and Resource Use Technical Report (Volume 5D) and information collected during the biophysical field

studies that relate to socio-economic elements has been incorporated into this report with permission of the participating communities.

Outcomes of socio-economic interviews held with participating Aboriginal communities, as well as socio-economic information gleaned from biophysical field studies, are integrated into the Aboriginal Community Profiles presented in Section 5.0 of this report.

A summary of Trans Mountain's overall Aboriginal engagement activities is provided in Volume 3B.

2.4 Review of Other Project Consultation

The socio-economic assessment also drew on information and issues collected during other Project-related consultation and engagement activities, including:

- community information sessions;
- ESA and Community Workshops;
- other Project meetings with municipal, regional, provincial and federal officials;
- outreach with select crown tenure and disposition holders; and
- Project consultation with industrial and utilities organizations.

2.5 Overview of Socio-Economic Issues and Interests

A range of socio-economic issues and interests were raised during the course of consultation and engagement activities, as summarized below.

Social and Cultural Well-Being

- Respectful and meaningful engagement.
- Social issues with influx of workers into communities.
- Increase in traffic.

In addition, concerns related to the potential effects of spills were also raised. Detailed information on pipeline spills is provided in Volume 7A.

Human Occupancy and Resource Use

- Routing through recreational areas and facilities and provincial parks, including North Thompson Provincial Park.
- Proximity of route to schools and hospitals.
- The effect that spills or pipeline leaks might have on water supply.
- Locations of portions of the Project that traverse Aboriginal traditional territories and IRs.
- Construction on the existing right-of-way conflicting with neighbourhoods and land use.
- Potential effects to water-based recreation and tourism, including sportfishing.
- Potential effects to outdoor recreation and tourism.
- Construction effects on recreational areas, parks, trail infrastructure and recreational events.

- Off-highway vehicles use of right-of-way post construction.
- Property effects, and land use for landowners.
- Decreases in property values and marketability of houses near the right-of-way.
- Impacts to landscaping along edge of right-of-way.
- Disruption to agricultural and grazing activities and farm productivity and concerns related to restoration of agricultural lands.
- Impact to the enjoyment of existing right-of-way as recreational green space.
- Potential visual effects of impacted grasslands.
- Aesthetic impacts of the Westridge marine terminal on surrounding area.
- Impact of artificial lighting on tankers while at the Westridge marine terminal.
- Visual impact of the right-of-way.
- Odours emitted during construction and operation of the project.
- Odours around tank farms.
- Noise during construction.
- Artificial lighting during construction and light pollution related to after-hours site security.

Infrastructure and Services

- Use of infrastructure and services by construction crews (e.g., roads, hotels and food services) and potential impacts of use.
- Concern about inadequate power supply in North Thompson Valley.

In addition, concerns related to the potential effects of spills (e.g., on water supply) were also raised and detailed information on pipeline spills is provided in Volume 7A.

Navigation and Navigation Safety

- None identified.

Employment and Economy

- Community capacity building through education and training initiatives.
- Contracting opportunities on both existing and expanded TMPL systems.
- Disruption to residential areas and local businesses.
- Economic benefits to Canada as a whole and to communities/municipalities along the route.
- Use of local materials during construction.
- Effect of proposed expansion on local gas prices.
- Training opportunities (skill development).

- Employment and procurement during construction.
- Long-term employment opportunities.
- Capacity funding.
- TLU study funding.
- Revenue sharing.
- Equity participation.
- Potential increases in municipal taxes.
- Disturbance to agriculture activities.

In addition, concerns related to pipeline spills (e.g., insurance, costs for clean up and economic impacts) were also raised and detailed information is provided in Volume 7A.

TABLE 2.1-1

SUMMARY OF CONSULTATION AND ENGAGEMENT ACTIVITIES RELATED TO SOCIO-ECONOMICS

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
FEDERAL CONSULTATION						
Port Metro Vancouver (PMV)	Jennifer Natland, Manager Development Strategies Sarah McPherson, Manager Project Communications Carrie Brown, Manager Environmental Programs	Meeting	April 9, 2013	Project and ESA review. Overview of Socio-Economic Assessment. RSA boundaries. Marine commercial, recreational and tourism use data collection and issues scoping.	Project providing additional community investments Would like application to be logically structured so it is easy to find all sections pertinent to PMV. Methodology for analysis of economic benefits of tanker traffic is logical. Clarification of the RSA for marine commercial, recreational and tourism use related to Westridge Marine Terminal assessment and tanker traffic assessment.	Follow-up with PMV, as required, as the Project proceeds.
PMV	Jennifer Natland, Manager Development Strategies	Email correspondence	July 12, 2013 to July 16, 2013	Project and ESA overview. Questions about marine use in PMV: anchorage regulations, small vessel numbers, log handling activities, recreational waterfront management.	Requested to remain informed as the Project proceeds.	Follow-up with PMV, as required, as the Project proceeds.
Royal Canadian Mounted Police (RCMP), Hope Community Policing Office	Constable Lara Davidsen	Meeting	July 2, 2013	Project introduction. Overview of Socio-Economic Assessment. Social and Cultural Well-being data collection and issues scoping.	Suggested any camps be alcohol and drug free.	Follow-up with RCMP, as required, as the Project proceeds.
RCMP, Upper Fraser Valley Regional Detachment	Superintendent Deanne Burleigh Inspector Grant Wilson Staff Sergeant Jim Simmill	Meeting	July 3, 2013	Project introduction. Overview of Socio-Economic Assessment. Social and Cultural Well-being and Infrastructure and Services data collection and issues scoping.	Historical incidents of theft at staging areas. Potential protests. Off-duty activities of workers.	Follow-up with RCMP, as required, as the Project proceeds.
RCMP, Edson Community Policing Office	Constable Bruce Chomeakwich	Meeting	July 18, 2013	Project introduction. Overview of Socio-Economic Assessment. Social and Cultural Well-being data collection and issues scoping.	No issues with work crews other than small noise/nuisance complaints. Workers come into town to drink. More skilled workers are less problematic than entry-level workers.	Follow-up with RCMP, as required, as the Project proceeds.
RCMP, Hinton Community Policing Office	Corporal Danny Knight	Meeting	July 19, 2013	Project introduction. Overview of Socio-Economic Assessment. Social and Cultural Well-being data collection and issues scoping.	Housing capacity will be an issue. Increase in bar fights and impaired driving. Suggested a dry camp. Construction noise can be an issue. RCMP is first responder to worksite issues, which can take up RCMP resources.	Follow-up with RCMP, as required, as the Project proceeds.

TABLE 2.2-1

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
RCMP, Division 'E' (Surrey, BC)	Unnamed member of RCMP	Phone (attempt)	June 19, 2013	Project introduction. Overview of Socio-Economic Assessment. Social and Cultural Well-being data collection and issues scoping for Metro Vancouver region.	Suggested contact RCMP Media Relations; requested call back.	Follow-up with RCMP, as required, as the Project proceeds.
PROVINCIAL CONSULTATION - ALBERTA						
Alberta Environment and Sustainable Resource Development (AESRD) - Foothills Area	Sharad Karmacharya, Land Management Planner	Meeting	October 18, 2012	Project introduction. Overview of Socio-Economic Assessment. Land and resource use data collection and issues scoping.	No concerns with RSA boundaries presented. Construction of the Project should not negatively impact the development of commercial recreational tourism in the area proposed in the forthcoming area structure plan. Project will need to have stringent reclamation plans that are on par with end land use goals for each specific area.	Follow-up with AESRD, as required, as the Project proceeds.
Alberta Transportation	Mark Svenson, Environmental Coordinator	Phone Call, Email	July 11, 2013	Overview of Socio-Economic Assessment. Highway infrastructure capacity.	No issues identified. Requested that the Socio-economic team send an email with specific questions and information needs.	Socio-economic team sent email with information needs. Did not receive a response.
PROVINCIAL CONSULTATION - BRITISH COLUMBIA						
Tourism BC	Krista Morten, Manager, Policy and Legislation Carol Jenkins, Senior Tourism Development Officer	Meeting	September 25, 2012	Project introduction. Overview of Socio-Economic Assessment. RSA boundaries. Land and resource use data collection and issues scoping.	Consultation with tenure holders and tourism operators is important. Discussions with BC Parks should occur. Tourism businesses that support tenured operators. Tenured operators. Viewsheds. Noise pollution. Light pollution. Water quality. General perception of BC as a tourism destination. Competing land uses.	Follow-up with Tourism BC, as required, as the Project proceeds.

TABLE 2.2-1 Cont'd

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
BC Ministry of Forest, Lands and Natural Resource Operations (BC MFLNRO), Thompson Okanagan Region	Peter Lishman, Director, Resource Authorizations Megan Williams, Senior Natural Resource Officer Alan Hicks, Project Manager, Authorizations John McQueen, First Nations Relations Manager Noelle Kekula, Recreation Officer Robyn Reudink, Ecosystems Biologist	Meeting	October 31, 2012	Project introduction. Overview of Socio-Economic Assessment. RSA boundaries. Land and resource use data collection and issues scoping.	Messaging regarding off-highway vehicle use on utility corridors. Minimizing disturbance to native grasses and successful restoration, particularly in Lac du Bois Protected Area. Any restriction to forestry is an issue. Cumulative effects regarding caribou migration and fish.	Follow-up with BC MFNLRO, Thompson Okanagan Region, as required, as the Project proceeds.
BC MFLNRO, South Coast Region	Alec Drysdale, Director, Resource Authorizations Allan Johnsrude, District Manager, Resource Operations, Chilliwack	Meeting	November 16, 2012	Project introduction. Overview of Socio-Economic Assessment. RSA boundaries. Land and resource use data collection and issues scoping.	No concerns with RSA boundaries presented. RSA should consider visual impact, access and impact to other businesses/users. Most interest is in areas where the proposed route deviates from the existing right-of-way.	Follow-up with BC MFNLRO, South Coast Region, as required, as the Project proceeds.
BC Ministry of Children and Family Development (MCFD)	Bev (surname unknown), Coast Fraser Surrey Office	Phone	June 19, 2013	Project introduction. Overview of Socio-Economic Assessment. Social and cultural well-being data collection and issues scoping.	BC MCFD suggested we speak with members of the public to understand potential social impacts. BC MCFD chose to refrain from discussing the Project.	None.
BC Ministry of Transportation and Infrastructure (MOTI), South Coast Region	Brian Atkins, Lower Mainland District Manager, Transportation Mike Kelly, Operations Manager Roanna Cruz, Senior District Development Technician	Meeting	June 24, 2013	Overview of Socio-Economic Assessment. Highway infrastructure capacity.	No concerns from a socio-economic perspective. BC MOTI requires more detailed information to provide feedback on specific issues. A comprehensive Traffic Management Plan was strongly encouraged.	None.
BC MFLNRO, Chilliwack District	Allan Johnsrude, District Manager, Resource Operations, Chilliwack Mike Peters, Recreation Officer	Meeting	July 3, 2013	Overview of Socio-Economic Assessment. RSA boundaries. Land and resource use data collection and issues scoping.	No concerns with RSA boundaries presented. Most interest is in areas where the proposed route deviates from the existing right-of-way; concerns regarding access. Any restriction to forestry and other industry is an issue. Heavy undesignated recreational use between the old toll booth on the Coquihalla Highway and Hope.	Follow-up with BC MFNLRO, Chilliwack, as required, as the Project proceeds.
BC MOT, South Coast Region	Edison Ting, Area Development and Operations Technician	Email	July 2013	BC highways inventory report.	None identified,	None.

TABLE 2.2-1 Cont'd

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
MUNICIPAL CONSULTATION – ALBERTA						
Village of Wabamun	Linda Hannah, Chief Administrative Officer (CAO)	Meeting	October 9, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Sensitive since the Canadian National Railway Company (CN) rail spill (2005). Lake Wabamun, issues regarding water quality and recreational activities such as fishing and sailing. Open, transparent and easily understood and available information is important. Winter construction is preferred. Concern surrounding disruption to road access; boring roads is preferred over open cut. Aging infrastructure.	Follow-up with the Village of Wabamun, as required, as the Project proceeds.
City of Spruce Grove	Debra Irving, Director of Planning and Development Jeff Mustard, Director of Engineering Lindsey Butterfield, Long Range Planner	Meeting	October 10, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Prefer Project to go south along existing linear disturbances such as the planned Highway 628. Wetlands/peat lands.	Follow-up with the City of Spruce Grove, as required, as the Project proceeds.
Town of Stony Plain	Louise Frostad, Finance and Administration Matthew Clause	Meeting, Email, Phone Call	October 2012 to March 2013	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Sensitivity regarding oil spills has grown since the 2005 CN rail spill. Environmentally conscious community. Not opposed a camp as long as it is not within the town limits.	Follow-up with the Town of Stony Plain, as required, as the Project proceeds.
Strathcona County	Lori Mills, Energy Exploration Liaison	Email	October 16, 2012 to July 15, 2013	Given feedback from certain communities, the socio-economic team postponed meetings in the area until a better understanding of routing has been reached.	n/a	Follow-up with Strathcona County, as required, as the Project proceeds.
		Meeting	July 15, 2013	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Construction could be an issue for residents because of noise and traffic. Cumulatively the Project overlaps with a number of other projects in the area.	

TABLE 2.2-1 Cont'd

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
Parkland County	Pat Vincent, CAO	Email	October 16, 2012	Given feedback from certain communities, the socio-economic team postponed meetings in the area until a better understanding of routing has been reached.	n/a	Follow-up with Parkland County, as required, as the Project proceeds.
	Paul Hanlan, Manager of Planning and Development Ken Van Buul, General Manager, Community Services	Meeting	July 17, 2013	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Identified commercial recreation businesses on the Pembina River. Any activity that affects Highway 16 may restrict access in the county. Winter is the preferred construction period. Fire services are at capacity. Vehicle accidents are an issue; any temporary increase in traffic may be an issue.	
Yellowhead County	Jack Ramme, CAO Barb Lyons, Director of Corporate & Planning Services	Meeting	October 17, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	RCMP capacity. Overlap with proposed Coalspur Mines Ltd. Vista Coal Mine Project. Lack of skilled labour. Positive tax benefits.	Follow-up with Yellowhead County, as required, as the Project proceeds.
Town of Edson	Brigitt Lemieux, Assistant CAO	Meeting, Email	October 2012 to March 2013	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Do not follow existing easement, instead go south of municipality. Reduce risk from a spill/incident close to residents. New residential development (Hillendale Phase II) very near the existing route. Lack of skilled labour. Trans Mountain should partner with local organizations. Use route as recreation corridor. Positive tax benefits.	Follow-up with the Town of Edson, as required, as the Project proceeds.
Town of Hinton	Bernie Kreiner, Town Manager	Meeting Email	October 2012 to March 2013	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Routing through east, residential areas. Ensure emergency management is practiced with Trans Mountain. Trans Mountain should partner with local organizations. Use route as recreation corridor. Overlap with proposed Coalspur Mines Ltd. Vista Coal Mine Project. Positive tax benefits.	Follow-up with the Town of Hinton, as required, as the Project proceeds.

TABLE 2.2-1 Cont'd

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
City of Edmonton	Simon Farbrother, City Manager Gord Jackson, Director Policy Section - Sustainable Development Department	Email	October 18, 2012	Given feedback from certain communities, the socio-economic team postponed meetings in the area until a better understanding of routing has been reached.	None identified.	No follow-up required. Given the level of broader Project engagement with the City of Edmonton and feedback from the city, the socio-economic team did not meet with the city.
Municipality of Jasper	Peter Waterworth, CAO Cathy Jenkins, Manager Municipal and Realty Services - Parks Canada B. Christopher Read, Inspiration Manager (Recreation) Don Pickle, Infrastructure Manager Thea Mitchell, Environmental Assessment Specialist - Parks Canada Mabaye Dia, Environmental Assessment - Parks Canada Jurgen Deagle, Environmental Management Specialist - Parks Canada	Meeting	October 19, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Housing market. Local contract procurement. No interference with transfer station access. Overlap with proposed Coalspur Mines Ltd. Vista Coal Mine Project near the Town of Hinton. Increased rail traffic. Environmentally conscious community. Labour shortage in services industries.	Follow-up with the Municipality of Jasper, as required, as the Project proceeds.
Alberta West Realtors	Sandy Atfield, Executive Officer	Email	March 1, 2013	Housing data collection.	n/a	None.
Hinton Chamber of Commerce	Penny Pagely	Phone Call	March 1, 2013	Housing data collection.	n/a	None.
Edmonton Tourism	Debbie Reid	Phone Call	March 15, 2013	Housing data collection.	n/a	None.
Family and Community Support Services - Spruce Grove	Lorraine Berry, Supervisor Amber Nicol, Sustainability Planner, City of Spruce Grove	Phone, Meeting	July 17, 2013	Project introduction. Overview of ESA and Socio-Economic Assessment. Social and cultural well-being data collection and issues scoping.	Housing limitations with no available rentals in the City of Spruce Grove. Disconnection from families can cause temporary workers to be susceptible to mental health and addiction issues. Limited capacity for waste management.	Follow-up with Family and Community Support Services - Spruce Grove, as required, as the Project proceeds.
Edson Community Services	Mike Butler, Director	Meeting	July 18, 2013	Project introduction. Overview of ESA and Socio-Economic Assessment. Social and cultural well-being data collection and issues scoping.	Impacts to municipal trails. Some concern regarding influx of workers. Could be a strain on infrastructure depending on number of workers and where they are housed. Impacts to Vision Park.	None.
Hinton Community and Protective Services Division	Don Engerdahl, Arts and Culture Coordinator	Meeting	July 19, 2013	Project introduction. Overview of ESA and Socio-Economic Assessment. Social and cultural well-being data collection and issues scoping.	Importance of working with local employment agencies. Potential impacts to the local trail system. In past project, locals have been displaced due to construction crews.	None.

TABLE 2.2-1 Cont'd

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
MUNICIPAL CONSULTATION – BRITISH COLUMBIA						
Tourism Industry Association of British Columbia (TIABC)	Lana Denoni, Chair	Meeting	September 25, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Early and open consultation is important. Incremental increase of tankers is important to discuss.	Follow-up with TIABC, as required, as the Project proceeds.
City of Kamloops	Jen Fretz, Sustainability and Environmental Services Manager Marvin Kwiatkowski, Development and Engineering Services Director Randy Lambright, Planning and Development Manager Mike Doll, Parks Planning Supervisor	Meeting	October 29, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Routing through the Westsyde neighbourhood. South Thompson River crossing. Overlap with Ajax Mine. Disruption of single access roads.	Follow-up with the City of Kamloops, as required, as the Project proceeds.
Thompson-Nicola Regional District (TNRD)	Sukh Gill, CAO Ron Storie, Manager of Community Services Regina Sadiilkova, Director of Development Services Peter Hughes, Director of Environmental Services	Meeting	October 29, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Timing and location of the proposed route in relation to services, infrastructure and parks planned. Providing access to land users. Proximity of proposed route to the Little Fort cemetery.	Follow-up with the TNRD, as required, as the Project proceeds.
Tourism Kamloops	Lee Morris, Chief Executive Officer	Meeting	October 29, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Lac du Bois Protected Area. Alteration of viewscales. Reputation and public perception in the event of a spill.	Follow-up with the Tourism Kamloops, as required, as the Project proceeds.
City of Merritt	Susan Roline, Mayor Matt Noble, CAO Pat Sibilleau, Manager of Financial Services James Umpherson, Business and Economic Development Manager Sean O'Flaherty, Development Services Officer	Meeting, Email	October 2012 to March 2013	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Conflicting land use regarding the existing right-of-way and the Merritt Airport. Ability to run services (such as water) to a work camp. Opportunities for local businesses. Preference of a pipeline over trucking oil.	Follow up with the City of Merritt, as required, as the Project proceeds.

TABLE 2.2-1 Cont'd

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
Community Futures Nicola Valley	Jean Perog, Chair, Governance and Board Development David Brown, Lending Committee Member	Meeting	October 30, 2012	Project introduction. Overview of ESA Approach. Employment and economy data collections and issues scoping.	Merritt has areas for temporary housing. Watershed Use and Management Program (WUMP), a subset of Nicola Valley Watershed is an active group in the areas.	Follow-up with Community Futures Nicola Valley, as required, as the Project proceeds.
Venture Kamloops	Anita Grover, Manager, Economic Development	Meeting	October 31, 2012	Project introduction. Overview of ESA Approach. Employment and economy data collection and scoping.	Kamloops is an environmentally sensitive community. Home builders association, construction association and BC Bid are best ways to communicate procurement contracts with local companies. Venture Kamloops is very proactive for labour in the community.	Follow-up with the Venture Kamloops, as required, as the Project proceeds.
Mike Wiegele Helicopter Skiing	Mike Wiegele, Owner Michelle Wiegele, President	Meeting	November 6, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Routing through the property. Disruption of summer business. Potential for housing workers during summer construction.	Follow-up with Mike Wiegele Helicopter Skiing, as required, as the Project proceeds.
Valemount Chamber of Commerce	Tammy VandeNobelen, Chair Jeanette Townsend, Vice Chair Marie Birkbeck, Secretary - Treasurer	Meeting	November 6, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Social well-being of the community, with reference to the potential for escort services during the TMX Anchor Loop Project. Housing during the winter. Valemount's entrepreneurial spirit and the community's interest in the Project.	Follow-up with the Valemount Chamber of Commerce, as required, as the Project proceeds.
Valemount Area Recreation Development Association (VARDA)	Curtis Pawliuk	Meeting	November 6, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Disruption of winter recreational activities. Negative occurrence during the TMX Anchor Loop Project: destruction of a wetland by non-local crews using All Terrain Vehicles (ATVs). Interest in educating crews regarding recreational opportunities. Summer use of snowmobile trails. Right-of-way recreational use requests.	Follow-up with VARDA, as required, as the Project proceeds.

TABLE 2.2-1 Cont'd

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
Village of Valemount	Andru McCracken, Mayor Anne Yanciw, CAO Silvio Gislimberti, Economic Development Officer Sandy Salt, Councillor Victor LaBoucane, Public Works Superintendent Christine Latimer, Councillor	Meeting	November 6, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Invasive species along right-of-way. Limited housing capacity. Any full-time employment would be positive for the community. Food for crews (currently only one grocery store). Swift Creek crossing.	Follow-up with the Village of Valemount, as required, as the Project proceeds.
Village of Valemount	Anne Yanciw, CAO	Phone call	July 11, 2013	Social and health discussion.	Issues encountered during construction of TMX Anchor Loop Project: food availability at grocery stores, lack of consideration for outdoor spaces, social concerns, parking and housing.	Anne may try to arrange another phone call with other local police and social service providers. Follow-up with the Village of Valemount, as required, as the Project proceeds.
TNRD	Willow Macdonald, Director, Electoral Area "B" (Thompson Headwaters)	Open House	November 6, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Concern regarding drug use. Communication of construction timing to the community is important. Winter is the busy tourist season. Limited capacity of health services.	Follow-up with the TNRD, as required, as the Project proceeds.
District of Clearwater	Leslie Groulx, CAO Sherri Madden, Services Coordinator (TNRD) Jared Brounstein, Public Works Superintendent Brad Bradbury, Tourism and Marketing Manager	Meeting, Email	November 2012 to March 2013	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Land use/residential constraints. Raft River crossing. Municipal infrastructure regarding timing of construction and Yellowhead Mine development. Disruption of summer tourist season. Simpco First Nation sites. North Thompson Provincial Park. Proposed regional park near the Blackfoot Community Centre.	Follow-up with the District of Clearwater, as required, as the Project proceeds.

TABLE 2.2-1 Cont'd

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
City of Coquitlam	Verne Kucy, Acting Manager for Environmental Services Division Bill Susak, Engineering and Public Works General Manager Steve Golley, Planning and Development Mark, Engineering and Capital Projects Jim McIntyre, General Manager, Planning and Development Margaret Birch, Environmental Services Coordinator Dana Soong, Manager Utility Programs Rob Thurrott, Lands and Properties Heather Bradfield, Manager, Legal and Bylaw Enforcement Carl Johannsen, Manager, Community Planning	Email, Meeting	November 2012 to April 2013	Project introduction. Overview of ESA Approach and Socio-Economic Assessment.	Future operating implications of City infrastructure and future planning implications. Routing.	Follow-up with the City of Coquitlam, as required, as the Project proceeds.
District of Barriere	Bill Humphreys, Mayor Colleen Hannigan, CAO	Meeting	November 8, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Highway traffic, particularly equipment/heavy load vehicles' use of Highway 5.	Follow-up with the District of Barriere, as required, as the Project proceeds.
City of Abbotsford	Jay Teichroeb, General Manager, Economic Development and Planning Services Reuben Koole, Social Planner	Meeting, Phone Call	November 2012 to March 2013	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Two spills on Sumas Mountain. Odour from tank farm. Important to communicate clearly to residents whose property will be impacted. New developments on Sumas Mountain. Annual Abbotsford Airshow in August results in fully booked hotels in the region.	Follow-up with the City of Abbotsford, as required, as the Project proceeds.

TABLE 2.2-1 Cont'd

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
City of Chilliwack	David Blain, Director of Engineering Roderick Sanderson, Manager of Transportation and Drainage Karen Stanton, Manager of Long Range Planning Tara Friesen, Assistant Manager of Environmental Services	Meeting	November 13, 2012 and July 4, 2013	Project introduction. Review ESA approach. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Groundwater and the Vedder River Fan (Sardis) Aquifer, particularly in relation to an accident or malfunction. Municipal infrastructure. Chilliwack/Vedder River crossing regarding fisheries and environmental concerns. School properties crossed by the proposed pipeline corridor.	Follow-up with the City of Chilliwack, as required, as the Project proceeds.
District of Hope	Susan Johnston, Mayor John Fortoloczky, CAO Ian Vaughan, Director of Operations	Meeting	November 13, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Municipal roads and bridges, in particular Othello Road. Groundwater and effects on municipal wells and businesses. Archaeological sites of importance. Employment and business opportunities associated with construction of the pipeline.	Follow-up with the District of Hope, as required, as the Project proceeds.
District of Hope	John Fortoloczky, CAO Scott Misumi, Director of Community Development	Meeting	July 2, 2013	Employment and Economy, Social and Cultural Well-being, Infrastructure and Services and Human Occupancy and Resource Use data collection and scoping.	Municipal roads, in particular Othello Road. Groundwater and effects on municipal wells and businesses. Commercial accommodations in Hope would not be able to house estimated workforce. Recreational locations crossed by proposed pipeline corridor.	None.
Township of Langley	Ramin Seifi, General Manager Engineering and Community Development Roeland Zwaag, Director of Public Works Stephen Richardson, Director Development Services Scott Thompson, Manager Property Services Bernice Fara, Manager, Legal Services	Meeting	November 15, 2012	Project introduction. Review ESA approach. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	Pipeline spill. Disruption to residents during construction (e.g., pile driving). Would like to provide input on potential re-route options. Coordinating river crossings with municipal infrastructure would be preferred. Engagement of environmental groups important. Northwest Langley and Port Kells industrial area.	Follow-up with the Township of Langley, as required, as the Project proceeds.
City of Surrey	Carrie Baron, Drainage and Environment Manager Lee-Ann Pitcairn, Planner Daniel Chow, Senior Planner	Meeting	November 16, 2012	Project introduction. Overview of ESA and Socio-Economic Assessment. Land and resource use, employment and economy, infrastructure and services and social and cultural well-being data collection and issues scoping.	City of Surrey Council is opposed to an increase in tanker traffic. Disruption to residents during construction. Constrained land use of existing right-of-way in both residential and industrial areas. Upcoming large-scale infrastructure projects. Bon Accord Creek.	Follow-up with the City of Surrey, as required, as the Project proceeds.

TABLE 2.2-1 Cont'd

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
City of Surrey	Don Luymes, Manager, Community Planning Carrie Baron, Drainage and Environment Manager Jason Daviduk, Project Engineer	Meeting	June 25, 2013	Employment and Economy, Social and Cultural Well-being, Infrastructure and Services and Human Occupancy and Resource Use data collection and scoping.	Infrastructure corridor near Surrey Bend Park: the landscape will change in the near future due to other linear projects. Compensation plans are important. No issues regarding temporary workforce. Municipal access to existing infrastructure.	None.
Fraser Valley Regional District (FVRD)	Linda Machmer, Executive Assistant	Phone Call, Meeting	November 2012 to March 2013	Project update. Overview of Socio-Economic Assessment.	Air quality. Aboriginal consultation. Routing.	Follow-up with the FVRD, as required, as the Project proceeds.
FVRD	Paul Gipps, CAO Suzanne Gresham Siri Bertelsen	Meeting	July 3, 2013	Project update. Overview of Socio-Economic Assessment.	FVRD is collecting all issues and concerns from Electoral Areas and municipalities to present questions to Trans Mountain. Conducting internal assessment of Project.	Follow-up with the FVRD, as required, as the Project proceeds.
Valemount Real Estate	Tammy VandeNobelen, Real Estate Broker	Phone Call	March 4, 2013	Housing data collection.	None identified.	Tammy VandenNobelen to follow-up with Katherine Card, via email, regarding housing information for the Village of Valemount.
Royal Lepage	Melissa Hole, Real Estate Broker	Phone Call	March 4, 2013	Housing data collection.	None identified.	Melissa Hole to follow-up with Katherine Card, via email, regarding housing information for Blue River, Vavenby and Clearwater.
AdvantageHOPE	Tyler Mattheis	Meeting, Email	January to March 2013	Project introduction. Overview of Socio-Economic Assessment. Employment and Economy, Infrastructure and Services and Social and Cultural Well-being data collection and scoping.	Trail building as legacy.	Follow-up with AdvantageHOPE, as required, as the Project proceeds.
Kamloops District Real Estate Association	Laura (surname not given)	Phone Call	March 1, 2013	Housing data collection.	The Kamloops District Real Estate Association does not provide data, information or statistics to non-members.	None.
Royal Lepage Merritt Real Estate Services, Brokerage	Tom McDonagh, Broker/Owner	Phone Call	March 1, 2013	Housing data collection.	None identified.	None.
Fraser Valley Real Estate Board	Laurie Dawson, Communications Coordinator	Phone Call, Email	March 1, 2013	Housing data collection.	None identified.	None.
Chilliwack and District Real Estate Board	Steve Lerigny, Executive Officer	Phone Call, Email	March 1, 2013	Housing data collection.	None identified.	None.

TABLE 2.2-1 Cont'd

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
City of Burnaby	Dipak Dattani Lily Ford Heather Edwards Dion Doepker Alekxo Sarter Zeralynne Te	Meeting, Email	February to March, 2013	Project introduction. Overview of Socio-Economic Assessment. Employment and Economy, Infrastructure and Services and Social and Cultural Well-being data collection and scoping.	City of Burnaby Council is opposed to the Project. Spills. Impacts and disruption to neighbourhoods. Long-term community impacts and benefits. Environmental risk.	Follow-up with the City of Burnaby, as required, as the Project proceeds.
Free Rein Associates	Peter Bailey, Director Jodi McBride, Proposals	Meeting, phone call	July 2, 2013 and July 9, 2013	Project introductions. Overview of the Socio-Economic Assessment. Employment and Economy and Social and Cultural Well-being data collection and scoping.	Social change has occurred in Hope since 2002 closure of mill; large section of community left. The combination of recruitment through a guided process is effective in Hope.	None.
Regional District of Fraser-Fort George (RDFFG)	Terry McEachen, General Manager of Development Services Marija Soklic, Manager of Sustainable Development Marisa Nightingale, Planner	Meeting	July 22, 2013	Project introductions. Employment and Economy, Social and Cultural Well-being, Infrastructure and Services and Human Occupancy and Resource Use data collection and scoping.	Housing/accommodation of temporary construction workers. Routing. Environmentally-sensitive areas.	Follow-up with RDFFG, as required, as the Project proceeds.
ABORIGINAL ENGAGEMENT						
Canim Lake The Tsq'escenemc	Roy Christopher, Economic Development	Meeting	May 2013	Overview of Project and socio-economic studies. Collection and verification of social, economic, and cultural information pertinent to the Aboriginal community. Discussion of potential social, cultural, and economic issues, effects and interests related to the Project.	Project presents potential employment and training opportunities. Provided information on the community's existing and planned economic activities.	None.
Enoch Cree First Nation	Leigh Ann Ward, Consultation Lead Manager Eugene Papin, Safety Officer Wesley Stamp, Fire Chief Clark Gladue, Enoch Cree Nation Assets Protection Program	Meeting	August 2013	Overview of Project and socio-economic studies. Collection and verification of social, economic, and cultural information pertinent to the Aboriginal community. Discussion of potential social, cultural, and economic issues, effects and interests related to the Project.	Project presents potential employment and training opportunities. Enoch Cree Nation could support the Project during the construction and operations phases (disaster relief). Concerns about the effects of construction-related noise on elders and health concerns related to a pipeline accident or malfunction.	None.
Ermineskin First Nation	Inez Lightning, administrator Carol Wildcat, consultation coordinator Alex Littlechild, economic development officer	Meeting	September 2013	Overview of Project and socio-economic studies. Collection and verification of social, economic, and cultural information pertinent to the Aboriginal community. Discussion of potential social, cultural, and economic issues, effects and interests related to the Project	None identified.	None.

TABLE 2.2-1 Cont'd

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
Leq'amel First Nation	Justin Laslo, Councillor; Daniel McKarney, Councillor; Shawn Gabriel, Councillor; Daniel Kelly; Chief Alice Thompson; Barb Leggat, Lands Manager; Stacey Goulding, Assistant;	Meeting	April 2013	Overview of Project and socio-economic studies. Collection and verification of social, economic, and cultural information pertinent to the Aboriginal community. Discussion of potential social, cultural, and economic issues, effects and interests related to the Project	Wage employment is necessary to enable traditional activities. Twinning the pipeline was perceived as a good option, reclamation was perceived as an opportunity; the Project may present economic opportunity Concern about the Project limiting access to culturally significant areas in the asserted traditional territory.	None.
Montana First Nation	Lawrence Standing Road, Mary Rabbit, Henry Arnold Strawhat, Julia Rose Pipestem, JoAnne Louis, Daryl Frederick Strongman Sr., Harley Jones Lewis, Phyllis Potts, Patrick Charles Star, Derek Eugene Buffalo, Maraya Rabbit, Morrice Rabbit, Ester Mackinaw	Meeting	August 2013	Overview of Project and socio-economic studies. Collection and verification of social, economic, and cultural information pertinent to the Aboriginal community. Discussion of potential social, cultural, and economic issues, effects and interests related to the Project	Project may benefit youth in the form of training and work experience. Concern about cumulative effects. Concern about disturbance to medicinal plants, soils, risk of leaks. Concern that employment would be short term. Concern about workplace safety for individuals working on the Project.	None.
Nakcowinewak Nation of Canada	Band administration: Jean Whitehorse and Lavinia Strawberry	Meeting	September 2013	Overview of Project and socio-economic studies. Collection and verification of social, economic, and cultural information pertinent to the Aboriginal community. Discussion of potential social, cultural, and economic issues, effects and interests related to the Project	Discussed socio-economic challenges faced by the community and how these could be affected by the Project. Effects of the Project on hunting and gathering, health, and language. Employment opportunities are very limited for people who do not speak English; Band members find it difficult to find employment for various socio-economic reasons. Other barriers to employment include: few people have drivers licenses and difficulty in obtaining safety tickets. Project-related jobs are likely to be short term. Many Band members hunt and gather for subsistence purposes year-round.	None.

TABLE 2.2-1 Cont'd

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
Paul First Nation (Wabamun)	Denis Paul, special advisor Brenda Rain, Band Council member; Marlene Adams, Elders' Coordinator/Advocate; John Adams, community member; Glenna House, office assistant.	Meeting	September 2013	Overview of Project and socio-economic studies. Collection and verification of social, economic, and cultural information pertinent to the Aboriginal community. Discussion of potential social, cultural, and economic issues, effects and interests related to the Project	Discussed success of engagement, barriers to employment, volume of industrial activity and engagement exhaustion. Racism is an issue off-reserve.	None.
Popkum First Nation	Chief James Murphy	Meeting	April 2013	Overview of Project and socio-economic studies. Collection and verification of social, economic, and cultural information pertinent to the Aboriginal community. Discussion of potential social, cultural, and economic issues, effects and interests related to the Project	Discussed traditional activities; Project impact on traditional activities is not a major concern. Potential for positive and/or negative effect on member-owned businesses. Potential for Project pipe to be stored on reserve land during construction. Effects on quality of life anticipated to be positive. Project not anticipated to burden community health services.	None.
Scowlitz First Nation	Judy Chapman, Councillor; Colin Pennier, Senior Manager	Meeting	May 2013	Overview of Project and socio-economic studies. Collection and verification of social, economic, and cultural information pertinent to the Aboriginal community. Discussion of potential social, cultural, and economic issues, effects and interests related to the Project	Concerns about the effects of the Project on the Fraser River, both upstream and downstream.	None.
Whispering Pines/Clinton Indian Band	Tiffany Dick-Lavoie, Assistant of Capital Projects – Economic Development	Meeting	June 2013	Overview of Project and socio-economic studies. Collection and verification of social, economic, and cultural information pertinent to the Aboriginal community. Discussion of potential social, cultural, and economic issues, effects and interests related to the Project	Discussed traditional harvesting and traditional crafts. Concern about potential oil spill. Concern about proximity of the Project to Whispering Pines Reserve 4 (space that will be lost and buildings that will require relocation). There is a desire to see the Project employ members of the community.	None.
COMMERCIAL RECREATION TENURE HOLDERS						
Interior White Water Expedition Ltd	Claudia (surname not given)	Phone (attempt)	August 14, 2013	Follow-up to TMEP commercial recreation tenure holders' package to discuss potential overlap with their tenure.	None identified. Owners were not available for discussion.	None.
Maligne Rafting Adventures	Trevor (surname not given)	Phone	August 14, 2013	Follow-up to TMEP commercial recreation tenure holders' package to discuss potential overlap with their tenure.	Winter construction preferred; do not want to be shut down during short summer season. If they are to be shut down, they would expect to be compensated.	None.

TABLE 2.2-1 Cont'd

Stakeholder Group/ Agency Name	Name and Title of Contact	Methods of Contact	Date Range of Consultation Activities	Reason For Engagement	Issues/Interests/Concerns	Commitments/Follow-Up Actions/Comments
Mount Robson White Water Rafting Ltd.	Terri (surname not given)	Phone	August 14, 2013	Follow-up to TMEP commercial recreation tenure holders' package to discuss potential overlap with their tenure.	Concerned about any delays due to increased traffic on highways and roads. During the TMX Anchor Loop Project construction, there was noticeable destruction of alpine areas with ATVs by pipeline workers; providing information to workers about recreational opportunities/regulations is important. Minimize impacts on short summer season.	None.
Reo Rafting Ltd.	Michelle (surname not given)	Phone (attempt)	August 14, 2013	Follow-up to TMEP commercial recreation tenure holders' package to discuss potential overlap with their tenure.	None identified. Owners not available for discussion.	None.
Stellar Descents Backcountry Adventures Ltd.	Tyler (surname not given)	Phone	August 14, 2013	Follow-up to TMEP commercial recreation tenure holders package to discuss potential overlap with their tenure.	Biggest concern is if the section of the Fraser River used will have to be shut down during their season. Traffic delays. Concerned about the construction crossing methods of the Fraser River.	None.
Thompson Rivers University (Adventure Studies Department)	Sheila (surname not given)	Phone (attempt)	August 14, 2013	Follow-up to TMEP commercial recreation tenure holders package to discuss potential overlap with their tenure.	None identified. Not available for discussion.	None.
David Wabnegger (Guide Outfitter)	David Wabnegger	Phone (attempt)	August 14, 2013	Follow-up to TMEP commercial recreation tenure holders package to discuss potential overlap with their tenure.	None identified. Not available for discussion.	None.
West Canada Bike Tours Ltd	Unknown	Phone (attempt)	August 14, 2013	Follow-up to TMEP commercial recreation tenure holders package to discuss potential overlap with their tenure.	None identified. Not available for discussion.	None.

3.0 METHODS

3.1 Project Interactions and Identification of Potential Effects

Pipeline and facility construction have the potential to directly and indirectly affect socio-economic elements through a range of pathways.

Social and Cultural Well-Being

The construction and operation of the Project could affect social and cultural well-being of communities and regions via multiple pathways. Generally, the sense of social and cultural well-being of any community or region is dynamic and influenced by various factors at the individual, community, provincial, national, and even global level. In the context of major projects, influences can be both positive and negative. Also, experiences and perspectives may differ between residents of the same community, and may even be both positive and negative for the same person at different times or even the same time.

The overall sense of community well-being may also be affected by other Project-related socio-economic and biophysical elements discussed in the ESA (Volume 5A for biophysical elements, Volume 5B for socio-economic elements) (*i.e.*, land impacts, traditional land and resource use, employment opportunities, air quality, noise/acoustics, water quality, wildlife). However, the discussion of social and cultural well-being focuses on factors not considered elsewhere in the ESA.

For the purposes of this ESA, the Project interactions related social and cultural well-being may include the following topics.

Opportunities for benefits related to: Project-related employment and contracting opportunities; spin-off effects for businesses associated with worker spending during the construction phase; and increased municipal taxes that can support a range of community objectives and initiatives.

Construction-related disturbances to land, water and wildlife patterns could affect traditional Aboriginal practices of hunting, trapping, gathering and fishing in identified traditional use areas, which could, in turn, have cultural and livelihood implications for Aboriginal communities.

Labour demand during the construction phase may result in an influx of temporary, permanent, and/or speculative workers (*i.e.*, unemployed workers coming to the region in the hopes of finding direct or indirect Project-related employment), leading to short-term regional population and demographic change. Population growth could be perceived as positive, negative or neutral depending on the community (*e.g.*, depending on community size, services/housing capacity, community growth goals). Population growth in the context of economic development and appropriately scaled infrastructure and services is typically considered desirable by municipal governments.

Presence of temporary or speculative workers during the construction phase may lead to increased incidences of social issues, as often seen in communities that host resource development. This is tied to the demographics of temporary construction workers, who tend to be young to middle-aged and male with higher-than-average disposable income. While presenting economic opportunities, the presence of temporary workers can also lead to increased capacity pressure on certain community infrastructure, such as housing, recreation, and water and waste services. Social issues related to temporary workers can further exacerbate demand pressure on certain community services, such as police, healthcare and social services.

Project-related employment and business opportunities may contribute to uneven distribution of income and Project benefits in some communities. While increases in income are overall considered to be positive and linked to improved well-being, they may be perceived negatively by those who are not participating in Project opportunities. Gender and age differentials in income may occur to the extent that direct Project opportunities are in construction and pipeline-related industries that tend to be male dominated and have a young to middle-aged worker demographic (Alberta Enterprise and Advanced Education 2013b, Canadian Construction Council 2010, Statistics Canada 2013a). Certain groups may

also be more susceptible to adverse Project-related effects (e.g., Aboriginal communities relying on the land for livelihood; agricultural, forestry, trapping, guide outfitters or recreational businesses whose land base is temporarily disturbed; business or commercial areas that may be disturbed).

The construction of the Project may disturb key community assets or use areas that are in the vicinity of the construction activities (i.e., schools, playgrounds, municipal parks, or other public facilities). Construction activity and temporary workers could disrupt key community events in construction hub communities if hotels and campgrounds are being used by workers during events where large numbers of tourists are typically present.

Human Occupancy and Resource Use

The construction of the Project may affect HORU through the temporary physical disturbance of land or resources that have a human use. For example, construction activities may cause disturbances to land used for parks and protected areas, IRs or traditional use areas, agriculture and livestock use, outdoor recreational use, non-traditional hunting, trapping and fishing, as well as managed forest areas. There may be physical disturbances to residential areas or industrial/commercial areas where the Project crosses municipal boundaries as well as temporary disturbances water resources that have a human use (e.g., community water supply purposes). The construction of the Project may also have implications for access to certain use areas where access roads are crossed during specific periods during construction. Construction and site-specific maintenance activities and the presence of heavy equipment and vehicles may also contribute to sensory disturbance in terms of nuisance air and noise emissions or lighting. Temporary visual disruption may also occur related to construction activities, clearing vegetation, presences of stockpiles and equipment laydown storage, and any temporary facilities (e.g., construction camps, worksite offices).

