

16.0 TRADITIONAL LAND AND RESOURCE USE

1 This section of this Application presents the assessment of the potential adverse
2 effects of the proposed Project on traditional land and resource use. This assessment
3 addresses the potential direct, indirect and cumulative adverse effects of the proposed
4 Project on the Valued Components (VC) defined in the Application Information
5 Requirements (AIR), including current use of land and resources for traditional
6 purposes and cultural sites. Traditional land and resource use refers to the current use
7 of Crown lands by potentially affected Aboriginal groups for traditional purposes,
8 including the extensive land and water bases on which activities take place, a broad
9 view of where and how people move in the landscape, how they use it, and where
10 they inhabit it.

16.1 SELECTION OF VALUED COMPONENTS AND KEY INDICATORS

11 Valued Components are those components of the natural and human environment that
12 are considered by the Proponent, the public, Aboriginal groups, regulatory agencies
13 and other technical specialists involved in the Application process to have scientific,
14 ecological, economic, social, cultural, archaeological or historical importance. The
15 final VCs and KIs were identified in the approved AIR.

16.1.1 Project Interactions and Identification of Potential Adverse Effects

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

23 Proposed Project construction activities have the potential to result in a direct loss of
24 trails, travelways and habitation sites through clearing. Right-of-way (ROW) clearing
25 may also alter connectivity to trails and travelways, and encroach on lands utilized for
26 cultural activities. Project construction activities may cause a disruption of access to
27 trails, travelways and habitation sites, and increased public access as a result of
28 development that may lead to increased pressure on resource-rich areas and potential
29 or existing habitation sites.

30 Proposed Project construction activities also have the potential to result in a loss of or
31 disturbance of cultural sites and activities. Sacred areas and gathering places are
32 typically protected from public access, use and vandalism and, in some cases, may
33 only be accessible with spiritual leaders. Increased access to undisturbed areas has led
34 to greater exposure of sacred areas, areas that range from geologic formations to

entire landscapes. Noise and activity as a result of construction and operation of the proposed Project may also influence the focus and intent of ceremonial activities.

The operation of the proposed Project will affect traditional land and resource use primarily due to temporary disturbances related to site-specific maintenance on lands previously disturbed during the construction phase. Some ongoing disturbances may also occur in areas where new land is necessary for the permanent facilities. There may also be longer-term changes in use patterns where the proposed route does not parallel existing ROWs. Routing of the proposed Project is discussed in Section 1.4. Key indicators (KIs) are metrics used to measure and report on the condition and trend of a VC, and are identified to further focus and facilitate the analysis of interactions between a proposed project and the selected VCs. Table 16-1 lists the VCs and KIs selected for the traditional land and resource use topic.

Table 16-1: Valued Components and Key Indicators for Traditional Land and Resource Use

Valued Components	Key Indicators
Current Use of Land and Resources for Traditional Purposes	Subsistence activities (e.g., hunting, trapping, fishing and gathering)
	Subsistence resources
	Trails, travelways, habitation sites
Cultural Sites	Gathering places
	Sacred areas

The selected KIs represent components of the environment that are of particular value or interest to Aboriginal groups. The indicators have been selected based on initial feedback from Aboriginal groups as well as through a review of other assessments of similar projects. Interactions between the proposed Project and the candidate VCs were evaluated to determine if the potential adverse effects were expected to occur. The final VCs that were selected were those expected to interact with the proposed Project. The selected VCs reflect the components valued by traditional resource users that are often holistic in nature and span several disciplines since the potential adverse effects of the proposed Project on traditional land and resource use are also linked to issues related to environmental topics (e.g., aquatic environment, wetlands, wildlife and vegetation), as well as to social, economic, heritage and health topics.

16.1.2 Current Use of Land and Resources for Traditional Purposes

The assessment of the current use of land and resources for traditional purposes VC considers the potential adverse environmental effects that may inhibit the practice of traditional activities on the land and water. These activities may include the pursuit of environmental resources for subsistence purposes through hunting, fishing, trapping and plant gathering. The associated key indicators are described below.

Subsistence Activities

1 Aboriginal persons continue the practice of hunting, fishing, plant gathering, trapping
2 and snaring for food and pelts, and this key indicator relates to the identification of
3 these activities and how they may be potentially affected by the proposed Project. The
4 spatial and temporal extent of use (i.e., frequency, duration and seasonal aspects) is
5 also described.

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

12 Aboriginal individuals continue the practice of trapping and snaring for food and pelts.
13 These traps and snares may or may not be located within registered traplines.