Effects on HORU during the operations phase, once full reclamation has been completed, would be limited to areas where new or expanded facilities requiring additional land footprint beyond current Trans Mountain property lines (e.g., new or select expanded pump stations), select areas where the corridor deviates from the existing TMPL right-of-way or other linear rights-of-way (and thus there is incremental permanent clearing), or short periods of site-specific maintenance that may cause visual or sensory disturbance (i.e., integrity digs). Longer-term changes in viewshed may occur related to any new or notably altered above ground facilities. The increased presence of moored tankers at the Westridge Marine Terminal during operations may also contribute to viewshed alteration and sensory disturbance for nearby land and resource users. The presence of the new pipeline may have effects on proximate subsurface activities (i.e., municipal water/sewer lines and mineral/aggregate resources), due to activity restrictions in the vicinity of the NEB-regulated pipelines as per the NEB *Pipeline Crossing Regulations*. Expansion of the Westridge Marine Terminal will be visible from various standpoints on the north and south shore of the Burrard Inlet in the Metro Vancouver region. The expanded dock complex and the increased presence of moored tankers may contribute to alteration of views and sensory disturbance during the operations phase as well as to alternation in marine access and use patterns in parts of the Burrard Inlet due to construction and operations at the terminal.

Infrastructure and Services

The construction of the Project could affect infrastructure and services through direct physical disturbance to physical infrastructure that exists in the right-of-way or through increased use of certain infrastructure and services related to direct or indirect Project needs.

During the construction phase, there may be direct physical disturbance to roads or other community infrastructure that are crossed by the Project or located in areas required for construction laydown.

As discussed above, the presence of temporary Project workers, indirect or induced workers, and speculative workers in construction hub communities may lead to increases in capacity pressure on certain community infrastructure, such as housing, recreational amenities, and municipal water and waste services. This may be exacerbated if some workers choose to relocate to the region with their families, further increasing population and demand pressures. Presence of temporary or speculative workers

during the construction phase may lead to increases in certain social issues or community-worker interactions as often seen in communities that host resource development when temporary workers are away from their homes and away from their typical support relationships. Any increase in social issues that require a demand response could further exacerbate pressure on certain community services, such as police, healthcare and social services.

Given the relatively small number of incremental permanent workers anticipated during the operations phase, Trans Mountain does not anticipate capacity pressure effects on infrastructure and services during Project operations.

Navigation and Navigation Safety

The construction of the pipeline and certain facilities may require crossing of navigable watercourses. Impediments to watercourse users on navigable watercourses may occur during construction and site-specific maintenance. Watercourse users vary depending on the watercourses and location of each crossing. During pipeline construction, the navigability of some watercourses may be affected if open water conditions occur during a trenched crossing or installation of a temporary vehicle crossing as part of construction or site-specific maintenance activities (e.g., integrity dig).

During the construction phase, there may be an increase in marine vessel traffic around Westridge Marine Terminal associated with construction tugs and barges, which may reduce the available marine area for passage of other marine users, leading to an increased possibility of marine collisions, vessel damages or injury. Marine users may also inadvertently enter the construction zone. This may have implications for the safety of commercial, recreational, tourism and Aboriginal users of Burrard Inlet who typically travel in the vicinity of the Westridge Marine Terminal. Some minor disruption to marine access and use patterns may occur during operations related to the presence of the expanded dock at the Westridge Marine Terminal and its increased footprint in the Burrard Inlet.

Employment and Economy

The construction and operation of the Project will create a range of economic benefits and opportunities locally, regionally, provincially and nationally.

Given the size of the Project, construction phase capital spending will have notable effects on economic output, GDP, and labour income. Further, numerous direct, indirect and induced employment and procurement opportunities will be created related to Project construction.

During the operations phase, the Project will result in increased tax revenues at the municipal, provincial and federal level. There will also be direct, indirect, and induced employment effects during operations.

During both construction and operations, the Project will support training initiatives that will provide opportunities for Aboriginal people to enhance skills that will be transferrable to other projects and industries. Further, employment and contract experience related to the Project will contribute to increases in the general experience and capacity level of the local and regional workforce and business community that have been involved with the Project.

During the construction phase, and periods of site-specific maintenance during operations, the Project may result in disturbances to some businesses and resource-based livelihoods. This may be experienced in areas where:

- agricultural, livestock use, or forestry areas are disturbed;
- commercial/business locations are physically disturbed in municipal areas; and
- land or resources used for commercial or livelihood purposes are disturbed (e.g., areas used by guide outfitters, trappers, commercial fisheries, commercial sportfishing, commercial recreation operations).

3.2 Assessment Indicators and Measurement Endpoints

The NEB *Filing Manual* identifies a number of issues of interest for assessing social and economic effects. Based on this, Trans Mountain identified a range of indicators for assessing the socio-economic effects of the Project (see Table 3.2-1). In this report and associated assessment the term “indicators” is used in the manner that “Valued Socio-Economic Component” is sometimes used in the socio-economic assessment process.

The indicators selected represent components of the socio-economic environment that are of particular value or interest to regulatory authorities, Aboriginal communities, local communities, and other interested groups and individuals. The indicators have been selected based on: the NEB *Filing Manual* guidelines (e.g., NEB *Filing Manual* requirements pertaining to the social and cultural well-being, HORU, infrastructure and services, navigation and navigation safety, and employment and economy elements under Table A-3 of the *Filing Manual*); experience gained during previous projects with similar conditions/potential issues; feedback from local, regional, and provincial government, Aboriginal communities and stakeholders; public issues raised through media; and the professional judgment of the Project team.

For example, power supply was added as an indicator under infrastructure and services, and business and livelihood disruption was added as an indicator under employment and economy, in response to feedback during the stakeholder engagement process. Also, various unique types of agricultural land use measurement endpoints were added under the agricultural use indicator in HORU to reflect the prominence of agricultural activities along certain portions of the proposed pipeline corridor.

The measurement endpoints used to assess Project effects on the indicators include a combination of qualitative and quantitative parameters. These parameters have been chosen based on available socio-economic information and previous experience assessing the effects of similar projects.

TABLE 3.2-1

SOCIO-ECONOMIC INDICATORS AND MEASUREMENT ENDPOINTS

Indicators	Measurement Endpoints
Social and Cultural Well-Being	
Population and demographics	Anticipated number of Project-related workers Population change
Income levels and distribution	Project regional employment and contracting opportunities
Community way-of-life	Key community events and assets Community-worker interactions Incidence of crime and social issues
Aboriginal culture	Aboriginal cultural practices
Human Occupancy and Resource Use	
Parks and Protected Areas	Parks Other protected areas
IRs, Métis Settlements and asserted traditional territories	IRs, Métis Settlements and other Aboriginal communities Asserted Aboriginal traditional territories
Residential use	Residential areas Community use areas (e.g., schools, playgrounds, public facilities)
Agricultural use	Natural pasture and grazing areas Field crop areas Organic and specialty crop areas Livestock and crop facilities
Outdoor recreation use	Outdoor recreation trails and use areas Commercial recreation tenures
Other land and resource use	Non-traditional hunting, trapping, and fishing areas Managed forest areas (including Old Growth Management Areas) Merchantable timber Forest health

TABLE 3.2-1 Cont'd

Indicators	Measurement Endpoints
Other land and resource use (cont'd)	Mineral, aggregate, and oil and gas resources Industrial and commercial use areas
Water supply and use	Surface water supply and use areas Groundwater supply and use areas
Aesthetic attributes	Sensory disturbance Viewshed alteration
Marine commercial, recreational and tourism use	Commercial fishing and aquaculture Marine transportation Marine recreational use Marine tourism use
Infrastructure and Services	
Transportation Infrastructure	Traffic volumes Rail, port, airport use Transportation infrastructure disturbance or improvement
Linear Infrastructure and Power Supply	Linear infrastructure (e.g., sub-surface lines, power lines) disturbance or improvement Regional power capacity and demand
Waste and Water Infrastructure	Water and waste infrastructure capacity and demand
Housing	Accommodation capacity and demand
Educational Services	Educational services capacity and demand
Emergency, Protective and Social Services	Emergency, protective and social services capacity and demand
Recreational Amenities	Recreational amenity capacity and demand
Navigation and Navigation Safety	
Navigable watercourses	Use of navigable watercourses
Employment and Economy	
National and Provincial Economies	Economic output Gross Domestic Product Federal and provincial taxes Provincial and national employment
Regional Employment	Regional employment opportunities Project-related income
Municipal Economies	Municipal taxes paid Project worker expenditures
Contracting and Procurement	Local and regional participation in contracting
Training and Capacity Development	Training programs and capacity development
Business and Livelihood Disruption	Disruption to businesses and livelihoods

3.3 Study Area Boundaries

The study area for the discussion of potential socio-economic effects considers several spatial distinctions.

The Footprint is defined as the area directly disturbed by surveying, construction and clean-up of the pipeline and associated physical works and activities (including, where appropriate, the permanent right-of-way, pump stations, Westridge Marine Terminal, temporary construction workspace, temporary stockpile sites, temporary staging sites, camps, access routes, and power lines). The Footprint is more relevant to the human occupancy and resource use and infrastructure and services elements, where potential effects may emerge related to Project-related land disturbance.

The Local Study Area (LSA) and Regional Study Area (RSA) spatial boundaries differ for each socio-economic element, and are described in Table 3.3-1. In general, the LSA corresponds to the area closest to Project activities in which the direct impacts are most likely to be experienced; the RSA represents a broader area where the Project will less directly influence the community, but the community could provide source of labour or services related to the Project and where the direct and indirect

influences of other land uses and activities could overlap with Project-related effects and cause cumulative effects.

The collection of many socio-economic data is based on a 150 m proposed pipeline corridor, within which the final pipeline right-of-way will be established and activities associated with the Project Footprint will be located.

TABLE 3.3-1

SOCIO-ECONOMIC ELEMENTS – STUDY AREA BOUNDARIES

Socio-Economic Element	Local Study Area	Regional Study Area and Rationale
Social and Cultural Well-being	No LSA. The relevant study area is defined by communities and regions in which people potentially affected by and benefitting from the Project reside, not by a specific land area.	The Socio-Economic 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 social and cultural well-being indicators. The RSA considers communities close enough to the proposed pipeline corridor and Project facilities to potentially be: a source of labour; a source of procured goods or services; a location of community infrastructure/services influenced by the Project; an accommodation or camp location for Project workers; or a Project construction office location. This may include the counties and regional districts crossed by the proposed pipeline corridor (or certain regional sub-areas) and communities approximately 50 km from the proposed pipeline corridor that could participate in or be affected by the Project. It also includes Aboriginal communities identified as potentially affected by the Project.
Human Occupancy and Resource Use (HORU)	<p>Terrestrial The zone of influence (ZOI) in which human occupancy and resource uses are most likely to be affected by the construction and operation of the Project, consisting of a 2 km wide band generally extending from the centre of the pipeline corridor or facility site (<i>i.e.</i>, the Footprint extending to 1 km on both sides).</p> <p>Marine There are unique spatial boundaries used in the assessment of marine-based effects associated with the construction and operations of the Westridge Marine Terminal on marine resource use. The Marine HORU LSA is defined by a marine area extending 500 m from the Terminal. This is the area that could be directly affected by localized, Project-specific effects of construction and operations activities.</p>	<p>Terrestrial The HORU RSA is the area where the direct and indirect influence of other land uses and activities could overlap with Project-specific effects and cause cumulative effects on the HORU indicator. This includes the RSA boundaries of fish and fish habitat, wetlands, vegetation and wildlife.</p> <p>Marine There are unique spatial boundaries used in the assessment of marine-based effects associated with the construction and operations of the Westridge Marine Terminal on marine resource use. The spatial boundary for the Marine HORU RSA consists of the area extending beyond the HORU LSA boundary where the direct and indirect influence of other activities could overlap with Project-specific effects and cause cumulative effects on the marine commercial, recreational, and tourism use. This includes the area of Burrard Inlet east of the First Narrows Bridge.</p>
Infrastructure and Services	No LSA. The relevant study area is defined by communities and regions in which people potentially impacted by and benefitting from the Project reside, not by a specific land area.	The 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 infrastructure and services indicators. The RSA considers communities close enough to the proposed pipeline corridor and Project facilities to potentially be: a source of labour; a source of procured goods or services; a location of community infrastructure/services influenced by the Project; an accommodation or camp location for Project workers; or a Project construction office location. This may include the counties and regional districts crossed by the proposed pipeline corridor (or certain regional sub-areas) and communities approximately 50 km from the proposed pipeline corridor that could participate in or be affected by the Project. It also includes Aboriginal communities identified as potentially affected by the Project.
Navigation and Navigation Safety	<p>Terrestrial The ZOI in which human occupancy and resource uses are most likely to be affected by the construction and operation of the Project, consisting of a 2 km wide band generally extending from the centre of the pipeline corridor or facility site (<i>i.e.</i>, the Footprint extending to 1 km on both sides).</p>	<p>Terrestrial The HORU RSA is the area where the direct and indirect influence of other land uses and activities could overlap with Project-specific effects and cause cumulative effects on the HORU indicator. This includes the RSA boundaries of fish and fish habitat, wetlands, vegetation and wildlife.</p>

TABLE 3.3-1 Cont'd

Socio-Economic Element	Local Study Area	Regional Study Area and Rationale
Navigation and Navigation Safety (cont'd)	<p>Marine</p> <p>There are unique spatial boundaries used in the assessment of marine-based effects associated with the construction and operations of the Westridge Marine Terminal on marine resource use. The Marine HORU LSA is defined by a marine area extending 500 m from the terminal. This is the area that could be directly affected by localized, Project-specific effects of construction and operations activities.</p>	<p>Marine</p> <p>There are unique spatial boundaries used in the assessment of marine-based effects associated with the construction and operations of the Westridge Marine Terminal on marine resource use. The spatial boundary for the Marine HORU RSA consists of the area extending beyond the HORU LSA boundary where the direct and indirect influence of other activities could overlap with Project-specific effects and cause cumulative effects on the marine commercial, recreational, and tourism use. This includes the area of Burrard Inlet east of the First Narrows Bridge.</p>
Employment and Economy	<p>No LSA. The relevant study area is defined by communities and regions in which people potentially impacted by and benefiting from the Project reside (not by a particular land area), as well as at the Provincial and National Level</p>	<p>The RSA is the area where the direct and indirect influences of other activities could overlap with Project-related effects and cause cumulative effects on the employment and economy indicators.</p> <p>The RSA considers communities close enough to the proposed pipeline corridor and Project facilities to potentially be: a source of labour; a source of procured goods or services; a location of community infrastructure/services influenced by the Project; an accommodation or camp location for Project workers; or a Project construction office location. This may include the counties and regional districts crossed by the proposed pipeline corridor (or certain regional sub-areas) and communities approximately 50 km from the proposed pipeline corridor that could participate in or be affected by the Project. It also includes Aboriginal communities identified as potentially affected by the Project.</p> <p>For employment and economy, the provincial study area includes the area of Alberta and BC, and the national study area includes Canada.</p>

The primary criterion used to select the communities to be considered in the socio-economic assessment was whether there is the potential for interaction between Project activities or Project personnel and the economic, social or cultural resources and pursuits of community residents. These effects might be a result of interactions between the Project and community land uses, resources, infrastructure, services, or between the Project and community residents (e.g., presence of workers, employment opportunities, contracting and procurement opportunities).

Aboriginal communities included in the socio-economic assessment are those that have identified an interest in or may be potentially affected by the Project, as discussed in Volume 3B. There are several IRs that are geographically located within the boundaries of the Socio-Economic RSA where the Aboriginal community has not identified an interest in the Project. Those IRs, where populated, are considered part of the population and labour force of the Socio-Economic RSA for the purposes of the socio-economic assessment and are counted in RSA statistical data, where data is available.

A map of the Socio-Economic RSA (which is used for the social and cultural well-being, infrastructure and services and employment and economy elements) is shown in Figure 3.3-1.

A map of the HORU LSA and HORU RSA is shown in Figure 3.3-2.

A map of the Marine HORU LSA and Marine HORU RSA is shown in Figure 3.3-3. A map focusing on the Marine HORU LSA is shown in Figure 3.3-4.

FIGURE 3.3-1

SOCIO-ECONOMIC STUDY AREA BOUNDARIES

TRANS MOUNTAIN EXPANSION PROJECT

- Town / Village / Hamlet
- Kilometre Post (KP)
- Reference Kilometre Post (RK)
- Trans Mountain Pipeline (TMLP)
- 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
- Socio-economic Study Area Boundary
- City / Town / District Municipality
- Indian Reserve / Métis Settlement
- National Park
- Provincial Park
- Protected Area / Natural Area / Provincial Recreation Area / Wilderness Provincial Park / Conservancy Area
- Regional District Boundary
- Provincial Boundary
- International Boundary

Projection: Modified Lambert Conformal Conic. Routing: Baseline TMLP & 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, AltaUS, 2013, IHS Inc., 2011, BC FLNRO, 2007 & ESRI, 2005; First Nation Lands: Government of Canada, 2013, AltaUS, 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, AltaUS, 2012 & BC FLNRO, 2008; ATS Grid: AltaUS, 2009; Edmonton TUC: Alberta Infrastructure, 2011; Canadian Hillshade: TERA Environmental Consultants, 2008; US Hillshade: ESRI, 2009; World Shaded Relief: Copyright: © 2013 Esri

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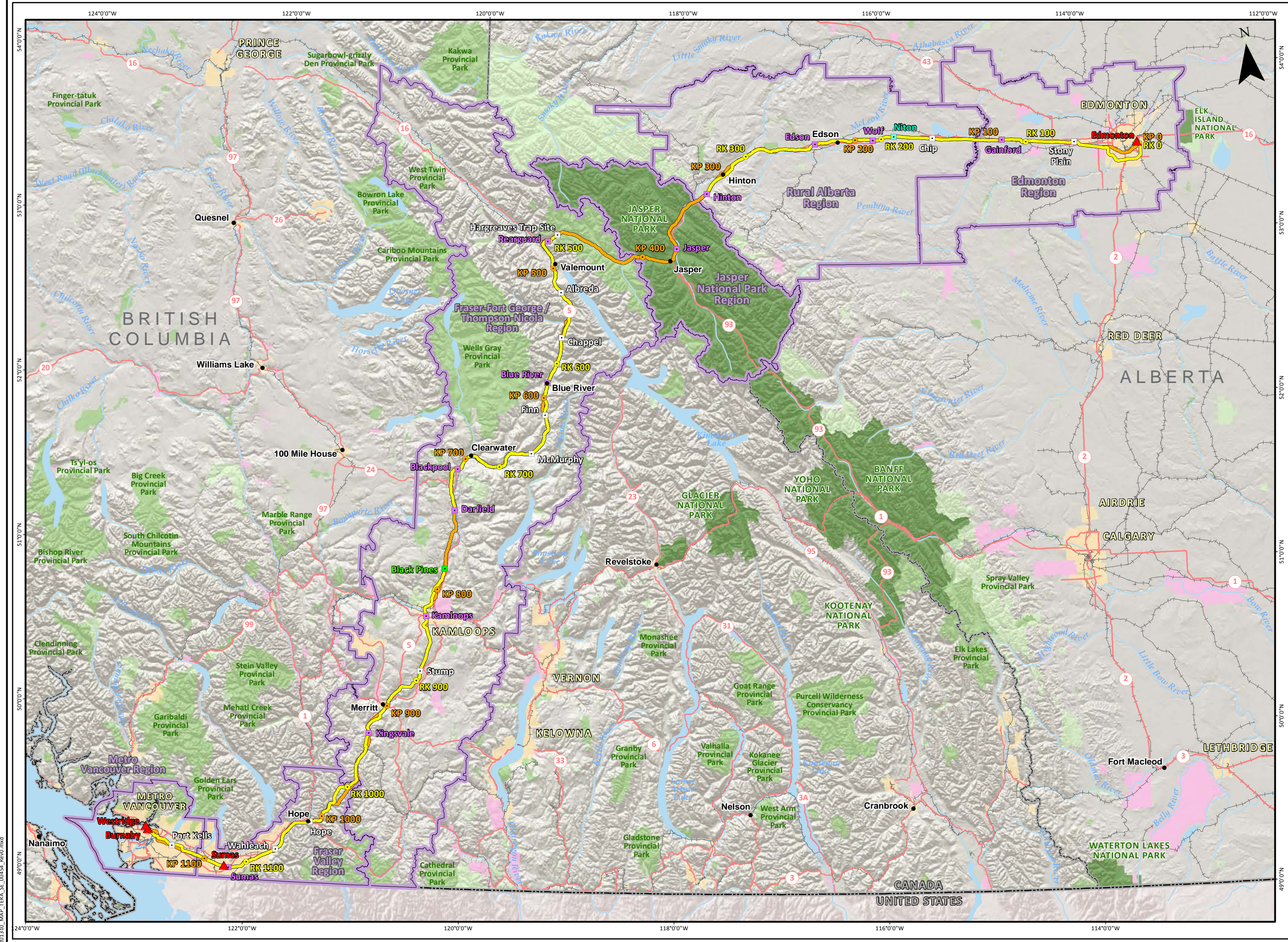


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FIGURE 3.3-2

HUMAN OCCUPANCY AND RESOURCE USE STUDY AREA BOUNDARIES

TRANS MOUNTAIN EXPANSION PROJECT

- 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 Additions, Station Modifications and/or Scraper Facilities)
- New Pump Station (Proposed)
- Pump Station (Reactivated)
- Existing Pump Station
- Highway
- Railway
- Human Occupancy and Resource Use Regional Study Area Boundary
- Human Occupancy and Resource Use Local Study Area Boundary
- 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: Modified Lambert Conformal Conic. 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 Hillshade: TERA Environmental Consultants, 2008; US Hillshade: ESRI, 2009; World Shaded Relief: Copyright © 2013 Esri.

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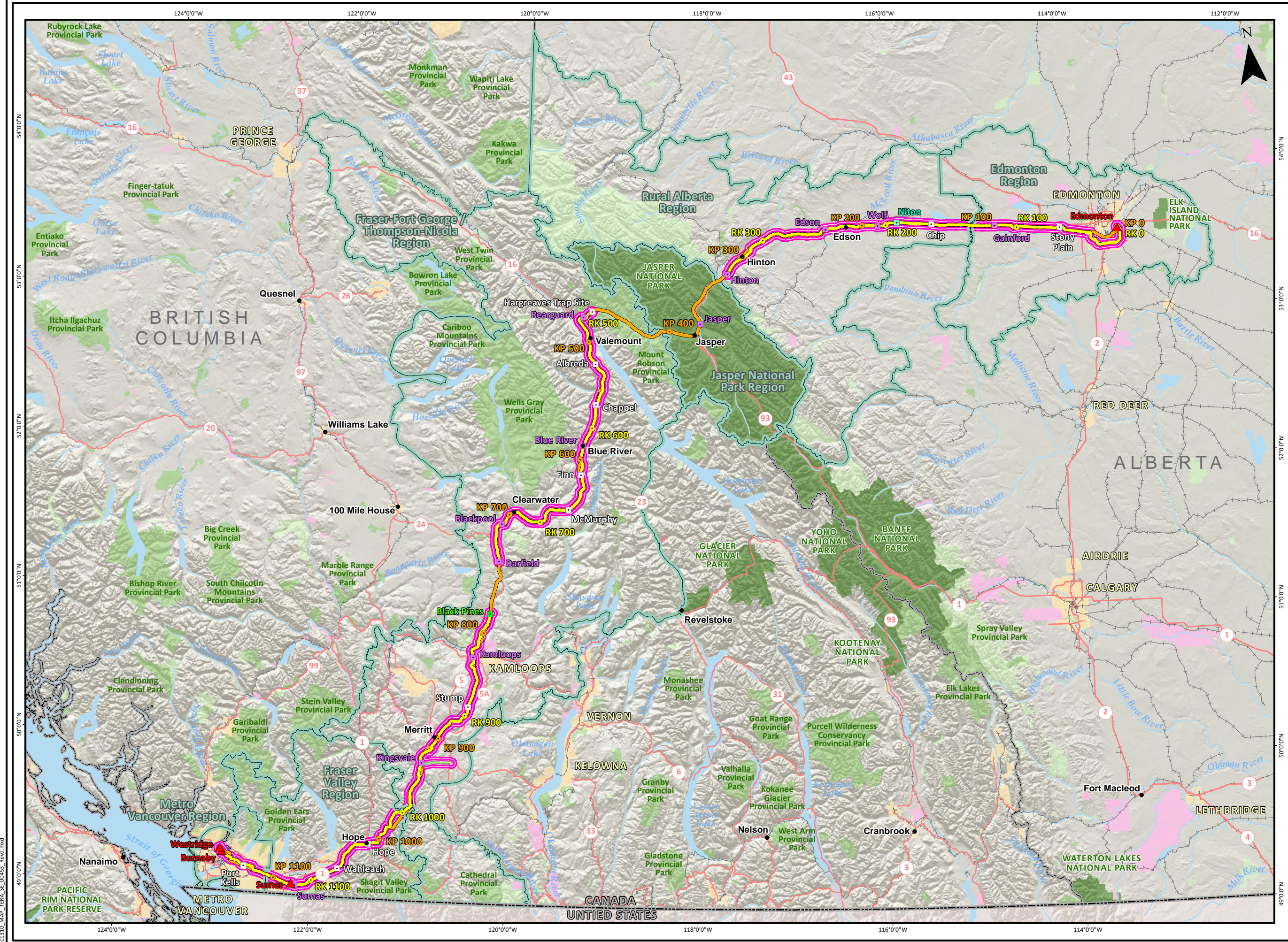


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ALL LOCATIONS APPROXIMATE



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FIGURE 3.3-3

MARINE HUMAN OCCUPANCY AND RESOURCE USE LOCAL AND REGIONAL STUDY AREA

TRANS MOUNTAIN EXPANSION PROJECT

- Trans Mountain Pipeline (TMPL)
- Trans Mountain Expansion Project Proposed Pipeline Corridor
- Facility Footprint
- Local Study Area (LSA)
- Regional Study Area (RSA)
- Highway
- Railway
- Indian Reserve / Métis Settlement
- Provincial Park
- City / Town

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Projection: UTM Zone 10N.
 Baseline TMPL & Facilities: provided by KMC, 2012; Proposed Pipeline Corridor V6: provided by UPI Aug. 23, 2013; Transportation: BC Crown Registry and Geographic Base Branch, 2010, Natural Resources Canada, 2011; Geopolitical Boundaries: Natural Resources Canada, 2003; Hydrology: Natural Resources Canada, 2007, BC Crown Registry and Geographic Base Branch, 2008; Parks and Protected Areas: Natural Resources Canada, 2012, BC FLNRO, 2008; LANDSAT 7 (1996 - 2003); NASA Geospatial Interoperability Program,



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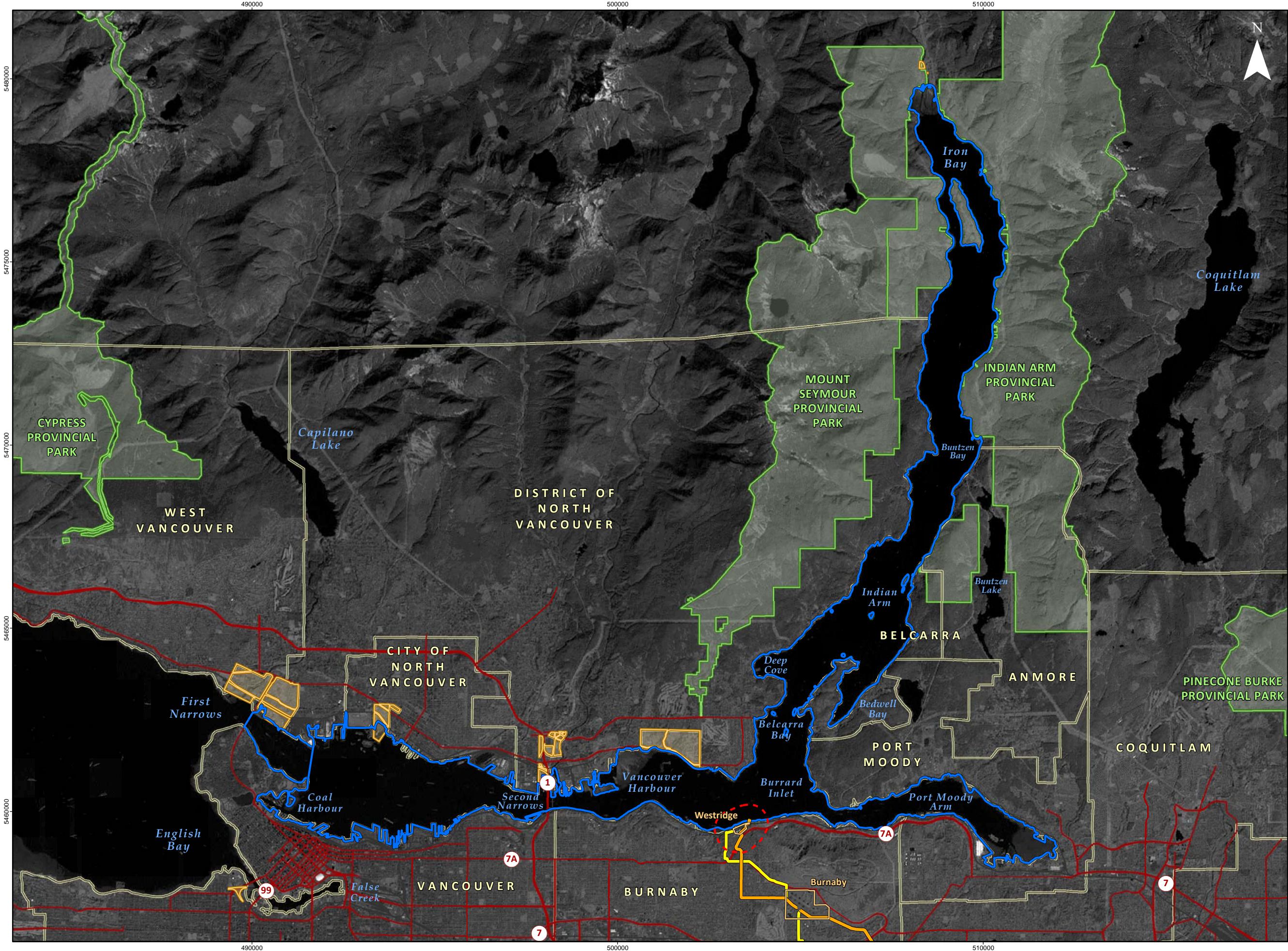
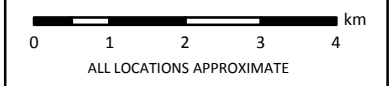










FIGURE 3.3-4
MARINE HUMAN OCCUPANCY
AND RESOURCE USE
LOCAL STUDY AREA
TRANS MOUNTAIN EXPANSION PROJECT

-  Trans Mountain Pipeline (TMPL)
-  Trans Mountain Expansion Project Proposed Pipeline Corridor
-  Facility Footprint
-  Local Study Area (LSA)
-  Highway
-  Railway
-  City / Town
-  Indian Reserve / Métis Settlement

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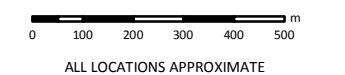
Projection: UTM Zone 10N.
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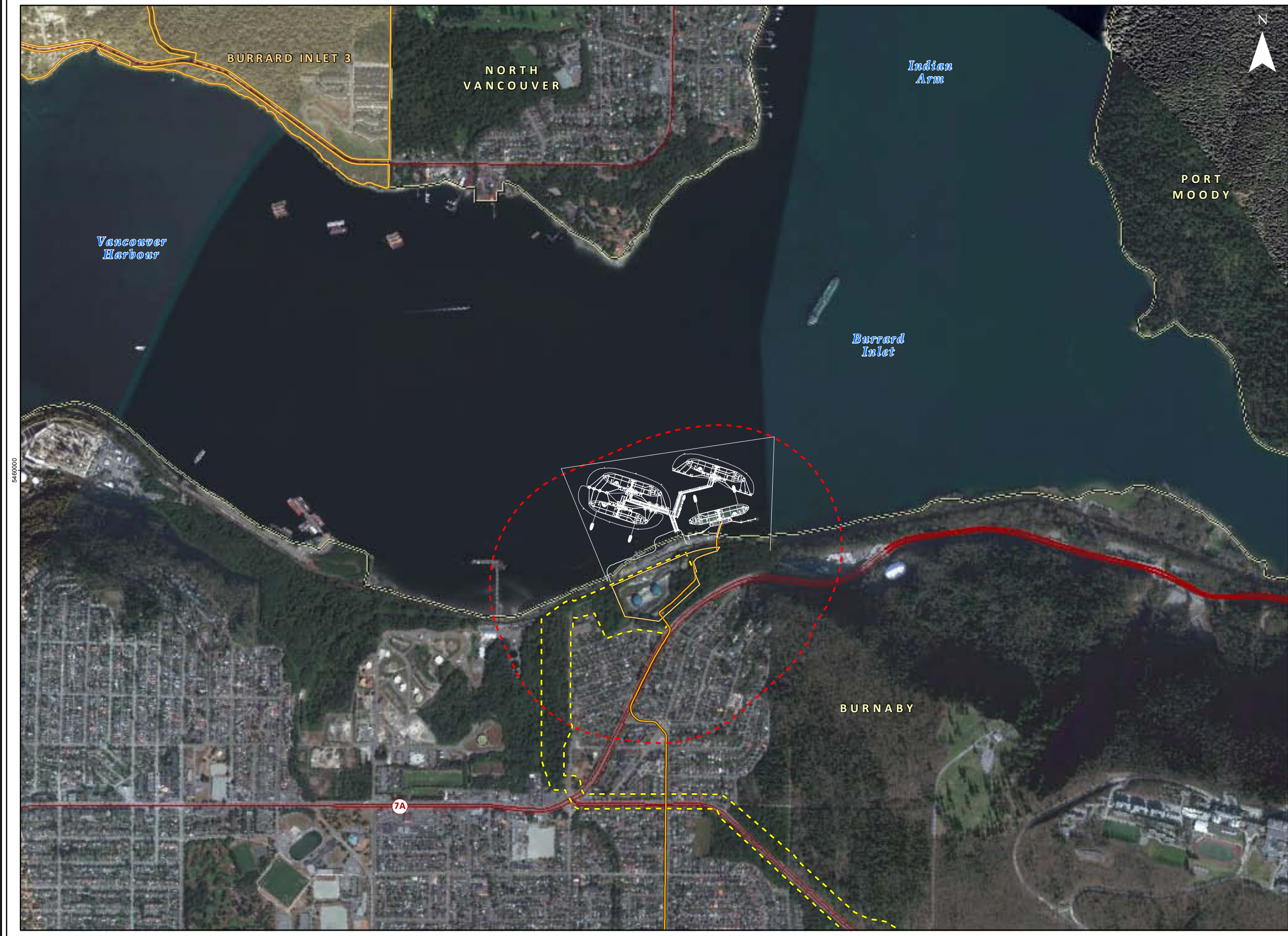
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ALL LOCATIONS APPROXIMATE



3.3.1 Socio-Economic Study Regions

Due to the large scale of the Project and because it passes through distinct and different geographical and administrative or political regions, six study regions have been defined for the socio-economic assessment. Throughout the socio-economic assessment, these regions are the sections by which the Project is segmented into for the purposes of analysis.

The socio-economic regions are broadly similar to the “pipeline segments” used as analytical boundaries by other disciplines. However, while the pipeline segments are defined based on construction or other technical parameters, the socio-economic regions or sections are defined by political and administrative boundaries that are relevant to service delivery and governance for the communities and residents who may have direct or indirect interactions with the Project. The use of the socio-economic regions will allow more precision in the estimates of potential effects since they follow jurisdictional boundaries for service delivery and governance and, therefore, align with available data. These regions will also better align with a local “sense of place” and assist stakeholders in understanding how the assessment reflects local and regional interests.

The borders of the six socio-economic regions are defined as follows:

Edmonton Region – Strathcona County to the western boundary of Parkland County.

Rural Alberta Region – eastern boundary of Yellowhead County to eastern boundary of Jasper National Park.

Jasper National Park Region – eastern and western boundaries of Jasper National Park.

Fraser-Fort George/Thompson-Nicola Region – western boundary of Jasper National Park (Alberta/BC border) to approximately halfway between Merritt and Hope (to the border of the TNRD and the FVRD); note that the regions described for the socio-economic assessment do not always correspond with the boundaries of the regional districts through which they pass.

Fraser Valley Region – halfway between Merritt and Hope to the western boundary of the FVRD.

Metro Vancouver Region – boundaries of Metro Vancouver or the Greater Vancouver Regional District (GVRD).

A detailed description of the six socio-economic regions of the Project, including the incorporated communities and regions located in each and the specific pipeline segments and facilities located in each region, is provided in Table 3.3-2.

In BC, some of the Regional Districts through which the Project passes (or that the Project is near to) are large, and not all Electoral Areas within those Regional Districts are within a distance whereby effects or opportunities related to the Project are reasonably likely. In such Regional Districts (e.g., Fraser-Fort George Regional District, TNRD and FVRD and Okanagan-Similkameen Regional District) only certain Electoral Areas have been included in the study area. These are specified in Table 3.3-3.

TABLE 3.3-2

SOCIO-ECONOMIC STUDY REGIONS

Socio-Economic Region	Edmonton Region	Rural Alberta Region	Jasper National Park Region	Fraser-Fort George/Thompson-Nicola Region	Fraser Valley Region	Metro Vancouver Region
General Description	Strathcona County to western boundary of Parkland County	Eastern boundary of Yellowhead County to eastern boundary of Jasper National Park	Eastern and western boundaries of Jasper National Park	Western boundary of Jasper National Park (Alberta/BC border) to halfway between Merritt and Hope to the border of the TNRD and the FVRD)	Halfway between Merritt and Hope to the western boundary of the FVRD	Boundaries of Metro Vancouver or GVRD
Pipeline RK Range	RK 0 – RK 135.0	RK 135.0 – RK 339.4	No new pipeline (RK 339.4 – RK 489.6)	RK 489.6 – RK 991.5	RK 991.5 – RK 1137.8	RK 1137.8 – RK 1180.2 RK 0 – 3.6 (Burnaby Terminal to Westridge Terminal)
Pump Stations*	Stony Plain Gainford	Chip Niton Wolf Edson Hinton	Jasper	Rearguard Albreda Chappel Blue River Finn McMurphy Blackpool Darfield Black Pines Kamloops Stump Kingsvale	Hope Waleach Sumas	Port Kells
Terminals*	Edmonton	none	none	Kamloops	Sumas	Burnaby Westridge Marine Terminal

Note: **bold** Indicates Project activity.

Detailed maps of the Socio-Economic RSA and HORU RSA, by socio-economic region, are presented in Figures 3.3-5 to 3.3-10.

The Socio-Economic RSA is based on relevant regional administrative boundaries to reflect data availability, not strictly on distance. Not all communities that lie within in the administrative or geographic boundaries of regional jurisdiction will likely be equally affected by the Project. Effects will depend on a number of factors including distance from Project construction activities, distance from Project facilities, proximity to camps or other Project worker accommodation, and whether the Project will draw on community services or infrastructure. Table 3.3-3 lists the rationale for the inclusion of communities in the socio-economic study area.

Unincorporated hamlets and communities are amalgamated into the county or region in which they are geographically located and by which they are administered. As such, unincorporated hamlets and communities are not identified as study area communities. There are, however, several unincorporated areas are crossed by the proposed pipeline corridor and may be directly affected by the Project. While statistical data is not available for these communities, information about these hamlets is presented where possible based on other sources. Key unincorporated areas that are crossed by the Project are: in Alberta, Evansburg, Entwistle, Gainford, Wildwood; and in BC, Albreda, Blue River, Avola, Vavenby, Popkum and Yarrow.