14 The practice of traditional fisheries relate to the species harvested, fishing techniques,
15 and the nature of specific reaches of lakes and rivers. Fishing methods may include,
16 but are not limited to, angling, jigging, spear-fishing, dip netting, gill netting, and the
17 construction and use of fish traps and weirs. While fishing activities vary with
18 changes in seasonal water flow and variation in fish stocks, fisheries often exhibit
19 habitual repeated use. Fishing areas include watercourses and waterbodies often near
20 staging areas or access points to the waters. Secondary fishing activities relate to
21 processing the harvests, and may include processing yards, smokehouses, drying
22 racks and fish-grease rendering features.

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

Subsistence Resources

28 The subsistence resources key indicator relates to the identification of site-specific
29 features and environmental resources used for subsistence purposes that may be
30 affected by the proposed Project. The spatial and temporal extents of known
31 subsistence resources are often defined by the action of the harvest itself and,
32 consequently, examples of these traditional features are provided above.

Trails, Travelways and Habitation Sites

33 Travel corridors are essential for conducting traditional activities and accessing
34 cultural landscape features. Trails include well-defined all-terrain vehicle (ATV) and

1 snowmobile corridors, navigable waterways, river portages, and historic foot, dog
2 sled and pack horse pathways.

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

16.1.3 Cultural Sites

14 The cultural sites VC represents people's long-term connection to the land, water and
15 cultural continuity, and includes the ability to participate in and continue practices
16 and activities conducted by past generations, as well as the ability to pass on the
17 collective knowledge and use of the environment according to tradition. Gathering
18 areas and sacred areas are collective terms used to incorporate all types of sites
19 unrelated to the acquisition of environmental resources.

Gathering Places

20 Aboriginal people often gather to share in ceremonial activities, exchange items of
21 trade, arrange and celebrate marriages, and for other activities. In addition,
22 indigenous grave sites are sometimes recorded in the general area of large gathering
23 places. Such gathering places have historical, ceremonial, cultural and economic
24 significance to Aboriginal groups.

Sacred Areas

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

16.2 REGULATORY AND POLICY SETTING

30 The proposed Project will be constructed and operated in compliance with federal and
31 provincial legislation. Provincial Land and Resource Management Plans (LRMPs),
32 Sustainable Resource Management Plans (SRMPs), Access Management Plans

(AMPs), First Nation Land Use Plans (FNLUP) and Official Community Plans (OCPs) outline the planned uses for land and resources within a specific plan area. A summary of the plans considered is provided in Section 14.2. These plans were reviewed and considered during the planning phase of the proposed Project.

Current and future land use along the proposed route is governed by a wide range of land use and management plans. The proposed Project crosses the boundaries of six provincial LRMPs, as well as associated SRMPs and AMPs, which are the result of collaborative planning processes with a myriad of stakeholders and Aboriginal groups. They provide strategic management planning for resources on Crown land. The proposed route also crosses one FNLUP and five OCPs. While the LRMPs and OCPs do not specifically address traditional land and resource use with respect to pipeline development (Appendix 2-M of this Application), most of these plans provide broad guidance for the inclusion of Aboriginal peoples in land and resource use planning to ensure that land use decisions do not infringe on Aboriginal or Treaty rights, and identify existing and potential areas of traditional use (Integrated Land Management Bureau 1997, Government of British Columbia 1999a,b, 2000, 2002, 2007).

The Nak'azdli Nation Stewardship Policy (draft) was developed to assess potential effects of proposed land and resource policies, plans and developments on Nak'azdli interests (Nak'azdli Band n.d.). This FNLUP pertains to all lands and resources in the Nak'azdli consultation area. Any proposed project in the consultation area must meet a number of goals including not posing a threat to the environment, the culture or the resource; contribute to the reclamation of the natural and cultural health of the territories; and provide positive social effects for Nak'azdli Band.

16.3 ASSESSMENT BOUNDARIES

Assessment boundaries are used to set a frame of reference for the assessment. The following sections outline the spatial and temporal boundaries used for the assessment of potential adverse effects on traditional land and resource use.

16.4 SPATIAL BOUNDARIES

Table 16-2 lists the spatial boundaries used for the traditional land and resource use effects and cumulative effects assessments. Figure 16-1 shows the Traditional Land and Resource Use study area boundaries considered in this assessment. Table 16-3 details the inputs to the traditional land and resource use study area boundaries.

Table 16-2: Spatial Boundaries for Traditional Land and Resource Use

Valued Component	Spatial Boundary
Current Use of Land and Resources for Traditional Purposes	<p>Project Footprint: the land area that will be directly disturbed by Project construction and cleanup activities, including associated physical works and activities (e.g., permanent ROW, temporary construction camps and temporary workspaces for construction)</p> <p>Local Study Area (LSA): an area that encompasses and extends beyond the Project Footprint to include the LSA boundaries of the aquatic environment, the atmospheric environment, wetlands, vegetation, wildlife and heritage resources because the current use of land and resources for traditional purposes is dependent on these resources (Table 16-3). The LSA is the area where there is a reasonable potential for localized Project-related effects to affect existing traditional land and resource uses (e.g., trapping, hunting, fishing and gathering areas). The potential effects of the proposed Project are primarily assessed within the Project Footprint and the LSA. Since, in some cases, the focus for the current use of land and resources for traditional purposes might be on land within a few hundred metres of the Project Footprint, and, in other cases, broader territorial uses are identified that extend several kilometres from the Project Footprint, the potential effects on the current use of land and resources for traditional purposes are also assessed within the Regional Study Area (RSA).</p> <p>RSA: 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 KIs. The RSA includes the RSA boundaries of the aquatic environment, atmospheric environment, wetlands, vegetation, wildlife and heritage resources (Table 16-3).</p>
Cultural Sites	