TABLE 3.3-3
STUDY AREA COMMUNITIES AND REGIONS

Community/Region	Population (2011)	Distance from Proposed Pipeline Corridor	Crossed by Proposed Pipeline Corridor	Location of Project-Related Facility	Crossed by HORU LSA	IR of an Aboriginal Community Potentially Affected by the Project	Potential Source of Project Labour, Contractors and/or Services
Edmonton Region							
Strathcona County	92,490	0 km (RK 0.0 to RK 12.2)	✓	✓	✓	--	✓
City of Fort Saskatchewan	19,050	15.3 km	--	--	--	--	✓
City of Edmonton	812,195	0 km (RK 12.0 to RK 45.1)	✓	✓	✓	--	✓
City of Spruce Grove	26,175	0 km (RK 57.1 to RK 61.3 and RK 62.2 to RK 62.7)	✓	--	✓	--	✓
Parkland County	30,570	0 km (RK 45.1 to RK 135.0)	✓	✓	✓	--	✓
Town of Stony Plain	15,050	0 km (RK 61.3 to RK 62.3 and RK 62.4 to RK 68.4)	✓	--	✓	--	✓
Village of Wabamun	661	0 km (RK 98.4 to RK 99.9)	✓	--	✓	--	✓
Village Spring Lake	533	3.4 km	--	--	--	--	✓
Summer Village of Betula Beach	10	4.4 km	--	--	--	--	✓
Summer Village of Kapasiwin	10	2.1 km	--	--	--	--	✓
Summer Village of Lakeview	26	0.9 km	--	--	✓	--	✓
Summer Village of Point Alison	15	1.2 km	--	--	--	--	✓
Summer Village of Seba Beach	143	0.6 km	--	--	✓	--	✓
Lac Ste Anne County	10,260	1.9 km	--	--	--	--	✓
Town of Mayerthorpe	1,398	38.6 km	--	--	--	--	✓
Town of Onoway	1,039	14.9 km	--	--	--	--	✓
Village of Alberta Beach	865	10.9 km	--	--	--	--	✓
Summer Village of Birch Cove	45	42.8 km	--	--	--	--	✓
Summer Village of Castle Island	19	15.9 km	--	--	--	--	✓
Summer Village of Nakamun Park	36	35.4 km	--	--	--	--	✓
Summer Village of Ross Haven	137	17.7 km	--	--	--	--	✓
Summer Village of Silver Sands	85	4.4 km	--	--	--	--	✓

TABLE 3.3-3 Cont'd

Community/Region	Population (2011)	Distance from Proposed Pipeline Corridor	Crossed by Proposed Pipeline Corridor	Location of Project-Related Facility	Crossed by HORU LSA	IR of an Aboriginal Community Potentially Affected by the Project	Potential Source of Project Labour, Contractors and/or Services
Summer Village of South View	35	7.5 km	--	--	--	--	✓
Summer Village of Sunrise Beach	149	24.4 km	--	--	--	--	✓
Summer Village of Sunset Point	221	13.0 km	--	--	--	--	✓
Summer Village of Val Quentin	157	10.8 km	--	--	--	--	✓
Summer Village of West Cove	121	13.3 km	--	--	--	--	✓
Summer Village of Yellowstone	124	18.0 km	--	--	--	--	✓
Sturgeon County	19,580	7.0 km	--	--	--	--	✓
Town of Morinville	8,569	29.2 km	--	--	--	--	✓
Town of Bon Accord	1,488	32.6 km	--	--	--	--	✓
Town of Gibbons	3,030	29.2 km	--	--	--	--	✓
Town of Legal	1,225	46.9 km	--	--	--	--	✓
Town of Redwater	1,915	46.2 km	--	--	--	--	✓
City of St. Albert	61,470	9.8 km	--	--	--	--	✓
Brazeau County	7,195	23.9 km	--	--	--	--	✓
Town of Drayton Valley	7,049	37.1 km	--	--	--	--	✓
Village of Breton	496	49.5 km	--	--	--	--	✓
Leduc County	13,540	5.2 km	--	--	--	--	✓
City of Leduc	24,275	13.4 km	--	--	--	--	✓
Town of Beaumont	13,285	4.6 km	--	--	--	--	✓
Town of Calmar	1,970	22.3 km	--	--	--	--	✓
Town of Devon	6,510	10.8 km	--	--	--	--	✓
Village of Thorsby	797	33.8 km	--	--	--	--	✓
Village of Warburg	789	41.2 km	--	--	--	--	✓
Summer Village of Golden Days	141	51.9 km	--	--	--	--	✓
Summer Village of Itaska Beach	20	51.6 km	--	--	--	--	✓
Summer Village of Sundance Beach	82	51.6 km	--	--	--	--	✓
Stony Plain 135 (Enoch Cree Nation)	987	0.02 km	--	--	✓	✓	✓
Alexander 134 (Alexander First Nation)	1,027	24.5 km	--	--	--	✓	✓
Wabamun 133b (Paul First Nation)	1,069	1.7 km	--	--	--	✓	✓
Wabamun 133a (Paul First Nation)	17	2.7 km	--	--	--	✓	✓
Stony Plain 135a (Enoch Cree Nation)	n/a ¹	17.9 km	--	--	--	✓	✓
Alexis 133 (Alexis Nakota Sioux Nation)	805	11.9 km	--	--	--	✓	✓

TABLE 3.3-3 Cont'd

Community/Region	Population (2011)	Distance from Proposed Pipeline Corridor	Crossed by Proposed Pipeline Corridor	Location of Project-Related Facility	Crossed by HORU LSA	IR of an Aboriginal Community Potentially Affected by the Project	Potential Source of Project Labour, Contractors and/or Services
Rural Alberta Region							
Yellowhead County ²	10,470	0 km (RK 135.0 to RK 339.4)	✓	✓	✓	--	✓
Town of Edson	8,475	0 km (RK 228.0 to RK 235.5 and RK 235.6 to RK 237.3)	✓	--	✓	--	✓
Town of Hinton	9,640	0 km (RK 321.7 to RK 326.3)	✓	--	✓	--	✓
O'Chiese 203 (O'Chiese First Nation)	751	82 km	--	--	--	✓	✓
Alexis Elk River 233 (Alexis Nakota Sioux Nation)	n/a ¹	82 km	--	--	--	✓	✓
Alexis Cardinal River 234 (Alexis Nakota Sioux Nation)	n/a ¹	68 km	--	--	--	✓	✓
Jasper National Park Region							
Improvement District (ID) No. 12 (Jasper National Park) ²	34	16.3 km	--	--	--	--	✓
Municipality of Jasper ²	4,051	31.0 km	--	✓	--	--	✓
Fraser-Fort George/Thompson-Nicola Region							
Electoral Area H, Regional District of Fraser-Fort George ²	1,665	0 km (RK 489.6 to RK 549.3)	✓	✓	✓	--	✓
Village of Valemount	1,020	0.4 km	--	--	✓	--	✓
Village of McBride	586	64.7 km	--	--	--	--	✓
Electoral Area B, Thompson-Nicola Regional District	283	0 km (RK 548.9 to RK 682.4, RK 682.9 to RK 683.8)	✓	✓	✓	--	✓
Electoral Area A, Thompson-Nicola Regional District	1,536	0 km (RK 682.4 to RK 683.1, RK 683.9 to RK 714.6, RK 726.2 to RK 739.0)	✓	--	✓	--	✓
Electoral Area O, Thompson-Nicola Regional District ¹	1,335	0 km (RK 738.9 to RK 769.0)	✓	✓	✓	--	✓
Electoral Area P, Thompson-Nicola Regional District ¹	3,620	0 km (RK 811.9 to RK 923.3)	✓	✓	✓	--	✓
Electoral Area J, Thompson-Nicola Regional District	1,560	0 km (RK 824.6 to RK 829.4, RK 856.4 to RK 885.2)	✓	--	✓	--	✓

TABLE 3.3-3 Cont'd

Community/Region	Population (2011)	Distance from Proposed Pipeline Corridor	Crossed by Proposed Pipeline Corridor	Location of Project-Related Facility	Crossed by HORU LSA	IR of an Aboriginal Community Potentially Affected by the Project	Potential Source of Project Labour, Contractors and/or Services
Electoral Area L, Thompson-Nicola Regional District	3,049	2.7 km	--	--	--	--	✓
Electoral Area M, Thompson-Nicola Regional District	1,823	0 km (RK 885.1 to RK 917.4, RK 918.4 to RK 925.9)	✓	✓	✓	--	✓
Electoral Area N, Thompson-Nicola Regional District	749	0 km (RK 927.5 to RK 928.5, RK 931.0 to RK 990.9)	✓	✓	✓	--	✓
District of Clearwater	2,331	0 km (RK 714.3 to RK 726.6)	✓	--	✓	--	✓
City of Kamloops	85,675	0 km (RK 823.2 to RK 824.7, RK 829.3 to RK 856.4)	✓	✓	✓	--	✓
City of Merritt	7,115	0 km (RK 925.9 to RK 927.6, RK 928.3 to RK 930.4)	✓	--	✓	--	✓
District of Barriere ²	1,773	12.8 km	--	--	--	--	✓
Municipality of Sun Peaks	371	20.7 km	--	--	--	--	✓
Village of Chase	2,495	39.0 km	--	--	--	--	✓
District of Logan Lake	2,073	27.2 km	--	--	--	--	✓
Electoral Area H, Regional District of Okanagan-Similkameen	1,665	3.2 km	--	--	--	--	✓
Town of Princeton	2,724	38.7 km	--	--	--	--	✓
Kamloops 4 (Tk'emlúps te Secwepemc [Kamloops] First Nation)	n/a ¹	5.5 km	--	--	--	✓	✓
Whispering Pines 4 (Whispering Pines/Clinton Indian Band)	60	1.3 km	--	--	--	✓	✓
Zoht 5 (Lower Nicola Indian Band)	n/a ¹	0 km (RK 912.0 to RK 912.8)	✓	--	✓	✓	✓
Zoht 4 (Lower Nicola Indian Band)	25	0 km (RK 917.5 to RK 918.5)	✓	--	✓	✓	✓
Joeyaska 2 (Lower Nicola Indian Band)	45	0 km (RK 930.3 to RK 930.7, RK 930.8 to RK 931.2)	✓	--	✓	✓	✓

TABLE 3.3-3 Cont'd

Community/Region	Population (2011)	Distance from Proposed Pipeline Corridor	Crossed by Proposed Pipeline Corridor	Location of Project-Related Facility	Crossed by HORU LSA	IR of an Aboriginal Community Potentially Affected by the Project	Potential Source of Project Labour, Contractors and/or Services
Coldwater 1 (Coldwater Indian Band)	349	0.06 km	--	--	✓	✓	✓
Boulder Creek 5 (Simpw First Nation)	n/a ¹	4.6 km	--	--	--	✓	✓
Nekalliston 2 (Simpw First Nation)	n/a ³	1.2 km	--	--	--	✓	✓
North Thompson 1 (Simpw First Nation)	252	0.5 km	--	--	✓	✓	✓
Louis Creek 4 (Simpw First Nation)	15	20.0 km	--	--	--	✓	✓
Squaam 2 (Adams Lake)	10	35.4 km	--	--	--	--	✓
Hustalen 1 (Adams Lake)	n/a ³	40.8 km	--	--	--	--	✓
Marshy Lake 1 (Skeetchestn Indian Band)	n/a ¹	41.8 km	--	--	--	✓	✓
Toops 3 (Adams Lake)	n/a ¹	41.3 km	--	--	--	--	✓
Hihium Lake 6a (Skeetchestn Indian Band) ⁵	n/a ¹	60 km	--	--	--	✓	✓
Hihium Lake 6b (Skeetchestn Indian Band) ⁵	n/a ¹	60 km	--	--	--	✓	✓
Quaaout 1 (Little Shuswap Lake)	234	41.6 km	--	--	--	✓	✓
Kamloops 5 (Tk'emlúps te Secwepemc [Kamloops] First Nation)	n/a ¹	12.5 km	--	--	--	✓	✓
Sahhalkum 4 (Adams Lake)	325	36.5 km	--	--	--	--	✓
Meadow Creek 3 (Little Shuswap Lake)	n/a ¹		--	--	--	--	✓
Neskonlith 1 & 2 (Neskonlith Indian Band)	235	36.7 km	--	--	--	--	✓
Skeetchestn (Skeetchestn Indian Band)	253	31.8 km	--	--	--	✓	✓
Kamloops 1 (Tk'emlúps te Secwepemc First Nation)	2,577	0.8 km	--	--	✓	✓	✓

TABLE 3.3-3 Cont'd

Community/Region	Population (2011)	Distance from Proposed Pipeline Corridor	Crossed by Proposed Pipeline Corridor	Location of Project-Related Facility	Crossed by HORU LSA	IR of an Aboriginal Community Potentially Affected by the Project	Potential Source of Project Labour, Contractors and/or Services
Kamloops 2 (Tk'emlúps te Secwepemc First Nation)	n/a ¹	7.4 km	--	--	--	✓	✓
Kamloops 3 (Tk'emlúps te Secwepemc First Nation)	n/a ¹	7.6 km	--	--	--	✓	✓
Pipseul 3 (Lower Nicola Indian Band)	n/a ¹	29.2 km	--	--	--	✓	✓
Salmon Lake 7 (Upper Nicola Indian Band)	n/a ¹	31.6 km	--	--	--	✓	✓
Douglas Lake 3 (Upper Nicola Indian Band)	158	11.8 km	--	--	--	✓	✓
Chapperon Lake 5 (Upper Nicola Indian Band)	n/a ¹	27.2 km	--	--	--	✓	✓
Chapperon Creek 6 (Upper Nicola Indian Band)	n/a ¹	30.0 km	--	--	--	✓	✓
Nicola Lake 1 (Upper Nicola Indian Band)	144	2.8 km	--	--	--	✓	✓
Zoht 14 (Lower Nicola Indian Band)	n/a ¹	0.3 km	--	--	✓	✓	✓
Nicola Mameet 1 (Lower Nicola Indian Band)	585	5.7 km	--	--	--	✓	✓
Hamilton Creek 2 (Upper Nicola Indian Band)	n/a ³	7.0 km	--	--	--	✓	✓
Spahomin Creek 8 (Upper Nicola Indian Band)	n/a ¹	23.3 km	--	--	--	✓	✓
Spahomin Creek 4 (Upper Nicola Indian Band)	n/a ¹	27.7 km	--	--	--	✓	✓
Hamilton Creek 7 (Lower Nicola Indian Band)	n/a ¹	12.8 km	--	--	--	✓	✓
Antko 21 (Cook's Ferry Indian Band)	n/a ¹	0.6 km	--	--	✓	--	✓
Nooaitch Grass 9 (Nooaitch Indian Band)	n/a ¹	18.9 km	--	--	--	✓	✓
Logan's 6 (Lower Nicola Indian Band)	n/a ¹	17.7 km	--	--	--	✓	✓
Nooaitch 10 (Nooaitch Indian Band)	127	18.4 km	--	--	--	✓	✓
Speous 8 (Lower Nicola Indian Band)	n/a ¹	14.5 km	--	--	--	✓	✓

TABLE 3.3-3 Cont'd

Community/Region	Population (2011)	Distance from Proposed Pipeline Corridor	Crossed by Proposed Pipeline Corridor	Location of Project-Related Facility	Crossed by HORU LSA	IR of an Aboriginal Community Potentially Affected by the Project	Potential Source of Project Labour, Contractors and/or Services
Gwen Lake 3 (Coldwater Indian Band)	n/a ¹	3.8 km	--	--	--	✓	✓
Paul's Basin 2 (Coldwater Indian Band)	36	0.7 km	--	--	✓	✓	✓
One Mile 6 (Upper Similkameen Indian Band)	n/a ¹	31.9 km	--	--	--	✓	✓
Nine Mile Creek 4 (Upper Similkameen Indian Band)	n/a ¹	54.8 km	--	--	--	✓	✓
Lulu 5 (Upper Similkameen Indian Band)	n/a ³	61.4 km	--	--	--	✓	✓
Wolf Creek 3 (Upper Similkameen Indian Band)	n/a ¹	53.6 km	--	--	--	✓	✓
Fraser Valley Region							
Electoral Area B, Fraser Valley Regional District	721	0 km (RK 990.5 to RK 1037.9, RK 1055.4 to RK 1057.7, RK 1058.6 to RK 1063.1, RK 1064.1 to RK 1064.6)	✓	--	✓	--	✓
Electoral Area D, Fraser Valley Regional District	1,346	0 km (RK 1064.5 to RK 1075.7, RK 1076.0 to RK 1076.6, RK 1077.1 to RK 1082.6)	✓	✓	✓	--	✓
Electoral Area E, Fraser Valley Regional District	3,358	0 km (RK 1103.4 to RK 1103.8)	✓	--	✓	--	✓
Electoral Area G, Fraser Valley Regional District	1,764	2.7 km	--	--	--	--	✓
District of Hope	5,969	0 km (RK 1038.2 to RK 1055.6)	✓	✓	✓	--	✓
City of Chilliwack	77,936	0 km (RK 1082.3 to RK 1082.6, RK 1082.7 to RK 1103.5, RK 1103.7 to RK 1108.0)	✓	--	✓	--	✓
City of Abbotsford	133,497	0 km (RK 1108.0 to RK 1137.4)	✓	✓	✓	--	✓
District of Kent	5,664	0.5 km	--	--	✓	--	✓
Village of Harrison Hot Springs	1,468	6.7 km	--	--	--	--	✓
District of Mission	36,426	1.1 km	--	--	--	--	✓

TABLE 3.3-3 Cont'd

Community/Region	Population (2011)	Distance from Proposed Pipeline Corridor	Crossed by Proposed Pipeline Corridor	Location of Project-Related Facility	Crossed by HORU LSA	IR of an Aboriginal Community Potentially Affected by the Project	Potential Source of Project Labour, Contractors and/or Services
Ohamil 1 (Shxw'ówhámél First Nation)	77	0 km (RK 1057.6 to RK 1058.8)	✓	--	✓	✓	✓
Peters 1 (Peters Band)	27	0 km (RK 1062.9 to RK 1064.9)	✓	--	✓	✓	✓
Peters 1A (Peters Band)	n/a ¹	0 km (RK 1064.5 to RK 1064.6)	✓	--	✓	✓	✓
Popkum 1 (Popkum First Nation)	5	0 km (RK 1075.8 to RK 1077.2)	✓	--	✓	✓	✓
Grass 15 (Aitchelitz First Nation, Kwaw-kwaw-apilt First Nation, Skowkale First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation, Yakweakwioose First Nation)	n/a ¹	0 km (RK 1091.1 to RK 1091.6)	✓	--	✓	✓	✓
Tzeachten 13 (Tzeachten First Nation)	1,467	0 km (RK 1096.9 to RK 1097.6)	✓	--	✓	✓	✓
Matsqui Main 2 (Matsqui First Nation)	81	0 km (RK 1129.4 to RK 1129.6)	--	--	✓	✓	✓
Teequaloose 3 (Spuzzum Indian Band)	n/a ¹	22.4 km	--	--	--	--	✓
Skuet (Spuzzum Indian Band)	n/a ¹	20.9 km	--	--	--	--	✓
Papsilqua 2 (Spuzzum Indian Band)	n/a ¹	20.0 km	--	--	--	--	✓
Papsilqua 2a (Spuzzum Indian Band)	n/a ¹	20.0 km	--	--	--	--	✓
Papsilqua 2b (Spuzzum Indian Band)	n/a ¹	20.4 km	--	--	--	--	✓
Spuzzum 1 (Seabird Island Band)	n/a ¹	18.5 km	--	--	--	--	✓
Spuzzum 1a (Spuzzum Indian Band)	n/a ¹	18.4 km	--	--	--	--	✓
Spuzzum 7 (Spuzzum Indian Band)	n/a ¹	17.6 km	--	--	--	--	✓
Stout 8 (Spuzzum Indian Band)	n/a ¹	15.8 km	--	--	--	--	✓

TABLE 3.3-3 Cont'd

Community/Region	Population (2011)	Distance from Proposed Pipeline Corridor	Crossed by Proposed Pipeline Corridor	Location of Project-Related Facility	Crossed by HORU LSA	IR of an Aboriginal Community Potentially Affected by the Project	Potential Source of Project Labour, Contractors and/or Services
Saddle Rock 9 (Spuzzum Indian Band)	n/a ³	16.4 km	--	--	--	--	✓
4 1/2 Mile 2 (Yale First Nation)	n/a ¹	16.6 km	--	--	--	✓	✓
Yale 25 (Yale First Nation)	n/a ¹	16.4 km	--	--	--	✓	✓
Yale 23 (Yale First Nation)	n/a ³	16.4 km	--	--	--	✓	✓
Yale 22 (Yale First Nation)	n/a ³	15.1 km	--	--	--	✓	✓
Yale 21 (Yale First Nation)	n/a ³	14.9 km	--	--	--	✓	✓
Yale 20 (Yale First Nation)	n/a ³	13.9 km	--	--	--	✓	✓
Yale 19 (Yale First Nation)	n/a ³	13.6 km	--	--	--	✓	✓
Kuthlalth 3 (Shxw'ow'hamel First Nation)	n/a ¹	12.3 km	--	--	--	✓	✓
Yale 18 (Yale First Nation)	n/a ³	13.8 km	--	--	--	✓	✓
Yale Town 1 (Yale First Nation)	10	14.7 km	--	--	--	✓	✓
Albert Flat 5 (Yale First Nation)	15	12.0 km	--	--	--	✓	✓
Qualark 4 (Yale First Nation)	n/a ¹	12.4 km	--	--	--	✓	✓
Squeah 6 (Yale First Nation)	n/a ¹	10.6 km	--	--	--	✓	✓
Kaykaip 7 (Yale First Nation)	n/a ¹	9.8 km	--	--	--	✓	✓
Stullawheets 8 (Yale First Nation)	48	9.1 km	--	--	--	✓	✓
Skawahlum 10 (Union Bar First Nations)	n/a ¹	8.1 km	--	--	--	✓	✓
Puckatholetchin 11 (Union Bar First Nations)	5	6.1 km	--	--	--	✓	✓
Swahliseah 14 (Union Bar First Nations)	n/a ¹	4.5 km	--	--	--	✓	✓
Klakkacum 12 (Union Bar First Nations)	n/a ¹	4.4 km	--	--	--	✓	✓
Trafalgar Flat 13 (Union Bar First Nations)	n/a ¹	3.1 km	--	--	--	✓	✓
Kawkawa Lake 16 (Union Bar First Nations)	n/a ¹	0.2 km	--	--	✓	✓	✓
Aywawwis 15 (Union Bar First Nations)	5	1.4 km	--	--	--	✓	✓

TABLE 3.3-3 Cont'd

Community/Region	Population (2011)	Distance from Proposed Pipeline Corridor	Crossed by Proposed Pipeline Corridor	Location of Project-Related Facility	Crossed by HORU LSA	IR of an Aboriginal Community Potentially Affected by the Project	Potential Source of Project Labour, Contractors and/or Services
Tunnel 6 (Chawathil First Nation)	n/a ¹	2.7 km	--	--	--	✓	✓
Hope 1 (Chawathil First Nation)	15	0.9 km	--	--	✓	✓	✓
Schkam 2 (Chawathil First Nation)	132	2.2 km	--	--	--	✓	✓
Greenwood Island 3 (Chawathil First Nation)	n/a ¹	0.4 km	--	--	✓	✓	✓
Chawathil 4 (Chawathil First Nation)	163	0.3 km	--	--	✓	✓	✓
Skawahlook 1 (Skawahlook First Nation)	0	0.8 km	--	--	✓	✓	✓
Ruby Creek 2 (Skawahlook First Nation)	32	1.3 km	--	--	--	✓	✓
Lukseetsissum 9 (Yale First Nation)	21	1.3 km	--	--	--	✓	✓
Wahleach Island 2 (Shxw'ow'hamel First Nation)	n/a ¹	1.1 km	--	--	--	✓	✓
Peters 2 (Peters Band)	n/a ¹	0.9 km	--	--	✓	✓	✓
Seabird Island (Seabird Island Band)	594	1.1 km	--	--	--	✓	✓
Popkum 2 (Popkum First Nation)	n/a ¹	0.4 km	--	--	--	✓	✓
Tseatah 2 (Cheam First Nation)	16	2.5 km	--	--	--	✓	✓
Cheam 1 (Cheam First Nation)	223	0.6 km	--	--	✓	✓	✓
Schelawat 1 (Skwah First Nation)	10	0.9 km	--	--	✓	✓	✓
Chehalis 5 (Seabird Island Band)	645	14.2 km	--	--	--	✓	✓
Chehalis 6 (Seabird Island Band)	n/a ¹	14.0 km	--	--	--	✓	✓
Scowlitz 1 (Scowlitz First Nation)	10	9.6 km	--	--	--	✓	✓
Williams 2 (Scowlitz First Nation)	n/a ¹	10.4 km	--	--	--	✓	✓
Skwahla 2 (Skwah First Nation)	n/a ³	5.5 km	--	--	--	✓	✓
Yakweakwioose 12 (Yakweakwioose First Nation)	39	0.6 km	--	--	✓	✓	✓
Skowkale 10 and 11 (Skowkale First Nation)	795	0.8 km	--	--	✓	✓	✓

TABLE 3.3-3 Cont'd

Community/Region	Population (2011)	Distance from Proposed Pipeline Corridor	Crossed by Proposed Pipeline Corridor	Location of Project-Related Facility	Crossed by HORU LSA	IR of an Aboriginal Community Potentially Affected by the Project	Potential Source of Project Labour, Contractors and/or Services
Soowahlie 14 (Soowahlie First Nation)	187	2.2 km	--	--	--	✓	✓
Skwali 3 (Skwah First Nation)	10	6.3 km	--	--	--	✓	✓
Skwah 4 (Skwah First Nation)	216	5.6 km	--	--	--	✓	✓
Kwawkwawapilt 6 (Kwaw-kwaw-apilt First Nation)	342	4.7 km	--	--	--	✓	✓
Squiaala 7 & 8 (Squiaala First Nation)	80	3.7 km	--	--	--	✓	✓
Aitchelitch 9 (Aitchelitz First Nation)	18	3.9 km	--	--	--	✓	✓
Skway 5 (Shxwha:y Village)	98	5.0 km	--	--	--	✓	✓
Holachten 8 (Leq'á:mel First Nation)	316	10.6 km	--	--	--	✓	✓
Skumalasp 16 (Aitchelitz First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village, Skwah First Nation, Squiala First Nation)	n/a ¹	8.4 km	--	--	--	✓	✓
Zaitscullachan 9 (Leq'á:mel First Nation)	n/a ¹	8.8 km	--	--	--	✓	✓
Lakway Cemetery 3 (Leq'á:mel First Nation)	n/a ¹	5.4 km	--	--	--	✓	✓
Lackaway 2 (Leq'á:mel First Nation)	n/a ¹	5.0 km	--	--	--	✓	✓
Yaalstrick 1 (Leq'á:mel First Nation)	n/a ¹	6.8 km	--	--	--	✓	✓
Skweahm 10 (Leq'á:mel First Nation)	292	8.5 km	--	--	--	✓	✓
Lakahahmen 11 (Leq'á:mel First Nation)	185	9.7 km	--	--	--	✓	✓
Papekwatchin 4 (Leq'á:mel First Nation)	n/a ¹	8.7 km	--	--	--	✓	✓
Sumas Cemetery 12 (Leq'á:mel First Nation)	n/a ¹	7.1 km	--	--	--	✓	✓

TABLE 3.3-3 Cont'd

Community/Region	Population (2011)	Distance from Proposed Pipeline Corridor	Crossed by Proposed Pipeline Corridor	Location of Project-Related Facility	Crossed by HORU LSA	IR of an Aboriginal Community Potentially Affected by the Project	Potential Source of Project Labour, Contractors and/or Services
Aylechootlook 5 (Leq'á:mel First Nation)	n/a ¹	5.4 km	--	--	--	✓	✓
Upper Sumas 6 (Sumas First Nation)	187	0.9 km	--	--	✓	✓	✓
Pekw'Xe:yles (Kwantlen First Nation, Chawathil First Nation, Cheam First Nation, Kwantlen First Nation, Kwaw-kwaw-apilt First Nation, Leq'á:mel First Nation, Matsqui First Nation, Popkum First Nation, Scowlitz First Nation, Seabird Island First Nation, Shxw'ow'hamel First Nation, Shxwa:y Village, Skawahlook First Nation, Skowkale First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation, Yakweakwioose First Nation) ⁶	n/a ¹	6.0 km	--	--	--	✓	✓
Sahhacum 1 (Matsqui First Nation)	n/a ¹	0.6 km	--	--	✓	✓	✓
Three Islands 3 (Matsqui First Nation)	n/a ¹	1.2 km	--	--	--	✓	✓
Langley 4 (Kwantlen First Nation)	n/a ¹	6.5 km	--	--	--	✓	✓
Langley 3 (Kwantlen First Nation)	n/a ¹	5.2 km	--	--	--	✓	✓
Langley 2 (Kwantlen First Nation)	n/a ¹	6.6 km	--	--	--	✓	✓
Metro Vancouver Region							
Electoral Area A, Metro Vancouver	13,035	0.2 km	--	--	✓	--	✓
Township of Langley	104,177	0 km (RK 1137.4 to RK 1156.1)	✓	--	✓	--	✓
City of Surrey	468,251	0 km (RK 1156.1 to RK 1168.9)	✓	--	✓	--	✓

TABLE 3.3-3 Cont'd

Community/Region	Population (2011)	Distance from Proposed Pipeline Corridor	Crossed by Proposed Pipeline Corridor	Location of Project-Related Facility	Crossed by HORU LSA	IR of an Aboriginal Community Potentially Affected by the Project	Potential Source of Project Labour, Contractors and/or Services
City of Coquitlam	126,456	0 km (RK 1168.9 to RK 1175.2)	✓	--	✓	--	✓
City of Burnaby ⁴	223,218	0 km (RK 1175.1 to RK 1183.6)	✓	✓	✓	--	✓
District of Maple Ridge	76,052	1.4 km	--	--	--	--	✓
City of Langley	25,081	5.5 km	--	--	--	--	✓
City of Pitt Meadows	17,736	1.4 km	--	--	--	--	✓
City of White Rock	19,339	17.3 km	--	--	--	--	✓
City of Port Coquitlam	56,342	0.3 km	--	--	✓	--	✓
City of New Westminster	65,976	0.2 km	--	--	✓	--	✓
Corporation of Delta	99,863	5.4 km	--	--	--	--	✓
Tsawwassen First Nation ⁷	720	27.2 km	--	--	--	✓	✓
City of Richmond	190,473	7.3 km	--	--	--	--	✓
City of Port Moody ⁴	32,975	1.4 km	--	--	--	--	✓
Village of Anmore ⁴	2,092	5.7 km	--	--	--	--	✓
Village of Belcarra	644	3.1 km	--	--	--	--	✓
District of North Vancouver ^{2,4}	84,412	0.8 km	--	--	✓	--	✓
City of Vancouver	603,502	4.7 km	--	--	--	--	✓
City of North Vancouver	84,412	5.8 km	--	--	--	--	✓
District of West Vancouver	42,694	12.2 km	--	--	--	--	✓
Village of Lions Bay	1,318	26.3 km	--	--	--	--	✓
Bowen Island, Island Municipality	3,402	27.6 km	--	--	--	--	✓
Whonnock 1 (Kwantlen First Nation)	0	4.6 km	--	--	--	✓	✓
Matsqui 4 (Matsqui First Nation)	498	12.8 km	--	--	--	✓	✓
Langley 5(Kwantlen First Nation)	0	3.2 km	--	--	--	✓	✓
McMillan Island 6 (Kwantlen First Nation)	68	1.8 km	--	--	--	✓	✓
Pitt Lake 4 (Katzie First Nation)	n/a ¹	18.8 km	--	--	--	✓	✓
Katzie 2 (Katzie First Nation)	0	0.9 km	--	--	✓	✓	✓
Graveyard 5 (Katzie First Nation)	n/a ¹	3.5 km	--	--	--	✓	✓
Katzie 1 (Katzie First Nation)	229	1.8 km	--	--	--	✓	✓
Barnston Island 3 (Katzie First Nation)	0	0.4 km	--	--	✓	✓	✓

TABLE 3.3-3 Cont'd

Community/Region	Population (2011)	Distance from Proposed Pipeline Corridor	Crossed by Proposed Pipeline Corridor	Location of Project-Related Facility	Crossed by HORU LSA	IR of an Aboriginal Community Potentially Affected by the Project	Potential Source of Project Labour, Contractors and/or Services
Coquitlam 1 (Kwikwetlem First Nation)	39	1.6 km	--	--	--	✓	✓
Coquitlam 2 (Kwikwetlem First Nation)	5	2.9 km	--	--	--	✓	✓
Semiahmoo (Semiahmoo First Nation)	108	18.6 km	--	--	--	✓	✓
Inlailawatash 4A (Tsleil-Waututh Nation)	n/a ¹	21.3 km	--	--	--	✓	✓
Burrard Inlet 3 (Tsleil-Waututh Nation)	1,472	1.9 km	--	--	--	✓	✓
Seymour Creek 2 (Squamish Nation)	107	4.8 km	--	--	--	--	✓
Mission 1 (Squamish Nation)	574	9.5 km	--	--	--	--	✓
Capilano 5 (Squamish Nation)	2700	12.1 km	--	--	--	--	✓
Kitsilano 6 (Squamish Nation)	n/a ¹	13.0 km	--	--	--	✓	✓
Musqueam 2 (Musqueam Indian Band)	1,569	17.7 km	--	--	--	✓	✓
Sea Island 3 (Musqueam Indian Band)	n/a ¹	18.5 km	--	--	--	✓	✓
Musqueam 4 (Musqueam Indian Band)	5	24.7 km	--	--	--	✓	✓

Source: Statistics Canada 2012

- Notes:**
- 1 Statistics Canada does not provide information for this community.
 - 2 Crossed by reactivated pipeline segment.
 - 3 Data for this area has been suppressed by for data quality or confidentiality reasons.
 - 4 Potentially in line of sight of the Westridge Marine Terminal.
 - 5 Other First Nations on this IR include Bonaparte First Nation. This First Nation was not identified as potentially affected by the Project.
 - 6 Other First Nations on this IR include Sts'ailes First Nation. This First Nation was not identified as potentially affected by the Project.
 - 7 Tsawassen First Nation is not an IR, as land has been purchased by the Aboriginal community; however it is considered in a similar fashion as IRs of Aboriginal communities identified as potentially affected by the Project.

As noted above, not all communities in the RSA will be equally affected by the Project. Communities further from the Project, but in a likely commuting distance, could be a potential source of labour, contractors and services related to the Project. Those communities crossed by the Project will experience a different suite of effects related to land and resource disturbance and the potential increased use or disturbance to community infrastructure and services. The IRs and Aboriginal communities for which data are not provided by Statistics Canada are likely to be unpopulated.

The six socio-economic regions are shown in Figure 3.3-5 to Figure 3.3-10, with the boundaries of the Socio-Economic RSA and HORU LSA and RSA shown on each figure.

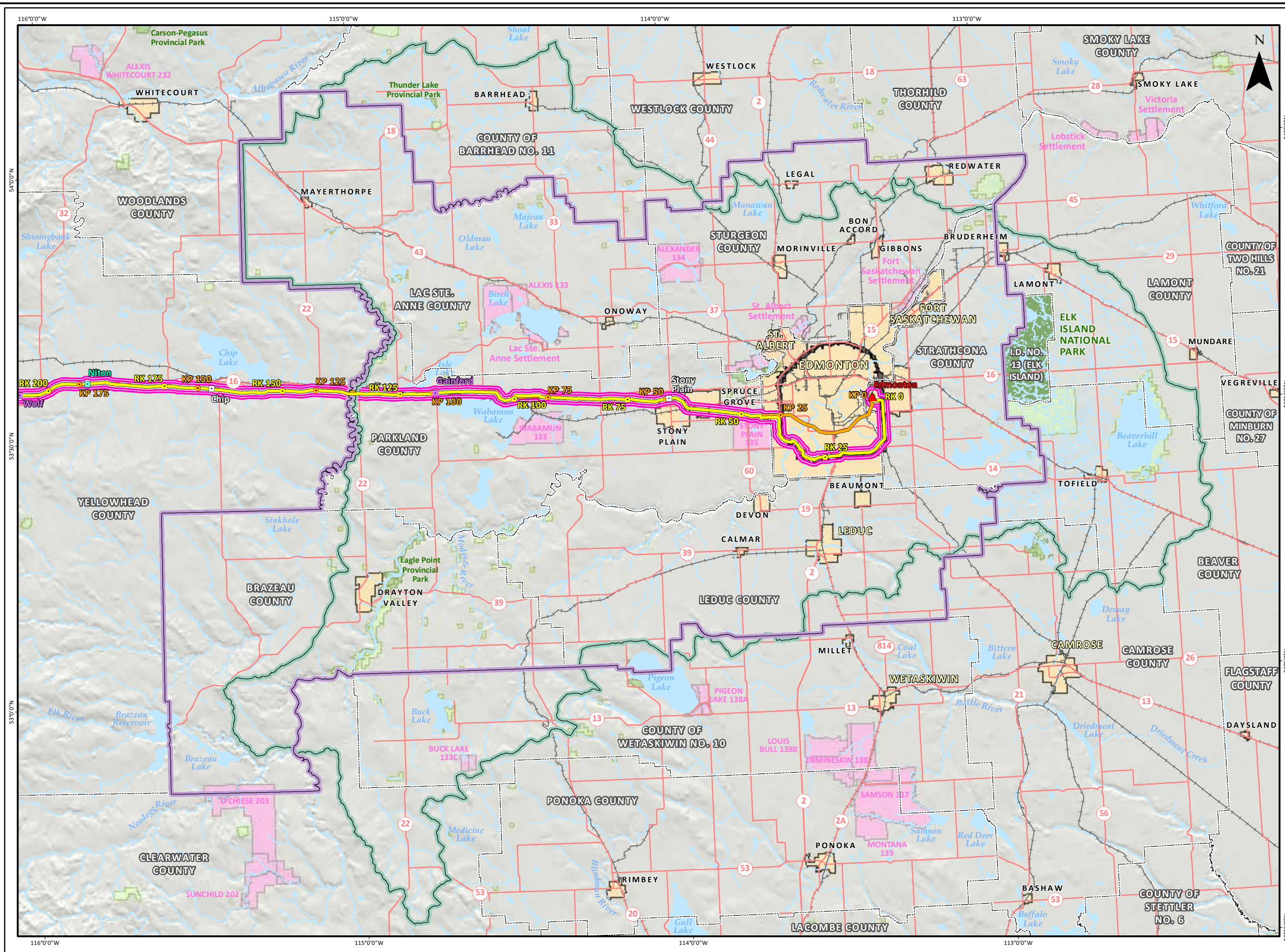


FIGURE 3.3-5
SOCIO-ECONOMIC AND HUMAN
OCCUPANCY AND RESOURCE USE
STUDY AREA BOUNDARIES –
EDMONTON REGION

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)
- Pump Station (Reactivated)
- Existing Pump Station
- Highway
- Railway
- HORU RSA Boundary
- Socio-Economic RSA Boundary
- HORU LSA Boundary
- City / Town / District Municipality
- Indian Reserve / Métis Settlement
- Transportation and Utility Corridor (TUC)
- National Park
- Provincial Park
- Protected Area / Natural Area / Provincial Recreation Area / Wilderness Provincial Park / Conservancy Area
- Municipal / District Boundary

Projection: NAD 1983 UTM 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 Hillshade: TERA Environmental Consultants, 2008; US Hillshade: ESRI, 2009.

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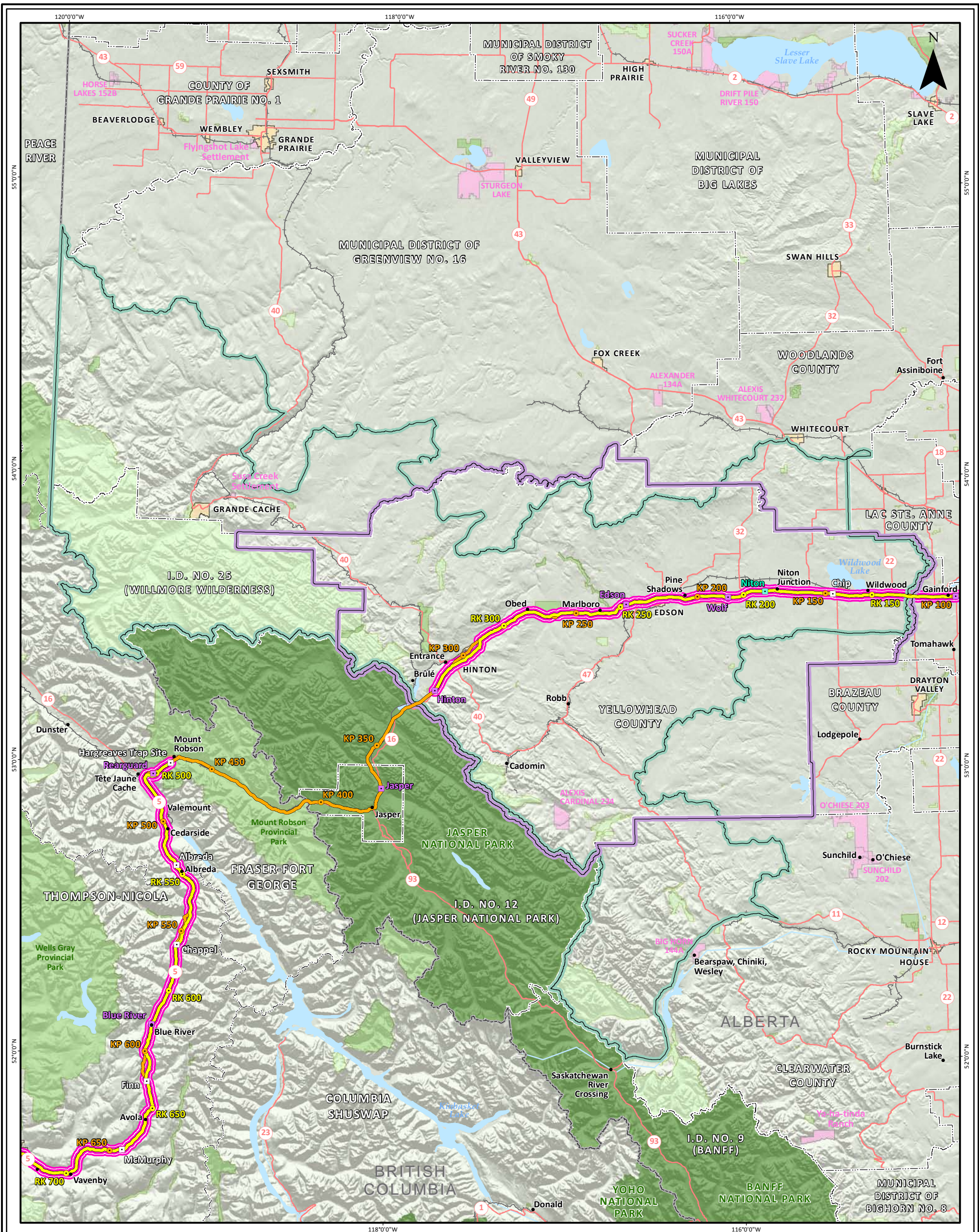
Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.



MAP NUMBER 201310_MAP_TERA_SE_00455_REV0_01	PAGE 7894	SHEET 1 OF 6
DATE December 2013	TERA REF. 7894	REVISION 0
SCALE 1:750,000	PAGE SIZE 11x17	DISCIPLINE SE
DRAWN AJS	CHECKED TGG	DESIGN TGG

0 5 10 15 20 25 km
 ALL LOCATIONS APPROXIMATE

201310_MAP_TERA_SE_00455_REV0_01.mxd



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

Projection: NAD 1983 UTM 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 Hillshade: TERA Environmental Consultants, 2008; US Hillshade: ESRI, 2009.

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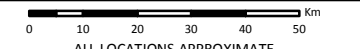


FIGURE 3.3-6
SOCIO-ECONOMIC AND HUMAN OCCUPANCY AND RESOURCE USE STUDY AREA BOUNDARIES – RURAL ALBERTA REGION

TRANS MOUNTAIN EXPANSION PROJECT

MAP NUMBER 201310_MAP_TERA_SE_00455_REVO_02	PAGE SHEET 2 OF 6
DATE December 2013	REVISION 0
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CHECKED TGG	



ALL LOCATIONS APPROXIMATE

FIGURE 3.3-7

SOCIO-ECONOMIC AND HUMAN OCCUPANCY AND RESOURCE USE STUDY AREA BOUNDARIES – JASPER NATIONAL PARK REGION

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
- Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
- Existing Pump Station
- Highway
- Railway
- HORU RSA Boundary
- Socio-Economic RSA Boundary
- HORU LSA Boundary
- City / Town / District Municipality
- Indian Reserve / Métis Settlement
- National Park
- Provincial Park
- Protected Area / Natural Area / Provincial Recreation Area / Wilderness Provincial Park / Conservancy Area
- Municipal / District Boundary
- Provincial Boundary

Projection: NAD 1983 UTM 11N. Routing: Baseline TMPL & Facilities provided by KMC, 2012; Proposed Pipeline Corridor VLS 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; ATIS Grid: AltaLIS, 2009; Edmonton TUC; Alberta Infrastructure, 2011; Canadian Hillshade: TERA Environmental Consultants, 2008; US Hillshade: ESRI, 2009.