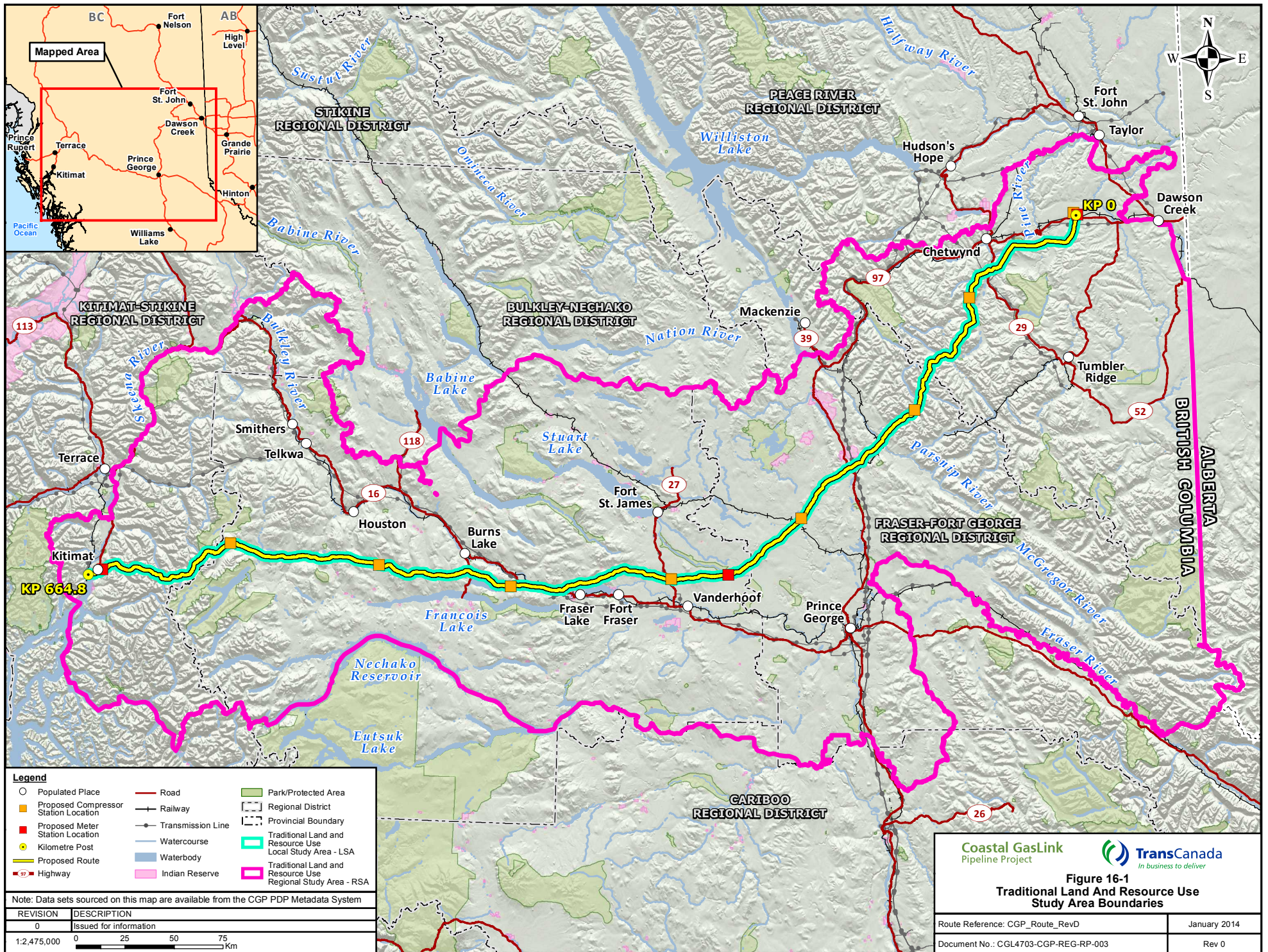


Table 16-3: Inputs to Traditional Land and Resource Use Study Area Boundaries

Topic	Local Study Area	Regional Study Area	Application Section
Atmospheric Environment	An area extending 1.5 km from the Project Footprint	An area extending up to 5 km from the Project Footprint	Section 6, Atmospheric Environment
Air Quality	No LSA	30 km-wide area centred on Project-emission sources (compressor stations)	Section 6
Aquatic Environment	The zone of influence (ZOI) likely to be affected by direct disturbance during construction and operations, which includes an area extending 100 m upstream of the crossing location and a minimum of 300 m downstream of the proposed crossing location	Includes the area where the direct and indirect influence of other land uses and activities could overlap with Project-specific potential adverse effects and cause cumulative effects on the aquatic environment KIs. The Aquatics RSA includes all sub-basins crossed by the proposed route.	Section 7, Aquatic Environment
Vegetation	300 m	2 km	Section 8, Vegetation
Wetlands	2 km	Wetland, wetland complexes and riparian wetlands located within the watersheds of all drainages directly affected by the proposed route	Section 9, Wetlands
Wildlife and Wildlife Habitat	2 km	30 km-wide area centered on the proposed route; Grizzly Bear RSA (the area defined by the viable Grizzly Bear Population Units [GBPUs] encountered by the proposed Project, including the Hart, Parsnip, Nation, Nulki, Francois, Bulkley-Lakes GBPUs); and Caribou RSA (area defined by the Hart Ranges and Telkwa caribou ranges)	Section 10, Wildlife and Wildlife Habitat
Heritage Resources	Project Footprint	Borden Blocks crossed by the proposed route. A Borden Block measures 16 km x 16 km.	Section 18, Heritage Resources

16.4.1 Temporal Boundaries

- 1 The time frames considered in the assessment of the current use of land and resources
- 2 for traditional purposes and cultural sites include the planning, construction and
- 3 operations phases of the proposed Project. The proposed Project will be designed and
- 4 maintained for a useful life in excess of 30 years. Any decision on the appropriate
- 5 timing for decommissioning and abandonment will be influenced by future service
- 6 requirements. It is difficult to predict when or how the proposed Project will be

1 decommissioned and abandoned at the end of the Project's useful life, or to predict
2 the social or economic conditions at that time. As a result, the Application does not
3 include consideration of potential adverse effects associated with decommissioning
4 and abandonment. If abandonment of all or a portion of the Project is proposed in the
5 future, Coastal GasLink will comply with all applicable regulatory requirements in
6 force at that time.

Construction Phase

7 The construction phase includes surveying, clearing, soil conservation, grading,
8 trenching, testing, and post-construction reclamation for the proposed route and
9 associated facilities. Pipeline construction activities are planned to commence in
10 2015-2016 with an in-service date of approximately the end of the decade.

Operations Phase

11 Once construction is complete, the proposed Project will be commissioned and the
12 operations phase begins. The life of the proposed Project is estimated to be in excess
13 of 30 years. ROW and block valve maintenance, operational surveillance (aerial and
14 ground based), cathodic protection, line patrol, and vegetation management for the
15 proposed Project will be completed as part of a comprehensive operations and
16 maintenance program.

16.5 BASELINE INFORMATION AND PROJECT SETTING

17 This subsection presents an overview of the traditional land and resource use setting
18 of the proposed Project, including the Traditional Land and Resource Use LSA and
19 RSA as it relates to the current use of lands for traditional purposes and cultural sites
20 VCs. The information in this subsection was compiled through a review of publicly
21 available harvest data, Aboriginal Traditional Knowledge (ATK) and Traditional
22 Land Use (TLU) reports, the results of consultation with Aboriginal g representatives,
23 the collection of Traditional Ecological Knowledge during biophysical field study
24 participation and TLU studies conducted with potentially affected Aboriginal groups.
25 The issues identified from these sources and through consultation activities with
26 potentially affected Aboriginal groups are presented in Section 23, Aboriginal
27 Consultation, and inform the relevant subsections below. Detailed baseline
28 information related to current use of lands for traditional purposes and cultural sites
29 VCs is also provided in Section 23.