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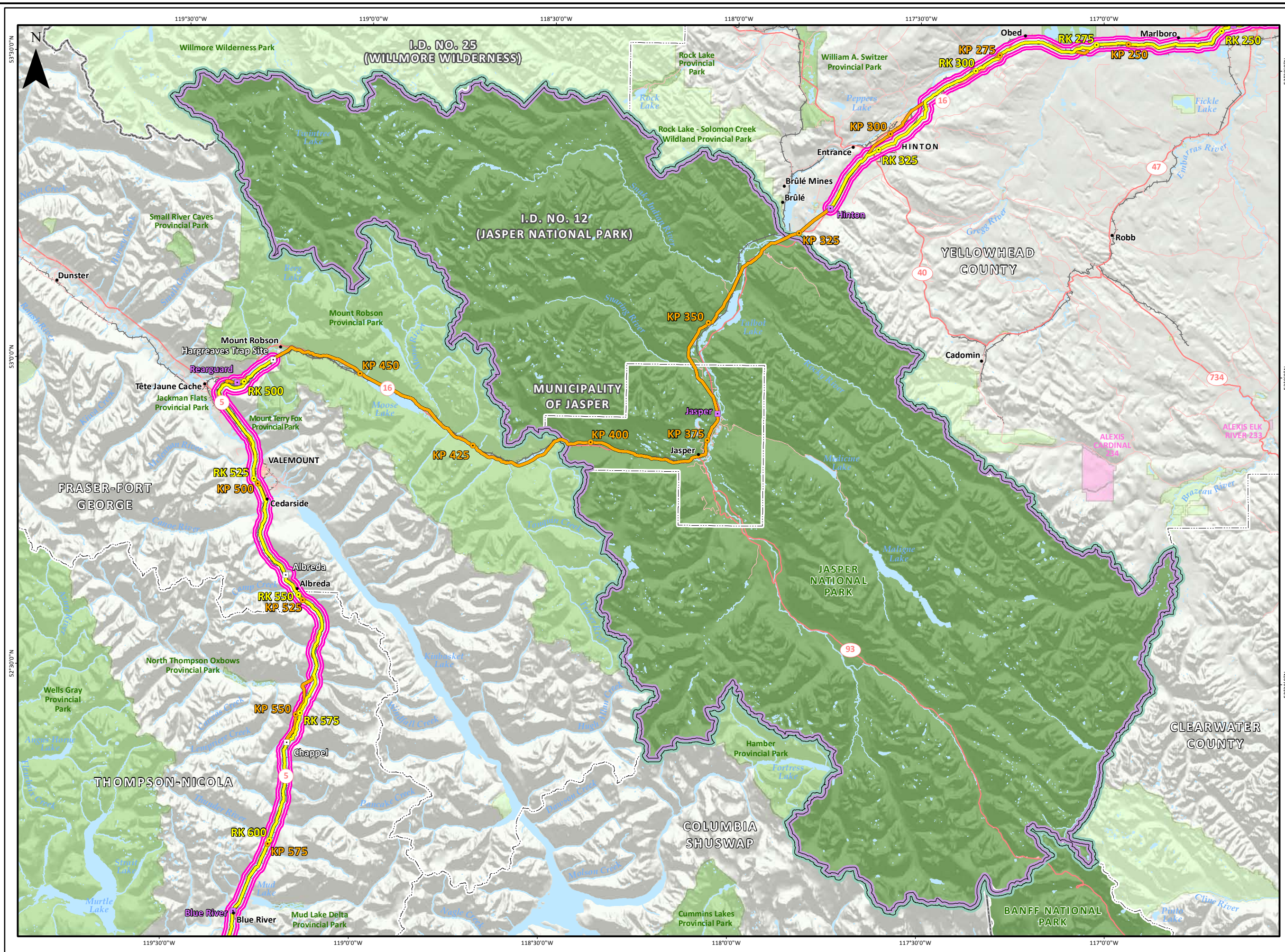


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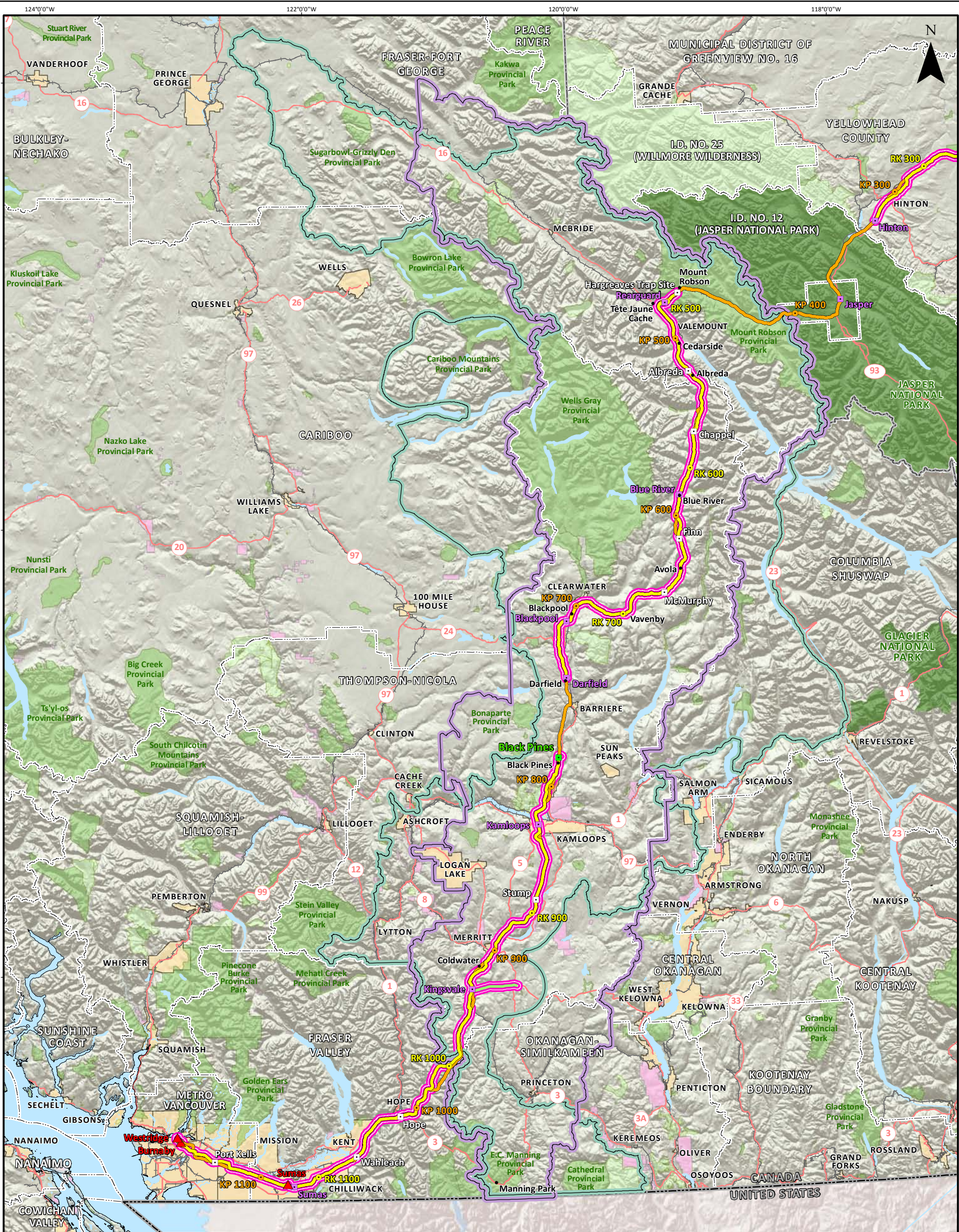


MAP NUMBER 201310_MAP_TERA_SE_00455_REV0_03	PAGE 7894	SHEET 3 OF 6
DATE December 2013	TERA REF. 7894	REVISION 0
SCALE 1:650,000	PAGE SIZE 11x17	DISCIPLINE SE
DRAWN AUS	CHECKED TGG	DESIGN TGG

0 5 10 15 20 25 km
ALL LOCATIONS APPROXIMATE



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- Town / Village / Hamlet
- Reference Kilometre Post (RK)
- Kilometre Post (KP)
- Trans Mountain Pipeline (TMPL)
- Trans Mountain Expansion Project Proposed Pipeline Corridor
- Proposed Power Line
- ▲ Terminal
- Pump Station (Pump Additions, Station Modifications and/or Scraper Facilities)
- New Pump Station (Proposed)
- Existing Pump Station
- ① Highway
- Railway
- HORU RSA Boundary
- Socio-Economic RSA Boundary
- HORU LSA Boundary
- City / Town / District Municipality
- Indian Reserve / Métis Settlement
- National Park
- Provincial Park
- Protected Area / Natural Area / Provincial Recreation Area / Wilderness Provincial Park / Conservancy Area
- Regional District Boundary
- Provincial Boundary
- International Boundary

Projection: NAD 1983 UTM 10N. 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 Hillshade: TERA Environmental Consultants, 2008; US Hillshade: Copyright: © 2013 Esri.

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FIGURE 3.3-8
SOCIO-ECONOMIC AND HUMAN OCCUPANCY AND RESOURCE USE STUDY AREA BOUNDARIES – FRASER-FORT GEORGE / THOMPSON-NICOLA REGION

TRANS MOUNTAIN EXPANSION PROJECT

MAP NUMBER 201310_MAP_TERA_SE_00455_REV0_04	PAGE SHEET 4 OF 6
DATE December 2013	REVISION 0
SCALE 1:1,850,000	DISCIPLINE SE
DRAWN AJS	DESIGN TGG
CHECKED TGG	

0 20 40 60 80 Km
ALL LOCATIONS APPROXIMATE



FIGURE 3.3-9
SOCIO-ECONOMIC AND HUMAN
OCCUPANCY AND RESOURCE USE
STUDY AREA BOUNDARIES –
FRASER VALLEY REGION

TRANS MOUNTAIN EXPANSION PROJECT

- 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 Additions, Station Modifications and/or Scraper Facilities)
- Existing Pump Station
- Highway
- Railway
- HORU RSA Boundary
- Socio-Economic RSA Boundary
- HORU LSA Boundary
- City / Town / District Municipality
- Indian Reserve / Métis Settlement
- National Park
- Provincial Park
- Protected Area / Natural Area / Provincial Recreation Area / Wilderness Provincial Park / Conservancy Area
- Municipal / District Boundary
- International Boundary

Projection: NAD 1983 UTM 10N. Routing: Baseline TMPL & Facilities: provided by KMC, 2012; Proposed Pipeline Corridor 16: 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; Atlas, 2013; IHS Inc., 2011; BC FLNRO, 2007 & ESRI, 2005; First Nation Lands: Government of Canada, 2013; Atlas, 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; Atlas, 2012 & BC FLNRO, 2008; ATS Grid: Atlas, 2009; Edmonton TUC: Alberta Infrastructure, 2011; Canadian Hillshade: TERA Environmental Consultants, 2008; US Hillshade: Copyright: © 2013 Esri.

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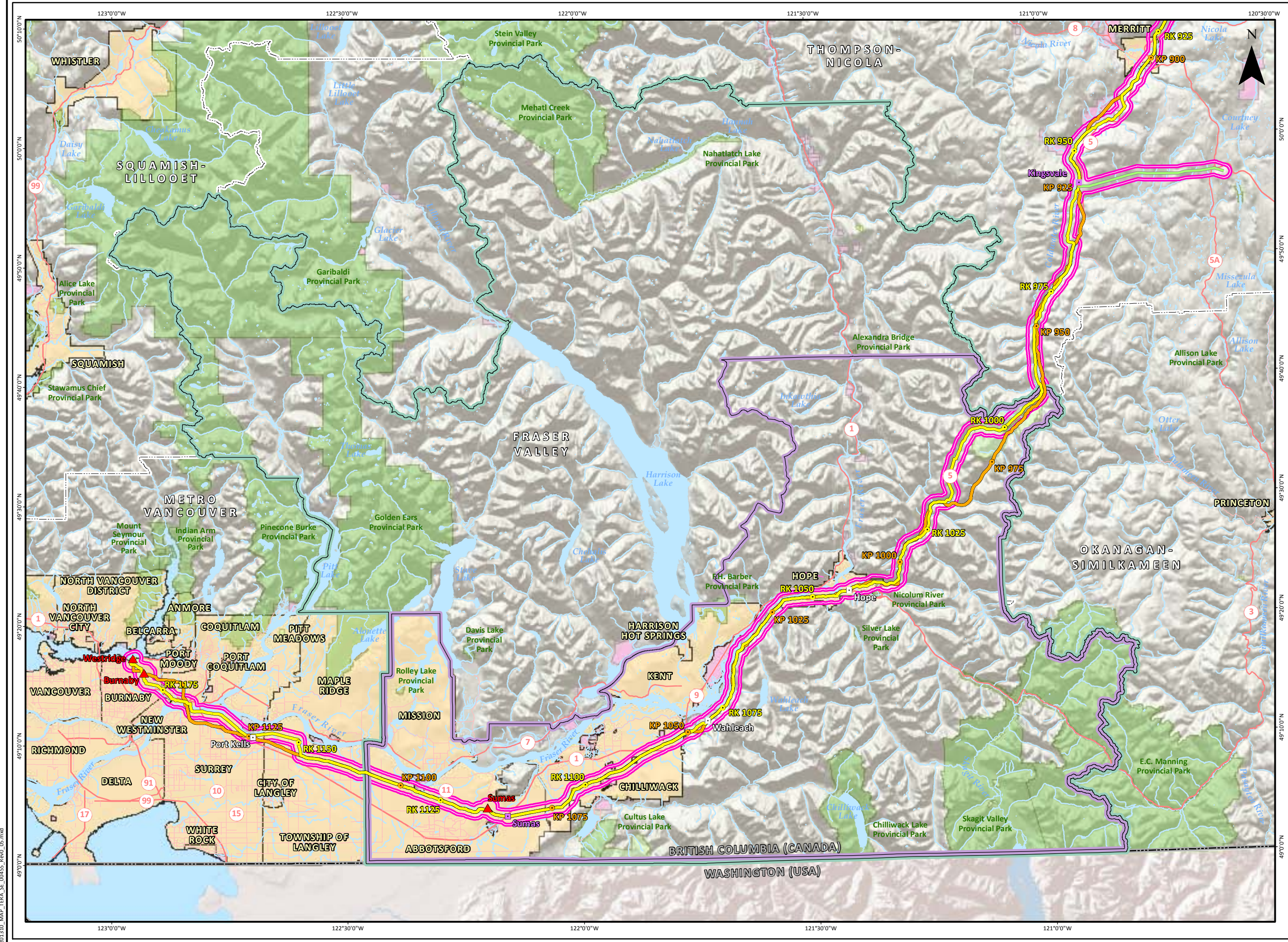


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DATE December 2013	REVISION 0	
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0 4 8 12 16 20 km
 ALL LOCATIONS APPROXIMATE



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FIGURE 3.3-10

SOCIO-ECONOMIC AND HUMAN OCCUPANCY AND RESOURCE USE STUDY AREA BOUNDARIES – METRO VANCOUVER REGION

TRANS MOUNTAIN EXPANSION PROJECT

- Kilometre Post (KP)
- Reference Kilometre Post (RK)
- Trans Mountain Pipeline (TMPL)
- Trans Mountain Expansion Project Proposed Pipeline Corridor
- Terminal
- Existing Pump Station
- Highway
- Railway
- HORU RSA Boundary
- Socio-Economic RSA Boundary
- HORU LSA Boundary
- City / Town / District Municipality
- Indian Reserve / Métis Settlement
- National Park
- Provincial Park
- Protected Area / Natural Area / Provincial Recreation Area / Wilderness Provincial Park / Conservancy Area
- Municipal / District Boundary
- International Boundary

Projection: NAD 1983 UTM 10N. 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 FINRO, 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 FINRO, 2008; ATS Grid: AtlasIS, 2009; Edmonton TUC: Alberta Infrastructure, 2011; Canadian Hillshade: TERA Environmental Consultants, 2008; US Hillshade: Copyright: © 2013 Esri.

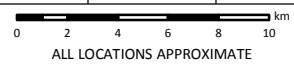
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MAP NUMBER 201310_MAP_TERA_SE_00455_REV0_06	PAGE 7894	SHEET 6 OF 6
DATE December 2013	TERA REF. 7894	REVISION 0
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ALL LOCATIONS APPROXIMATE



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3.4 Existing Conditions

For socio-economic elements discussed in this report, existing conditions represent the current state of the setting for each element or indicator, as identified from a review of available data, map analysis, and consultation and interviews with key informants.

Socio-economic conditions are, by their nature, dynamic and always evolving. Socio-economic conditions are affected by a wide range of factors such as day-to-day community-level government decisions, the advancement of other developments, individuals' decisions and broader economic forces. As such, all baseline information presented in this report should be considered a "snapshot" of existing conditions and trends at the time of writing based on the best available information, with the understanding that socio-economic conditions and trends are continually changing.

Socio-economic baseline data was compiled using a literature and desktop reviews as well as primary sources, as discussed in the following subsections.

Section 13.0 provides a summary of all information sources and references used in this report.

3.5 Desktop Literature Review

The initial step in the baseline data collection process was the desktop literature review. This involved identifying and reviewing existing published (or secondary) data from the following sources:

- various Statistics Canada sources including: the Census of Population (Census of Canada); National Household Survey (NHS); and the Canadian Socio-Economic Information Management System (CANSIM);
- Aboriginal Affairs and Northern Development Canada (AANDC) Aboriginal community profiles;
- available relevant land use and development plans, select bylaws and social planning documentation for municipalities and regions;
- provincial, regional, municipal and Aboriginal government data, studies and reports;
- reports from industry, academic, community-based or other non-governmental organizations (NGOs);
- environmental assessments for projects with a similar socio-cultural context or regulatory context (e.g., the Northwest Mainline Expansion [TERA Environmental Consultants 2011a], Enbridge Northern Gateway [Enbridge 2010], Northwest Mainline Komie North Extension [TERA Environmental Consultants 2011b], and the TMX-Anchor Loop Project [TERA Environmental Consultants 2005]); and
- internet searches and related online investigations.

Given the dynamic nature of socio-economic conditions and the continual flow of new information, the literature/desktop review continued in an ongoing and iterative manner throughout much of the assessment process. The collection of desktop information began in spring 2012; new information sources were considered, as identified and available, until November 9, 2013.

3.6 Primary Data Collection

Primary data sources included inputs and opinions from key informed sources at the community, regional and provincial level in both Alberta and BC. The study team conducted technical meetings and discussions with a range of key informed sources, including:

- federal, provincial, regional and municipal government officials;

- local and regional service providers and administrators;
- Aboriginal leaders and Aboriginal community members (see Section 2.3); and
- community-based NGOs with interests and knowledge in particular socio-economic issues and geographic areas (e.g., economic development organizations, recreational user organizations).

Discussions with key informed sources were important in the baseline data collection process in that they allowed the study team to:

- verify and interpret information from existing literature and other desktop sources;
- obtain qualitative information about communities and regions; and
- identify and access additional information sources.

The socio-economic technical discussions were also essential in the issues-scoping process. They facilitated the identification and framing of key interests and issues related to the Project, as well as facilitated input regarding socio-economic mitigation, enhancement and monitoring measures.

Key informant interviews began in fall 2012 with initial visits to many communities and regions crossed by the Project. Once further Project details were established (including preferred corridor, workforce estimates, worker accommodation principles), additional key informant visits were conducted in the summer of 2013. Socio-economic interviews with participating Aboriginal communities began in April 2013, and were ongoing at the time of writing. See Section 2.3 for further information on the socio-economic interviews conducted with Aboriginal communities.

All key informant interviews conducted by the socio-economic study team during are listed in Table 2.1-1.

Other primary data sources referred to in the course of the study included:

- results of other Project engagement activities and stakeholder meetings, including Aboriginal engagement activities from potentially affected Aboriginal communities (e.g., TEK and TLU studies, Trans Mountain Aboriginal engagement);
- results of Project-related open houses, Community Workshops and ESA Workshops;
- geographic information system (GIS) tools to determine spatial relationships of source data to the pipeline and facilities; and
- observations during field visits.

All primary information collection was documented via Project-wide stakeholder engagement tracking protocols.

3.7 Data Context and Limitations

Level of Information

The level of information presented differs between Footprint, LSA and RSA and differs between indicators. Effort has been made to present a level of detail that is required to support robust issues-focused assessment of socio-economic effects, and to avoid presenting information on baseline conditions where a Project interaction is unlikely. As such, for certain indicators, baseline conditions in the RSA are not discussed, since no Project interaction is anticipated. Indicators for which RSA level information is considered relevant and is therefore discussed include:

- population characteristics, economy, and labour force, as RSA communities could be a source of labour and business services in relation to the Project;
- key land and resource use areas, where access to these land use areas may be affected by the Project particularly during construction;
- road infrastructure, where such roads may be used by the Project for the transportation of materials, equipment, and labour during the construction phase; and
- water and waste infrastructure, where such infrastructure may be used by the Project during the construction phase.

Statistical Data

Population and demographic data is based on Census of Canada data available from Statistics Canada. The most recent Census of Canada was in 2011. Data pertaining to labour force, economy, housing, Aboriginal identity and educational attainment are from the 2011 NHS. These data are the best available data at the municipal or community level across the Socio-Economic RSA.

The NHS is a new survey instrument established by Statistics Canada during the latest census. It is a voluntary, self-administered survey introduced as a replacement for the long-form census questionnaire. Some of its results take the place of certain questions that have historically been part of the long-form federal census. The results of the 2011 NHS were released in June 2013. The NHS differs from the Census of Canada in that it surveys only the population in households typically residing in Canada. It excludes persons living in institutional collective dwellings such as hospitals, nursing homes and penitentiaries; Canadian citizens living in other countries; full-time members of the Canadian Forces stationed outside Canada; and persons living in non-institutional collective dwellings such as work camps, hotels and motels, and student residences. Statistics Canada indicates that the NHS had a sampling rate of about 3 in 10 and a response rate of 68.6%, and estimates that about 21% of the Canadian population participated in the NHS (Statistics Canada 2013b).

Given the different surveying methods and population of focus, the community-level population counts that underlie the NHS data are different from those provided in the Census of Canada. Statistics Canada indicates that the final weights are selected so as to reduce or eliminate differences between the 2011 Census population counts and the NHS estimates. However, some discrepancies may persist because the weighting constraints sometimes have to be discarded. In addition, since the final weight adjustment is based on calibrated areas, some of which are made up of several small municipalities, there may be discrepancies between the NHS estimates and the census counts for small municipalities. Whether there is a discrepancy or not is an indication of the quality of the NHS estimates. For census subdivisions with a population of 25,000 or more, the census count and the NHS estimate are practically identical (Statistics Canada 2013b). Regardless of shortcomings, NHS data is, however, the best information for many socio-economic population parameters at the municipality, community, and IR level.

For some smaller communities, certain Census of Canada and NHS data from Statistics Canada is suppressed or otherwise not made available for confidentiality reasons. Also, Statistics Canada randomly rounds frequency of some data to zero or five. When such rounded and imprecise frequencies are converted to percentages, the totals of these percentages sometimes do not sum to 100%. Due to certain Census of Canada data presented in the discussion of existing conditions, particularly for smaller communities, some data are imprecise and should be interpreted with caution. However, such data are still considered valuable because they are indicative of the general direction of socio-economic conditions and allow for some understanding of differences between communities. All statistical data should be interpreted with caution.

At times, data from the same Statistics Canada survey instrument presents minor differences in total population or labour force counts for the same community between data variables; this is a result of random rounding.

It is understood that many communities, particularly small or Aboriginal communities, may not be accurately reflected in Statistics Canada data. However, these data are often the only data available at the community level in many places. Where local information or knowledge has been identified to verify or add to the understanding of population or economic statistics, it is presented in the discussion.

For some small communities, certain statistical data are reported as zeros. Zeros may occur due to rounding, they may result due to inconsistencies or errors in the source data, or they may be true zeros. In this report, where professional judgement suggested that the value likely was suppressed or not reported (as opposed to being a true zero), these values are noted as “n/a” with the subscript indicating that the metric was suppressed and/or rounded to zero.

Statistical data is typically available only for incorporated communities, regions and IRs. Unincorporated hamlets and communities are amalgamated into the county or region in which they are geographically located and by which they are administered. As such, unincorporated hamlets and communities are not identified as study area communities for the purposes of the assessment. There are, however, several unincorporated areas are crossed by the proposed pipeline corridor and may be directly affected by the Project. While statistical data is not available for these communities, information about these communities has been presented where possible based on other sources.

Review of Land Use and Development Plans

A number of municipal and regional land use and development plans were reviewed during the course of the assessment. In many instances these plans provided valuable land and resource use context pertinent to understanding existing conditions along the proposed pipeline corridor and in the vicinity of the Project facilities. These plans were also reviewed to ascertain any municipal and regional governmental objectives as they pertain to the elements under discussion in this report. Plans were also reviewed to ascertain any considerations or restrictions pertaining pipeline construction and operations in the land use areas crossed by the Project, and to identify the extent to which the proposed Project activities are consistent with the objectives and purposes of the land use and development plans.

Review of land use and development plans was performed through an ocular assessment, not a GIS review, as spatial files of all land use plans were not available for public use. As such, details such as the estimations of RKs where the proposed pipeline corridor crosses certain land use zones are approximate.

GIS Data

Spatial data to run GIS analyses were not always available. To determine approximate locations of features of interest or importance in relation to the Project, some distances were manually interpreted using TERA's webmap system. This involved using the measurement tool and the socio-economic background layer. While the approximate spatial information is valuable to have a sense of approximate locations, the information is not as accurate as using a GIS and spatial data files to run analyses.

Some of the data presented in this report may seem to overlap. RK refers to the entire width of the corridor at a given point (measured perpendicularly from the general centre of the proposed pipeline corridor). A corridor distorts the relative distance between features and the RK length of individual features that are located along it, especially if the corridor is wide as the route turns a curve. The opposite is also true for the outside of a curve in the corridor. In short, RK ranges are exaggerated for features on the inside of a curve in the corridor and under-estimated for features on the outside edge of a curve in the corridor. Socio-economic regions were determined based on nearest RK to a feature or area. Some features or areas may be included in more than one region.

4.0 EXISTING CONDITIONS – GENERAL INFORMATION

4.1 Edmonton Region

The Edmonton Region contains the Edmonton Metropolitan Area (which includes the City of Edmonton and numerous surrounding cities, towns, villages, IRs and regions) and select other surrounding communities and regions that could provide labour or services to the Project in the Edmonton area. The Edmonton Metropolitan Area is the sixth largest Metropolitan Area in Canada. In 2011, the total population of the Edmonton Region was approximately 1.2 million, an 11.8% increase from 2006. In 2011, approximately 77.3% of the population was between the ages of 25 and 64 years old, and the median age was 39.8 (Statistics Canada 2012). Approximately 5.5 % of the population identified as Aboriginal (Statistics Canada 2013a). In 2011, the median income of adults (aged 15 and over) in the Edmonton Region was approximately \$39,800; the median income of those working full-year, full-time was approximately \$57,500 (Statistics Canada 2013a).

There are several IRs and Aboriginal communities in this region; however, no IRs are crossed by the Project. Incorporated communities crossed by the Project in the Edmonton Region include Strathcona County, City of Edmonton, City of Spruce Grove, Town of Stony Plain, Village of Wabamun and Parkland County. Several unincorporated hamlets are also crossed by the Project, including Entwistle and Gainford.

The Footprint and HORU LSA of the Edmonton Region are located in the boundaries of the Upper Athabasca Land Use Framework Planning Region and the North Saskatchewan Land Use Framework Planning Region. Regional Plans for the Upper Athabasca and North Saskatchewan Regions have not yet been developed (Government of Alberta 2012a). There are several municipal land use and development plans whose jurisdictions are crossed by the Project, as follows:

- Strathcona County Municipal Development Plan (MDP) Bylaw 1-2007;
- The Way We Grow: MDP, Bylaw 15100 (City of Edmonton);
- Your Bright Future: MDP 2010-2020 (City of Spruce Grove);
- Entwistle Area Structure Plan Bylaw No. 23-2012;
- Parkland County MDP, Bylaw No. 37-2007;
- Parkland County Land Use Bylaw No. 20-2009;
- Town of Stony Plain MDP 2005-2020; and
- Village of Wabamun MDP.

The Project crosses various land and resource use types in the Edmonton Region, including industrial, utility corridors, oil and gas activities, agriculture and forestry. Within the City of Edmonton, the proposed pipeline corridor is located within the existing Transportation and Utilities Corridor (TUC) for most of its length (the exception from approximately RK 42 to RK 45 where the corridor is located outside the TUC).

No provincial parks or protected areas are directly crossed by the proposed pipeline corridor in the Edmonton Region; however, three municipal parks within the City of Edmonton are crossed by the proposed pipeline corridor. There are 2 provincial parks, 15 municipal parks, 1 nature reserve, 2 municipal sports parks, 1 municipal ball park and 1 municipal off-leash dog park crossed by the HORU LSA in this region.

Communities along the proposed pipeline corridor are serviced by a wide range of infrastructure and services. In the Edmonton Region, most of the proposed pipeline corridor generally parallels Highway 216 (Anthony Henday Drive) and Highway 16 (Yellowhead Highway). Highway 16 is anticipated to be the

main highway utilized for the movement of equipment and materials to various pipeline spread locations in the Edmonton Region. Other highways in the Socio-Economic RSA that may be utilized by the Project for the purposes of moving equipment and materials to pipeline spread construction staging areas include Highways 14, 2 and 60. In terms of housing capacity, the private housing market in the Edmonton Region is large in certain areas (City of Edmonton) and small in other communities. Local municipal officials and real estate professionals indicate that there is a housing crunch in the region, with limited rental accommodation available. Data indicate that, as of 2012, there was a rental vacancy rate of 1.7% in the City of Edmonton, 1.5% in the City of Spruce Grove and 3.9% in the Town of Stony Plain (Canada Mortgage and Housing Corporation [CMHC] 2012a). There is a large temporary housing market in the Edmonton Region, with approximately 15,000 hotel rooms and over 10 campgrounds with over 1,100 sites in the area.

The proposed pipeline corridor in the Edmonton Region crosses 1 watercourse that is considered navigable: the North Saskatchewan River. The North Saskatchewan River is a focus for many outdoor recreation activities including angling and pleasure boating. The City of Edmonton park and trails system provides numerous points of access to the North Saskatchewan River. The proposed pipeline corridor also crosses 12 potentially navigable watercourses and 46 potentially navigable wetlands.

The Edmonton Region's economic base has expanded from a provincial government and regional commercial centre to include agriculture, biofuels, chemicals and petrochemicals, commercial/retail, residential, forestry and related industries, infrastructure, institutional, mining, oil and gas, oil sands, other industrial, pipelines, power, and tourism and recreation. For the Edmonton Region overall within in the Socio-Economic RSA, in 2011 the most active industries (by industrial classification) were: retail trade (employing approximately 11.1% of the labour force); health care and social assistance (10.5%); and construction (9.8%). Public administration was another key industry (employing 8.1% of the labour force), as well as professional, scientific and technical services (6.9%) and educational services (7.4%) (Statistics Canada 2013a). For the Edmonton Region overall within in the Socio-Economic RSA, in 2011 there was a labour force of approximately 696,600 workers, with a participation rate of about 73.2% and an unemployment rate of 5.6% (Statistics Canada 2013a).

Generally, both Alberta and BC are in a period of economic growth resulting in growing employment and a tightening in labour supply. From 2010 to 2021, Alberta's labour demand is projected to grow by an annual average rate of 2.4%, while occupational supply is anticipated to increase at a rate of 1.9% annually. Alberta could experience a labour shortage of approximately 114,000 workers by 2021. The anticipated growth in labour demand is higher in the Edmonton Region than for the province as a whole, with approximately 2.9% growth in labour demand anticipated in the region annually from 2013 to 2017 (Alberta Enterprise and Advanced Education 2013d).

There is substantial reasonably foreseeable development proposed in the region, representing approximately \$24.5 billion of capital expenditures, that may coincide with the construction of the Project, and compete for available labour. This includes numerous potential pipeline and energy-related developments (e.g., the Heartland Pipeline and Terminals Projects, Heartland Transmission Project, Polaris Expansion Project, Edmonton to Hardisty Pipeline Project, ACCESS Northeast Pipeline Expansion) and multiple municipal infrastructure and services projects (e.g., Edmonton Visual Performing Arts Centre, libraries, transit expansion, recreation facilities, hospital expansions, post-secondary education institution expansions, and regional airport expansions). There are also numerous oil and gas wells anticipated. See Section 8.0 Cumulative Effects Assessment of Volume 5B for details on reasonably foreseeable developments in the region.

4.2 Rural Alberta Region

The Rural Alberta Region includes the less industrial and more agricultural areas west of Edmonton, and includes the entire Yellowhead County. The Town of Edson and the Town of Hinton are crossed by the proposed pipeline corridor. In 2011, the total population of the Rural Alberta Region was approximately 29,300; a 3.5% increase from 2006. The median age of the Rural Alberta Region was 43.5 and 11.5% of the population identified as Aboriginal (Statistics Canada 2012). In 2011, the median income of adults in

the Rural Alberta Region was approximately \$34,700; the median income of those working full-year full-time was approximately \$59,000 (Statistics Canada 2013a).

There are several IRs and Aboriginal communities in this region; however, no IRs are crossed by the proposed pipeline corridor.

The Footprint and HORU LSA of the Rural Alberta Region are located in the boundaries of the North Saskatchewan Land Use Framework Planning Region. The Project also traverses land under the jurisdiction of the following municipal and regional plans:

- Yellowhead County MDP Bylaw No. 1.06;
- Yellowhead County Land Use Bylaw No. 2.06;
- Town of Edson MDP;
- Edson Urban Fringe Intermunicipal Development Plan;
- Town of Hinton MDP;
- Town of Hinton Community Development and Enhancement Plan;
- Hamlet of Evansburg Area Structure Plan Bylaw No. 12.03;
- Hamlet of Wildwood Area Structure Plan;
- Coal Branch Sub-Regional Integrated Resource Plan; and
- The Northern East Slopes Sustainable Resource and Environmental Management Strategy.

The land and resource uses crossed by the Project in the Rural Alberta Region include residential, recreational, industrial, oil and gas activities, agriculture and forestry. There are no known provincial or municipal parks or protected areas crossed by the proposed pipeline corridor in the Rural Alberta Region. There is one provincial park, one natural area, two provincial recreation areas and five municipal parks located in the HORU LSA in this region. The Project crosses residential land use areas in the Town of Stony Plain and the Town of Edson, as well as several hamlet growth areas (e.g., Niton, Wildwood, and Evansburg). There are 18 registered trapping tenures and no guide-outfitters operating along the proposed pipeline corridor in the Rural Alberta Region.

Communities along the proposed pipeline corridor are serviced by a wide range of infrastructure and services. In the Rural Alberta Region, the proposed pipeline corridor generally parallels Highway 16, which also services communities in the region and is crossed by the proposed pipeline corridor at several points. Highway 16 is anticipated to be the main highway utilized for the movement of equipment and materials to various pipeline spread locations along this portion of the Project. Local municipal officials and real estate professionals indicate that there are rooms to accommodate workers. The rental housing market is generally robust. Data indicate that, as of 2012, there was a rental vacancy rate of 9.4% in the Town of Edson and 7.7% in the Town of Hinton (Alberta Municipal Affairs 2011). There is a notable temporary housing market in the Rural Alberta Region; with approximately 2,000 hotel rooms and over 20 campgrounds in the surrounding area.

The proposed pipeline corridor in the Rural Alberta Region crosses 3 watercourses that are considered navigable (Pembina River, McLeod River and Wolf Creek), 22 potentially navigable watercourses and 46 potentially navigable wetlands.

The Rural Alberta Region's economy is resource-based, with key sectors including forestry, coal, oil and gas, agriculture and tourism. The leading employers include Teck Coal, Hinton Pulp and Grande

Yellowhead Regional School Division (Town of Hinton 2013). Across the Rural Alberta Region, the most active industries in 2011 (by industrial classification) were: mining, quarrying, and oil and gas extraction (employing approximately 16.6% of the labour force); retail trade (11.2%); construction (8.5%); and accommodation and food services (7.5%). In 2011 there was a labour force of approximately 17,000 workers in the region, with a participation rate of 73.2% and an unemployment rate of 5.9%. (Statistics Canada 2013a).

There is other reasonably foreseeable development proposed in the region, representing approximately \$774 million of capital expenditures, that may coincide with the construction of the Project, competing for available regional labour. This includes: the Vista Coal Mine Project and the Robb Trend Project (mine expansion), both near Hinton. There are also numerous oil and gas wells anticipated. See Section 8.0 Cumulative Effects Assessment of Volume 5B for details on reasonably foreseeable developments in the region.

4.3 Jasper National Park Region

The Jasper National Park Region encompasses all of Jasper National Park, including the Municipality of Jasper. In 2011, the total population of the Jasper National Park Region was 4,085, a 4.8 % decrease from 2006. The Municipality of Jasper is the only urban centre in the Jasper National Park Region. In 2011, 2.2 % of the population identified as Aboriginal (Statistics Canada 2012, 2013a). In 2011, the median income of adults in the Municipality of Jasper was approximately \$35,000; the median income of those working full-year, full-time was approximately \$50,000 (Statistics Canada 2013a).

There are no IRs are crossed by the existing TMPL right-of-way in this region or by the Jasper Pump Station. One Aboriginal communities has identified interests in the region potentially affected by the Project.

The Jasper Pump Station and existing TMPL right-of-way are located on land under the jurisdiction of the Jasper Community Sustainability Plan and the Jasper National Park Management Plan. Key land uses within Jasper National Park include recreational activities including camping, hiking, wildlife viewing and skiing.

The main highway in the Jasper National Park Region is Highway 16, which also services the Municipality of Jasper. Highway 16 is anticipated to be the main highway utilized for the movement of Project-related equipment and materials during construction related to the Jasper Pump Station and the Hinton to Hargreaves reactivated segment. Development within the Jasper National Park Region is limited and, therefore, has remained relatively constant. In Municipality of Jasper, the average rent for accommodations marginally increased (1.5%) from 2010 to 2011 (Alberta Municipal Affairs 2011). The Municipality of Jasper has approximately 20 hotels and motels and 1,500 rooms. Hotels in Jasper are often at full capacity during the summer months and have some availability in the winter months (Waterworth, Jenkins pers. comm.). There are a limited number of rental units available in the Municipality of Jasper (Mitchell pers. comm.).

The economy of the Jasper National Park Region is based primarily on tourism and recreation related to the presence of the Jasper National Park, as well as regional railway lines. Key employers in the Municipality of Jasper include Parks Canada, the Municipality of Jasper, CN Rail, Fairmount Jasper Park Lodge, Marmot Basin ski resort, and the wide range of businesses and services related to the hospitality tourism industry (Alberta Directory 2013).

4.4 Fraser-Fort George/Thompson-Nicola Region

The Fraser-Fort George/Thompson-Nicola Region extends from the Alberta/BC border through Electoral Area H of the RDFFG and south the entire length of the Thompson-Nicola Regional District (TNRD). In 2011, the total population of the Fraser-Fort George/Thompson-Nicola Region was approximately 129,000, a 4.6% increase from 2006. Key incorporated population centres crossed by the Project in this region include the District of Clearwater, the City of Kamloops, the City of Merritt, as well as some smaller unincorporated communities such as Blue River, Vavenby, Avola and Little Fort. Though not crossed by

the proposed pipeline corridor, the Village of Valemount is located in the HORU LSA (approximately 400 m from the proposed pipeline corridor) and has been identified as a construction hub for Project activities; the District of Barriere is located along the existing TMPL right-of-way and the Darfield to Black Pines reactivated segment. In 2011, the median age of the Fraser-Fort George/Thompson-Nicola Region was 45 and approximately 10.6% of the population identified as Aboriginal (Statistics Canada 2012). In 2011, the median income of adults in the Fraser-Fort George/Thompson-Nicola Region was approximately \$24,400; the median income of those working full-year full-time was approximately \$46,200 (Statistics Canada 2013a).

Numerous IRs and Aboriginal communities are located in this region. There are 3 IRs crossed by the proposed pipeline corridor in the region: Zoht 5; Zoht 4; and Joeyaksa 2 (Lower Nicola Indian Band).

In the Fraser-Fort George/Thompson-Nicola Region, the Project is located in the boundaries of the Robson Valley Land and Resource Management Plan (LRMP) (BC MFLNRO 1999). It also traverses land under the jurisdiction of the following municipal and regional plans:

- Robson Valley-Canoe Upstream Official Community Plan (OCP);
- Valemount to Blue River Winter Recreation Sustainable Resource Management Plan (SRMP);
- Eight Peaks Winter Recreation SRMP;
- Blue River OCP;
- Avola OCP;
- District of Clearwater OCP;
- Nicola Valley OCP;
- Kamloops LRMP;
- KAMPLAN OCP (City of Kamloops);
- Kamloops North OCP;
- Kamloops Airport Area Land Use and Development Plan;
- Thompson-Nicola Regional District Zoning Bylaw No. 2400, 2012;
- City of Merritt OCP; and
- City of Merritt Zoning Bylaw No. 1894, 2004.

The land and resource uses in the HORU LSA and HORU RSA for the Project in the Fraser-Fort George/Thompson-Nicola Region include residential, industrial, agricultural use and forestry. The proposed pipeline corridor crosses three provincial parks or protected areas in this region: Finn Creek Provincial Park; North Thompson River Provincial Park; and Lac du Bois Grasslands Protected Area. The proposed pipeline corridor also crosses two municipal parks in this region: Ord Road Municipal Park and Kenna Cartwright Municipal Park both in the City of Kamloops. In addition, there are 12 Class A provincial parks, 1 ecological reserve, 2 regional parks, and 1 municipal park located in the HORU LSA in this region.

The proposed pipeline corridor crosses various types of residential land use, from rural parcels to residences in small communities (e.g., Blue River, Avola, and Clearwater) and larger urban centres (e.g., Kamloops). There are 30 registered trapping tenures crossed by the proposed pipeline corridor a

total of 50 times in the region. There is one guide outfitter operating along the proposed pipeline corridor in the region, whose outfitting area is crossed twice.

Communities along the proposed pipeline corridor are serviced by a wide range of infrastructure and services. In the Fraser-Fort George/Thompson-Nicola Region, the Project loosely parallels Highway 16 from approximately Highway 5 (Southern Yellowhead Highway) and Highway 5 (Coquihalla Highway). Both the Southern Yellowhead and Coquihalla sections of Highway 5 are the main vehicle route along the proposed pipeline corridor. The rental housing market in the Fraser-Fort George/Thompson-Nicola Region is generally limited, with little to no vacancy in most communities. The TNRD RGS aims to provide an adequate range of housing options to people within the region (TNRD 2000). There is a large temporary housing market in the Fraser-Fort George/Thompson-Nicola Region; with approximately 4,000 hotel rooms and over 20 campgrounds with over 900 sites in the surrounding area.

The proposed pipeline corridor in the Fraser-Fort George/Thompson-Nicola Region crosses 30 watercourses that are considered navigable, including: the Fraser River; North Thompson River; Thompson River; Nicola River; Canoe River; Coldwater River; Albreda River; and Thunder River; 33 potentially navigable watercourses and 62 potentially navigable wetlands.

The Fraser-Fort George/Thompson-Nicola Region's economic base includes forestry and wood products, agriculture, tourism and government services. For the Fraser-Fort George/Thompson-Nicola Region overall within in the Socio-Economic RSA, in 2011 the most active industries (by industrial classification) were: retail trade (employing approximately 12.5% of the labour force); health care and social assistance (12.3%); accommodation and food services (8.4%); and construction (7.7%) (Statistics Canada 2013a). In 2011 there was a labour force of approximately 63,200 workers in the region, with a participation rate of 63.7% and an unemployment rate of 9.4%. (Statistics Canada 2013a).

Other reasonably foreseeable developments are proposed in the region, representing approximately \$1.1 billion of capital expenditures, that may coincide with the construction of the Project and compete for available labour. This includes the Ajax Mine in Kamloops, Harper Creek Copper-Gold-Silver Project near Vavenby, Merritt Area Transmission Project, TransCanada Highway improvements, and various hydroelectric projects. See Section 8.0 Cumulative Effects Assessment of Volume 5B, for details on reasonably foreseeable developments in the region.

4.5 Fraser Valley Region

The Fraser Valley Region extends from the eastern border of the Fraser Valley Regional District (halfway between the City of Merritt and the District of Hope) to its western border at the Metro Vancouver Region. It is a largely agricultural region, with key incorporated municipalities being the District of Hope, the City of Chilliwack and the City of Abbotsford. In 2011, the total population of the Fraser Valley Region was 274,400, an 8.1% increase from 2006. In 2011, the median age of the Fraser Valley Region was 42.6 and approximately 6.4% of the population identified as Aboriginal (Statistics Canada 2012). In 2011, the median income of adults in Fraser Valley Region was approximately \$23,400; the median income of those working full-year full-time was approximately \$45,700 (Statistics Canada 2013a).

Numerous IRs and Aboriginal communities are located in this region. Seven IRs are crossed by the proposed pipeline corridor in the region: Ohamil 1 (Shxw'ōwhámel First Nation); Peters 1 and 1A (Peters Band); Popkum 1 (Popkum First Nation); Grass 15 (Aitchelitz First Nation); Tzeachten 13 (Tzeachten First Nation); and Matsqui Main 2 (Matsqui First Nation).

The Project in the Fraser Valley Region traverses land under the jurisdiction of the following municipal and regional land use and development plans:

- FVRD OCP for Popkum-Bridal Falls part of Electoral Area "D";
- FVRD OCP for Portions of Electoral Area "B" Yale, Emory Creek, Dogwood Valley and Choate Bylaw No. 150, 1998;

- FVRD OCP for Electoral Area “E” Bylaw No. 1115, 2011;
- Chilliwack Forest District SRMP;
- District of Hope OCP;
- City of Chilliwack OCP;
- City of Chilliwack Zoning Bylaw 2011; and
- City of Abbotsford OCP.

The land and resource uses in the HORU LSA and HORU RSA for the Project in the Fraser Valley Region include forested land, urban development and a high level of agricultural use. The main agricultural land use types within the region are: dairy production west of the District of Hope; dairy, poultry and field crops between the Community of Rosedale and City of Chilliwack; mixed vegetable crops and floriculture, dairy, blueberries and other berries from the City of Chilliwack to Sumas Mountain; dairy and blueberries from Sumas Mountain to Matsqui Prairie (City of Abbotsford); smaller scale farming including poultry, nurseries, berries and pasture west of Matsqui Prairie; and the Matsqui uplands to the Township of Langley-City of Abbotsford border, where a large portion of the designated agricultural land is still covered in forest. The proposed pipeline corridor crosses two provincial parks or protected areas in this region: Coquihalla Summit Recreation Area and a very small portion of F.H. Barber Provincial Park. The proposed pipeline corridor also crosses Cheam Lake Wetlands Regional Park in the FVRD and Straiton Municipal Park in the City of Abbotsford. In addition, there are 3 provincial parks, 1 regional park, 1 municipal nature reserve and 12 municipal parks located in the HORU LSA in this region.

The proposed pipeline corridor crosses residential use areas in the District of Hope, the City of Chilliwack and the City of Abbotsford. There are five registered trapping tenures crossed by the proposed pipeline corridor and one guide outfitter operating along the proposed pipeline corridor in the Fraser Valley Region.

Communities along the proposed pipeline corridor are serviced by a wide range of infrastructure and services. In the Fraser Valley Region, the Project parallels Highway 5 (Coquihalla Highway) and Highway 1 (TransCanada Highway). Highway 5 and Highway 1 are the main vehicle routes located in the area. Highway 5 continues to be a north–south two lane route with numerous portions expanded to four lanes for passing within this region. In terms of housing capacity, in the Fraser Valley Region the demand for housing has expanded with population and economic growth, related to its proximity to Metro Vancouver. There are numerous temporary accommodations throughout the region. The District of Hope and area has over 400 hotel and motel rooms and over 450 camping and RV sites (Mattheis, Wilson pers. comm.). In Chilliwack, there are 9 hotels and motels with over 400 units, and 15 campgrounds and RV parks with over 320 units; in the City of Abbotsford there are 9 hotels and motels in with over 500 units (Destination BC 2013, Tourism Chilliwack 2013). Harrison Hot Springs also has approximately 500 hotel/motel units. Across the region, summer is the busy tourist season when hotel occupancy is highest (Misumi, Frotoloczky pers. comm.). In the summer, there is also typically an influx of seasonal migrant workers for agricultural work. Many temporary agricultural workers stay in local hotels, which further decreases hotel capacity during summer months. The Abbotsford Airshow occurs annually in the second week of August. During this time, it is reported that all hotels in Abbotsford, Surrey, Langley and Chilliwack are typically at full occupancy (Teichroeb pers. comm.).

The proposed pipeline corridor in the Fraser Valley Region crosses 17 watercourses that are considered navigable, including the Coquihalla River, Sumas River and Chilliwack/Vedder River, 30 potentially navigable watercourses and 12 potentially navigable wetlands.

The economy of the Fraser Valley Region is based primarily on agriculture, manufacturing and construction. Historically, the predominant sectors have been agriculture and resource development, but the economy is diversifying based on growth in the manufacturing, services, aerospace and technology sectors (FVRD 2010). The FVRD generates the largest annual farm receipts of any Regional District in

BC and is one of the most intensively farmed areas in Canada. The Agricultural Land Reserve (ALR), a provincial zone in which agriculture is recognized as the priority use and where farming is encouraged and non-agricultural uses are controlled, has historically contained urban growth. Nonetheless, the region is growing to include a greater variety of commercial and industrial activity. The FVRD's agricultural production has continued to grow in terms of livestock, land under cultivation and agriculture taking place in greenhouses (FVRD 2004). While the economies of the City of Abbotsford and the City of Chilliwack have diversified and grown, the economies in many smaller communities remain resource dependent (FVRD 2010). For the Fraser Valley Region overall within in the Socio-Economic RSA, in 2011 the most active industries (by industrial classification) were: retail trade (employing approximately 11.6% of the labour force); health care and social assistance (10.0%); construction (9.9%); and manufacturing (8.5%) (Statistics Canada 2013a). In 2011 there was a labour force of approximately 138,500 workers in the region, with a participation rate of 64.7% and an unemployment rate of approximately 8% (Statistics Canada 2013a).

Other reasonably foreseeable developments are proposed in the region, representing over \$400 million of capital expenditures, that may coincide with the construction of the Project and competing for available labour. This includes numerous hydroelectric projects, transmission line development, and the Abbotsford Airport Expansion project. See Section 8.0 Cumulative Effects Assessment of Volume 5B for details on reasonably foreseeable developments in the region.

4.6 Metro Vancouver Region

Metro Vancouver is the third largest Metropolitan Area in Canada. It consists of numerous municipalities and one rural electoral area that together are known as Metro Vancouver (or the GVRD). The largest city within the region is the City of Vancouver. In 2011, the total population of the Metro Vancouver Region was over 2.3 million, a 9.3% increase from 2006. In 2011, the median age of the Metro Vancouver Region was 41 and 2.4% of the population identified as Aboriginal (Statistics Canada 2012). In 2011, the median income for adults in the Metro Vancouver Region was approximately \$32,400; the median income of those working full-year full-time in 2011 was approximately \$53,100 (Statistics Canada 2013a).

There are several IRs and Aboriginal communities in this region; however, no IRs are crossed by the proposed pipeline corridor.

The Project in the Metro Vancouver Region traverses land under the jurisdiction of the following municipal and regional land use and development plans:

- GVRD OCP;
- Township of Langley OCP;
- City of Coquitlam Citywide OCP;
- Coquitlam Lougheed Neighbourhood Plan;
- City of Surrey OCP;
- Burnaby OCP;
- PMV Consolidated Land Use Plan; and
- Vancouver Fraser Port Authority Land Use Plan.

The land and resource use in the HORU LSA and HORU RSA for the Project in the Metro Vancouver Region is predominantly urban development. The proposed pipeline corridor crosses residential use areas in the Township of Langley, City of Coquitlam, and the City of Surrey. There are some agricultural use areas crossed by the proposed pipeline corridor mainly located in the Salmon River valley near Fort

Langley, BC. There are no registered trapping tenures or registered guide outfitters located along the proposed pipeline corridor in the Metro Vancouver Region.

The proposed pipeline corridor directly crosses the Surrey Bend Regional Park, Burnaby Mountain Municipal Conservation Area, Westridge Municipal Neighbourhood Park and Brunette River Municipal Conservation Area in the City of Burnaby, as well as several other municipal parks and a Canadian Heritage River (Fraser River). In addition, there is 1 municipal conservation area, 7 municipal natural areas, 30 municipal and municipal neighbourhood parks and 1 regional nature park located in the HORU LSA in this region.

Communities along the proposed pipeline corridor are serviced by a wide range of infrastructure and services. In the Project area, Highway 1 services the Township of Langley, and the cities of Surrey, Coquitlam and Burnaby. Highway 1 and Highway 7 (Lougheed Highway) are anticipated to be key highways utilized for the movement of equipment and materials to various pipeline spread locations in this region. Key roads in the region crossed by the proposed pipeline corridor include: Highway 1; Highway 7; Golden Ears Way in the Township of Langley; the South Fraser Perimeter Road (SFPR) in the City of Surrey; Brunette Avenue in the City of Coquitlam; and Burnaby Mountain Parkway and Barnet Road in the City of Burnaby.

The Metro Vancouver Region has a large private housing market. In 2012, the private housing market in the Vancouver CMA saw below-average sales, with average resale market prices down 3.8% in the fourth quarter of 2012 (CMHC 2013a,b, REBGV 2013). Regarding the rental market, the Vancouver area has one of the lowest vacancy rates in BC, even with a 0.4% increase in average vacancy rates from 2011 to 2012, to 1.8% (CMHC 2012b). There is a large temporary housing market in the Metro Vancouver Region, with over 3,300 hotel rooms and approximately 15 campgrounds with over 650 sites in the surrounding area (City of Coquitlam 2013, Destination BC 2013, Tourism Langley 2013, Tourism Surrey 2013).

Canada's busiest port, PMV, is located in the region on the Burrard Inlet (BIEAP 2011). PMV contains 28 major cargo terminals, 23 of which are in Burrard Inlet. Vancouver is the homeport for the Vancouver-Alaska cruise ship industry, with two cruise ship terminals in the Inner Harbour which provide berthing facilities for cruise ship companies (PMV 2013). Commercial vessel traffic in Burrard Inlet is comprised of vessels accessing the various marine terminals, including: cargo ships (forest products, steel products, machinery, grains, coal, chemicals, potash and sulphur); oil tankers (petroleum products); cruise ships; and container ships (household goods) (PMV 2013). There is a wide range of marine recreational and tourism users in the Burrard Inlet.

The proposed pipeline corridor in the Metro Vancouver Region crosses two watercourses that are considered navigable (the Fraser River and Salmon River), 7 potentially navigable watercourses and 10 potentially navigable wetlands. The Westridge Marine Terminal is located on the marine waters of the Burrard Inlet, a key marine navigation channel.

The Metro Vancouver Region's economic base is diverse and includes trade and commerce, manufacturing, goods distribution, professional services, tourism, education and agriculture. Most of the employment is in sales and service, business, finance and administration, and trades and related occupations (Metro Vancouver 2010a, PMV 2009, Vancouver Economic Commission 2012). For the Metro Vancouver Region as a whole in 2011 the most active industries (by industrial classification) were: retail trade (employing approximately 10.4% of the labour force); health care and social assistance (9.6%); accommodation and food services (7.8%); and professional, scientific and technical services (9.2%) (Statistics Canada 2013a). PMV is a notable economic contributor to the region. Ongoing operations at PMV make considerable contributions to regional employment and the provincial economy, as well as to jobs, wages, and gross domestic product (GDP) across Canada. It is estimated that PMV's operations support 38,200 direct jobs in BC, of which 91.8% are in the Metro Vancouver Region (InterVISTAS Consulting 2013). In 2011, there was a labour force of approximately 1.3 million workers in the Metro Vancouver Region, with a participation rate of 66.1% and an unemployment rate of approximately 7.1% (Statistics Canada 2013a).

There is substantial other reasonably foreseeable development proposed in the region, representing over \$16.7 billion of capital expenditures, that may coincide with the construction of the Project and compete for available labour. This includes the Roberts Bank Terminal 2 Expansion, expansion at Vancouver International Airport, rail and transit developments, residential developments, road works, substations, and multiple other municipal utility, infrastructure and services projects. See Section 8.0 Cumulative Effects Assessment of Volume 5B for details on reasonably foreseeable developments in the region.

5.0 ABORIGINAL COMMUNITY OVERVIEWS

Of the 85 Aboriginal communities engaged on the Project with Trans Mountain, there are 62 Aboriginal communities that have been identified as having an interest in the Project or having interests potentially affected by the Project.

Aboriginal communities have unique relationships with land and water related to their traditions of hunting, trapping, fishing, gathering and other cultural practices. Many members of Aboriginal communities reside in locations other than band IRs, and members may reside in IRs that are not located near the Project. All Band members of potentially affected Aboriginal communities could, regardless of geography of residence, be interested in participating in the Project opportunities or use land or resources in the vicinity of the Project for traditional purposes at times. In essence, the Aboriginal communities relevant to the Project are not tied to a particular geography in the same way non-Aboriginal communities are. As such, stand-alone overviews have been prepared for each Aboriginal community identified as potentially affected by the Project. These Aboriginal Community Overviews are presented in this section.

The Aboriginal Community Overviews discuss information pertaining to band population, labour force, traditional culture, economic and livelihood activities, as well as any infrastructure or services pertinent to IRs that are crossed by the proposed pipeline corridor. They also summarize key socio-cultural issues and interests that emerged during Project engagement. In some instances, information that was noted about subsistence hunting, trapping, fishing, gathering resources themselves are noted. Detailed traditional land and resource use information is provided in the Traditional Land and Resource Use Technical Report (Volume 5D), which should be read in conjunction with these overviews. While specifics of the cultural or livelihood concerns associated with a particular resource may not have been articulated and, therefore not noted in the overviews, it is generally understood that traditional harvesting has a high cultural value and plays an important role in the economic, social, cultural and mental/physical well-being of many traditional communities.

The data contained within the Aboriginal Community Overviews were collected from both primary and secondary sources. As discussed in Section 3.0, secondary, or desktop, research was first conducted to gather information from community, government and organization websites, as well as other available resources. Primary data was also gleaned from the results of a number of Project-related engagement and information gathering activities conducted by both TERA and Trans Mountain. These engagement activities included the following.

- Aboriginal community participation in biophysical studies for the Project.
- Socio-economic interviews conducted with representatives of participating Aboriginal communities.
- meetings conducted with Aboriginal communities by TERA and/or Trans Mountain to introduce the Project or discuss procurement and other issues.
- Project-specific TLU studies.

At the time of writing, the Aboriginal Community Overviews were still in the midst of an ongoing vetting process with participating communities to ensure that the information accurately portrays the sentiments and existing conditions of the communities they describe.

Adams Lake Indian Band, Canim Lake (The Tsq'escenemc), Bonaparte First Nation Cook's Ferry Indian Band, Little Shuswap Lake, Neskonlith Indian Band Spuzzum Indian Band, Skawahlook First Nation, Squamish First Nation and Sts'alis Band have one or more IRs located geographically within the Socio-Economic RSA but that have not been identified as potentially affected by the Project and/or chose not to participate in the broader Trans Mountain-led Aboriginal engagement process related to the Project. These communities do not have Aboriginal Community Overviews presented in this section; however, any IRs that are geographically located within the boundaries of the Socio-Economic RSA were (where populated) included in the population and labour force of the Socio-Economic RSA. See Table 3.3-3 for a complete list of communities within the Socio-Economic RSA, including IRs. A full

discussion regarding the levels of engagement and consultation with Aboriginal communities related to the Project is found in Volume 3B.

The Aboriginal Community Overviews present Aboriginal communities in terms of their location relative to the socio-economic regions established for the assessment. In some instances, IRs and asserted traditional territories of Aboriginal communities may occur within more than one socio-economic region; however, each Aboriginal community is profiled within one region only.

5.1 Edmonton Region

5.1.1 Alexander First Nation

The Alexander First Nation is a Cree band located west of the City of Edmonton, Alberta and a signatory member of Treaty 6 (Alexander First Nation 2012). As of 2012, the total population of Alexander First Nation was 1,818 people, of which 909 live on IRs and 909 live off IRs (Alexander First Nation 2012). There are three Alexander First Nation IRs (AANDC 2012). The main IR and location of the Band headquarters is Alexander 134, which is located about 55 km northwest of Edmonton (Alexander First Nation 2012).

The asserted traditional territory of Alexander First Nation covers a land base of approximately 9,300 ha (Alexander First Nation 2012).

An overview of the Alexander First Nation is provided in Table 5.1-1, while Table 5.1-2 provides an overview of labour and population data for Alexander First Nation IRs.

TABLE 5.1-1

ALEXANDER FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 1,818	Yellowhead Tribal Development Foundation	Cree (some Stoney)	Proponents of traditional ecological knowledge (TEK) (hunting, gathering, fishing) and new models of landscape management that marry TEK with modern science, and they have an aboriginal consultation program for industry and government.	The Band does not have any businesses but has an interest in construction/clearing.
On IRs: 909				
Off IRs: 909				

Sources: AANDC 2013a, Aboriginal Canada 2012, Aboriginal engagement for the Project, Alexander First Nation 2012, KMC 2013b

Note: Certain information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

More details on Alexander First Nation IRs are provided in Table 5.1-2. None of the Alexander First Nation IRs are crossed by the proposed pipeline corridor, however, Alexander 134 is located in the Socio-Economic RSA. The remaining Alexander First Nation IRs are located outside the Socio-Economic RSA. The Alexander First Nation has the following services available for Band members who are seeking employment: employment preparation; office supported services; an employment board; safety ticket training; employment referrals; technical training applications assistance; fees, books and supplies; work gear assistance; and assistance with employment insurance applications and reporting (Alexander First Nation 2012).

TABLE 5.1-2

ALEXANDER FIRST NATION – RESERVES

Reserves	Reserve Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Alexander 134	1,027	700	15.7%	Socio-Economic RSA
Alexander 134A	n/a ¹	n/a ¹	n/a ¹	Outside study area
Alexander 134B	n/a ¹	n/a ¹	n/a ¹	Outside study area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Note: 1 Statistics Canada does not provide information for this community.

Forestry services are a key economic activity of the Alexander First Nation (Alexander First Nation 2012). The Alexander Industry Relations Corporation works to develop relationships with industry and government to increase opportunities for the Alexander First Nation while protecting their way of life (Alexander First Nation 2012).

The results of Aboriginal engagement for the Project indicate that there are several member-owned companies, including the First Nation's lands office that deals with the purchasing of lands adjacent to IR 134. Key training and educational priorities for the community include incorporation of cultural education in reservation schools and increasing youth interest in cultural learning.

The Traditional Land and Resource Use Technical Report of Volume 5D provides further information on Alexander First Nation's traditional land and resource use and cultural practices.

The following additional information was gleaned from the results of Aboriginal engagement for the Project in which Alexander First Nation members participated.

The Yellowhead Tribal Council College offers skill upgrading, business and computer courses, diploma programs and transfer of credits; approximately 50% of high school students attend post-secondary institutions.

Traditional harvesting such as hunting, trapping, fishing and gathering for subsistence purposes continues to be an important element of livelihood and culture for Alexander First Nation members. Plants, wildlife and fish are valued for economic reasons.

Traditional economic activities often occur alongside some level of seasonal wage employment.

Key Project-related issues that have been raised by the Alexander First Nation during Project-related engagement include:

- the importance of engagement related to land and resource developments that affect their asserted traditional territory and economy;
- the importance of considering cumulative effects of other projects alongside TMEP;
- concerns regarding the downstream effects of development on water resources;
- creation of employment opportunities, particularly for youth;
- concerns about the effects of potential spills on land;
- concerns about the effects of the Project on water and non-traditional land resource use; and

- offering environmental monitoring training and opportunities to Band members.

5.1.2 Enoch Cree Nation

The Enoch Cree Nation is a Cree band located west of the City of Edmonton, Alberta and a signatory member of Treaty 6 (AANDC 2012). As of 2013, the total population of Enoch Cree Nation was 2,417 people, of which 1,633 live on IRs and 784 live off IRs (AANDC 2013a). There are two Enoch Cree Nation IRs (AANDC 2012). The main IR and location of the Band headquarters is Stony Plain 135 which is located approximately 3 km west of the City of Edmonton (Enoch Cree Economic Development 2012).

The total land base of Enoch Cree Nation is 5,233.5 ha: 3,561 ha of agriculture, 81 ha for grazing, 10 ha for industrial, 4 ha for recreation, 1,046 ha for forestry and 531 ha for miscellaneous use (Enoch Cree Economic Development 2012).

An overview of the Enoch Cree Nation is provided in Table 5.1-3, while Table 5.1-4 provides an overview of labour and population data for Enoch Cree Nation IRs.

TABLE 5.1-3

ENOCH CREE NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 2,417 On-Reserve: 1,633 Off-Reserve: 784	Yellowhead Tribal Development Foundation	Cree	Pow-wow Weekly culture night Hunting (including bow hunting) Gathering Fishing Trapping Beading Singing and dancing Healing gatherings Sweat lodges Horse dances	Band-owned Businesses: <ul style="list-style-type: none"> • Oskya Gas Bar; • North on 60 Gas Bar; • River Cree Resort and Casino; and • Enoch Cree Economic Development. Partnerships: <ul style="list-style-type: none"> • Alberta Indian Investment Corporation; and • Yellowhead Tribal Council (Administration) (w community services).

Sources: Aboriginal engagement for the Project, AANDC 2012, AANDC 2013a, Enoch Cree Economic Development 2012, River Cree Resort and Casino

Note: Certain information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

More details on Enoch Cree Nation IRs are provided in Table 5.1-4. None of the Enoch Cree Nation IRs are crossed by the proposed pipeline corridor; however, Stony Plain 135 and Stony Plain 135A are located in the Socio-Economic RSA (AANDC 2012).

TABLE 5.1-4

ENOCH CREE NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Stony Plain 135	987	655	10.5%	Socio-Economic RSA
Stony Plain 135A	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA

Sources: AANDC 2012, AANDC 2013a, Statistics Canada 2012, Statistics Canada 2013a

Note: 1 Statistics Canada does not provide information for this community.

Enoch Cree Nation businesses include the Oskya Gas Bar, North on 60 Gas Bar, Indian Lakes Golf Course and River Cree Resort and Casino (Enoch Cree Economic Development 2012). Enoch Cree Nation property is reserved for agriculture, grazing and forestry as well as industrial and recreational use (Enoch Cree Economic Development 2012). Enoch Cree Nation is a member of the Yellowhead Tribal Development Foundation (YTDF) which provides economic, social and education support (AANDC 2012, Enoch Cree Economic Development 2012). In partnership with the Canadian government-funded Aboriginal Skills and Employment Training Strategy (ASETS), YTDF grants financial aid to Enoch Cree Nation for employment programs and services (Government of Canada 2009, YTDF 2011) and provides access to the Yellowhead Tribal College offering academic courses and accredited programs with emphasis on First Nation culture (Yellowhead Tribal College 2013). The Enoch Cree Nation is also a member of Alberta Indian Investment Corporation (AIIC) which assists First Nations in Alberta with business development and financial services (Alberta Indian Investment Corporation 2008, Enoch Cree Economic Development 2012). According to records from the socio-economic interview conducted with members of the Band's management, common barriers to employment include lack of transportation for members living off IRs, but a shuttle runs between the community and West Edmonton Mall in an effort to mitigate this. Members living off IRs would return if they could find employment on the Band's IRs, and most who remain on the IRs are unemployed. Most members living off IRs live in Edmonton. All Band departments are partnered with other organizations. The Band lacks the capacity to fund all education and training required for Band members to find employment, with Hazmat and Incident Command Standards (ICS) courses being amongst the greatest training needs. Enoch Cree Nation has a 6 ha parcel of land dedicated to future business development adjacent to the casino. The casino itself is successful, with people coming from afar to visit. Member-owned businesses include screen printing, computer technology, beading and quilting. Approximately 50 people work in emergency services on the IR, including the fire department, police department, operational maintenance, ambulance, health services, and bus services for emergency evacuation; however, more trades people are needed.

Traditional harvesting, such as hunting, trapping, fishing and gathering for subsistence purposes, continues to be an element of livelihood and culture for Enoch Cree Nation members. Traditional economic activities occasionally occur alongside some level of seasonal wage employment. The results of Aboriginal engagement for the Project indicate that some members hunt for subsistence purposes and the community holds a pow-wow annually. Trapping is no longer a source of income for Enoch Cree Nation members, and in part due to the urban location of the community, there has been a decline in traditional foods; Band members who do hunt do so all over Alberta. Berries, fish, teas and moose are used as offerings and if they became unavailable there would be a notable impact on traditional ceremonies; these are the most commonly consumed traditional foods. Youth are becoming more actively involved in hunting, fishing and trapping; some take bow hunting lessons. The most important elements of the community's quality of life that members want to preserve or enhance are human nature, wildlife, commercial and residential infrastructure and the land. Between 20 and 30% of the Band's members speak Cree and most of the remainder are trying to learn through schools and weekly cultural nights. Weekly cultural nights are geared towards youth and offer opportunities to bead, dance, construct costumes and sing pow-wow.

According to records from the socio-economic interview conducted with members of the Band's management, the Band offers hockey programs for youth and the local RCMP detachment provides activities for youth. The Band faces poor health; common health issues include diabetes, heart disease, fetal alcohol syndrome, substance abuse, teen pregnancy and syphilis. The health clinic on the IR uses Western medicine but Band members use a combination of healthcare methods and seek health advice from traditional healers and participate in sweat lodges and sun dances. There is a doctor in the community three days a week and nurses who operate the health clinic. While Band members have access to healthy food, many choose unhealthy options including many processed foods or fast food delivery.

The Traditional Land and Resource Use Technical Report of Volume 5D provides further information on Enoch Cree Nation's traditional land and resource use and cultural practices.

The following services are provided by the Enoch Cree Nation (Enoch Cree Economic Development 2012):

- Enoch Health Centre;
- Enoch Alcohol and Drug Treatment Services;
- Enoch RCMP Satellite Detachment;
- Enoch Fire Department;
- Enoch Recreation Centre;
- Enoch Daycare Centre;
- Kitaskinaw Education Authority Playschool to Grade 9;
- Enoch Post Office; and
- Our Lady of Mercy Church.

Key Project-related issues that have been raised by Enoch Cree Nation during Project-related engagement include:

- positive opportunities anticipated related to the Project include:
 - employment and training opportunities;
 - use of the community's capacity to support the Project during the construction and operations phases (disaster relief);
- health concerns related to a pipeline accident or malfunction and opportunities for pre-construction health workshops to educate the community;
- concerns about water and sewage infrastructure and air quality on reserve; and
- construction concerns, including the effects of noise on Elders.

5.1.3 Ermineskin Cree Nation

The Ermineskin Cree Nation is a Cree band located 70 km south of the City of Edmonton in Hobbema, Alberta (Ermineskin Cree Nation 2001), and is a signatory member of Treaty 6 (AANDC 2012, Ermineskin Cree Nation 2001) as well as part of the Four Nations of Hobbema (Ermineskin Cree Nation 2001). As of 2013, the total population of Ermineskin Cree Nation was 4,330 people, of which 3,256 live on IRs and 1,074 live off IRs (AANDC 2013a). There are two Ermineskin Cree Nation IRs (AANDC 2012). The main IR and location of the Band headquarters is Ermineskin 138 (AANDC 2012).

An overview of the Ermineskin Cree Nation is provided in Table 5.1-5.

TABLE 5.1-5
ERMINESKIN CREE NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 4,330 On IRs: 3,256 Off IRs: 1,074	None	Cree and Sauteau	Hunting, gathering Smudging Peace pipe Pow-wows Sun Dances Storytelling Coming-of-age ceremonies	The Band has heavy equipment and operators Arts and Crafts Industry Communities have benefited from a large oil and gas deposit on their lands CP Rail line runs through the IR Businesses: <ul style="list-style-type: none"> • Ermineskin Resources Developments; • Ermineskin Tribal Enterprises; • Loans Company; • Greenhouse business; • Neyaskweyak Group of Companies Inc; and • Rural Electrification Company.

Sources: AANDC 2012, AANDC 2013a, Ermineskin Cree Nation 2001, KMC 2013b

Note: Certain information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

More details on Ermineskin Cree Nation IRs are provided in Table 5.1-6. None of the Ermineskin Cree Nation IRs are crossed by the proposed pipeline corridor (AANDC 2012).

TABLE 5.1-6
ERMINESKIN CREE NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Ermineskin 138	1,874	1,045	22.1%	Outside study area
Pigeon Lake 138A	485	305	29.4%	Outside study area

Sources: AANDC 2012, Statistics Canada 2012, 2013a

Key economic activities of Ermineskin Cree Nation include revenues from oil and gas deposits and agricultural land in the Pigeon Lake area (Ermineskin Cree Nation 2001). The Ermineskin Cree Nation community has a semi-skilled and skilled labour force of roughly 1,300 workers, and has access to a much larger work force in the three other First Nations that reside in the Hobbema area (Ermineskin Cree Nation 2001). Revenues are also generated from recreation activities and the arts industry (Ermineskin Cree Nation 2001). Pigeon Lake area is a recreational site used for outdoor activities such as camping, hiking, fishing and swimming (Alberta Tourism, Park and Recreation 2013, Ermineskin Cree Nation 2001, Pigeon Lake 2013). The Ermineskin Cree Nation Gallery promotes local artists and sells Ermineskin Cree arts and crafts (Ermineskin Cree Nation 2001). Economic development goals of Ermineskin Cree Nation include working together with the Maskwacis Cultural College in developing training programs to foster marketable skills for employment (First Nations Social Development Society 2009).

Socio-economic interviews conducted with Band leadership identified a lack of references and work experience as a barrier to employment for Band members, along with a sense of culture shock for members who rarely leave the IR. This could be mitigated with a support system that would provide childcare and would help members leaving the IR to work with loneliness. Another barrier to employment

is the lack of internet access on the IR (unaffordable to many members, available for free only at the school). Off IRs training opportunities for groups of Band members in a controlled environment would also help address these barriers. It was noted that there are many programs that offer training but there are often no concrete job opportunities waiting for trainees at the end of the programs. It was suggested Band members be trained in advance of projects in order to create a pool of skilled labour and a link between skill training and employment. Approximately 75% of the Band's population is under the age of 35 and the community experiences a 9–11% growth in population every year. The Band is interested in supporting youth with activities that bring older and younger generations together and provide opportunities for mentorship.

Traditional harvesting, such as hunting, trapping, fishing, and gathering for subsistence purposes, continues to be an important element of livelihood and culture for Ermineskin Cree Nation members. The results of Aboriginal engagement for the Project indicate that plants, wildlife and fish are valued for economic reasons. Traditional economic activities often occur alongside some level of seasonal wage employment. According to records of socio-economic interviews conducted with Band leadership:

- the Band has a language department with a mandate to sustain traditional languages and educate both youth and adults; roughly 50% of Band members speak a traditional language and more than half of these are fluent;
- multiple levels of Cree are taught at the language school and daily use is encouraged. The language school has received funding from industry in the past;
- it was requested that Cree place names be recorded and used to identify sites such as pump stations;
- traditional foods play an important role in ceremonies and many people still rely on harvesting resources such as animals, fish and plants;
- there is a traditional economy between bands that sees trading of hides, berries and traditionally and medicinally used plants; and
- every summer culture camps are held, during which elders instruct youth on traditional practices. This has led to an increase in youth interest in hunting and politics.

The results of Aboriginal engagement for the Project also note the following items pertaining to traditional livelihoods and culture.

Members continue to practice traditional ice fishing techniques on nearby lakes. Children learn to trap rabbits at a young age and the First Nation uses them for subsistence purposes. Trapping is much less common today as price for pelts and desirability of the meat has declined. Grouse and porcupines are also trapped for food and cultural uses. Pemmican is still made and eaten by First Nation members. Community members make a pilgrimage to a mountain in the Hinton area for fasting and other ceremonies, as well as traditional harvesting of elk and moose.

Members collect and use plants for medicinal, cultural and subsistence purposes.

Wabamun Lake holds special importance for Ermineskin Cree Nation members. Community members indicated that traditional ceremonies include pow-wows and sun dances. Community members also gather medicinal plants and berries at these ceremonies to trade with other family members. Although fishing no longer occurs at Wabamun Lake, fishing is still an activity of cultural importance to the Band.

Lac St. Anne is of importance to Ermineskin Cree Nation members as well. Camping at Lac St. Anne still takes place during pilgrimages and other religious gatherings.

The Brazeau Dam, North Saskatchewan River, Buck Lake, Buck Mountain, Elk River, Elk River Road and surrounding areas were identified as important for hunting, trapping, camping, fishing, traditional crafts and gathering.

The general Pembina River area was identified as a possible navigational corridor and ideal fishing area.

The Traditional Land and Resource Use Technical Report of Volume 5D provides further information on Ermineskin Cree Nation's traditional land and resource use and cultural practices.

According to records from socio-economic interviews, diabetes, cancer, fetal alcohol spectrum disorder (FASD) and eczema are all medical problems faced by members of the community. It was noted that health care is improving as a result of education campaigns and programs that educate Band members on the causes of these illnesses and keep people informed. There is an ongoing need for education in basic life skills such as cooking, cleaning and literacy. There is a need in the community for access to healthy food and clean drinking water. The community's drinking water source is crossed by the proposed pipeline corridor. The IR has a soup kitchen and food bank, and the Band holds a Christmas dinner every year where gifts are distributed to over a thousand children. The results of Aboriginal engagement for the Project indicate that the Ermineskin Cree Nation has a Canadian Pacific Railway (CP Rail) line passing through the IR. The following services are provided by the Ermineskin Cree Nation to its members (Ermineskin Cree Nation 2001):

- Ermineskin Daycare;
- Ermineskin Kindergarten;
- Ermineskin Primary School;
- Maskwachees Cultural College;
- Ermineskin Elders Centre;
- Ermineskin Women's Shelter;
- Family Wellness Centre;
- Hobbema Indian Health Services;
- Jim Rattlesnake Sports Building;
- Ermineskin Arena;
- Job Enhancement Program Shop;
- Ermineskin Public Works and Fire Department;
- Ermineskin Planning and Research;
- Panee Memorial Agriplex;
- Young Spirit Winds (youth outreach centre);
- Diabetics Centre;
- Ermineskin Trade Centre;
- Ermineskin Gas Bar; and

- Maskwachees Mall.

Key Project-related issues that have been raised by Ermineskin Cree Nation during Project-related engagement include:

- concern that the Project may affect or affect access to sacred or ceremonial sites;
- creation of employment opportunities for community members; concern that employment is short term;
- the effects of pipeline construction on wildlife hunted or trapped for subsistence purposes;
- potential effect of the Project on the Band's drinking water source which is crossed by the proposed pipeline corridor;
- the sentiment that industry should have a long-term visible presence at community events, because exposure helps to attract local First Nation talent to the company;
- opportunities exist for industry to help fund educational programming on the IRs;
- potential economic benefits of the Project to the Band;
- concern about soil and water quality effects from potential spills;
- concern that over-development displaces animal populations that the communities depend on for food; this displacement means community members have to travel further to gather food;
- the recommendation that the water quality of aquifers be tested using piezometers along the length of the proposed pipeline corridor;
- the recommendation that water testing be done at each water body (sloughs, lakes, rivers, ponds, creeks, drainages) along the proposed pipeline corridor prior to, during and after construction;
- local First Nation trappers could be hired to trap pest beavers for the Project;
- the importance of responsible development;
- the Project could affect the Band members' ability to practice subsistence activities; and
- preserving top soil during construction and returning it to the site during reclamation.

5.1.4 Louis Bull First Nation

The Louis Bull First Nation is a Cree band located 90 km south of the City of Edmonton, Alberta and a signatory member of Treaty 6 (AANDC 2012) as well as a part of the Four Nations of Hobbema. As of 2013, the total population of Louis Bull First Nation was 2,123 people, of which 1,707 live on IRs and 416 live off IRs (AANDC 2013a). There are two IRs (AANDC 2012). The main IR and location of the Band headquarters is Louis Bull 138B (AANDC 2012).

An overview of the Louis Bull First Nation is provided in Table 5.1-7.

TABLE 5.1-7

LOUIS BULL FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 2,123	None	Unknown ¹	Medicinal plants Traditional crafts	Gas bar and convenience store Golf course
On IRs: 1,707			Trapping Hunting	Truck stop
Off IRs: 416			Tanning hides Sweat lodges	

Sources: AANDC 2012, AANDC 2013a, Louis Bull Band 2011

Note: Certain information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

¹ Data could not be found in desktop research or field notes.

More details on Louis Bull First Nation IRs are provided in Table 5.1-8. Both Louis Bull First Nation IRs are located outside the Socio-Economic RSA.

TABLE 5.1-8

LOUIS BULL FIRST NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor /Socio-Economic RSA/ Outside Study Area
Louis Bull 138B	1,309	705	35.3%	Outside study area
Pigeon Lake 138A	485	305	29.4%	Outside study area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Key economic activities of the Louis Bull First Nation include revenues from oil and gas wells on and off the IR as well as revenues from agricultural land leased out to farmers and ranchers (Wetaskiwin Times 2010). Louis Bull First Nation also has economic activity in the Pigeon Lake area along Mulhurst Bay, including a golf course, RV park, Cedar Crest Inn and lakefront property (Wetaskiwin Times 2010).

The results of Aboriginal engagement for the Project indicate that Louis Bull members gather and use medicinal plants, including smudge, and use natural products for cultural activities, such as mud for paint. Members still trap beaver, which are considered pests, hunt moose and deer, and tan hides. Sweat lodges are an important activity in Louis Bull First Nation culture.

Key Project-related issues that have been raised by Louis Bull First Nation members during Project-related engagement include:

- concern about the Project’s effects on the community’s ability to harvest medicinal plants;
- concern that the positive economic effect is short term;
- interest in participating in timber harvesting for the Project; and
- concern about the Project’s effect to soil and water quality, especially in the event of a spill.

5.1.5 Métis Nation of Alberta

The Métis Nation of Alberta represents the province’s Métis people and is distinct from the other Aboriginal groups of Canada (Inuit and First Nations), and represents a third, independent group with First Nations and European roots which adopted a unique culture (The Métis Nation of Alberta 2013). The Métis Nation does not have IRs as the Nation is non-status (The Métis Nation of Alberta 2013). The Zone 4 office of the Métis Nation of Alberta is located in the City of Edmonton, Alberta (The Métis Nation of Alberta 2013).

The asserted traditional territory of the Métis Nation of Alberta extends from the Great Lakes to the Mackenzie Delta, encompassing parts of today’s Ontario BC, Northwest Territories, Alberta, Saskatchewan and Manitoba (The Métis Nation of Alberta 2013). The area that the Métis Nation of Alberta has identified as “Zone 4” is located in central western Alberta (The Métis Nation of Alberta 2013).

An overview of the Métis Nation of Alberta is provided in Table 5.1-9. The Métis Nation of Alberta does not have IRs.

TABLE 5.1-9

MÉTIS NATION OF ALBERTA – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: Unknown ¹	Métis Nation of Alberta	Michif	Unknown ¹	Unknown ¹

Sources: AANDC 2012, AANDC 2013a, Rupertsland Institute 2012, The Métis Nation of Alberta 2013

Note: 1 Data could not be found in desktop research or field notes.

The Rupertsland Institute Métis Centre of Excellence provides training and employment services to members of the Métis Nation with the overarching goal of enhancing the socio-economic and cultural well-being of the Métis people of Alberta (Rupertsland Institute 2012).

The Métis Nation of Alberta has partnered with Alberta Health Services, the Public Health Agency of Canada and the University of Alberta, School of Public Health to collect data and provide services to the Métis Nation of Alberta.

5.1.6 Montana First Nation

The Montana First Nation is a Cree band located 90 km south of the City of Edmonton, Alberta and is a signatory member of Treaty 6 (Montana First Nation 2002). As of 2013, the population of Montana First Nation was 972 people, of which 752 live on IRs and 220 live off IRs (AANDC 2013a). There is one Montana First Nation IR (AANDC 2012). The IR and location of the Band headquarters is Montana 442 (AANDC 2012).

The asserted traditional territory of Montana First Nation spans a land base of 8,159 ha (Montana First Nation 2002). An overview of the Montana First Nation is provided in Table 5.1-10.

TABLE 5.1-10

MONTANA FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 972 On IRs: 752 Off IRs: 220	None	Cree	Medicinal plants Hunting Fishing Gathering Sun dance	Band-owned businesses: <ul style="list-style-type: none"> • Trendwood (lumber supply) • Land acquisitions/development • Diamond Five Complex (rodeo, pow-wow, activity centre, cattle ranch, feedlot facility) • Akamihk Gas Bar • Agricultural and ranch leases

Sources: AANDC 2012, AANDC 2013a, Montana First Nation 2002

More details on Montana First Nation IRs are provided in Table 5.1-11. The Montana First Nation IRs are not crossed by the proposed pipeline corridor (AANDC 2012).

TABLE 5.1-11

MONTANA FIRST NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Montana 139	653	415	46.4%	Outside study area
Pigeon Lake 138A	485	305	29.4%	Outside study area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Key economic activities of the Montana First Nation include the Akamihk Gas Bar, Trendwood lumber supply, land acquisition and developments, oil and gas developments both on and off the IRs, agricultural and ranch leases both on and off the IRs and shared interest from Pigeon Lake IR (Montana First Nation 2002). The Montana First Nation also owns the Diamond Five Complex which hosts rodeo and pow-wow events and includes a cattle ranch and feedlot facility (Montana First Nation 2002). Key training and educational priorities for the community, as indicated by members participating in socio-economic interviews, include improved education. Transferable skills and training that is applicable to multiple industries are needed, as well as programming to occupy youth. The younger generation has had to leave the IR to find work.

Records of socio-economic interviews conducted with Band members indicate that traditional harvesting (*i.e.*, hunting, trapping, fishing, or gathering for subsistence purposes) continues to be an important element of livelihood and culture for Montana First Nation members. White-tailed deer is a traditional food source. Trapping is not a viable source of income anymore for Band members.

The Traditional Land and Resource Use Technical Report of Volume 5D provides further information on Montana First Nation’s traditional land and resource use and cultural practices.

The following community services are provided by the Montana First Nation (Montana First Nation 2002):

- Mes Meskanahk Ka-Nipa-Wit School;
- Akamkispatinaw Ohpikihawasowin (AKO) child care services;
- Youth Development Department;

- Headstart Department;
- Montana Housing Department for tribal housing construction;
- Water Plant;
- Road Maintenance;
- Band Vehicles;
- The Hobbema Police Service; and
- Fire Station.

The following social services are provided by the Montana First Nation (Montana First Nation 2002):

- early childhood development and prenatal care;
- preventative social services (drug and alcohol, children at risk, families at risk);
- youth life skills and mentoring programs;
- adult care;
- health clinic;
- treatment centre referrals;
- women's shelters;
- Food Bank;
- Pre-vocational training; and
- assistance for applications to Assured Income for Severely Handicapped (AISH), pensions, and unemployment income.

Key Project-related issues that have been raised by the Montana First Nation during Project-related engagement include:

- biophysical studies present an opportunity for Band members to learn about TEK and land use from one another and create connections between the members of different communities;
- concern that the Project may affect or affect access to sacred or ceremonial sites;
- the Project may provide an opportunity for industry support for the development of a cultural building to be used for meetings and ceremonies; something to demonstrate cooperation between industry and the First Nation and facilitate educating youth about Montana First Nation culture;
- the Project may provide benefits to youth in the form of training and work experience;
- concern about cumulative effects: Band members now need to travel to pick berries and hunt;

- concern that the Project could affect the ability of Band members who harvest medicinal plants, specifically along the right-of-way;
- scepticism about the rigour of the Project application process;
- prioritization of workplace safety for individuals working on the pipeline;
- the risk of pipeline leaks, and concern about the effects a leak would have on future generations; and
- concern that Project-related employment is short-term.

5.1.7 Nakcowinewak Nation of Canada

The Nakcowinewak Nation of Canada is an Anishnawbe/Saulteaux band historically located in what is today Jasper National Park, and today located in and around Hinton, Alberta (Indigenous Peoples Issues and Resources [IPIR] 2013). The Nakcowinewak Nation of Canada is not a signatory member of any treaty (IPIR 2013). The results of Aboriginal engagement for the Project indicate that the Nakcowinewak Nation of Canada has a population of roughly 250 members, most of whom live in and around the town of Hinton, Alberta.

The asserted traditional territory of the Anishnawbe/Saulteaux Nation was historically shared with the Plains Cree and Assiniboine Nations; it extends throughout the Canadian prairies in southern and central Manitoba, Saskatchewan and Alberta and includes northern portions of North Dakota and Montana in the United States (IPIR 2013). The land historically inhabited by the Nakcowinewak Nation of Canada is bordered by Rocky Mountain House to the south, Mount Robson to the west, Grande Cache to the north and Mayerthorpe to the east (IPIR 2013). The Nakcowinewak Nation of Alberta is seeking a land base to be set aside by the Federal Government for the use of their membership in order to mitigate the effects on their traditional livelihood and quality of life that have come from industrial development and displacement of the Band's membership to the Hinton area (IPIR 2013).

An overview of the Nakcowinewak Nation of Canada is provided in Table 5.1-12.

TABLE 5.1-12

NAKOWINEWAK NATION OF CANADA – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 250	None	Saulteaux Cree	Round dances Pipe ceremonies Chicken dances Feasts Sweats	Goals: education and training

Note: Information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

More details on Nakcowinewak Nation of Canada IRs are provided in Table 5.1-13.

TABLE 5.1-13

NAKOWINEWAK NATION OF CANADA – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Unknown ¹	Unknown ¹	Unknown ¹	Unknown ¹	Unknown ¹

Note: 1 Data could not be found in desktop research or field notes.

The Nakcowinewak Nation of Canada recognizes a need to diversify economic opportunities within the community through training programs and access to capital for business start-ups (IPIR 2013). The Band is interested in forming partnerships with industry in order to succeed in ensuring the self-reliance of the community and aim to develop an economic development strategy (IPIR 2013).

The Nakcowinewak Nation of Canada has recognized an urgent need for housing for its members that will enable them to return to a traditional lifestyle (IPIR 2013). The Band has an interest in the construction of homes that use alternative energy sources and efficient technology (IPIR 2013).

As of June 2013, there were no health services or education initiatives that could meet the special needs of the Nakcowinewak Nation of Canada's members (IPIR 2013). The Band requires resources for the development of a school and other services to better the health care and education available to their membership and to help mitigate poverty within the community (IPIR 2013).

The results of Aboriginal engagement for the Project indicate that, key training and educational priorities for the community include developing transferable skills and having members obtain safety tickets.

The results of Aboriginal engagement for the Project indicate that Band members use plants for medicinal and ceremonial purposes. Squirrels, geese, frogs, beavers and moose have traditionally been used for subsistence and ceremonial purposes. Porcupine is hunted, the meat eaten, and quills used for traditional crafts. Community members used to canoe the MacLeod River.