30 Coastal GasLink has consulted with Aboriginal groups that may be affected by the
31 proposed Project or that may have an interest in the proposed Project based on the
32 proximity of their community and their assertion of traditional and cultural use of
33 Crown land encountered by the proposed Project to maintain a traditional lifestyle.
34 This assessment considers the potential adverse effects of the proposed Project on the

1 traditional land and resource use of potentially affected Aboriginal groups and draws
2 on the information compiled in Section 23.

3 Potential resource-use issues, as identified by participating Aboriginal groups that
4 have historically used or presently use the Traditional Land and Resource Use RSA to
5 maintain a traditional lifestyle, and the results of the literature and desktop review, are
6 described in Section 23. The results of the literature and desktop review were verified
7 and augmented through field data collection by potentially affected Aboriginal groups
8 and are also provided in Section 23. The standards and guidance outlined in Section 3,
9 Effects Assessment Methods, were adhered to for the assessment.

10 Detailed community profile information is provided in the Social Technical Report
11 and Economic Technical Report (Appendices 2-M and 2-N, respectively). A
12 description of Coastal GasLink's consultation activities with each of the
13 33 Aboriginal groups is provided in Section 23.

Traditional Land Use Studies

14 Coastal GasLink facilitated the collection of traditional land and resource use
15 information with potentially affected Aboriginal groups that focused on the current
16 use of Crown lands for traditional activities potentially disturbed by proposed Project
17 construction and cleanup activities, including associated physical works and activities.
18 The initiation of TLU studies was discussed with Aboriginal groups based on an
19 indicated interest in participating in these studies, their proximity to the proposed
20 Project, or their assertion of traditional and cultural rights of the land.

21 Coastal GasLink provided funding to assist Aboriginal groups that elected to conduct
22 their own community-directed (third-party) TLU studies. These Aboriginal groups
23 often engaged other consultants to provide technical support and assistance with their
24 TLU studies for the proposed Project. Mitigation meetings are expected to be held
25 after the conclusion of a community's TLU study. During these meetings, Aboriginal
26 group representatives were asked to contribute to the discussion of potential adverse
27 effects of the proposed Project on TLU and to participate in the discussion of
28 potential mitigation to reduce these potential adverse effects. These follow-up
29 meetings also confirmed the accuracy of the information to inform related technical
30 reports in Appendix 2 and provided approval for the inclusion of any confidential and
31 proprietary information in this assessment.

32 As part of the TLU studies for the proposed Project, each participating Aboriginal
33 group is asked to identify potential subsistence activities and sites including hunting,
34 trapping, fishing, plant gathering, trails and travelways, habitation sites and cultural
35 sites, including gathering places and sacred areas.

36 Consultation with potentially affected Aboriginal groups is ongoing. Coastal GasLink
37 will continue to facilitate TLU studies with interested Aboriginal groups. The results

1 of any studies received following submission of this Application will form ongoing
2 dialogue between Coastal GasLink and each group, and inform ongoing, detailed
3 planning for the proposed Project. Refer to Section 23 for further information
4 regarding the development and progress of each participating Aboriginal groups'
5 TLU study conducted for the proposed Project.

16.5.2 Current Use of Land and Resources for Traditional Purposes

6 The preliminary results of TLU studies conducted to date for the proposed Project as
7 well as the results of the literature and desktop review (Section 23) indicate that
8 Aboriginal groups continue to use Crown lands throughout the Traditional Land and
9 Resource Use RSA for a variety of purposes including hunting, trapping, fishing and
10 plant gathering, as well as through the use of trails and travelways on the landscape to
11 access subsistence resources and neighbouring communities.

16.5.3 Cultural Sites

12 The preliminary results of TLU studies conducted to date for the proposed Project as
13 well as the results of the literature and desktop review (Section 23) indicate that
14 Aboriginal groups continue to use Crown lands throughout the Traditional Land and
15 Resource Use RSA for a variety of purposes including spiritual and cultural pursuits.

16.6 CURRENT USE OF LAND AND RESOURCES FOR TRADITIONAL PURPOSES EFFECTS ASSESSMENT

16.6.1 Potential Adverse Effects, Mitigation and Environmental Management Strategies

16 The identification of the potential adverse environmental effects associated with the
17 construction, operations, and decommissioning and abandonment of the proposed
18 Project on current use of lands and resources for traditional purposes was based on
19 the results of a literature review, desktop analysis, TLU studies and biophysical field
20 participation as well as consultation with Aboriginal groups (Section 23). Where
21 potential interactions were likely to occur, the potential adverse effect is identified in
22 Table 16-4.

23 A summary of recommended mitigation provided in Table 16-4 was principally
24 developed in accordance with TransCanada standards as well as industry accepted
25 best practice related to specific topics such as aquatic environment, vegetation,
26 wetlands, wildlife and wildlife habitat, and are recommended based on consultation
27 with Aboriginal groups, experience gained from other pipeline projects with similar
28 conditions and professional judgment. Through the implementation of these measures,
29 it is believed that the proposed Project meets the objectives of the Nak'azdli Nation
30 Stewardship Policy (draft) pertaining to the environment and its resources.

1 The assessment of current use of lands and resources for traditional purposes focused
2 on existing or potential land use encountered within the Traditional Land and
3 Resource Use RSA and describes the potential adverse social effects of the proposed
4 Project on subsistence activities, subsistence resources, trails, travelways and
5 habitation sites. The potential adverse effects on economic, social and health topics
6 are considered in Section 12, Economy; Section 14, Land and Resource Use;
7 Section 15, Community and Regional Infrastructure Services; and Section 20, Health
8 Effects Assessment.

Table 16-4: Potential Adverse Effects, Mitigation and Residual Social Effects of Proposed Project on Current Use of Lands and Resource for Traditional Purposes

Project Phase	Potential Adverse Social Effect	Project Component/ Location	Key Recommendations/ Mitigation	Potential Residual Adverse Social Effect(s)
Subsistence Activities				
Construction, Operations	Disruption of subsistence hunting activities	All Project components	<ul style="list-style-type: none"> • Provide Aboriginal groups with the proposed construction schedule and maps of the proposed route. • Reduce the amount of land disturbance by using previously disturbed areas as much as practical for stockpiles and temporary construction camp sites. • Where appropriate, use existing adjacent pipeline ROWs as much as practical for access and stockpile sites. • Project personnel are not permitted to hunt or fish on the work site. • Implement applicable mitigation listed above during maintenance activities (e.g., integrity digs). • Implement the Access Control Management Plan including access control measures (e.g., signage, road closures, restrictions, access control structures, vegetation screens) to reduce unauthorized motorized access. 	Disruption of subsistence activities during construction and operations.

Table 16-4: Potential Adverse Effects, Mitigation and Residual Social Effects of Proposed Project on Current Use of Lands and Resource for Traditional Purposes (cont'd)

Project Phase	Potential Adverse Social Effect	Project Component/ Location	Key Recommendations/ Mitigation	Potential Residual Adverse Social Effect(s)
Construction, Operations	Disruption of subsistence trapping activities	All Project components	<ul style="list-style-type: none"> • Provide Aboriginal groups with the proposed construction schedule and maps of the proposed route. • Before construction, notify trappers on an ongoing basis to confirm the timing and location of proposed Project activities. • Losses will be paid in accordance with the Trapper Compensation Schedule to registered trappers for demonstrated economic losses related to construction of the proposed Project. • Reduce the amount of land disturbance by using previously disturbed areas as much as practical for stockpiles and temporary construction camp sites. • Implement applicable mitigation listed above during maintenance activities (e.g., integrity digs). • Implement the Access Control Management Plan including access control measures (e.g., signage, road closures, restrictions, access control structures, vegetation screens) to reduce unauthorized motorized access. • Where appropriate, use existing adjacent pipeline ROWs as much as practical for access and stockpile sites. 	Disruption of subsistence activities during construction and operations.
Construction, Operations	Disruption of subsistence fishing activities	All Project components	<ul style="list-style-type: none"> • Provide Aboriginal groups with the proposed construction schedule and maps of the proposed route. • Reduce the amount of land disturbance by using previously disturbed areas as much as practical for stockpiles and temporary construction camp sites. • Where appropriate, use existing adjacent pipeline ROWs as much as practical for access and stockpile sites. • Project personnel are not permitted to hunt or fish on the work site. • Implement applicable mitigation listed above during maintenance activities (e.g., integrity digs). 	Disruption of subsistence activities during construction and operations.

Table 16-4: Potential Adverse Effects, Mitigation and Residual Social Effects of Proposed Project on Current Use of Lands and Resource for Traditional Purposes (cont'd)