The following information was gleaned from the socio-economic interview conducted with Band leadership.

There are not many wage jobs available in the community; Band members need safety tickets in order to work and the Band is looking for sponsorship to achieve this. Many Band members also do not have drivers' licenses as a result of the language barrier and older (adult) Band members do not have high school diplomas because they started working at a young age. Band leadership recognizes that a development program would improve Band operations. Such a program does not exist because funds are unavailable for hiring an individual to run it. The Band does not have any partnerships or any businesses and skills that Band members do have, such as tanning hides, are not marketable. One of the challenges faced by Nakcowinewak Nation of Canada members when seeking employment is a lack of understanding of the system; Band members do not know how to seek employment. Many Band members have work experience but do not meet education requirements set out by employers. Youth have a hard time finding work due to a lack of experience. Many Band members have left the community to work. Approximately 50% of Band members work full-time while the other half works seasonally. Rotational wage jobs are challenging for Band members who have families.

Some things that might help Band members find employment include opportunities to study in groups and obtain drivers' licenses; hands-on learning opportunities (e.g., job shadowing); safety tickets; youth work experience; and small business training. Few Band members have finished high school, none have a college or university education, and there are no opportunities for trades training in the community. There is funding available to help Band members obtain safety tickets but the next step is for an individual to help each applicant enrol in the right ticket programs;

As a result of having moved from a traditional lifestyle to Hinton, the community has experienced an increase in health problems. Band members have access to a western medicine health clinic and a traditional healer. Language barriers and challenges in finding transportation are notable obstacles for many Band members seeking to access health care. The Aboriginal liaison at the hospital does not speak Saulteaux or Cree so elders seeking medical care are at a disadvantage. Common ailments include asthma, eczema and diabetes.

The Band administration is interested in creating a program for education and training in the community and is working on completing a survey to see what people need and what support is required to improve employment opportunities.

Many Band members speak Saulteaux, the language of the Nakcowinewak people, and not all members speak, read, or write English; however, many youth are not learning to speak Saulteaux at home today and the language is not taught at any school. The language and literacy barriers faced by many members are a challenge for Band leadership as much time is spent assisting members with translation. Members also speak Cree.

The Head Start program is held at the Hinton Friendship Centre and serves between 30 and 40 children every year.

Traditional cultural practices, rituals and ceremonies take place seasonally, with most being held in the summer months. These include feasts, pipe ceremonies, chicken dance, and spirit lodge.

Between 70 and 80% of Band members hunt moose, deer and elk for subsistence purposes year round; the language barrier between elders and youth has led to few youth being engaged in hunting activities. Other traditional foods include fish and berries. Some Band members are afraid of getting fined for hunting as they are unsure of their treaty rights and government regulations.

The Traditional Land and Resource Use Technical Report of Volume 5D provides further information on Nakcowinewak Nation of Canada's traditional land and resource use and cultural practices.

Key Project-related issues that have been raised by the Nakcowinewak Nation during Project-related engagement include:

- the opportunity may exist for Trans Mountain to sponsor Band members in obtaining safety tickets which will enable them to seek employment;
- there is a concern that individuals who do not have their grade 12 high school diploma would not be hired to work on the Project because they would need assistance in understanding technical and safety terminology during job-specific training and safety courses; these people are skilled and willing to work;
- there are potential job and training opportunities for men and women but employment opportunities associated with the Project will only be short term; there are no perceived long-term benefits associated with the Project;
- construction could disrupt ceremonies if it limits access to certain roads or lands;
- the Project may create opportunities for access to hard-to-reach areas for harvesting;
- it may be difficult for Band members to access harvesting sites for some medicinal and ceremonial plants during construction;
- concern regarding deforestation and the disturbance of habitat of wildlife hunted for subsistence purposes, including the cumulative effects of a new right-of-way, existing right-of-way, transmission line and a highway in the same corridor;
- the cumulative effects of projects in the area could affect the Band's ability to hunt due to noise, habitat destruction and disturbance, increased traffic disturbance and wildlife strikes;
- concern that an increase in temporary workers in the community could be dangerous (drugs and the influence of strangers/temporary workers on youth are of particular concern);
- the sentiment is that many Band members do not have a good understanding of pipeline development or of the Project;

- concern that the Project may affect or affect access to sacred or ceremonial sites and medicinal plant gathering areas;
- potential job and training opportunities for men and women;
- potential for studies associated with the Project application to offer opportunities for the Band to collect data on their own membership, which they do not have; and
- requested environmental monitors during construction.

5.1.8 Paul First Nation (Wabamun)

The Paul First Nation is a Stoney and Cree band located west of the City of Edmonton and is a signatory member of Treaty 6 (AANDC 2012). As of 2013, the total population of Paul First Nation was 1,995 people, of which 1,345 live on IRs and 650 live off IRs (AANDC 2013a). There are three Paul First Nation IRs (AANDC 2012). The main IR and location of the Band headquarters is Wabamun 133A (AANDC 2012).

An overview of the Paul First Nation is provided in Table 5.1-14.

TABLE 5.1-14

PAUL FIRST NATION (WABAMUN) – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 1,995 On IRs: 1,345 Off IRs: 650	None	Nakota (three dialects: plains, mountain and woodland), Assiniboine, Nehiyoo Cree	Hunting Gathering	Paul First Nation Economic Development (co-management agreements or business opportunities, strategic partnerships, employment equity and training initiatives, resource development management) Contracting: manufacturing and distribution of rig/access mats Businesses: <ul style="list-style-type: none"> • Canadian Mat Systems Inc.; and • Bumco Rock Products.

Sources: AANDC 2012, AANDC 2013a, Paul First Nation 2013, KMC 2013b

More details on Paul First Nation IRs are provided in Table 5.1-15. None of the Paul First Nation IRs are crossed by the proposed pipeline corridor; however, Wabamun 133A and Wabamun 133B are located in the Socio-Economic RSA. Buck Lake 133C IR is located outside the study area.

TABLE 5.1-15

PAUL FIRST NATION (WABAMUN) – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Buck lake 133C	n/a ¹	n/a ¹	n/a ¹	Outside study area
Wabamun 133A	1,069	645	39%	Socio-Economic RSA
Wabamun 133B	17	n/a ²	n/a ²	Socio-Economic RSA

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: 1 Statistics Canada does not provide information for this community.

² Data for this area has been suppressed for data quality or confidentiality reasons.

The Project-related socio-economic interviews conducted with band members and administration indicated the following:

- transportation is a barrier to employment and Project engagement for Band members;
- the education system does not prepare youth for successful careers;
- some members of the community feel overwhelmed by industrial activity and keeping up with demand;
- racism is an issue off IRs faced by adults and youth;
- about 20% of Paul First Nation members speak the traditional languages; and
- traditional languages are taught in school and are mandatory for children; adults have the opportunity to learn traditional languages at open houses.

Key economic activities of the Paul First Nation include Band-owned Willow Point Gas Bar and Convenience Store, Ironhead Golf Course and oil and gas activities at Buck Lake 133C IR (Paul First Nation 2013). Paul First Nation has also collaborated with the Indigenous Learning Company to bring web-based learning opportunities to its members (Paul First Nation 2013). Economic development goals of Paul First Nation include securing and retaining employment for the Band members by creating business opportunities, strategic partnerships, resource development and management and training initiatives (Paul First Nation 2013).

The results of Aboriginal engagement for the Project indicate that gathering continues to be an important element of livelihood and culture for Paul First Nation members: plants are harvested for medicinal use; Chip Lake, located 1 km south of the right-of-way, was historically used as a camping site; whitefish was caught in the lake and muskrat, rabbit and moose were trapped or hunted in the area; and berry and medicinal plant harvesting also occurred in the area.

The Traditional Land and Resource Use Technical Report of Volume 5D provides further information on Paul First Nation's traditional land and resource use and cultural practices.

Key Project-related issues that have been raised by Paul First Nation during Project-related engagement include:

- concern that the Project may affect or affect access to sacred or ceremonial sites;
- concern that the proposed pipeline corridor would prevent community members from practicing their language as it would disrupt the land (the language comes from relationship with the land);
- the idea that the Project could benefit the community by funding a program (for which a proposal exists) to develop children's self-esteem, stem social problems and help develop a sense of pride and community;
- concern that a leak near a wetland or waterway would be disastrous, as was the case with the train wreck and spill at Wabamun Lake in 2005, which greatly impacted the community; and
- Paul First Nation members are interested in ensuring the protection of large trees.

5.1.9 Samson Cree Nation

The Samson Cree Nation is a Cree band located south of the City of Edmonton, Alberta and is a signatory member of Treaty 6 (AANDC 2012) as well as part of the Four Nations of Hobbema (Samson

Cree Nation 2013). As of 2013, the Samson Cree Nation population was 7,872 people, of which 6,133 live on IRs and 1,739 live off IRs (AANDC 2013a). There are three Samson Cree Nation IRs (AANDC 2012). The main IR and location of the Band headquarters is Samson 137 (AANDC 2012).

An overview of the Samson Cree Nation is provided in Table 5.1-16.

TABLE 5.1-16

SAMSON CREE NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 7,872 On IRs: 6,133 Off IRs: 1,739	None	Unknown ¹	Trapping Gathering Fishing	Member-owned businesses include: <ul style="list-style-type: none"> • real estate, • retail, • automotive, • property management, • financial services contracting for oil and gas industry: pipeline construction, facility construction, civil construction. Band-owned companies: <ul style="list-style-type: none"> • Cree Convenience; • Peace Hills Pure Water; • Cree Star Transporting Ltd.; • Peace Hills Insurance; • Samson Energy Services; • Samson Energy and Construction; • Jule Mac Construction; and • Spirit Pipelines JV.

Sources: AANDC 2012, AANDC 2013a, KMC 2013b, Samson Cree Nation 2013

Note: 1 Data could not be found in desktop research or field notes.

More details on Samson Cree Nation IRs are provided in Table 5.1-17. None of the Samson Cree Nation IRs are crossed by the proposed pipeline corridor or located in the RSA. The Pigeon Lake 138A IR is located outside of the study area.

TABLE 5.1-17

SAMSON CREE NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Pigeon Lake 138A	485	305	29.4%	Outside study area
Samson 137	3,746	2395	27.7%	Outside study area
Samson 137A	38	n/a ¹	n/a ¹	Outside study area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: 1 Data for this area has been suppressed for data quality or confidentiality reasons.

Key economic activities of the Samson Cree Nation include Samson Management Ltd., a company with diversified holdings in real estate investments and retail businesses (Samson Cree Nation 2013). Samson Management owns Maskepton Automotive Services, Okeymowkisik Gas Bar & Convenience Store, Roots & Berries Pharmacy, Samson Subway and Samson Real Estate & Property Management (Samson

Cree Nation 2013). Samson Cree Nation also owns Peace Hills Trust, which provides a variety of financial services to the Samson Cree Nation members and non-member clients (Peace Hills Trust 2013). There are several member-owned companies, including Cree Convenience, Peace Hills Pure Water (Syncrude Canada 2013) and Cree Star Transport Ltd. (Government of Alberta 2013). Economic development goals of Samson Cree Nation include entrepreneurial development, business expansion and development of human resources as well as labour market profile (Samson Cree Nation 2013). Samson Cree Nation has a community garden that helps to feed members, and the community would like to develop a greenhouse program, according to the results of Aboriginal engagement for the Project. The Band also provides pipeline, facility and civil construction services, as described during Project-related engagement.

The results of Aboriginal engagement for the Project indicate that historically, members of the Samson Cree Nation were hired by farmers for clearing roadways and for hunting and trapping pests (bear, elk and deer), and members continue to trap rabbits today. Members ice fish using both modern and traditional methods. The healing, emotional and psychological benefits of spending time in nature were addressed during Aboriginal engagement for the Project.

Plants are used for medicinal and ceremonial purposes. Waterfowl, moose and squirrel are traditional food sources as described during Aboriginal engagement for the Project.

The Pembina River is a fishing area and an important harvesting area for medicinal plants. Participants also identified the MacLeod River as a fishing area.

The Traditional Land and Resource Use Technical Report of Volume 5D provides further information on Samson Cree Nation's traditional land and resource use and cultural practices.

Key Project-related issues that have been raised by Samson Cree Nation during Project-related engagement include:

- concern that the Project may affect or affect access to sacred or ceremonial sites;
- concern regarding disturbance of medicinal plants collected for traditional purposes, and forest health;
- concern regarding leaks from the pipeline contaminating wetlands and soils;
- concern about effects on non-traditional land and resource use;
- the importance of a comprehensive spill response plan;
- potential economic benefits of the Project to the community; and
- training and employment opportunities for community members, particularly youth.

5.2 Rural Alberta Region

5.2.1 Alexis Nakota Sioux Nation

The Alexis Nakota Sioux Nation is a Sioux band located northwest of the City of Edmonton, Alberta and is a signatory member of Treaty 6 (Alexis Nakota Sioux Nation 2007). As of 2013, the total population of Alexis Nakota Sioux Nation was 1,828 people, of which 1,050 live on IRs and 778 live off IRs (AANDC 2013a). There are four Alexis Nakota Sioux Nation IRs. The main IR and location of the Band headquarters is Alexis–Lac St. Anne IR 133 (Alexis Nakota Sioux Nation 2007).

The asserted traditional territory of Alexis Nakota Sioux Nation extends from the Cardinal River to the south, beyond Whitecourt to the north and east past Barrhead (Alexis Nakota Sioux Nation 2007).

An overview of the Alexis Nakota Sioux First Nation is provided in Table 5.2-1, while Table 5.2-2 provides an overview of labour and population data for Alexis Nakota Sioux First Nation IRs.

TABLE 5.2-1

ALEXIS NAKOTA SIOUX NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 1,828 On-Reserve: 1,050 Off-Reserve 778	Yellowhead Tribal Development Foundation	Siouan	Dream catchers Pow-wows Hunting, trapping, fishing, gathering Traditional crafts	Band-owned businesses: <ul style="list-style-type: none"> Great Plains Well Servicing Corp. Nakota Forestry Alexis Group of Companies Willowgate Store, Eagle River Casino & Travel Plaza Alexis Land Management Corporation (with businesses) Backwoods/Eagle River Contracting Clean Harbours (partnership for Camp and Catering)

Sources: AANDC 2012, AANDC 2013a, Alexis Nakota Sioux Nation 2012, Alexis Nakota Sioux Nation 2007, KMC 2013b

Note: Certain information was sourced from Aboriginal community participation in Project-specific engagement.

More details on Alexis Nakota Sioux Nation IRs are provided in Table 5.2-2. None of the Alexis Nakota Sioux Nation IRs are crossed by the proposed pipeline corridor; however, Alexis–Lac St. Anne IR 133, Alexis Cardinal River 234 and Alexis Elk River 233 are located within the Socio-Economic RSA.

TABLE 5.2-2

ALEXIS NAKOTA SIOUX NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Alexis – Lac St. Anne IR 133	817	545	42.9%	Socio-Economic RSA
Alexis Cardinal River 234	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Alexis Elk River 233	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Alexis Whitecourt 232	n/a ¹	n/a ¹	n/a ¹	Outside study area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Note: 1 Statistics Canada does not provide information for this community.

Key economic activities of the Alexis Nakota Sioux Nation include forestry, farm machinery, construction and oil and gas operations. There are several member-owned companies including Northern Nakota Well Servicing, Nakota Forestry Ventures Inc., Alexis Morgan Construction and Environmental, Alexis White’s Logging, First Nation’s Alliance, Alexis Group of Companies Inc., Alexis Oil and Gas Corporation, Alexis Service Center Inc., Alexis Band Enterprise, Alexis Band Farm Equipment Operations Inc. and the Eagle River Casino and Resort (Alexis Nakota Sioux Nation 2007, 2012).

The Alexis Nakota Sioux Nation is affiliated with the Yellowhead Tribal College, and the Band has a Business Advisory Services and Employment Division. Alexis Nakota Sioux Nation is also affiliated with the Yellowhead Tribal Development Foundation (YTDF) and the Aboriginal Construction Careers organization (Alexis Nakota Sioux Nation 2012).

The results of Aboriginal engagement for the Project indicate that Backwoods/Eagle River Contracting is a primary employer for the Alexis Nakota Sioux Nation which provides the following services: tree planting; lease building; site clearing; logging; brushing; hand falling; seismic slashing; access construction; pipeline construction; integrity digs; security; mulching; pipe coating; and general pipeline and construction labour.

Traditional harvesting, such as hunting, trapping, fishing and gathering for subsistence purposes continues to be an important element of livelihood and culture for Alexis Nakota Sioux Nation members. Plants, wildlife, and fish are valued for economic reasons. Traditional economic activities often occur alongside some level of seasonal wage employment. Marten are trapped in the fall and winter and pelts are sold. Skunks, moose and bear are also hunted. Alexis Nakota Sioux Nation members fish along the MacLeod River, Cardinal River and Maskuta River for species such as walleye, grayling, rainbow trout, suckers, whitefish, pike and catfish.

The Traditional Land and Resource Use Technical Report of Volume 5D provides further information on Alexis Nakota Sioux Nation's traditional land and resource use and cultural practices.

Key Project-related issues that have been raised by the Alexis Nakota Sioux Nation during Project-related engagement include:

- concern that housing development is prohibited on land crossed by proposed pipeline corridor;
- potential for the Project to create employment and training opportunities, especially for youth;
- negative effects of the Project on water quality;
- concern that the Project (specifically use of pesticides) could affect availability of plants and animals used for subsistence purposes
- offering Alexis Nakota Sioux Nation members monitoring opportunities during and post-construction; and
- concerns regarding the spill response plan.

5.2.2 Foothills Ojibway Society

The Foothills Ojibway Society is a Chippewa band located west of the City of Edmonton, Alberta. The Band is non-status and therefore does not have any IRs (Anishinabe-History.com 2013). No further socio-economic information related to this community was identified.

The Traditional Land and Resource Use Technical Report of Volume 5D provides further information on Foothill Ojibway Society's traditional land and resource use and cultural practices.

5.2.3 O'Chiese First Nation

The O'Chiese First Nation is a Saulteaux band located near the Town of Rocky Mountain House, Alberta (O'Chiese First Nation 2013) and is a signatory member of Treaty 6 (AANDC 2012). As of 2012, the population of the O'Chiese First Nation was 1,230 people, of which 836 live on IRs and 394 live off IRs (AANDC 2013a). There are two O'Chiese First Nation IRs (AANDC 2012). The main IR and location of the Band headquarters is O'Chiese 203 (AANDC 2012).

The asserted traditional territory of the O'Chiese First Nation extends over approximately a third of the province of Alberta, with the proposed pipeline corridor crossing through the northern portion of the O'Chiese First Nation's asserted traditional territory (Calliou Group 2013) .

An overview of the O'Chiese First Nation is provided in Table 5.2-3.

TABLE 5.2-3

O'CHIESE FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 1,230 On IRs: 836 Off IRs: 394	Yellowhead Tribal Development Foundation	Saulteaux	Unknown ¹	Band-owned businesses and partnerships include: <ul style="list-style-type: none"> • Business Investment Centre (Truck Stop Inc., Gas Bar Store) • O'Chiese Energy GP Inc. • Contracting for oil and gas • O'Chiese Sand, Gravel and Contracting Limited Partnership

Sources: AANDC 2012, AANDC 2013a, KMC 2013b, O'Chiese First Nation 2013

Note: 1 Data could not be found in desktop research or field notes.

More details on O'Chiese First Nation IRs are provided in Table 5.2-4. Neither of the O'Chiese IRs are crossed by the proposed pipeline corridor; however, O'Chiese 203 is located in the Socio-Economic RSA. O'Chiese Cemetery 203A is located outside the study area.

TABLE 5.2-4

O'CHIESE FIRST NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
O'Chiese 203	751	455	n/a ¹	Socio-Economic RSA
O'Chiese Cemetery 203A	n/a ¹	n/a ¹	n/a ¹	Outside Study Area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Note: 1 Statistics Canada does not provide information for this community.

Key economic activities of the O'Chiese First Nation include Truck Stop Inc., Gas Bar Inc. and Enterprise 203 Ltd., a property management and investment company (O'Chiese First Nation 2013). The O'Chiese First Nation has established O'Chiese Energy GP Inc. and is actively engaged in generating revenues via oil and gas development (O'Chiese First Nation 2013). O'Chiese First Nation also has businesses to service the oil and gas industry (O'Chiese First Nation 2013). The Sand Gravel Contracting LP offers aggregate products and construction services, availability of oil recycling depots, TLU study engagement as well as paramedic services (O'Chiese First Nation 2013). Contracting services provided by the O'Chiese First Nation discussed during Project-related engagement include: gravel crushing, sand sales, oilfield lease construction, access and road construction, seismic work, pipeline labour, basement excavations, and underground service excavation.

Traditional harvesting, such as hunting, fishing and gathering, continues to be an important element of livelihood and culture for the O'Chiese First Nation. Band members gather berries and medicinal plants and hunt ungulate species, waterfowl and rabbit. Species including bear, beaver, marten, muskrat, rabbit and squirrel are trapped in the O'Chiese First Nation's asserted traditional territory and Band members fish for trout and other species (Calliou Group 2013).

The Traditional Land and Resource Use Technical Report of Volume 5D provides further information on O'Chiese First Nation's traditional land and resource use and cultural practices.

The O'Chiese First Nation is a member of the YTDF which provides economic, social and education support to member bands (AANDC 2012, O'Chiese First Nation 2013). In partnership with the Government of Canada–funded ASETS program, YTDF grants financial aid to the O'Chiese First Nation for an employment program and services (Government of Canada 2009, YTDF 2011), and provides access to the Yellowhead Tribal College which offers academic courses and accredited programs with emphasis on First Nation culture (Yellowhead Tribal College 2013).

The following community services are provided by the O'Chiese First Nation (O'Chiese First Nation 2013):

- O'Chiese First Nation School;
- O'Chiese Eagle Nest Daycare;
- Health Centre;
- outdoor skating rink;
- baseball diamond;
- Employment Training Centre;
- Business Investment Centre; and
- O'Chiese Fire Department.

The following social services are provided by the O'Chiese First Nation (O'Chiese First Nation 2013):

- adult education;
- employment services;
- Brighter Future Initiatives;
- Child and Family Services;
- domestic violence treatment program;
- National Native Drug Abuse Program;
- fetal alcohol spectrum disorder program;
- medical transportation;
- diabetes initiatives;
- occupational therapy;
- physiotherapy; and
- midwife.

5.2.4 Saddle Lake Cree Nation

The Saddle Lake Cree Nation is a Cree band located east of the City of Edmonton, Alberta and is a signatory member of Treaty 6 (Saddle Lake Cree 2013). As of 2013, the total population of Saddle Lake Cree Nation was 9,961 people, of which 6,317 live on IRs and 3,644 live off IRs (AANDC 2013a). There are three Saddle Lake Cree Nation IRs (AANDC 2012).

An overview of the Saddle Lake Cree Nation is provided in Table 5.2-5.

TABLE 5.2-5

SADDLE LAKE CREE NATION – OVERVIEW

Band Population	Tribal or Treaty Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
9,961 On-IRs: 6,317 Off-IRs: 3,644	None	Cree	2 pow-wows yearly Round dances Feasts Pipe ceremonies Sweat lodges Sun dances Arts and crafts Healers and traditional medicine gathering Stampede	Business development corporation: Onihcikiskowapowin Business Trust (O-Trust) Business capacity: contracting for the energy industry

Sources: AANDC 2012, AANDC 2013a, Saddle Lake Cree Nation 2013

Notes: Certain information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

More details on Saddle Lake Cree Nation IRs are provided in Table 5.2-6. All Saddle Lake Cree Nation IRs are located outside the Socio-Economic RSA.

TABLE 5.2-6

SADDLE LAKE CREE NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Blue Quills First Nation	n/a ¹	n/a ¹	n/a ¹	Outside study area
Saddle Lake 125	n/a ¹	n/a ²	n/a ²	Outside study area
White Fish Lake 128	1,188	765	8.5%	Outside study area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: 1 Statistics Canada does not provide information for this community.
2 Data for this area has been suppressed for data quality or confidentiality reasons.

Key economic activities of the Saddle Lake Cree Nation include tourism (slot machines), contracting for the energy industry, and cabinet making (Saddle Lake Cree 2013). The Onihcikiskowapowin Business Trust (O-Trust) was created to financially support existing economic development opportunities and the long-term economic sustainability of Saddle Lake Cree Nation (Saddle Lake Cree 2013). There are several member-owned companies including Peyasew Management, Bison Auto, Saddle Lake Central Plumbing Ltd., Saddle Lake Oil & Gas Company, Spiritel Incorporated, Cabinet Making, 544520 Alberta Ltd, Keyano Pimee Explorations and O-Trust (Saddle Lake Cree 2013).

Traditional harvesting, such as hunting, fishing and gathering, continues to be an important element of livelihood and culture for the Saddle Lake Cree Nation. The results of Aboriginal engagement for the Project indicate that community members make and sell crafts to supplement income; a number of plants are used for medicinal purposes; and beaver, white tail deer, geese, moose and elk are all hunted.

The following health services are provided by Saddle Lake Cree Nation (Saddle Lake Cree 2013):

- a medical clinic;
- pharmacy;
- public health nurses and community health representatives;
- coordinated home care; and
- a wellness centre (NAADAP, Brighter Futures, Building Healthy Communities).

Employment development is provided by the Saddle Lake Cree Nation Human Resources Centre, and Child welfare is provided by the Saddle Lake Wahkohtowin Society (Saddle Lake Cree 2013). Additionally, the following social services are provided by Saddle Lake Cree Nation (Saddle Lake Cree 2013):

- social assistance;
- liaison work;
- work opportunity program transfers; and
- re-investment strategy – child tax benefit.

The Saddle Lake Education Authority Department manages the Saddle Lake Early Childhood Centre (for ages 3 months–5 years), the Onchaminahos School (kindergarten–grade 12), the Kehew Asiniy Education Centre (grades 10–12), and the Saddle Lake Postsecondary Centre (Saddle Lake Cree 2013).

Key Project-related issues that have been raised by Saddle Lake Cree Nation during Project-related engagement include:

- concern that the Project may affect or affect access to sacred or ceremonial sites;
- the importance of avoiding nesting geese; and
- the protection of large trees.

5.2.5 **Sunchild First Nation**

The Sunchild First Nation is a band located near the Town of Rocky Mountain House, Alberta and is a signatory member of Treaty 6 (AANDC 2012). As of 2013, the total population of Sunchild First Nation was 1,291 people, of which 836 live on IRs and 394 live off IRs (AANDC 2013a). There is one Sunchild First Nation IR, Sunchild 202, which is the location of the Band headquarters (AANDC 2012).

An overview of the Sunchild First Nation is provided in Table 5.2-7.

TABLE 5.2-7

SUNCHILD FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 1,2891 On IRs: 836 Off IRs: 394	Yellowhead Tribal Development Foundation	Unknown ¹	Trapping Medicinal plants Regalia Hunting	Unknown ¹

Sources: AANDC 2012, AANDC 2013a

Note: Certain information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

¹ Data could not be found in desktop research or field notes.

More details on Sunchild First Nation IRs are provided in Table 5.2-8. The Sunchild First Nation IR is not crossed by the proposed pipeline corridor, nor is it located within the Socio-Economic RSA.

TABLE 5.2-8

SUNCHILD FIRST NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Sunchild 202	677	425	27.3%	Outside Study Area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Sunchild First Nation is a member of the YTDF which provides economic, social and education support to member nations (AANDC 2012, O’Chiese First Nation 2013). In partnership with the Government of Canada–funded ASETS program, YTDF grants financial aid to Sunchild First Nation for employment programs and services (Government of Canada 2009, YTDF 2011) and provides access to the Yellowhead Tribal College, which offers academic courses and accredited programs with emphasis on First Nation culture (Yellowhead Tribal College 2013).

The results of Aboriginal engagement for the Project indicate describe the use of medicinal plants. Historically, Sunchild First Nation members have trapped animals for fur, selling them for food, clothing and shelter, and today they still trap beaver.

Key Project-related issues that have been raised by Sunchild First Nation during Project-related engagement include: concern that the Project may affect or affect access to sacred or ceremonial sites.

5.3 Jasper National Park Region

5.3.1 Aseniwuche Winewak Nation

The Aseniwuche Winewak Nation is an affiliation of six Woodland Cree settlements located within the vicinity of Grande Cache, north of Jasper National Park (Aseniwuche Winewak Nation 2012). Members of Aseniwuche Winewak Nation are non-status aboriginals and have not been part of the Treaty Process (Aseniwuche Winewak Nation 2012). The Nation represents 400 individuals who belong to the communities of Muskeg Seepee Cooperative, Susa Cree Cooperative, Grande Cache Lake Enterprise, Victor Lake Cooperative, Joachim Enterprise and Wanyandie East and West Cooperative (Aseniwuche Winewak Nation 2012). The Aseniwuche Winewak Nation headquarters are located in Grand Cache (Aseniwuche Winewak Nation 2012).

The asserted traditional territory of the Aseniwuche Winewak Nation spans a land base that includes large areas of Jasper National Park, Willmore Wilderness Park and Hinton (Aseniwuche Winewak Nation 2012). The Aseniwuche’s existing communities cover 1,679 ha (Aseniwuche Environmental Corporation 2013).

An overview of the Aseniwuche Winewak Nation is provided in Table 5.3-1.

TABLE 5.3-1

ASENIWUCHE WINEWAK NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 400	None	Cree	Unknown ¹	Areas of business development and employment: <ul style="list-style-type: none"> • Environmental (reclamation) Services; • Traditional Knowledge; • Consultation Program, Industry Partners; • Aseniwuche Development Corporation; and • several Band members are welders and a number are welder apprentices. Businesses: Aseniwuche Environmental Corporation

Sources: Aseniwuche Winewak Nation of Canada 2012

Notes: This First Nation is non-status, and therefore does not have official IRs. Its members do, however, live in Aseniwuche communities which are described in Table 5.3-2.

1 Data could not be found in desktop research or field notes.

More details on the Aseniwuche Winewak Nation communities are provided in Table 5.3-2.

TABLE 5.3-2

ASENIWUCHE WINEWAK NATION – COMMUNITIES

Aseniwuche communities	Community Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
n/a - Band resides in the Grand Cache area/Foothills/Jasper	Unknown ²	Unknown ²	Unknown ²	Unknown ²
Muskeg Seepee Cooperative	n/a ¹	n/a ¹	n/a ¹	Unknown ²
Susa Cree Cooperative	n/a ¹	n/a ¹	n/a ¹	Unknown ²
Grande Cache Lake Enterprise	n/a ¹	n/a ¹	n/a ¹	Unknown ²
Victor Lake Cooperative	n/a ¹	n/a ¹	n/a ¹	Unknown ²
Joachim Enterprise	n/a ¹	n/a ¹	n/a ¹	Unknown ²
Wanyandie East and West Cooperative	n/a ¹	n/a ¹	n/a ¹	Unknown ²

Sources: Aseniwuche Winewak Nation of Canada 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: This First Nation is non-status. This table describes the Aseniwuche communities which are not IRs.

1 Statistics Canada does not provide information for this community.

2 Data could not be found in desktop research or field notes.

A key economic activity for the Aseniwuche Winewak Nation is to provide consulting services to the government and resource industry. The Land Management and Resource Development Department within the community-owned Aseniwuche Development Corporation (ADC) specialises in TLU studies and environmental services. Additionally, ADC also offers labour, equipment and welding services to the oil and gas, mining and forestry industries (Aseniwuche Winewak Nation 2012). Other contracting services provided by the Band to service the oil and gas industry include the following, as described during Project-related engagement: well site maintenance; power line maintenance; wildfire maintenance; site and right-of-way clearing; wood chipping and mulching; brushing; burning and slashing; licensed security services; janitorial services; road building for leases; traffic control; flagging; medic services; heavy equipment operation; and fleet maintenance.

Traditional harvesting (*i.e.*, hunting, trapping, fishing, and plant gathering for subsistence purposes) continues to be an important element of livelihood and culture for Aseniwuche Winewak Nation members. Traditional medicines are used to treat many ailments. (Aseniwuche Environmental Corporation 2013).

Key Project-related issues that have been raised by the Aseniwuche Winewak Nation in the Traditional Use and Occupancy Study: Proposed Trans Mountain Pipeline Expansion Project (Aseniwuche Environmental Corporation 2013) include:

- concern that disturbance to freshwater habitat for salmon in BC could affect salmon populations, a culturally important and commonly fisher
- d species; and
- concern about cumulative effects that development has on wildlife habitat in their traditional territory.

5.4 Fraser-Fort George/Thompson-Nicola Region

5.4.1 Coldwater Indian Band

The Coldwater Indian Band is a Nkaka'pamux (Nicola) band located near the City of Merritt, BC and is a member of the Nicola Tribal Association (Coldwater Indian Band 2013). There are three Coldwater Indian Band IRs (AANDC 2012).

The asserted traditional territory of all Nkaka'pamux First Nations covers land from within Washington State to the south, extending north to Ashcroft and east and west to Douglas Lake and Lillooet, respectively (Shackan Indian Band 2012).

An overview of the Coldwater Indian Band is provided in Table 5.4-1.

TABLE 5.4-1

COLDWATER INDIAN BAND COLDWATER INDIAN BAND – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Unknown ¹	Nicola Tribal Association	Scw'exmxcin (dialect of nte'kepmx)	Unknown ¹	Esh-kn-am (archaeology) Stuwix Resource Joint Venture (general contracting)

Sources: Coldwater School 2013, First Peoples Land Map (FPLM) 2013, KMC 2013b

Notes: 1 Data could not be found in desktop research or field notes.

More details on Coldwater Indian Band IRs are provided in Table 5.4-2. Of the Coldwater Indian Band IRs, Coldwater 1, Gwen Lake 3 and Paul's Basin 2 are in the Socio-Economic RSA (AANDC 2012).

TABLE 5.4-2

COLDWATER INDIAN BAND – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area	Land Use Plans/ Priorities	On IRs Services	On IRs Infrastructure
Coldwater 1	349	275	32.3%	Socio-Economic RSA	Unknown ³	Unknown ³	Unknown ³
Gwen Lake 3	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA	n/a ²	n/a ²	n/a ²

TABLE 5.4-2 Cont'd

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area	Land Use Plans/ Priorities	On IRs Services	On IRs Infrastructure
Paul's Basin 2	36	25	0%	Socio-Economic RSA	n/a ²	n/a ²	n/a ²

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

- Notes:**
- 1 Statistics Canada does not provide information for this community.
 - 2 This information is not required for this IR as the IR is located beyond the proposed pipeline corridor.
 - 3 Data could not be found in desktop research or field notes.

Key economic activities of the Coldwater Indian Band include forestry ventures (Nicola-Similkameen Innovative Forest Society [NSIFS] 2007). The Coldwater Indian Band is associated with the Nicola-Similkameen Innovative Forest Society, which conducts studies and develops forestry plans (NSIFS 2007). The Nicola Tribal Association assists bands and member-owned companies in the management of their forest tenures including woodlot licenses, timber sales licenses and small-scale salvage licenses (NSIFS 2007). Businesses owned by members of the Nicola Tribal Association are typically associated with the forestry, farming and ranching industries (NSIFS 2007).

During Project-related engagement, meetings were held with Community Futures regarding training programs that will benefit communities over the long term, particularly in the trades and technology. A number of requests came for procurement opportunities for First Nation communities, along with requests for programs which would enable First Nations people to work with contractors. Help was requested for those organizations that do not receive government funds, in order to enable cross-cultural training and to allow them to partner with other companies.

The Scw'exmx Community Health Services Society (SCHSS) provides health services to three First Nations: Coldwater Indian Band, Nooaitch and Shackan (Scw'exmx Community Health Services Society [SCHSS] 2011). Services offered by the SCHSS include non-insured health benefits, community health services, mental health services, home and community care, and youth services (SCHSS 2011). Non-insured health benefits provided include (SCHSS 2011):

- BC Medical Insurance premiums (BC Care Cards);
- dental care benefits;
- medical equipment and supplies;
- medical transportation assistance;
- prescription medications;
- short-term crisis intervention; and
- vision care.

Community health services provided by SCHSS include (SCHSS 2011):

- health promotion;
- immunizations;
- pre/post-natal health;

- preventative education;
- mental health services;
- home care and youth services;
- Aboriginal diabetes program; and
- school health.

5.4.2 Lheidli-T'enneh

The Lheidli-T'enneh is a Dakelh band (Lheidli T'enneh and Chignecto Consulting Group 2013) located near the City of Prince George, BC (Lheidli T'enneh First Nation 2012). Lheidli-T'enneh was one of the first First Nations to participate in the BC Treaty Process, and while they completed the process the Final Agreement (treaty) was rejected by the Nation's members in 2007 (Lheidli T'enneh First Nation 2012). As of 2013, the total population of Lheidli-T'enneh was 391 people, of which 105 live on IRs and 286 live off IRs (AANDC 2013a). There are four Lheidli-T'enneh IRs (AANDC 2012). The main IR and location of the Band headquarters is Fort George 2 (AANDC 2012).

The asserted traditional territory of Lheidli-T'enneh covers a land base of approximately 4.3 million ha (Lheidli T'enneh First T'enneh 2012) and extends from Cluculz Lake in the west, south to the Cottonwood River, and east to the border of the province of Alberta (Lheidli T'enneh and Chignecto Consulting Group 2013). An overview of the Lheidli-T'enneh is provided in Table 5.4-3.

TABLE 5.4-3

LHEIDLIT'ENNEH – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 391 On IRs: 105 Off IRs: 286	None	Dakelh	Timber harvesting Natural resource management Fishing Canoe building	5 year strategic plan Environmental management framework Member-owned forestry companies Partnerships with forestry, oil and gas industries Fisheries management

Sources: AANDC 2013a, FPLM 2013, Lheidli T'enneh First Nation 2012

More details on Lheidli-T'enneh IRs are provided in Table 5.4-4. None of the on Lheidli-T'enneh IRs are crossed by the proposed pipeline corridor or are located in the Socio-Economic RSA.

TABLE 5.4-4

LHEIDLIT'ENNEH – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/Socio-Economic RSA/Outside Study Area
Clesbaoneecheck 3	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Fort George 2	80	n/a ²	n/a ²	Outside Study Area
Fort George Cemetery 1A	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Salaquo 4	n/a ¹	n/a ¹	n/a ¹	Outside Study Area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: 1 Statistics Canada does not provide information for this community.

2 Data for this area has been suppressed for data quality or confidentiality reasons.

Key economic activities of the Lheidli-T'enneh include timber harvesting, natural resource management and government program delivery. The Band is pursuing endeavours to diversify their economic activities in order to provide more employment and business opportunities for Band members (Lheidli T'enneh First Nation 2012). There are several member-owned companies, including Chunzoolh Forest Products Ltd., LTN Contracting and Northern Spruce Contracting Ltd., as well as a number of business partnerships with companies in the forestry and oil and gas industries. Lheidli-T'enneh is also active in fisheries management. Economic development goals of Lheidli-T'enneh include diversifying the Band's economy in order to better contribute to the regional economy and increase band revenue (Lheidli T'enneh First Nation 2012). Traditional harvesting (*i.e.*, hunting, fishing, berry picking and the use of cultural sites) continues to be an important source of subsistence livelihood for Lheidli T'enneh Band members (Lheidli T'enneh and Chignecto Consulting Group 2013).

In 2007, the Lheidli-T'enneh developed an Environmental Management Framework that addresses environmental management on Lheidli-T'enneh IR lands (Lheidli T'enneh First Nation 2012).

Lheidli-T'enneh has a 5 year Strategic Plan, which commits to providing members with employment services and access to funding and job opportunities, liaising with employers, providing a soft-skills program to adults and youth, providing high school students with summer work experience, supporting apprenticeships, and providing a mini job fair (Lheidli T'enneh First Nation 2012).

The results of Aboriginal engagement for the Project indicate show that traditional harvesting (*i.e.*, hunting, trapping, fishing, or gathering for subsistence purposes) continues to be an important element of livelihood and culture for Lheidli-T'enneh Band members. Plants are used to make canoes, for basket weaving and for medicinal purposes. Band members fish for salmon in the Fraser River.

The following services are offered to Band members by the Lheidli-T'enneh (Lheidli T'enneh First Nation 2012):

- Healthy Child Development;
- Brighter Futures (health promotion for babies and children);
- Mental Health Crisis Management;
- solvent/drug/alcohol abuse services;
- Aboriginal Diabetes Initiative;
- community health promotion and injury/illness prevention;
- HIV/AIDS prevention;
- drinking water safety program; and
- research on home care (needs assessment, long-term care, health and well-being assistance).

Key Project-related issues that have been raised by the Lheidli-T'enneh Band during Project-related engagement include a request for support for the Band to participate in the 2015 Winter Games, and aid in building a pavilion for this event. There is potential for the Project to bring jobs and employment opportunities to the community.

A traditional land use study conducted for this Project by the Lheidli T'enneh Band (Lheidli T'enneh and Chignecto Consulting Group 2013) raised the following issues:

- the Project may present employment opportunities;
- concern about the difficulty in accessing the south side of the Fraser River pipe crossing across from the Rearguard Pump station;
- concern that a spill could negatively impact water quality and fish habitat; and
- concern that the traditional salmon fishery on the Fraser River could be impacted downstream from the location where the proposed pipeline corridor crosses the Fraser River.

5.4.3 Lhtako Dene Nation

The Lhtako Dene Nation is a Southern Carrier band located near the City of Quesnel in the interior of BC (Carrier Chilcotin Tribal Council [CCTC] 2013). The Lhtako Dene Nation is a member of the Carrier Chilcotin Tribal Council (CCTC 2013, AANDC 2012). As of 2013, the total population of Lhtako Dene Nation was 170 people, of which 75 live on IRs and 95 live off IRs (AANDC 2013a). There are four Lhtako Dene Nation IRs (AANDC 2012). The main IR and location of the Band headquarters is Quesnel 1 (AANDC 2012).

The asserted traditional territory of Lhtako Dene Nation includes the Chilcotin River, Blackwater River, Dean River and Quesnel River watersheds (CCTC 2013).

An overview of the Lhtako Dene Nation is provided in Table 5.4-5.

TABLE 5.4-5

LHTAKO DENE NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 170	Carrier Chilcotin Tribal Council	Dakelh	Unknown ¹	Unknown ¹
On IRs: 75				
Off IRs: 95				

Sources: AANDC 2012, AANDC 2013a, CCTC 2013, FPLM 2013, Quesnel Child, Youth and Family Network 2007

Note: 1 Data could not be found in desktop research or field notes.

More details on Lhtako Dene Nation IRs are provided in Table 5.4-6. None of the Lhtako Dene Nation IRs are crossed by the proposed pipeline corridor; all are located outside of the study area.

TABLE 5.4-6

LHTAKO DENE NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/Socio-Economic RSA/Outside Study Area
Dragon Lake 3	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Quesnel 1	73	70	n/a ²	Outside Study Area
Rich Bar 4	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Sinncetahlah 2	n/a ¹	n/a ¹	n/a ¹	Outside Study Area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: 1 Statistics Canada does not provide information for this community.

2 Data for this area has been suppressed for data quality or confidentiality reasons and/or rounded to zero.

A number of services are provided to the Lhtako Dene Nation community by the Quesnel Child, Youth and Family Network, including social services, health services, and education coordination (Quesnel Child, Youth and Family Network 2007).

The Traditional Land and Resource Use Technical Report of Volume 5D provides further information on Lhtako Dene Nation’s traditional land and resource use and cultural practices.

5.4.4 Lower Nicola Indian Band

The Lower Nicola Indian Band is a Nl̓eʔkepmxcín band located in the City of Merritt, BC (Lower Nicola Indian Band 2009). As of 2010, the total population of Lower Nicola Indian Band was 1,000 people (Lower Nicola Indian Band 2009), of which approximately 43% live on IRs, and the majority of the remainder live in Merritt, Kamloops and Vancouver (Lower Nicola Indian Band 2013, Lower Nicola Indian Band 2009). There are 10 Lower Nicola Indian Band IRs (Lower Nicola Indian Band 2013). The main IR and location of the Band headquarters is Nicola Mameet 1 (AANDC 2012).