Project Phase	Potential Adverse Social Effect	Project Component/ Location	Key Recommendations/ Mitigation	Potential Residual Adverse Social Effect(s)
			<ul style="list-style-type: none"> Implement the Access Control Management Plan including access control measures (e.g., signage, road closures, restrictions, access control structures, vegetation screens) to reduce unauthorized motorized access. 	
Construction, Operations	Disruption of subsistence plant gathering activities	All Project components	<ul style="list-style-type: none"> Provide Aboriginal groups with the proposed construction schedule and maps of the proposed route. Reduce the amount of land disturbance by using previously disturbed areas as much as practical for stockpiles and temporary construction camp sites. Where appropriate, use existing adjacent pipeline ROWs as much as practical for access and stockpile sites. Implement applicable mitigation listed above during maintenance activities (e.g., integrity digs). Implement the Access Control Management Plan including access control measures (e.g., signage, road closures, restrictions, access control structures, vegetation screens) to reduce unauthorized motorized access. 	Disruption of subsistence activities during construction and operations.
Subsistence Resources				
Construction, Operations	Alteration of hunting sites	All Project components	<ul style="list-style-type: none"> Complete pre-construction TLU discussions with Aboriginal groups to identify hunting sites that warrant mitigation. Mitigation may include one or more of the following measures: <ul style="list-style-type: none"> adhering to species-specific timing constraints leaving breaks in the pipeline trench to allow animals to cross limiting the use of chemical applications alternative site-specific mitigation strategies recommended by participating Aboriginal groups Implement mitigation outlined under the assessment of the atmospheric environment, vegetation, wetlands and wildlife (Sections 6, 8, 9 and 10). 	Alteration of subsistence resources during construction and operations.

Table 16-4: Potential Adverse Effects, Mitigation and Residual Social Effects of Proposed Project on Current Use of Lands and Resource for Traditional Purposes (cont'd)

Project Phase	Potential Adverse Social Effect	Project Component/ Location	Key Recommendations/ Mitigation	Potential Residual Adverse Social Effect(s)
			<ul style="list-style-type: none"> Implement applicable mitigation listed above during maintenance activities (e.g., integrity digs). Implement the Environmental Management Plan (EMP), Access Control Management Plan, Reclamation Plan and Chemical and Waste Management Plan to reduce the potential adverse effects on subsistence hunting activities and wildlife habitat. 	
Construction, Operations	Alteration of trapping sites	All Project components	<ul style="list-style-type: none"> Complete pre-construction TLU discussions with Aboriginal groups to identify trapping sites that warrant mitigation. Mitigation may include one or more of the following measures: <ul style="list-style-type: none"> maintaining access to the trapline moving of trapline equipment by the trapper prior to construction alternative site-specific mitigation strategies recommended by participating Aboriginal groups Losses will be paid in accordance with the Trapper Compensation Schedule to registered trappers for demonstrated economic losses related to construction of the proposed Project. Implement mitigation outlined under the assessment of the atmospheric environment, vegetation, wetlands and wildlife (Sections 6, 8, 9 and 10). Implement applicable mitigation listed above during maintenance activities (e.g., integrity digs). Implement the EMP, Access Control Management Plan, Reclamation Plan and Chemical and Waste Management Plan to reduce the potential adverse effects on subsistence trapping activities and wildlife habitat. 	Alteration of subsistence resources during construction and operations.

Table 16-4: Potential Adverse Effects, Mitigation and Residual Social Effects of Proposed Project on Current Use of Lands and Resource for Traditional Purposes (cont'd)

Project Phase	Potential Adverse Social Effect	Project Component/ Location	Key Recommendations/ Mitigation	Potential Residual Adverse Social Effect(s)
Construction, Operations	Alteration of fishing sites	All Project components	<ul style="list-style-type: none"> • Complete pre-construction TLU discussions with Aboriginal groups to identify fishing sites that warrant mitigation. Mitigation may include one or more of the following measures: <ul style="list-style-type: none"> • recording and mapping of fishing locales • strict adherence to the regulations, standards and guidelines set by provincial and federal regulatory agencies for watercourse crossings • alternative site-specific mitigation strategies recommended by participating Aboriginal groups • Implement mitigation outlined under the assessment of the aquatic environment and wetlands (Sections 7 and 9). • Implement applicable mitigation listed above during maintenance activities (e.g., integrity digs). • Implement the EMP, Access Control Management Plan, Reclamation Plan and Chemical and Waste Management Plan to reduce the potential adverse effects on subsistence fishing activities and the aquatic environment. 	Alteration of subsistence resources during construction and operations.