Lower Nicola Indian Band has 10 IRs covering over 7,500 ha of land, including the Zoht IR 4, Zoht IR 5, and Joeyaska IR 2 (Lower Nicola Indian Band 2009), which are crossed by the proposed pipeline corridor.

Roughly 30% of the Lower Nicola Indian Band’s population that lives on IRs is 20 years old or younger, and another 35% is over the age of 40 (Lower Nicola Indian Band 2009). In 2009, more than 70 Band members eligible for employment were receiving social assistance from the Band, and the Band recognized the need to help these members to re-enter the workforce (Lower Nicola Indian Band 2009). Between 2004 and 2009, the number of Lower Nicola Indian Band children in government care fell by 50%, and education is recognized as one of the best opportunities for improvement of the quality of life of Lower Nicola Indian Band members (Lower Nicola Indian Band 2009).

An overview of the Lower Nicola Indian Band is provided in Table 5.4-7.

TABLE 5.4-7

LOWER NICOLA INDIAN BAND – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 1,081 On IRs: 541 Off IRs: 540	None	Nl̓eʔkepmxcín	Hunting Traditional crafts Sweat houses Fishing Traditional games	Band-owned businesses and partnerships: Shulus Cattle Company; Shulus Forest Enterprises; Stuwix Resource Joint Venture (General Contracting) Business goal: Working towards self-sufficiency and developing a skilled workforce

Sources: AANDC 2012, AANDC 2013a, FPLM 2013, KMC 2013b, Lower Nicola Indian Band 2009

More details on Lower Nicola Indian Band IRs are provided in Table 5.4-8. The Joeyaska IR 2, Zoht 4 and Zoht 5 are crossed by the proposed pipeline corridor and Nicola Mameet 1, Pipecul 3, Speous 8 and Zoht 14 are located in the Socio-Economic RSA (AANDC 2012).

TABLE 5.4-8

LOWER NICOLA INDIAN BAND – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/Socio-Economic RSA/Outside Study Area	Land Use Plans/Priorities	On-reserve Services	On-reserve Infrastructure
Hihium Lake 6	n/a ¹	n/a ¹	n/a ¹	Outside Study Area	n/a ³	n/a ³	n/a ³
Joeyaska 2	45	20	n/a ²	Proposed Pipeline Corridor	n/a ³	n/a ³	n/a ³
Logan's 6	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA	n/a ³	n/a ³	n/a ³
Nicola Mameet 1	585	215	30.2	Socio-Economic RSA	n/a ³	n/a ³	n/a ³
Pipseul 3	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA	n/a ³	n/a ³	n/a ³
Speous 8	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA	n/a ³	n/a ³	n/a ³
Zoht 4	25	n/a ²	n/a ²	Proposed Pipeline Corridor	14 residences here; pasture land and irrigated hay land; Clapperton and Shuta Creeks provide irrigation and domestic water	Semi-urban/rural community; community water systems; individual septic systems for sewage disposal	n/a ³
Zoht 5	n/a ¹	n/a ¹	n/a ¹	Proposed Pipeline Corridor	One home; 4,000+ cubic metres of timber; pasture land; limited road access; not connected to BC Hydro; designated "agricultural" under Physical Development Plan	Semi-urban/rural community; community water systems; individual septic systems for sewage disposal	Unknown ⁴
Zoht 14	0	n/a ¹	n/a ¹	Socio-Economic RSA	n/a ³	n/a ³	n/a ³

Sources: AANDC 2012, Lower Nicola Indian Band 2009, Statistics Canada 2012, Statistics Canada 2013a

- Notes:**
- 1 Statistics Canada does not provide information for this community.
 - 2 Data for this area has been suppressed for data quality or confidentiality reasons and/or rounded to zero.
 - 3 This information is not required for this IR as the IR is located beyond the proposed pipeline corridor.
 - 4 Data could not be found in desktop research or field notes.

Key economic activities of the Lower Nicola Indian Band include Shulus Forest Enterprises Inc. and Shulus Cattle Company. The former provides timber development, silviculture work and cultural resource management and the latter manages agriculture land, growing forage crops for cattle (Lower Nicola Indian Band 2013). The results of Aboriginal engagement for the Project indicate that, historically, the forestry industry has been a major employer for Lower Nicola Indian Band members, but the closing of lumber mills has led to loss of work. Mining has somewhat filled the employment gap, and the Nicola Valley Institute of Technology provides good training for industrial jobs.

The Lower Nicola Indian Band is developing a Comprehensive Community Plan (Lower Nicola Indian Band 2009). The Plan will focus on reviving, promoting and preserving their language and culture for all members; addressing members' educational needs; practicing better governance of the Nation;

encouraging and supporting engagement and involvement for all members; addressing members' social needs; improving members' holistic health and well-being; conserving and restoring cultural and traditional resources; addressing members' housing issues; and creating business and job opportunities for all members (Lower Nicola Indian Band 2009).

The Town of Merritt serves as the Lower Nicola Indian Band's main service centre, providing education and employment for many members (Lower Nicola Indian Band 2009). Services unavailable in Merritt are sought in Kamloops, which is about an hour away. In addition to the Shulus Cattle Company and Shulus Forest Enterprises Inc., Band-owned companies include LNIB Construction, LNIB Natural Resources and Lower Nicola Enterprises (Lower Nicola Indian Band 2013). Partnerships include Suwix Resources Ltd. (a forestry company), Nicola Valley Indian Services Association, Spayum Developments and the Nicola Valley Institute of Technology. Many members operate their own small businesses both on and off the IR, including a gas station and store, forestry operations, mechanics and skilled crafts people (Lower Nicola Indian Band 2013).

In 2009, enterprises and business partnerships owned by the Lower Nicola Indian Band were looking to improve revenue performance and management (Lower Nicola Indian Band 2009). That year, the community developed several small business ideas that would meet community needs and which could be owned and operated by Band members (Lower Nicola Indian Band 2009). These included accounting and tax services, massage therapy, a hair salon, a laundromat, and a restaurant or cafe (Lower Nicola Indian Band 2009). For Band members who pursue post-secondary education, business, management and administration are the most popular fields of study, and the Band is committed to supporting entrepreneurs in the community.

Hunting continues to be an important element of livelihood and culture for Lower Nicola Indian Band members (Lower Nicola Indian Band 2013), and results of Aboriginal engagement for the Project indicate that they use animal bi-products to make traditional items and members tan and prepare hide themselves using traditional methods. The Nicola and Fraser Rivers are of particular importance to the Lower Nicola Indian Band, and fish such as burbo, kokanee, whitefish and other species continue to be an important resource for the community. Medicinal plants are still consumed by members of the community for spiritual and physical healing purposes. The results of Aboriginal engagement for the Project indicate that Band members gather plants for subsistence, ceremonial and medicinal use. Band members fish for salmon in the Nicola, Coldwater, Fraser and Thompson rivers using traditional dip and gill nets; they ice fish for rainbow trout on Mammoth Lake, Fish Lake and Nicola Lake; burbo, kokanee and whitefish are also harvested and Band members preserve fish by drying, canning or smoking them.

The following community services are provided by the Lower Nicola Indian Band (Lower Nicola Indian Band 2013):

- Lower Nicola Indian Band School;
- Lower Nicola Indian Band Health Centre;
- Scw'exmx Child and Family Services;
- Band-owned and operated Shulus Community Arena;
- Shulus Arbour outdoor event space;
- a community hall; and
- a fire department.

The following social services are provided by the Lower Nicola Indian Band (Lower Nicola Indian Band 2013):

- community health prevention and promotion;

- Canada Prenatal Nutrition Program;
- dental/oral health;
- Communicable Disease Control Program;
- Tuberculosis Elimination Strategy;
- community nutrition;
- Aboriginal Diabetes Initiative;
- First Nations and Inuit Home and Community Care Program;
- Building Healthy Communities (mental health);
- fetal alcohol syndrome/fetal alcohol effects initiatives;
- Brighter Futures;
- HIV/AIDS Strategy;
- National Native Alcohol and Drug Abuse Program; and
- Solvent Abuse Program.

The Lower Nicola Indian Band Community Profile (2009) identifies air quality, drinking water and the Coldwater River as areas of environmental and health concern. Management of drinking water sources and coordination with other users is required in order to ensure safety of drinking water for Lower Nicola Indian Band communities. The Lower Nicola Indian Band does not have any programs in place that would enable management of possible water emergencies, nor do they have water conservation programs. There is also a need to educate members about water resources (Lower Nicola Indian Band 2009).

The results of Aboriginal engagement for the Project indicate that Lower Nicola Indian Band members are not concerned about large animals (ungulates, cougars) adjusting to the right-of-way as there is already similar disturbance in the area. Key Project-related issues that have been raised by Lower Nicola Indian Band members during engagement include:

- concerns about the Project's potential effects on wildlife hunted for subsistence purposes;
- concern that the Project may affect or affect access to sacred or ceremonial sites;
- concerns about the possibility of a spill; and
- concern that herbicides used to manage plants in the right-of-way would contaminate waterways.

5.4.5 Nicomen Indian Band

The Nicomen Indian Band is a Nicola Tribal Association band located near Lytton, BC in the TNRD. (Nicola Tribal Association 2013). As of 2013, the total population of Nicomen Indian Band was 130 people, of which 74 live on IRs and 56 live off IRs (AANDC 2013a). The Nicomen Indian Band has 16 reserves on 1,175.7 ha (Nicola Tribal Association 2013, AANDC 2012). The main IR and location of the Band headquarters is Nicomen 1 near Lytton (AANDC 2012).

An overview of the Nicomen Indian Band is provided in Table 5.4-9.

TABLE 5.4-9

NICOMEN INDIAN BAND – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 130 On IRs: 74 Off IRs: 56	Nicola Tribal Council	Unknown ¹	Unknown ¹	Unknown ¹

Sources: AANDC 2012, AANDC 2013a, Nicola Tribal Association 2013

Note: 1 Data could not be found in desktop research or field notes.

More details on Nicomen Indian band IRs are provided in Table 5.4-10. None of the Nicomen Indian Band IRs are crossed by the proposed pipeline corridor, and none are located within the Socio-Economic RSA.

TABLE 5.4-10

NICOMEN INDIAN BAND – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Enhalt 11	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Gulada 3A	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Klahkowitz 5	n/a ²	n/a ²	n/a ²	Outside Study Area
Kykinalko 2	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Naykikoulth 13	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Nicomen 1	64	30	33.3%	Outside Study Area
Putkwa 14	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Sackum 3	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Shoskhost 7	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Shuouchten 15	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Skaynaneichst 12	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Skeikut 9	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Skhpowtz 4	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Sleetsis 6	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Squianny 10	n/a ¹	n/a ¹	n/a ¹	Outside Study Area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: 1 Statistics Canada does not provide information for this area.

2 Data for this area has been suppressed for data quality or confidentiality reasons.

There was no identified information on economic activities of the Nicomen Indian Band; however, Nicomen Indian Band is a member of the Lytton and District Chamber of Commerce (Lytton and District Chamber of Commerce 2013). The Nicomen Indian Band has an education and health services office (yelp.ca 2013), are participants in the First Nations Health Council Education, an advocacy organization for BC First Nations on health related matters (First Nations Health Council 2013). Nicomen River is the source of fresh drinking water to the Nicomen IR houses (Union of BC Indian Chiefs 2010).

5.4.6 Nooaitch Indian Band

The Nooaitch Indian Band is a Nicola band located 23 km from the District of Merritt, BC (BCAFN 2010, SCHSS 2011). As of 2013, the total population of Nooaitch Indian Band was 214 people, of which 120 live on IRs and 94 live off IRs (AANDC 2013a). There are two Nooaitch Indian Band IRs (AANDC 2012).

The main IR and location of the Band headquarters is Nooaitch 10 (AANDC 2012). This IR features a Band Hall, and the community is in the process of developing a Clean Energy Plan (Nooaitch 2013).

An overview of the Nooaitch Indian Band is provided in Table 5.4-11.

TABLE 5.4-11

NOOAITCH INDIAN BAND – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 214 On IRs: 120 Off IRs: 94	Nicola Tribal Council	Nle?kepmxcin	Unknown ¹	Band-owned businesses and partnerships: <ul style="list-style-type: none"> • Stuwix Resource Joint Venture (General Contracting) • Nooaitch Forestry Development Corporation Other economic activity: <ul style="list-style-type: none"> • Raising livestock

Sources: AANDC 2012, AANDC 2013a, FPLM 2013, KMC 2013b, Scw'exmx Child and Family Services Society 2011

Note: 1 Data could not be found in desktop research or field notes.

More details on Nooaitch Indian band IRs are provided in Table 5.4-12. None of the Nooaitch Indian Band IRs are crossed by the proposed pipeline corridor; however, Nooaitch Grass 9 and Nooaitch 10 are located in the Socio-Economic RSA.

TABLE 5.4-12

NOOAITCH INDIAN BAND – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/Socio-Economic RSA/Outside Study Area
Nooaitch Grass 9	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Nooaitch 10	127	70	28.6	Socio-Economic RSA

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Note: 1 Statistics Canada does not provide information for this community.

Key economic activities of the Nooaitch Indian Band include logging and small woodlot licenses (SCHSS 2011), as well as raising livestock (Nooaitch 2013). The Band uses its Facebook page in lieu of a community website and posts job opportunities there for members to see.

SCHSS provides health services to three First Nations: Coldwater; Nooaitch; and Shackan (SCHSS 2011). Services offered by the SCHSS include non-insured health benefits, community health services, mental health services, home and community care, and youth services (SCHSS 2011). Non-insured health benefits and community health services provided by SCHSS are listed in Section 5.4.1.

5.4.7 Penticton Indian Band

The Penticton Indian Band is a Syilx band and member of the Okanagan Nation Alliance located in the South Okanagan region of BC (Penticton Indian Band Development Corporation [PIBDC] 2013). As of 2013, the total population of the Penticton Indian Band was 1,027 people, of which 608 live on IRs and 419 live off IRs (AANDC 2013a). There are three Penticton Indian Band IRs (AANDC 2012) covering

18,616 ha (PIBDC 2013). The main IR and location of the Band headquarters is Pentiction 1 (AANDC 2012).

An overview of the Pentiction Indian Band is provided in Table 5.4-13.

TABLE 5.4-13

PENTICTON INDIAN BAND – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 1,027 On IRs: 608 Off IRs: 419	Okanagan Nation Alliance	Nsyilxcən	Unknown ¹	Pentiction Indian Band Development Corporation works closely with Iron Indian Steelworks Band-owned company: Westhills Aggregates (construction, sand and gravel services)

Sources: AANDC 2012, AANDC 2013a, FPLM 2013, Pentiction Indian Band 2008

Note: 1 Data could not be found in desktop research or field notes.

More details on Pentiction Indian Band IRs are provided in Table 5.4-14. All of the Pentiction Indian Band IRs are located outside the Socio-Economic RSA.

TABLE 5.4-14

PENTICTON INDIAN BAND – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Pentiction 1	1,667	1,435	20.2%	Outside Study Area
Pentiction 2	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Pentiction 3A	n/a ¹	n/a ¹	n/a ¹	Outside Study Area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Note: 1 Statistics Canada does not provide information for this community.

Key economic activities of the Pentiction Indian Band are associated with tourism, forestry, construction and development (PIBDC 2013). The following businesses are member-owned: Iron Indian Steelworks (steel art business), Of the Land Productions Inc. (film and television production company), and Silver Eagle Construction (carpentry services). The following businesses are band-owned: Arrowleaf (planned mixed-use residential, commercial development), Westhills Aggregates (construction sand and gravel services), Coyote Cruises (tube rentals and transportation along Pentiction’s River Channel) and Snpinktn Forestry LP (PIBDC 2013).

5.4.8 Shackan Indian Band

The Shackan Indian Band is a Scw'exmx (Nicola) band located in the Nicola Valley of BC, approximately 20 km east of Spences Bridge and 40 km west of the City of Merritt on Highway 8 (Shackan Indian Band 2012). As of 2013, the total population of Shackan Indian Band was 131 people, of which 82 live on IRs and 49 live off IRs (AANDC 2013a). There are three Shackan Indian Band IRs (AANDC 2012). The main IR and location of the Band headquarters is Shackan 11 (AANDC 2012, Shackan Indian Band 2012). This IR has a total land base of 2,595 hectares.

The asserted traditional territory of Shackan Indian Band and all Nkaka’pamux First Nations includes land from within Washington State to the south, extending north to Ashcroft and east and west to Douglas

Lake and Lillooet, respectively (Shackan Indian Band 2012). The total area of all three Shackan IRs is approximately 3,873 hectares (Shackan Indian Band 2012).

An overview of the Shackan Indian Band is provided in Table 5.4-15.

TABLE 5.4-15

SHACKAN INDIAN BAND – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 131 On IRs: 82 Off IRs: 49	Nicola Tribal Council	Nle?kepmxcin	Unknown ¹	Economic activities: <ul style="list-style-type: none"> • Haying • Ranching • Small woodlot licences Band-owned partnerships: Stuwix Resource Joint Venture (General Contracting)

Sources: AANDC 2012, AANDC 2013a, KMC 2013b, SCHSS 2011

Notes: 1 Data could not be found in desktop research or field notes.

More details on Shackan Indian Band IRs are provided in Table 5.4-16. All Shakan Indian Band IRs are located outside the Socio-Economic RSA.

TABLE 5.4-16

SHACKAN INDIAN BAND – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Papsilqua 13	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Shackan 11	55	50	40.0%	Outside Study Area
Soldatquo 12	n/a ¹	n/a ¹	n/a ¹	Outside Study Area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: 1 Statistics Canada does not provide information for this community.

Key economic activities of the Shackan Indian Band include haying, ranching, and a small wood lot license (SCHSS 2011).

The Scw'exmx Community Health Services Society (SCHSS) provides health services to three First Nations: Coldwater, Nooaitch and Shackan (SCHSS 2011). Services offered by the SCHSS include non-insured health benefits, community health services, mental health services, home and community care, and youth services (SCHSS 2011). Non-insured health benefits and community health services provided by SCHSS are listed in Section 5.4.1.

5.4.9 Simpcw First Nation

The Simpcw First Nation is a Shuswap band located in the North Thompson region of BC (Simpw First Nation 2013) and is a member of the Shuswap Nation Tribal Council (Shuswap Nation Tribal Council 2013). As of 2013, the total population of the Simpcw First Nation was 691 people, of which 246 live on IRs and 445 live off IRs (AANDC 2013a). There are five Simpcw First Nation IRs (AANDC 2012). The main IR and location of the Band headquarters is North Thompson 1 (AANDC 2012).

The asserted traditional territory of Simpcw extends from just north of McLure to the headwaters of the Fraser River near McBride, to Tête Jeune Cache, over to Jasper and south to the headwaters of the Athabasca River, and covers a land base of approximately 5 million hectares (Simpw First Nation 2013). Mount Robson and Wells Gray Provincial Parks are both situated within the Simpcw First Nation's asserted traditional territory (Simpw First Nation 2013).

An overview of the Simpcw First Nation is provided in Table 5.4-17.

TABLE 5.4-17

SIMPCW FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 691 On IRs: 246 Off IRs: 445	Shuswap Nation Tribal Council	Secwepemctsin (western dialect)	Hunting, fishing, gathering, trade, drumming, singing	Band-owned businesses and partnerships: <ul style="list-style-type: none"> • Simpcw Natural Resources Department; • Simpcw Resources LLP (Part of Simpcw Resources Group of Companies); • Tsetset Ventures Ltd.

Sources: AANDC 2012, AANDC 2013a, FPLM 2013, KMC 2013b, Simpcw First Nation 2013

More details on Simpcw First Nation IRs are provided in Table 5.4-18. None of the Simpcw First Nation IRs are crossed by the proposed pipeline corridor; however, Boulder Creek 5, Louis Creek 4, Nekalliston 2 and North Thompson 1 are located in the Socio-Economic RSA. Barriere River 3A is located outside the Socio-Economic RSA.

TABLE 5.4-18

SIMPCW FIRST NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/Outside Study Area
Barriere River 3A	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Boulder Creek 5	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Louis Creek 4	15	n/a ²	n/a ²	Socio-Economic RSA
Nekalliston 2	0	n/a ²	n/a ²	Socio-Economic RSA
North Thompson 1	252	190	24.0%	Socio-Economic RSA

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

- Notes: 1 Statistics Canada does not provide information for this community.
2 Data for this area has been suppressed for data quality or confidentiality reasons.

Key economic activities of the Simpcw First Nation include construction contracting; tourism; energy development; road construction; full phased forest management; resource permitting; environmental monitoring; wildlife surveys; monitoring and research; contract negotiation, supervision and management; joint ventures with industry in forestry, mining, tourism and utilities; fisheries enumeration, habitat restoration, hatchery management, education, conservation and protection of all fish stocks; referrals management; Title and Rights research and coordination; Archaeological Overview Assessments; acquisition and negotiation of all resource-based opportunities within Simpcwulucw and creating partnerships with industry; land use planning for IR lands; and GIS mapping (Simpw First Nation 2013).

There are several member-owned companies including 4TR Ventures Ltd., G.L. Lampreau Contracting Ltd., Larry Lampreau Contracting Ltd. Chinook Cove Contracting, Eustache Consulting and the band-owned Simpcw Resources Ltd. which offers mining and mineral exploration services and forestry services (Simpchw First Nation 2013). The Band has a partnership with Highland Powerlines Ltd. in the form of TKnementem Energy Solutions LLP (Simpchw First Nation 2013). The company constructs overhead and underground powerlines, clearing lines and roads and conducts transmission and distribution voltages maintenance (Simpchw First Nation 2013). TKnementem Energy Solutions LLP supports the training of Simpcw members and First Nations in the area of trades and energy management (Simpchw First Nation 2013).

The Simpcw First Nation is working towards economic sustainability and the teaching of values, tradition and language (Simpchw First Nation 2013). Salmon fishing continues to be an important element of livelihood and culture for Simpcw First Nation members (Simpchw First Nation 2013).

During Project-related engagement, meetings were held with Community Futures regarding training programs that would benefit communities over the long term, particularly in the trades and technology. Interest was expressed in procurement opportunities for First Nation communities, along with programs that would enable First Nations people to work with contractors including cross-cultural training.

The Simpcw First Nation offers support for students from elementary school through to post-secondary education. The band runs the Little Moccasins Simpcw Head Start Program and the Neqweyqwelsten School which serves nursery to Grade 7 (Simpchw First Nation 2013). The band also administers health services to its members (Simpchw First Nation 2013).

Key Project-related issues that have been raised by Simpcw during engagement include a request from Band members for any artifacts found during field studies to be returned to the Band rather than sent to a museum.

5.4.10 Skeetchestn Indian Band

The Skeetchestn Indian Band is a Shuswap band located in the Deadman’s Creek and Thompson River area of BC (Shuswap Nation Tribal Council 2012). As of 2013, the total population of the Skeetchestn Indian Band was 525 people, of which 247 live on IRs and 278 live off IRs (AANDC 2013a). There are four Skeetchestn Indian Band IRs (AANDC 2012). The main IR and location of the Band headquarters is Skeetchestn (AANDC 2012). The four IRs cover a total of 7,969 hectares (Shuswap Tribal Council 2012).

An overview of the Skeetchestn Indian Band is provided in Table 5.4-19.

TABLE 5.4-19

SKEETCHESTN INDIAN BAND – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 525 On IRs: 247 Off IRs: 278	Shuswap Nation Tribal Council	Secwepemctsin	Rodeos Pow-wows Social and spiritual gatherings, Fishing Hunting Traditional games	Band-owned businesses: <ul style="list-style-type: none"> • Big Sky Station Cafe • Kenuc'entwec Development Corporation (KDC); • KDC Consulting; • Arrowhead Aggregates; • KDC Consulting; • KDC Ranches; • Deadman Valley First Nations Contracting

Sources: AANDC 2012, AANDC 2013a, FPLM 2013, KMC 2013b, Skeetchestn Indian Band 2013

More details on Skeetchestn Indian Band IRs are provided in Table 5.4-20. None of the Skeetchestn Indian Band IRs are crossed by the proposed pipeline corridor; however Hihium Lake 6A, Hihium Lake 6B, Marshy Lake 1 and Skeetchestn are located in the Socio-Economic RSA.

TABLE 5.4-20

SKEETCHESTN INDIAN BAND – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Hihium Lake 6A	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Hihium Lake 6B	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Marshy Lake 1	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Skeetchestn	253	205	16.0%	Socio-Economic RSA

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: 1 Statistics Canada does not provide information for this community.

Key economic activities of the Skeetchestn Indian Band include watershed management and Band-owned businesses (Skeetchestn Indian Band 2013). There are several Band-owned companies, including the Husky Gas Bar which provides diesel, propane, a convenience store, tourist information, restaurant and catering, lottery, ATM, clothing and gift ideas.

During Project-related engagement, meetings were held with Community Futures regarding training programs that would benefit communities over the long term, particularly in the trades and technology. A number of requests came for procurement opportunities for First Nation communities, along with requests for programs which would enable First Nations people to work with contractors. Help was requested for those organizations that do not receive government funds in order to enable cross-cultural training and to allow them to partner with other companies.

Traditional activities including fishing, hunting (including traditional hunting camp for youth at Marshy Lake), lahal (traditional game), pow-wows and plant gathering (60–70 plant species) for subsistence purposes continue to be an important element of livelihood and culture for Skeetchestn Indian Band members (Skeetchestn Indian Band 2013).

The Skeetchestn Indian Band runs the Skeetchestn Community School (grades 2–12) (Skeetchestn Indian Band 2012).

5.4.11 Tk’emlúps te Secwepemc (Kamloops) First Nation

The Tk’emlúps te Secwepemc First Nation is a Shuswap band located east of the North Thompson River and north of the South Thompson River adjacent to the City of Kamloops, BC (Tk’emlúps te Secwepemc 2013). As of 2013, the total population of Tk’emlúps te Secwepemc First Nation was 1,000 (Tk’emlúps te Secwepemc 2013). There are six Tk’emlúps te Secwepemc First Nation IRs (AANDC 2012). The main IR and location of the Band headquarters is Kamloops 1 (Tk’emlúps te Secwepemc 2013). The Kamloops 1 IR encompasses 13,227 hectares of land, and all IR lands combined encompass 13,360 hectares (Tk’emlúps te Secwepemc 2013).

The asserted traditional territory of Tk’emlúps te Secwepemc First Nation covers a land base of approximately 14.5 million hectares stretching from the Columbia River Valley along the Rocky Mountains, west to the Fraser River and south to the Arrow Lakes (Tk’emlúps te Secwepemc 2013).

An overview of the Tk’emlúps te Secwepemc First Nation is provided in Table 5.4-21.

TABLE 5.4-21

TK'EMLÚPS TE SECWEPENC (KAMLOOPS) FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 1,000	Shuswap Nation Tribal Council	Secwepemctsin	Trade, song and dance, prayer, medicinal plants, fishing	Band-owned businesses: <ul style="list-style-type: none"> • Business Development Office • Sagebrush Downs/Mt. Paul Centre • Tk'emlupsemc Forestry Development Corporation • Secwepemc Museum and Heritage Park • Spiyu7ullucw Ranch • Tk'emlups Car Wash and Tk'emlups Petroleum • Chief Louis Centre Coffee Shop

Sources: FPLM 2013, KMC 2013b, Tk'emlups te Secwepemc 2013

More details on Tk'emlups te Secwepemc First Nation IRs are provided in Table 5.4-22. Kamloops 1, Kamloops 2, Kamloops 3, Kamloops 4 and Kamloops 5 IRs are located in the Socio-Economic RSA. The IR Kamloops 6 is located outside the Socio-Economic RSA.

TABLE 5.4-22

TK'EMLÚPS TE SECWEPENC (KAMLOOPS) FIRST NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/Socio-Economic RSA/Outside Study Area
Kamloops 1	2,577	2,225	11.3%	Socio-Economic RSA
Kamloops 2	0	n/a ¹	n/a ¹	Socio-Economic RSA
Kamloops 3	0	n/a ¹	n/a ¹	Socio-Economic RSA
Kamloops 4	0	n/a ¹	n/a ¹	Socio-Economic RSA
Kamloops 5	0	n/a ¹	n/a ¹	Socio-Economic RSA
Kamloops 6	0	n/a ¹	n/a ¹	Outside Study Area

Sources: Statistics Canada 2012, Statistics Canada 2013a, Tk'emlups te Secwepemc 2013

Notes: 1 Statistics Canada does not provide information for this community.

Key economic activities of the Tk'emlups te Secwepemc First Nation include tourism and natural resources (range, forestry, fisheries and water management). There are several Band-owned companies, including the 8,900-hectare Spiyu7ullucw Ranch, Tk'emlups Petro Canada, the Tk'emlups Carwash, the Sagebrush Downs/Tk'emlups te Secwepemc First Nation (Tk'emlups te Secwepemc 2013). The Band also operates 22 recreational camping sites as part of an agreement with the Province of BC (Tk'emlups te Secwepemc 2013). Economic development goals of Tk'emlups te Secwepemc First Nation include a potential Guide Outfitter Territory, while the 7 Mile Industrial Park offers leasing opportunities, and the Sun Rivers Resort Community is planned for development (Tk'emlups te Secwepemc 2013). Finally, Chief Louis Landing includes 36 hectares of mixed business and residential use, which is currently under development (Tk'emlups te Secwepemc 2013). Tk'emlups te Secwepemc First Nation has created 200 direct jobs and generated \$200 million in regional economic activity (Tk'emlups te Secwepemc 2013). Tk'emlups te Secwepemc First Nation is planning to undertake comprehensive community planning (Tk'emlups te Secwepemc 2013).

During Project-related engagement, meetings were held with Community Futures regarding training programs that would benefit communities over the long term, particularly in the trades and technology. A number of requests came for procurement opportunities for First Nation communities, along with requests for programs that would enable First Nations people to work with contractors. Help was requested for those organizations that do not receive government funds in order to enable cross-cultural training and to allow them to partner with other companies.

Traditional harvesting, including hunting, trapping, fishing and gathering for subsistence purposes, continues to be an important element of livelihood and culture for Tk'emlúps te Secwepemc First Nation members (Tk'emlúps te Secwepemc 2013). Historic use of medicinal plants and plants used for traditional crafts was discussed during Aboriginal engagement for the Project. Salmon are particularly important to the Tk'emlúps te Secwepemc First Nation, providing a primary food source to the Band. If the salmon population in the area were to be affected by the Project, this would have a major negative impact on the economic health of the community. Tk'emlúps te Secwepemc First Nation asserted traditional territory was historically the centre of major traffic and trade routes (Tk'emlúps te Secwepemc 2013).

The Tk'emlúps te Secwepemc First Nation runs the Sk'elep School (kindergarten–Grade 7) as well as the Little Fawn Nursery, and supports post-secondary education for its members (Tk'emlúps te Secwepemc 2013). The Band also administers social services to its members (Tk'emlúps te Secwepemc 2013).

Key Project-related issues that have been raised by the Tk'emlúps te Secwepemc First Nation during Project-related engagement include:

- the removal of trees (Douglas-fir);
- the consequences for ecosystems as well as future generations of the community; and
- the potential effects of a spill on salmon fisheries and habitat.

5.4.12 **Canim Lake Band The Tsq'escenemc**

The Canim Lake Band The Tsq'escenemc is a Shuswap band and member of the Shuswap Nation located on Canim Lake near district of 100 Mile House, BC (Canim Lake Band 2005). Canim Lake Band The Tsq'escenemc is working with the four communities of the Northern Secwepemc te Qelmucw (NStQ) including Tsq'escen', Xats'ull/Cmetem', T'exelc and Xgat'tem/Stswecem'c' to negotiate a treaty with the Governments of Canada and BC (Canim Lake Band 2005). As of 2013, the total population of Canim Lake Band The Tsq'escenemc was 592 people, of which 438 live on IRs and 154 live off IRs (AANDC 2013a). There are six Canim Lake Band The Tsq'escenemc IRs (AANDC 2012). The main IR and location of the Band headquarters is Canim Lake 1, which consists of 1,780 hectares (Canim Lake Band 2005). The total area of the Tsq'escenemc/Canim Lake Band's IR lands is 1,954 hectares (Canim Lake Band 2005).

An overview of the Canim Lake Band The Tsq'escenemc is provided in Table 5.4-23.

TABLE 5.4-23

CANIM LAKE BAND THE TSQ'ESCEMCMC – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 592 On IRs: 438 Off IRs: 154	Northern Shuswap Tribal Council Society	Secwepemctsin	Unknown ¹	Band economic department and Band-owned business: Natural Resources Department CLB Development Corporation Forestry Programs (Teniye Logging Ltd.)

Sources: AANDC 2012, AANDC 2013a, CLB 2005, FPLM 2013

Note: 1 Data could not be found in desktop research or field notes.

More details on Tsq’escenemc IRs are provided in Table 5.4-24. All Tsq’escenemc IRs are located outside the Socio-Economic RSA.

TABLE 5.4-24
CANIM LAKE BAND THE TSQ’ESCENEMC – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Canim Lake 1	224	175	21.7%	Outside Study Area
Canim Lake 2	5	n/a ²	n/a ²	Outside Study Area
Canim Lake 3	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Canim Lake 4	0	n/a ²	n/a ²	Outside Study Area
Canim Lake 5	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Canim Lake 6	n/a ¹	n/a ¹	n/a ¹	Outside Study Area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: 1 Statistics Canada does not provide information for this community.
 2 Data for this area has been suppressed for data quality or confidentiality reasons.

Band-owned companies include Teniye Logging Ltd. and the Canim Lake Band Development Corporation (Canim Lake Band 2005).

During Project-related engagement, meetings were held with Community Futures regarding training programs that will benefit communities over the long term, particularly in the trades and technology. A number of requests came for procurement opportunities for First Nation communities, along with requests for programs which would enable First Nations people to work with contractors. Help was requested for those organizations that do not receive government funds in order to enable cross-cultural training and to allow them to partner with other companies.

The following information was gleaned from the socio-economic interview conducted with Band leadership.

- The Band owns two fire trucks, has an agreement with the Forest Grove Fire Department, and is training youth and women to drive these trucks.
- Goals include building capacity within the Band for mentorship by elders, leadership and visioning.
- The Band has a small business program.
- Canim Lake The Tsq’escenemc has a five-year tourism strategy with Caribou-Chilcotin Tourism and is looking for individual entrepreneurship in the future. There is an existing Cultural Heritage Centre as well as heritage sites at the lake. The Cultural Heritage Centre sees between 80,000 and 100,000 tourists in a year and includes multimedia and cultural artifacts.
- Band members participate in logging operations and have a dump truck and silviculture crew.
- Canim Lake The Tsq’escenemc is partnering with Simpcw in mining which has led to approximately six seasonal employment opportunities in exploration.
- Other economic activities include agricultural development and ranching.

- Fifteen Band members have graduated from a small business program.
- Hunting, trapping, fishing and gathering are traditional activities still practised for subsistence purposes today, and medicinal plants are gathered and used by Band members.

The Canim Lake Band The Tsq’escenemc administers some health, social and education services to its members, including a health centre and an elders’ centre, and employment and training services (Canim Lake Band 2005).

Key Project-related issues that have been raised by Canim Lake Band The Tsq’escenemc members during Project-related engagement include:

- the potential for jobs and employment opportunities; and
- concerns that the Project could affect access to traditional territories used for hunting, fishing and gathering.

5.4.13 Upper Nicola Indian Band

The Upper Nicola Indian Band is located east of the City of Merritt, British Columbia (Ministry of Aboriginal Relations and Reconciliation [MARR] 2013). As of 2013, the total population of The Upper Nicola Indian Band is 879 people, of which 428 live on IRs (AANDC 2013a). There are eight Upper Nicola Indian Band IRs (Upper Nicola Indian Band 2009).

The asserted traditional territory of Upper Nicola Indian Band covers a land base of approximately 6.9 million hectares. An overview of the Upper Nicola Indian Band is provided in Table 5.4-25.

TABLE 5.4-25

UPPER NICOLA INDIAN BAND – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 879 On IRs: 428 Off IRs: 451	Nicola Tribal Association	Nle?kepmxcín	Unknown ¹	Band-owned businesses and partnerships: Gas and Convenience Store Horse and cattle raising business Bucking Stock horses Truck and Backhoe business Logging company 17 small business operations on IRs Stuwix Resource Joint Venture (General Contracting)

Sources: AANDC 2012, AANDC 2013a, FPLM 2013, Okanagan Nation Alliance Business Development Unit 2007, KMC 2013b

Notes: 1 Data could not be found in desktop research or field notes.

More details on Upper Nicola Indian Band IRs are provided in Table 5.4-26. None of the Upper Nicola Indian Band IRs are crossed by the proposed pipeline corridor; however, Chapperon Creek 5, Chapperon Creek 6, Douglas Lake 3, Hamilton Creek 2, Nicola Lake 1, Salmon Lake 7, Spahomin Creek 4 and Spahomin Creek 8 are located in the Socio-Economic RSA. The remaining Upper Nicola Indian Band IRs are located outside the Socio-Economic RSA.

TABLE 5.4-26
UPPER NICOLA INDIAN BAND – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Chapperon Lake 5	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Chapperon Creek 6	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Douglas Lake 3	158	125	25%	Socio-Economic RSA
Hamilton Creek 2	0	n/a ²	n/a ²	Socio-Economic RSA
Hihium Lake 6	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Nicola Lake 1	144	110	35.7%	Socio-Economic RSA
Salmon Lake 7	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Spahomin Creek 4	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Spahomin Creek 8	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: 1 Statistics Canada does not provide information for this community.
2 Data for this area has been suppressed for data quality or confidentiality reasons.

Key economic activities of the Upper Nicola Indian Band include revenue sharing of timber supply with B.C. Ministry of Forests and affiliation with the Nicola Tribal Association and Okanagan Nation Alliance (MARR 2013).

Following are several Band and member-owned companies (Okanagan Nation Alliance Business Development Unit 2007):

- Construction & Tool Rentals;
- Gold Star Chem/Dry Professional Carpet & Upholstery;
- JCS Tire Sales & Repair;
- Lakeview Gas and Convenience Store;
- Main Stream Contracting Services Ltd.;
- N'Kwala Beach RV Park;
- Nicola Beach;
- Old Mom's General Store;
- PhilAnge WebCreations;
- Rayzor's Custom Company (Home Renos & Repair);
- Upper Nicola Trucking;
- Upper Nicola Resource Development;
- Upper Nicola Forestry Corporation; and
- Upper Nicola Lands & Resources (Suxwtxtem Committee).

5.4.14 Upper Similkameen Indian Band

The Upper Similkameen Indian Band is a Syilx band and member of the Okanagan Nation Alliance (Syilx Okanagan Nation Alliance [SONA] 2010) located in the Similkameen Valley (Upper Similkameen Indian Band 2008). As of 2013, the total population of Upper Similkameen Indian Band was 87 people, of which 67 live on IRs and 20 live off IRs (AANDC 2013a). There are eight Upper Similkameen Indian Band IRs (AANDC 2013a). The main IR and location of the Band headquarters is Chuchuwayha 2 (AANDC 2012).

An overview of the Upper Similkameen Indian Band is provided in Table 5.4-27.

TABLE 5.4-27

UPPER SIMILKAMEEN INDIAN BAND – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 87 On IRs: 67 Off IRs: 20	Stó:lō Nation	Nsyilxcen	Unknown ¹	Economic Steering Committee (5 year Economic Development Plan) Stuwix Resource Joint Venture (General Contracting)

Sources: AANDC 2012, AANDC 2013a, FPLM 2013, KMC 2013b, NSIFS 2007

Note: 1 Data could not be found in desktop research or field notes.

More details on Upper Similkameen Indian Band IRs are provided in Table 5.4-28. None of the Upper Similkameen Indian Band IRs are crossed by the proposed pipeline corridor; however, Lulu 5, Nine Mile Creek 4, One Mile 6 and Wolf Creek 3 are located in the Socio-Economic RSA. The remaining Upper Similkameen Indian Band IRs are located outside the Socio-Economic RSA.

TABLE 5.4-28

UPPER SIMILKAMEEN INDIAN BAND – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Chuchuwayha 2	76	55	25%	Outside Study Area
Chuchuwayha 2C	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Iltcoola 7	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Lulu 5	n/a ²	n/a ²	n/a ²	Socio-Economic RSA
Nine Mile Creek 4	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
One Mile 6	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Vermilion Forks 1	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Wolf Creek 3	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: 1 Statistics Canada does not provide information for this community.

2 Data for this area has been suppressed for data quality or confidentiality reasons.

The Upper Similkameen Indian Band is active in the forestry industry and is registered as a logging company, which has joint Forest Licenses and partnerships with Princeton Wood Preserves and Princeton Forest Products (NSIFS 2007). The Upper Similkameen Indian Band's forestry department owns and operates heavy equipment required for the development of roads and landings for forest harvesting activities (NSIFS 2007). The band employs 35 people on a full-time basis and up to 150 people during the peak summer season (NSIFS 2007). The Upper Similkameen Indian Band's

archaeology department conducts research activities and interpretive programs (Snaza'ist Discovery Centre 2008).

The Upper Similkameen Indian Band administers health, education, social development, housing and counselling services to its members (Upper Similkameen Indian Band 2008).

5.4.15 **Whispering Pines (Clinton Indian Band)**

The Whispering Pines/Clinton Indian Band is located in the City of Kamloops, BC. As of 2013, the total population of Whispering Pines (Clinton Indian Band) was 149 people, of which 59 live on IRs and 90 live off IRs (AANDC 2013a). There are three Whispering Pines (Clinton Indian Band) IRs (AANDC 2013a).

An overview of the Whispering Pines (Clinton Indian Band) is provided in Table 5.4-29.

TABLE 5.4-29

WHISPERING PINES (CLINTON INDIAN BAND) – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 149 On IRs: 59 Off IRs: 90	Shuswap Nation Tribal Council	Secwepemctsin	August is cultural month Rodeo Motor Cross events (Monster Nationals) Fishing Hunting Gathering	Band-owned business: cattle and hay ranching Economic development goal: develop trades

Sources: AANDC 2012a, AANDC 2013, FPLM 2013, KMC 2013b, Shuswap Nation Tribal Council 2013

Note: Certain information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

More details on Whispering Pines (Clinton Indian Band) IRs are provided in Table 5.4-30. Whispering Pines 4 is crossed by the proposed pipeline corridor and Kelly Creek 3 and Clinton 1 are located in the Socio-Economic RSA.

TABLE 5.4-30

WHISPERING PINES (CLINTON INDIAN BAND) – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/Outside Study Area	Land Use Plans/ Priorities	On-reserve Services	On-reserve Infrastructure
Whispering Pines 4	60	45	n/a ¹	Proposed Pipeline Corridor	Unknown ³	Unknown ³	Require water treatment Limited transportation; lack of infrastructure on IRs and lack of room for new infrastructure
Kelly Creek 3	n/a ¹	n/a ¹	n/a ¹	Outside Study Area	n/a ²	n/a ²	n/a ²
Clinton 1	n/a ¹	n/a ¹	n/a ¹	Outside Study Area	n/a ²	n/a ²	n/a ²

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: Certain information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

1 Statistics Canada does not provide information for this community.

- 2 This information is not required for this IR as the IR is located beyond the proposed pipeline corridor.
- 3 Data could not be found in desktop research or field notes.

Key economic activities of the Whispering Pines (Clinton Indian Band) include cattle and hay ranching (Shuswap Nation Tribal Council 2013). During Project-related engagement, meetings were held with Community Futures regarding training programs that would benefit communities over the long term, particularly in the trades and technology. A number of requests came for procurement opportunities for First Nation communities, along with requests for programs which would enable First Nations people to work with contractors. Help was requested for those organizations that do not receive government funds in order to enable cross-cultural training and to allow them to partner with other companies.

The following information was gleaned from the socio-economic interview conducted with Band leadership.

- Facilities on the IRs include an administration building and a sports and recreation centre.
- Key training and educational priorities for the community include developing the trades, such as heavy equipment operators for logging.
- There is an introduction to trades (welding, plumbing, electric, carpentry) program with a 5-6 month duration which has been attended by five members.
- The Band is building a new water treatment plant and has plans for a new administration office and new community hall, and is hoping to use skilled labour from within the community for these projects.
- Most jobs are seasonal and include firefighting, fencing, danger tree removal, and tree felling. Roughly four members between the ages of 28 and 34 years have left the community to work in mines up north.
- Common barriers to finding employment include a lack of safety tickets and training (e.g., First Aid, S100, S185, WHMIS, H₂S, TDG, Level III Class 4 Drivers' License), and few wage jobs exist in the community. Barriers to employment could be lifted by immediate funding specific to community needs: education and training is crucial.
- There is very high membership turnout to community events, including most elders.
- General education programs are provided and girls' workshops are held in the community (Power of Being a Girl).

The socio-economic interview indicated that traditional harvesting (*i.e.*, hunting, trapping, fishing, or gathering for subsistence purposes) continues to be an important element of traditional culture for Whispering Pines (Clinton Indian Band) members. Members hunt, trap and fish for subsistence purposes, especially during the month of August, which is a cultural month and includes a fishing trip for all members. Plants, wildlife and fish are also valued for economic reasons. Additionally, workshops are held in the community to teach drum making, basket weaving and dream catcher making.

The Traditional Land and Resource Use Technical Report of Volume 5D provides further information on Whispering Pines' (Clinton Indian Band) traditional land and resource use and cultural practices.

Key Project-related issues that have been raised by Whispering Pines (Clinton Indian Band) members during engagement include:

- concern about repercussions of a leak on land surrounding the right-of-way for fish and wildlife caught or hunted for cultural and subsistence purposes;

- concern about the proximity of the Project to the community (Whispering Pines 4), space that will be lost and buildings that will require relocation (rodeo grounds, community hall, campground and some houses will need to be relocated);
- a new community hall is greatly needed by the community; and
- community members would like the Project to employ community members.

5.5 Fraser Valley Region

5.5.1 Aitchelitz First Nation

The Aitchelitz First Nation (Aitchelitz) is a Stó:lō band located near the City of Chilliwack, BC in the Upper Fraser Valley (AANDC 2012). The Band is a member of the Stó:lō Nation Society, and many of the Aitchelitz's economic and social initiatives and services are associated with this tribal council (Stó:lō Nation Society 2009). Aitchelitz are part of the Stó:lō Xwexwilmexw Treaty Association which is working through the treaty process with the BC Treaty Commission (Stó:lō Xwexwilmexw Treaty Association 2013). As of 2013, the total population of the Aitchelitz was 42 people, of which 26 live on IRs and 16 live off IRs (AANDC 2013a). There are three Aitchelitz IRs (AANDC 2012). The main IR is Aitchelitz 9 (AANDC 2012).

Aitchelitz First Nation is a Stó:lō band. The asserted traditional territory of the Stó:lō people in Canada includes the lower Fraser River Watershed. It encompasses the land from Frosty Mountain at the 49th parallel to the Ross Lake and Coquihalla watersheds extending to the Coquihalla Lakes. From the Coquihalla Lakes, the asserted traditional territory extends west to encompass Hidden Creek, crosses the Fraser River and follows Spuzzum Creek to the Harrison Lake watershed. Northwest of Harrison Lake, the asserted traditional territory crosses the Lilloet River and then extends west to encompass Stave Lake, Pitt Lake, Indian Arm and the Capilano River. From the Capilano River, the asserted traditional territory includes the land from West Vancouver to White Rock, the Chilliwack Valley and the Upper Skagit Valley (Ts'elxwéyeqw Tribe Management Limited et.al. 2013).

An overview of the Aitchelitz First Nation is provided in Table 5.5-1.

TABLE 5.5-1

AITCHELITZ FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 42 On IRs: 26 Off IRs: 16	Stó:lō Nation Society	Halq'eméylem (upriver dialect of Halkomelem)	Winter Dance Mask Dance Regalia placement Cleansing/bathing Fasting/sweat ceremony/burning for ancestors Weaving Carving Hunting Fishing Plant gathering Trapping Drying meat Tanning hides	Band partnerships: <ul style="list-style-type: none"> • Stó:lō Development Corporation • Stó:lō Community Futures • Stó:lō Tourism Commission • Ts'elxwéyeqw Tribe Management Limited • Seven Generations Environmental Group

Sources: AANDC 2012, AANDC 2013a, KMC 2013b, Stó:lō Nation Society 2009, Ts'elxwéyeqw Tribe Management Limited et.al. 2013

Notes: Certain information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

More details on Aitchelitz First Nation IRs are provided in Table 5.5-2. Of the Aitchelitz First Nation IRs, Grass 15, an IR shared with other First Nations as described in Table 3.3-2, is crossed by the proposed pipeline corridor and the Aitchelitch 9, Pekw'Xe:yles, Skumalasp 16 IRs are in the Socio-Economic RSA (AANDC 2012).

TABLE 5.5-2

AITCHELITZ FIRST NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/Outside Study Area	Land Use Plans/ Priorities	On-reserve Services	On-reserve Infrastructure
Grass 15	n/a ¹	n/a ¹	n/a ¹	Proposed Pipeline Corridor	Unknown ⁴	Unknown ⁴	Unknown ⁴
Aitchelitch 9	18	n/a ²	n/a ²	Socio-Economic RSA	N/a ³	N/a ³	N/a ³
Pekw'Xe:yles	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA	N/a ³	N/a ³	N/a ³
Skumalasp 16	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA	N/a ³	N/a ³	N/a ³

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

- Notes:**
- 1 Statistics Canada does not provide information for this community.
 - 2 Data for this area has been suppressed for data quality or confidentiality reasons.
 - 3 This information is not required for this IR as the IR is located beyond the proposed pipeline corridor.
 - 4 Data could not be found in desktop research or field notes.

Aitchelitz First Nation is involved with the Ts'elxwey'eqw Tribe, an umbrella organization that has been involved in business and government partnerships, land use planning and economic initiatives in partnership with or on behalf of the communities it represents (Ts'elxwey'eqw Tribe 2013).

Key economic activities of the Aitchelitz include those associated with the Stó:lō Nation Society, as follows.

- The Stó:lō Development Corporation assists First Nation communities within the traditional Stó:lō Territory by providing a range of community economic development programs as well as entrepreneurial services and provides access to capital through business development loans and funding initiatives (Stó:lō Nation Society 2009).
- The Stó:lō Community Futures Development Corporation (SCFDC) offers business counselling and business loans for small to medium-sized Aboriginal businesses. SCFDC works with the 24 Stó:lō Nation communities (Stó:lō Community Futures 2011).
- The Stó:lō Tourism Commission (Stó:lō Nation Society 2009) facilitates capacity building, enterprise development and market expansion initiatives on behalf of its growing grass-roots membership.

The following was gleaned from the results of Aboriginal engagement for the Project.

- The Stó:lō Nation commercially fishes pink salmon in the Fraser River.
- Ts'elxwey'eqw Tribe Management Limited provides forest management services for oversight of all aspects of forestry projects, including overseeing contractors or subcontractors; right-of-way work; road building; vegetation management; engineering consulting; biological assessments; environmental monitoring; archaeological and cultural use assessment; site inspection services; and GIS.
- The Seven Generations Environmental Group provides environmental management and impact assessment; regulatory applications and permitting; resource planning; water resource management;

environmental and construction monitoring; biological and ecological assessments; electrofishing and fish salvage.

- A third party integrated cultural assessment is being undertaken for the Project on behalf of the following First Nations: Aitchelitz First Nation, Cheam First Nation, Kwaw-kwaw-apilt First Nation, Shxwha:y Village, Skowkale First Nation, Skwah First Nation, Soowahlie First Nation, Squiala First Nation, Sumas First Nation and Yakwekwioose First Nation. Though the study is on-going, a 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. The following socio-cultural information was derived from the preliminary report, entitled Indicator Report for the Integrated Cultural Assessment for the Proposed Trans Mountain Expansion Project (Ts'elxwéyeqw Tribe Management Limited et.al. 2013).
- Fishing is very important and is used for cultural, subsistence and economic purposes. Cumulative effects of development in the area, including the draining of Sumas Lake and the diversion of the Chilliwack River (Chilliwack/Vedder River), have resulted in adverse effects on fish populations and Stó:lō fishing practices.
- Cultural items are manufactured for ceremonial and spiritual use, display, sale, and for household uses.
- Hunting and trapping are important both for ceremonial and subsistence purposes. Deer are of particular importance, and hunting is performed using both traditional and modern practices. Habitat fragmentation by development has had a major impact on hunting for the Stó:lō people.
- Plants are gathered for food, medicine, building materials, and ceremonial items. The cumulative effects of development in the area have led to a reduced reliance on gathered plants by community members, while a global movement towards holistic living has resulted in an increase in demand for traditional foods and medicines. Medicinal plant gathering areas are of particular spiritual importance to the Stó:lō Nation. Industrial development is perceived as a threat to plant gathering.
- Historically Stó:lō people have used the Fraser River and its tributaries as navigational transportation corridors. Today, though much less common, traditional travel (canoeing) is used for participation in spiritual and ceremonial activities, for plant gathering, hunting, and fishing, and for seasonal travel for wind drying activities. Overland transportation routes through their asserted traditional territory were also used as a means of transportation and travel. 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.

Services and programs provided by the Stó:lō Nation Society include (Stó:lō Nation Society 2009):

- a dental office;
- early childhood education;
- education services (two provincially recognised schools, post-secondary school services, K–12 school services, Aboriginal eMentoring);
- elders' lodge;
- employment training;
- health services;

- Shxweli language classes;
- Shxwt'a:selhawtxw Longhouse Program;
- social services; and
- youth services.

Community members identified a number of potential Project related stressors that may affect traditional harvesting (e.g., hunting, trapping, fishing, gathering) and/or sacred sites, including: tree clearing, trenching, blasting, stripping, overburden storage, slash storage and disposal, weeds and invasive species, new access, culvert instillation, alteration of water flow in watercourses, water quality and quantity, alteration of fish habitat, removal of riparian and wetland vegetation, dust, noise, herbicide use, spills, land use restrictions, non-Aboriginal workforce, traffic, routine monitoring and maintenance, venting, pipeline rupture/spills and air, water and terrestrial contamination (Ts'elxwéyeqw Tribe Management Limited *et.al.* 2013).

5.5.2 Chawathil First Nation

The Chawathil First Nation is a Stó:lō band located on the Fraser River near the District of Hope, BC (AANDC 2012, Ministry of Aboriginal Relations and Reconciliation [MARR] 2011) and, as a member of the Stó:lō Tribal Council, has not been part of the Treaty Process (Stó:lō Tribal Council 2011). As of 2013, the total population of the Chawathil First Nation was 572 people, of which 388 live on IRs and 184 live off IRs (AANDC 2013a). There are six Chawathil First Nation IRs (AANDC 2013a). The main IR and location of the Band headquarters is Chawathil 4, which is located near Hope, BC (MARR 2011). Members of the Chawathil First Nations obtain some services from the Seabird Island Band (Seabird Island Band 2013). See Section 5.5.12 for information on the Seabird Island Band and associated IR and services.

The asserted traditional territory of Chawathil First Nation extends across the Lower Fraser Canyon (Stó:lō Nation and Stó:lō Tribal Council 2011). An overview of the Chawathil First Nation is provided in Table 5.5-3.

TABLE 5.5-3

CHAWATHIL FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 572 On IRs: 388 Off IRs: 184	Stó:lō Tribal Council	Hul'q'umi'num/ Halq'eméylem/ hənqəminəm	Canoe Pulling, basket weaving	Forestry services

Sources: AANDC 2012, AANDC 2013a, FPLM 2013, First Nations in British Columbia Portal 2012

Notes: Certain information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

None of the Chawathil First Nation IRs are crossed by the proposed pipeline corridor, however, Chawathil 4, Greenwood Island 3, Hope No.1, Schkam 2, Pekw'Xe:yles and Tunnel 6 are located within the Socio-Economic RSA. The Tunnel 6 IR is located outside the Socio-Economic RSA. Table 5.5-4 provides an overview of labour and population data for Chawathil First Nation IRs.

TABLE 5.5-4
CHAWATHIL FIRST NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Chawathil 4	163	60	33.3	Socio-Economic RSA
Greenwood Island 3	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Hope No. 1 (Hope Island 1)	15	n/a ²	n/a ²	Socio-Economic RSA
Pekw'Xe:yles	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Schkam 2	132	25	40.0	Socio-Economic RSA
Tunnel 6	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: 1 Statistics Canada does not provide information for this community.
 2 Data for this area has been suppressed for data quality or confidentiality reasons.

A key economic activity of the Chawathil is forestry services (Province of British Columbia 2005). Key training and educational priorities for the community include programming funded by the Stó:lō Aboriginal Skills and Employment Training Strategy (SASET) program (Stó:lō Aboriginal Skills and Employment Training Strategy [SASET] 2011). SASET is the product of a Contribution Agreement between the Stó:lō Nation, Service Canada and the Employment Insurance Commission (SASET 2011). SASET assists Aboriginal people in fully participating in the Canadian economy by providing programming that helps them obtain and maintain employment (SASET 2011). SASET provides intake, assessment and referral services; assists clients in developing realistic action plans; provides access to programming that ensures client movement along the employability continuum to eventually achieve their goals; and facilitates the development of relationships and partnerships with a number of stakeholders in Aboriginal employment and training (SASET 2011).

The results of Aboriginal engagement for the Project indicate that Chawathil Band members have historically used medicinal plants. The studies found that Band members continue to gather mushrooms and wild berry species for subsistence purposes. Some Band members collect plants to sell for flower arrangements. The Stó:lō Nation commercially fishes pink salmon in the Fraser River, and plants, wildlife and fish are valued for economic reasons. Traditional economic activities often occur alongside some level of seasonal wage employment. Traditional handicrafts such as baskets and wooden carvings are common in the area. Bird feathers are used to create traditional regalia including headdresses. Traditional harvesting (*i.e.*, salmon fishing and plant gathering for subsistence purposes) continues to be an important element of livelihood and culture for Chawathil First Nation members. Chawathil Band members use regalia made from hunted game in traditional ceremonies.

Key Project-related issues that have been raised by Chawathil during engagement include:

- an interest in training and certification opportunities;
- a concern about emergency preparedness in the community;
- concern that the Project may affect or affect access to sacred or ceremonial sites;
- concerns about spills, the construction process and water contamination resulting in health effects on fish collected for consumption;
- concerns about the use of pesticides on the right-of-way and associated toxicity (this Band member prefers manual cutting); wants to ensure Trans Mountain will only conduct “spot spraying” and will not conduct “blanket spraying”;

- concern about spills and the impact a spill would have on salmon, which are harvested for subsistence and ceremonial purposes; and
- a request that disruption of access to the Mount Hope Lookout Trail (an important tourist attraction that is well used by local residents as well and is maintained by volunteers) be minimized and that construction during hiking season be avoided.

5.5.3 Cheam First Nation

The Cheam First Nation is a Stó:lō band located in the Fraser Canyon (First Nations 2012) near the City of Chilliwack, BC (AANDC 2012) and, as a members of the Stó:lō Tribal Council, has not been part of the Treaty Process (Stó:lō Tribal Council 2011). As of 2013, the total population of Cheam First Nation was 511 people, of which 253 live on IRs and 258 live off IRs (AANDC 2013a). There are three Cheam First Nation IRs (AANDC 2012). The main IR and location of the Band headquarters is Cheam 1 (First Nations 2012). Members of the Cheam First Nations obtain some services from the Seabird Island Band (Seabird Island Band 2013). See Section 5.5.12 for information on the Seabird Island Band and associated IR and services.

A description of the Stó:lō asserted traditional territory is provided in Section 5.5.1.

An overview of the Cheam First Nation is provided in Table 5.5-5.

TABLE 5.5-5

CHEAM FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 511 On IRs: 253 Off IRs: 258	Stó:lō Tribal Council	Hul'q'umi'num'/ Halq'eméylem/ hənqəminəm	Fishing the Cheam River (salmon); Historically hunting mountain goats; Red cedar carvings; Four-day fast and longhouse Winter Dance Mask Dance Regalia placement Cleansing/bathing Fasting/sweat ceremony/burning for ancestors Weaving Carving Hunting Plant gathering Trapping Drying meat Tanning hides	Goals: building a recycling plant Businesses: Smamelet Siya:m Limited Partnership (heavy equipment, earthworks, construction; forestry support; right-of-way work; vegetation management; road slope and stabilization; flood management; sand and gravel products; road mulch; road/facilities maintenance) K & L Contracting (general contractor, earthworks and aggregate processing, waste disposal for construction and landscape industries)

Sources: AANDC 2012, AANDC 2013a, FPLM 2013, First Nations 2012, KMC 2013b, Ts'elxwéyeqw Tribe Management Limited et.al. 2013

Notes: Certain information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

More details on Cheam First Nation IRs are provided in Table 5.5-6. None of the Cheam First Nation IRs are crossed by the proposed pipeline corridor; however, Cheam 1, Pekw'Xe:yles, and Tseatah 2 are located in the Socio-Economic RSA (AANDC 2012).

TABLE 5.5-6

CHEAM FIRST NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Cheam 1	223	70	14.3	Socio-Economic RSA
Pekw/Xe:yles	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Tseatah 2	16	n/a ²	n/a ²	Socio-Economic RSA

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

- Notes: 1 Statistics Canada does not provide information for this community.
2 Data for this area has been suppressed for data quality or confidentiality reasons.

Key training and educational priorities for the community include programming funded by the SASET program (SASET 2011). More information on SASET’s mandate is available in Section 5.5.2. The results of Aboriginal engagement for the Project indicate that the Band is planning to build a recycling plant, and is assessing potential for planting and harvesting blueberries to increase revenue. Using the gravel pit as a landfill and building a casino on the IR have been considered, but these ideas were rejected by the Band Council.

The results of Aboriginal engagement for the Project indicate that traditional harvesting such as fishing and gathering for subsistence purposes continues to be an important element of livelihood and culture for Cheam First Nation members. The following was also noted.

- Band members smoke and can fish for winter consumption.
- Band members use the Coquihalla River for traditional and ceremonial purposes. Historically, before it was dammed, the Coquihalla River was an important transportation corridor; today, it is used mainly for recreational activities such as tubing and swimming.
- Hunter Creek is an important location for fishing and recreation.
- Band members use plants for traditional and ceremonial purposes. The Cheam First Nation holds a special connection to the mountain goat, as well as Mount Cheam (located less than 3 km away from the proposed pipeline corridor) and Sumas Lake (a drained lake bed located in Abbotsford, BC [Heritage BC 2009], and located within the selected study corridor for the Project).
- Wood carving remains an important cultural and economic activity for members of the Cheam First Nation.

More information on the traditional and cultural practices of the communities involved in the Indicator Report for the Integrated Cultural Assessment for the Proposed Trans Mountain Expansion Project (Ts’elxwéyew Tribe Management Limited et. al. 2013) are provided in Section 5.5.1. The Traditional Land and Resource Use Technical Report of Volume 5D provides further information on Cheam First Nation’s traditional land and resource use and cultural practices.

Key Project-related issues that have been raised by Cheam First Nation members during engagement include:

- concern about disturbance to salmon spawning beds and habitat due to the cultural and economic importance of this fish; and
- concern that a leak in or near the Fraser River or its tributaries could contaminate fish habitat for species of cultural and economic importance.

Other Project-related issues raised by Stó:lō community members are provided in Section 5.5.1.

5.5.4 Kwantlen First Nation

The Kwantlen First Nation is a Stó:lō band (Kwantlen First Nation 2013) located in the district of Maple Ridge, BC (Metro Vancouver 2012a). The Kwantlen First Nation is a member of the Stó:lō Tribal Council which advocates for Aboriginal rights and title, provides social development services, and assists communities with funding of educational and health programs (Stó:lō Tribal Council 2009). As of 2013, the total population of Kwantlen First Nation was 244 people, of which 98 live on IRs and 146 live off IRs (AANDC 2013a). There are seven Kwantlen First Nation IRs (AANDC 2012). The main IR and location of the Band headquarters is McMillan Island 6 (AANDC 2012).

The asserted traditional territory of the Kwantlen First Nation extends from Mud Bay in Tsawwassen, through the Serpentine and Salmon Rivers and along the Fraser River, and east beyond Mission (Kwantlen First Nation 2013). An overview of the Kwantlen First Nation is provided in Table 5.5-7.

TABLE 5.5-7

KWANTLEN FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 244 On IRs: 98 Off IRs: 146	Stó:lō Tribal Council	Hul'q'umi'num'/ Halq'eméylem/ hənqəminəm	Most important traditional resource was salmon. Also hunted deer, elk, mountain goats, beaver, and marten	Businesses: commercial fisheries

Sources: AANDC 2012, AANDC 2013a, FPLM 2013, KMC 2013b, Metro Vancouver 2012a

Notes: Certain information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

More details on Kwantlen First Nation IRs are provided in Table 5.5-8. None of the Kwantlen First Nation IRs are crossed by the proposed pipeline corridor; however, Langley 2, Langley 3, Langley 4, Langley 5, McMillan Island 6, Pekw'Xe:yles and Whonnock 1 are located in the Socio-Economic RSA (AANDC 2012).

TABLE 5.5-8

KWANTLEN FIRST NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Langley 2	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Langley 3	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Langley 4	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Langley 5	0	n/a ²	n/a ²	Socio-Economic RSA
McMillan Island 6	68	25	n/a ²	Socio-Economic RSA
Pekw'Xe:yles	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Whonnock 1	0	n/a ²	n/a ²	Socio-Economic RSA

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: 1 Statistics Canada does not provide information for this community.

2 Data for this area has been suppressed for data quality or confidentiality reasons and/or rounded to zero.

The Kwantlen First Nation historically developed the first commercial fisheries in BC, and fishing continues to be a key economic activity (Metro Vancouver 2012a). Historically, members of the Kwantlen First Nation were also fur traders (Metro Vancouver 2012a).

The results of Aboriginal engagement for the Project indicate that traditional harvesting (*i.e.*, hunting, trapping, fishing, or gathering for subsistence purposes) continues to be an important element of livelihood and culture for Kwantlen First Nation members. Berries and mushrooms are collected and preserved or eaten fresh while other plants are used for medicinal purposes.

Key Project-related issues that have been raised by Kwantlen First Nation members during engagement include:

- concern about habitat loss for traditionally hunted species caused by widening the existing right-of-way;
- concern that the number of archaeological studies may be inadequate, as the area through which the proposed pipeline corridor passes is historically important to local First Nations; and
- concern that the recreational use area (hiking trail and mountain bike park) located approximately 100 m north of the existing line may be impacted by construction.

5.5.5 Kwaw-Kwaw-Apilt First Nation

The Kwaw-kwaw-apilt First Nation is a Stó:lō band located near the City of Chilliwack, BC (First Peoples' Language Map of British Columbia 2013) and, as a members of the Stó:lō Tribal Council have not been part of the Treaty Process (Stó:lō Tribal Council 2011). As of 2013, the total population of Kwaw-kwaw-apilt First Nation was 43, of which 33 live on IRs and 10 live off IRs (AANDC 2013a). There are four Kwaw-kwaw-apilt First Nation IRs (AANDC 2013a) on 595.9 hectares (MARR 2013).

A description of the Stó:lō asserted traditional territory is provided in Section 5.5.1.

An overview of the Kwaw-Kwaw-apilt First Nation is provided in Table 5.5-9.

TABLE 5.5-9

KWAW-KWAW-APILT FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 43 33 Off IRs: 10	Stó:lō Nation Society	Halq'eméylem (upriver dialect of Halkomelem)	Winter Dance Mask Dance Regalia placement Cleansing/bathing Fasting/sweat ceremony/burning for ancestors Weaving Carving Hunting Fishing Plant gathering Trapping Drying meat Tanning hides	Band partnerships: Stó:lō Development Corporation; Stó:lō Community Futures; Stó:lō Tourism Commission Ch-ihl-kway-uhk Forestry Limited Partnership Seven Nations Environmental Group

Sources: AANDC 2012, AANDC 2013a, FPLM 2013, Squiala First Nation 2012, Ts'elxwéyegw Tribe Management Limited et.al. 2013

More details on Kwaw-Kwaw-apilt IRs are provided in Table 5.5-10. The Grass 15, an IR shared with other First Nations as described in Table 3.3-2, is crossed by the proposed pipeline corridor; Pekw'eXe:yales and Kwawkwawapit 6 are located in the Socio-Economic RSA and Skumalasch 16 is located outside the Socio-Economic RSA.

TABLE 5.5-10

KWAW-KWAW-APILT FIRST NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/Socio-Economic RSA/Outside Study Area	Land Use Plans/Priorities	On-reserve Services	On-reserve Infrastructure
Skumalasph 16	n/a ¹	n/a ¹	n/a ¹	Outside Study Area	n/a ²	n/a ²	n/a ²
Pekw'eXe:yales (Peckquaylis)	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA	n/a ²	n/a ²	n/a ²
Kwawkwawapilt 6	342	55	n/a ¹	Socio-Economic RSA	n/a ²	n/a ²	n/a ²
Grass 15	n/a ¹	n/a ¹	n/a ¹	Proposed Pipeline Corridor	Unknown ³	Unknown ³	Unknown ³

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

- Notes:**
- 1 Statistics Canada does not provide information for this community.
 - 2 This information is not required for this IR as the IR is located beyond the proposed pipeline corridor.
 - 3 Data could not be found in desktop research or field notes.

The Kwaw-Kwaw-apilt is involved in the Ch-ihl-kway-uhk Forestry Limited Partnership which is a partnership between the seven Ts'elxweyeqw Band member First Nation communities as well as the Skwah First Nation (Squiala First Nation 2012). The results of Aboriginal engagement for the Project indicate that the Seven Generations Environmental Group provides environmental management and impact assessment; regulatory applications and permitting; resource planning; water resource management; environmental and construction monitoring; biological and ecological assessments; electrofishing and fish salvage.

Project-related issues raised by Stó:lō community members and traditional and cultural practices of the communities involved in the Indicator Report for the Integrated Cultural Assessment for the Proposed Trans Mountain Expansion Project (Ts'elxwéyeqw Tribe Management Limited et. al. 2013) are provided in Section 5.5.1.

5.5.6 *Leq'á:mel First Nation*

The Leq'á:mel First Nation is a Stó:lō band located in the community of Deroche, approximately 22 km east of the District of Mission, BC (Leq'á:mel First Nation 2011). Leq'á:mel First Nation is a member of the Stó:lō Nation Society, and many of Leq'á:mel First Nation's economic and social initiatives and services are associated with this tribal council (Stó:lō Nation Society 2009). The Leq'á:mel First Nation is part of the Stó:lō Xwexwilmexw Treaty Association which is working through the treaty process with the BC Treaty Commission (Stó:lō Xwexwilmexw Treaty Association 2013).

As of 2013, the total population of the Leq'á:mel First Nation was 393 people, of which 136 live on IRs and 257 live off IRs (AANDC 2013a). There are ten Leq'á:mel First Nation IRs (AANDC 2012, Leq'á:mel First Nation 2011). Three IRs are used as residential land, two are cemeteries, and the remaining five are either under a certificate of possession to members, leased for agricultural use, or held for future economic development by the First Nation (Leq'á:mel First Nation 2011).

An overview of the Leq'á:mel First Nation is provided in Table 5.5-11.

TABLE 5.5-11

LEQ'Á:MEL FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 393 On IRs: 136 Off IRs: 257	Stó:lō Nation	Hul'q'umí'num/ Halq'eméylem/ hənqəminəm	Canoe pull Hunting Fishing Gathering	Economic development goal: work in the environmental sector Band partnerships: <ul style="list-style-type: none"> Ts'elxweyeqw Tribe Management Limited Seven Generations Environmental Group

Sources: AANDC 2012, AANDC 2013a, FPLM 2013, KMC 2013b

Notes: Certain information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

More details on Leq'á:mel First Nation's IRs are provided in Table 5.5-12. None of the Leq'á:mel First Nation IRs are crossed by the route; however Aylechootloo 5, Holachten 8, Lackaway 2, Lakahahmen 11, Lakway Cemetery 3, Papekwatchin 4, Pekw'xe:yles, Skweahm 10, Sumas Cemetery 12, Yaalstrick 1 and Zaitscullachan 9 are located in the Socio-Economic RSA (AANDC 2012).

TABLE 5.5-12

LEQ'Á:MEL FIRST NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Aylechootlook 5	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Holachten 8	316	135	18.5	Socio-Economic RSA
Lackaway 2	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Lakahahmen 11	185	65	30.8	Socio-Economic RSA
Lakway Cemetery 3	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Papekwatchin 4	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Pekw'xe:yles	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Skweahm 10	292	135	n/a ¹	Socio-Economic RSA
Sumas Cemetery 12	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Yaalstrick 1	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA
Zaitscullachan 9	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

Notes: 1 Statistics Canada does not provide information for this community.

Key economic activities of the Leq'á:mel First Nation include those associated with the Stó:lō Nation Society as described in Section 5.5.1

The results of Aboriginal engagement for the Project indicate that the Stó:lō Nation commercially fishes pink salmon in the Fraser River. The Leq'á:mel First Nation is involved in the Fraser River Scientific Development and Selective Harvest Partnership, as well as the Advocates of Nicomen Ecological Watershed (Leq'á:mel First Nation 2011).

According to engagement records, Ts'elxweyeqw Tribe Management Limited provides forest management services for oversight of all aspects of forestry projects including overseeing contractors or subcontractors; right-of-way work; road building; vegetation management; engineering consulting; biological assessments; environmental monitoring; archaeological & cultural use assessment; potentially

contract site inspection services and GIS. The Seven Generations Environmental Group provides environmental management and impact assessment; regulatory applications and permitting; resource planning; water resource management; environmental and construction monitoring; biological and ecological assessments; electrofishing and fish salvage. According to records of engagement the Band also has a gravel pit.

Key training and educational priorities for the community include programming funded by the SASET program (SASET 2011). More information on SASET's mandate is available in Section 5.5.2.

Project-related engagement records show that there is community interest in working in the environmental tech sector (e.g., electrofishing), with the hope that qualifications could be obtained at the high school level that would allow members to work. Barriers to employment include a lack of transit, a sense of being separated or isolated from other communities, and a lack of access to employment and recreation (sports). The community would benefit from administrative communications and web design, scholarships, career planning, and educational support for high school and post-secondary students. Community members need transferable skills in order to obtain long-term employment. Individual and community self-esteem building must be a priority (community building).

The Leq'á:mel First Nation has a five-year economic plan and a land use study is in progress.

Traditional harvesting, such as hunting, fishing and gathering, continues to be an important element of livelihood and culture for Leq'á:mel First Nation. According to the results of Aboriginal engagement for the Project, it was noted that Band members:

- gather wild berry species such as huckleberries, raspberries, and soapberries;
- smoke and can fish for winter consumption;
- hunt mule deer, moose, black bear, geese and ducks October through January, and continue to barter for game;
- fish for salmon and trout and gather in longhouses to share traditional food and activities; and
- practice traditional bow hunting on Sumas Mountain.

It was also noted that wage employment is a necessity to enable fishing and hunting, as these activities require fuel and gear.

Other traditional cultural activities that were noted include traditional river cleansing and canoe pulling (dugout canoes). The Leq'á:mel First Nation people also participate in the creation of traditional crafts such as basket weaving and drum making (Leq'a:mel First Nation 2011).

About 15% of youth know how to fish, 6% hunt, and 5% know how to use and identify medicinal plants. These numbers demonstrate a need for development of traditional/cultural education opportunities for youth. The community requires a platform for sharing the traditional knowledge held by Leq'á:mel First Nation elders with younger generations.

First Nations are becoming more aware of species at risk and the impacts of infrastructure and development on plant and wildlife species populations.

The Traditional Land and Resource Use Technical Report of Volume 5D provides further information on Leq'á:mel First Nation's traditional land and resource use and cultural practices.

There are a range of Band-administered community services and infrastructure. Leq'á:mel First Nation has a triplex that hosts after school drop-ins, youth night, workshops, tutoring, and elders' group activities. Services and programs provided by the Stó:lō Nation Society are listed in Section 5.5.1.

Key Project-related issues that have been raised by Leq’á:mel members during Project engagement include:

- the opinion that twinning the line is a good option, as new territory will not be disturbed, and reclamation offers an opportunity to replant “heritage species” or medicinal plants;
- the opportunity for goats to graze on the Project right-of-way;
- the community may be willing to lease currently vacant land to Trans Mountain for work camps on the south Fraser (Vedder Canal parallel road);
- the Project could limit access to culturally important areas throughout the asserted traditional territory; members recognized the need to work together to develop a management plan regarding access; and
- The Fraser River is the main tourist attraction in the area, and there are some tourism-focused businesses that are looking to expand: a spill could shut down these activities and enterprises.

5.5.7 Lower Similkameen Indian Band

The Lower Similkameen Indian Band is a Syilx band located near Village Keremeos in the Similkameen Valley in the South Okanagan region of BC and is a member of the Okanagan Nation Alliance (Lower Similkameen Indian Band 2011). As of 2013, the total population of Lower Similkameen Indian Band was 488 people, of which 286 live on IRs and 202 live off IRs (AANDC 2013a). There are nine Lower Similkameen Indian Band IRs (AANDC 2012). Lower Similkameen Indian Band IRs cover a total of 15,049 hectares (Lower Similkameen Indian Band 2011).

The asserted traditional territory of the Syilx people covers a land base of approximately 69,000 km², covering much of the southern interior of BC and Washington State (Syilx Okanagan Nation Alliance [SONA] 2010).

An overview of the Lower Similkameen Indian Band is provided in Table 5.5-13.

TABLE 5.5-13

LOWER SIMILKAMEEN INDIAN BAND – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/Business Capacity
Total: 488 On IRs: 286 Off IRs: 202	Okanagan Nation Alliance	Nsyilxcən	Salmon fishing	Band economic activity: wind power, fisheries Economic development goals: develop new business partnerships

Sources: AANDC 2012, AANDC 2013a, Lower Similkameen Indian Band 2012

More details on Lower Similkameen Indian Band IRs are provided in Table 5.5-14. None of the Lower Similkameen Indian Band IRs are crossed by the proposed pipeline corridor.

TABLE 5.5-14

LOWER SIMILKAMEEN INDIAN BAND – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area
Alexis 9	25	n/a ²	n/a ²	Outside Study Area
Ashnola 10	73	30	33.3	Outside Study Area
Blind Creek 6	25	n/a ²	n/a ²	Outside Study Area
Blind Creek 6A	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Chopaka 7 & 8	70	30	n/a ¹	Outside Study Area
Keremeos Forks 12 & 12A	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Lower Similkameen 2	50	25	n/a ²	Outside Study Area
Narcisse's Farm 4	n/a ¹	n/a ¹	n/a ¹	Outside Study Area
Range 13	n/a ¹	n/a ¹	n/a ¹	Outside Study Area

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

- Notes:**
- 1 Statistics Canada does not provide information for this community.
 - 2 Data for this area has been suppressed for data quality or confidentiality reasons.

Key economic activities of the Lower Similkameen Indian Band include forestry and a community wind power project (Lower Similkameen Indian Band 2011). There are several member-owned companies including Skul'qalt Forestry and TWN Wind Power Inc. (with the Tsleil-Waututh Nation) (Lower Similkameen Indian Band 2011). Economic development goals of Lower Similkameen Indian Band include developing new business partnerships (Lower Similkameen Indian Band 2011). The Okanagan Nation Alliance, which represents eight nations including the Lower Similkameen Indian Band, plays a major role in the management of the Okanagan's fisheries and aquatic resources by providing technical fisheries assistance to member communities and serving as a liaison with federal and provincial fisheries agencies (SONA 2010). Salmon fishing continues to be an important element of livelihood and culture for Lower Similkameen Indian Band members (SONA 2010).

5.5.8 Matsqui First Nation

The Matsqui First Nation is a Stó:lō band located near the City of Abbotsford, BC (Matsqui First Nation 2013). The Band is a member of the Stó:lō Nation Society, and many of the Matsqui First Nation's economic and social initiatives and services are associated with this tribal council (Stó:lō Nation Society 2009). As of 2013, the total population of Matsqui First Nation was 259 people, of which 116 live on IRs and 143 live off IRs (AANDC 2013a). There are five Matsqui First Nation IRs (AANDC 2012). The main IR and location of the Band headquarters is the Masqui Main 2 (Aboriginal Canada 2003, AANDC 2012). The majority of band members live on Matsqui 4 which is located in the Township of Langley (Metro Vancouver 2012a).

An overview of the Matsqui First Nation is provided in Table 5.5-15.

TABLE 5.5-15

MATSQUI FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 259 On IRs: 116 Off IRs: 143	Stó:lō Nation Society	Hul'q'um'num' / Halq'eméylem / hənqəminəm	Unknown ¹	Band partnerships: Stó:lō Development Corporation; Stó:lō Community Futures; Stó:lō Tourism Commission Seven Generations Environmental Group

Sources: AANDC 2012, AANDC 2013a, FPLM 2013, KMC 2013b, Stó:lō Nation Society 2009

- Notes:**
- 1 Data could not be found in desktop research or field notes.

More details on Matsqui First Nation IRs are provided in Table 5.5-16. Of the Matsqui First Nation IRs, Matsqui Main 2 is crossed by the proposed pipeline corridor and Matsqui 4, Pekw'Xe:yles, Sahhacum 1 and Three Islands 3 are in the Socio-Economic RSA (AANDC 2012). Matsqui Main 2 is located on the bank of the Fraser River, 3.6 km southwest of the District of Mission, BC.

Key land uses on Matsqui Main 2, which is crossed by the proposed pipeline corridor, include 27 housing units and the Band administration office (Aboriginal Canada 2003). Other services are located off of the IR, and are supplied by the Stó:lō Nation Society as listed in Section 5.5.1.

The IR crossed by the proposed pipeline corridor (Matsqui Main 2) is used primarily as a place of residence. Key community infrastructure and services are located off-reserve, including health services, schools, emergency services, recreation services, and garbage and sewage facilities. The Band administration office has access to high-speed internet, which is available to community members (Aboriginal Canada 2003).

TABLE 5.5-16
MATSQUI FIRST NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/Outside Study Area	Land Use Plans/ Priorities	On-reserve Services	On-reserve Infrastructure
Matsqui 4	498	35	0	Socio-Economic RSA	n/a ²	n/a ²	n/a ²
Matsqui Main 2	81	25	40	Proposed Pipeline Corridor	Residential Administrative	Band administration office	Unknown ³
N/a ²	n/a ²	n/a ¹	n/a ¹	Socio-Economic RSA	n/a ²	n/a ²	n/a ²
Sahhacum 1	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA	n/a ²	n/a ²	n/a ²
Three Islands 3	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA	n/a ²	n/a ²	n/a ²

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

- Notes:**
- 1 Statistics Canada does not provide information for this community.
 - 2 This information is not required for this IR as the IR is located beyond the proposed pipeline corridor.
 - 3 Data could not be found in desktop research or field notes.

The Matsqui First Nation employs the majority of the Band members who live on IRs at a cedar mill, which is located on the Fraser River, and at the band office (Metro Vancouver 2012a). Key economic activities of the Matsqui First Nation include those associated with the Stó:lō Nation Society as described in Section 5.5.1

The results of Aboriginal engagement for the Project indicate that the Stó:lō Nation commercially fishes pink salmon in the Fraser River. In September 2012, the Band adopted an Environmental Management Plan and the Band is in the process of revising its economic development plan. Economic interests include 20 acres of land with development potential and housing for more than 200 members.

Key training and educational priorities for the community include programming funded by the SASET program (SASET 2011). More information on SASET's mandate is available in Section 5.5.2.

The results of Aboriginal engagement for the Project indicate that the Seven Generations Environmental Group provides environmental management and impact assessment; regulatory applications and permitting; resource planning; water resource management; environmental and construction monitoring; biological and ecological assessments; electrofishing and fish salvage.

Matsqui First Nation offers schooling on the IR at the Community Learning Center located on Matsqui Main IR 2, which provides education through Grade 12. Services and programs provided by the Stó:lō Nation Society are listed in Section 5.5.1.

Key Project-related issues that have been raised by the Musqueam First Nation during engagement include:

- concern about potential damage to fish habitat in the Fraser River for species fished for subsistence purposes; and
- a need for members to be educated on pipelines and diluted bitumen.

5.5.9 Peters Band

The Peters Band is an independent Coast Salish band (First Peoples' Language Map of British Columbia [FPLMBC] 2013) located in the Lower Mainland of BC near the District of Hope (British Columbia Assembly of First Nations [BCAFN] 2010). As of 2013, the total population of Peters Band was 149 people, of which 44 live on IRs and 105 live off IRs (AANDC 2013a). There are three Peters Band IRs (AANDC 2012). The main IR and location of the Band headquarters is Peters 1 (AANDC 2012).

An overview of the Peters Band is provided in Table 5.5-17.

TABLE 5.5-17

PETERS BAND – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 149 On IRs: 44 Off IRs: 105	None	Halq'eméylem (upriver dialect of Halkomelem)	Unknown ¹	Unknown ¹

Sources: AANDC 2012, AANDC 2013a, FPLM 2013

Notes: 1 Data could not be found in desktop research or field notes.

More details on Peters Band IRs are provided in Table 5.5-18. Peters 1 and Peters 1A are crossed by the proposed pipeline corridor, and Peters 2 is located in the Socio-Economic RSA (AANDC 2012).

TABLE 5.5-18

PETERS BAND – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area	Land Use Plans/ Priorities	On-reserve Services	On-reserve Infrastructure
Peters 1	27	n/a ²	n/a ²	Proposed Pipeline Corridor	Unknown ⁴	Unknown ⁴	Unknown ⁴
Peters 1A	n/a ¹	n/a ¹	n/a ¹	Proposed Pipeline Corridor	n/a ¹	n/a ¹	n/a ¹
Peters 2	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA	n/a ³	n/a ³	n/a ³

Sources: AANDC 2012, Statistics Canada 2012, Statistics Canada 2013a

- Notes:
- 1 Statistics Canada does not provide information for this community.
 - 2 Data for this area has been suppressed for data quality or confidentiality reasons.
 - 3 This information is not required for this IR as the IR is located beyond the proposed pipeline corridor.
 - 4 Data could not be found in desktop research or field notes.

5.5.10 Popkum First Nation

The Popkum First Nation is a Stó:lō band located near the City of Chilliwack, BC (FPLMBC 2013). The Band is a member of the Stó:lō Nation Society, and its economic and social initiatives and services are associated with this tribal council (Stó:lō Nation Society 2009). Popkum First Nation is part of the Stó:lō Xwexwilmexw Treaty Association, which is working through the treaty process with the BC Treaty Commission (Stó:lō Xwexwilmexw Treaty Association 2013). As of 2013, the total population of the Popkum First Nation was 10 people, of which 1 lives on an IR and 9 live off IRs (AANDC 2013a). There are three Popkum First Nation IRs (AANDC 2012).

An overview of the Popkum First Nation is provided in Table 5.5-19.

TABLE 5.5-19

POPKUM FIRST NATION – OVERVIEW

Band Population	Tribal Affiliation	Traditional Language	Traditional Cultural Practices	Economic Development Goals/ Business Capacity
Total: 10 On IRs: 1 Off IRs: 9	Stó:lō Nation Society	Halq'eméylem (upriver dialect of Halkomelem)	Traditional harvesting	Band partnerships: <ul style="list-style-type: none"> Partnerships with Jake Construction and Seabird Island First Nation Seven Generations Environmental Group Economic development goals: <ul style="list-style-type: none"> Preference for working with industry rather than government

Sources: AANDC 2012, AANDC 2013a, FPLM 2013, KMC 2013b

Notes: Certain information was sourced from Aboriginal community participation in Project-specific biophysical field studies and/or socio-economic interviews.

More details on Popkum First Nation IRs are provided in Table 5.5-20. Popkum 1 is crossed by the proposed pipeline corridor, and Pekw'Xe:yles and Poplum 2 are located in the Socio-Economic RSA (AANDC 2012).

TABLE 5.5-20

POPKUM FIRST NATION – RESERVES

IRs	IR Population	Size of Labour Force (No.)	Unemployment Rate (%)	Location in Relation to Project: Proposed Pipeline Corridor/ Socio-Economic RSA/ Outside Study Area	Land Use Plans/ Priorities	On-reserve Services	On-reserve Infrastructure
Pekw'Xe:yles	n/a ¹	n/a ¹	n/a ¹	Socio-Economic RSA	n/a ³	n/a ³	n/a ³