Table 16-4: Potential Adverse Effects, Mitigation and Residual Social Effects of Proposed Project on Current Use of Lands and Resource for Traditional Purposes (cont'd)

Project Phase	Potential Adverse Social Effect	Project Component/ Location	Key Recommendations/ Mitigation	Potential Residual Adverse Social Effect(s)
Construction, Operations	Alteration of plant gathering sites	All Project components	<ul style="list-style-type: none"> • Complete pre-construction TLU discussions with Aboriginal groups to identify plant gathering sites that warrant mitigation. Mitigation may include one or more of the following measures: <ul style="list-style-type: none"> • limiting the use of chemical applications • replacement of plant species during reclamation • avoidance of the site • alternative site-specific mitigation strategies recommended by participating Aboriginal groups • All equipment must arrive at the Project site clean and free of soil or vegetative debris. Equipment will be inspected by the Environmental Inspector(s) or designate, and if deemed to be in appropriate condition, will be identified with a suitable marker or tag. Any equipment which arrives in a dirty condition shall not be allowed on the ROW until it has been cleaned. • Implement mitigation outlined under the assessment of vegetation and wetlands (Sections 8 and 9). • Implement applicable mitigation listed above during maintenance activities (e.g., integrity digs). • Implement the EMP, Access Control Management Plan, Reclamation Plan and Chemical and Waste Management Plan to reduce the potential adverse effects on subsistence plant gathering activities, wetlands and vegetation. 	Alteration of subsistence resources during construction and operations.

Table 16-4: Potential Adverse Effects, Mitigation and Residual Social Effects of Proposed Project on Current Use of Lands and Resource for Traditional Purposes (cont'd)

Project Phase	Potential Adverse Social Effect	Project Component/ Location	Key Recommendations/ Mitigation	Potential Residual Adverse Social Effect(s)
Trails, Travelways and Habitation Sites				
Construction, Operations	Disruption of use of trails and travelways	All Project components	<ul style="list-style-type: none"> Distribute construction schedules, maps and other relevant information on anticipated trail, road and area closures to government agencies, community representatives, Aboriginal groups and potential user groups to inform them of the presence of construction activity, potential access restrictions and noise disturbance in recreational areas. Reduce the amount of land disturbance by using previously disturbed areas as much as practical for stockpiles and temporary construction camp sites. Where appropriate, use existing adjacent pipeline ROWs as much as practical for access and stockpile sites. Complete pre-construction TLU discussions with Aboriginal groups, where necessary, to identify habitation sites that warrant mitigation. Mitigation may include one or more of the following: <ul style="list-style-type: none"> detailed recording and mapping to within 100 m on both sides of the pipeline ROW. In partnership with community representatives, a decision is then made about the relative importance of the trail and, if warranted, how best to maintain and control access. other mitigation options, including signage or scheduling construction during periods of least impact alternative site-specific mitigation strategies recommended by participating Aboriginal groups All motorized vehicle traffic, including ATV, ARGO and snowmobile traffic will be confined to the approved route, access roads or trails except where specifically authorized by the appropriate authority. Implement applicable mitigation listed above during maintenance activities (e.g., integrity digs). Implement the Access Control Management Plan including access control measures (e.g., signage, road closures, restrictions, access control structures, vegetation screens) to reduce unauthorized motorized access. 	Disruption of trail and travelway use during construction and operations.

Table 16-4: Potential Adverse Effects, Mitigation and Residual Social Effects of Proposed Project on Current Use of Lands and Resource for Traditional Purposes (cont'd)

Project Phase	Potential Adverse Social Effect	Project Component/ Location	Key Recommendations/ Mitigation	Potential Residual Adverse Social Effect(s)
Construction, Operations	Reduced use of habitation sites	All Project components	<ul style="list-style-type: none"> Distribute construction schedules, maps and other relevant information on anticipated trail, road and area closures to government agencies, community representatives, Aboriginal groups and potential user groups to inform them of the presence of construction activity, potential access restrictions and noise disturbance in recreational areas. Reduce the amount of land disturbance by using previously disturbed areas as much as practical for stockpiles and temporary construction camp sites. Where appropriate, use existing adjacent pipeline ROWs as much as practical for access and stockpile sites. Complete pre-construction TLU discussions with Aboriginal groups to identify habitation sites that warrant mitigation. Mitigation may include one or more of the following measures: <ul style="list-style-type: none"> detailed mapping, photographic recording and avoidance of the location by the development if avoidance of a site is not practical, mitigation consisting of detailed recording and controlled excavations may be implemented alternative site-specific mitigation strategies recommended by participating Aboriginal groups All motorized vehicle traffic, including ATV, ARGO and snowmobile traffic will be confined to the approved route, access roads or trails except where specifically authorized by the appropriate authority. Implement applicable mitigation listed above during maintenance activities (e.g., integrity digs). Implement the Access Control Management Plan including access control measures (e.g., signage, road closures, restrictions, access control structures, vegetation screens) to reduce unauthorized motorized access. 	Disruption of habitation site use during construction and operations.
<p>Note:</p> <p>a) Detailed mitigation is outlined in the Project-specific EMP (Appendix 2-A).</p>				

16.6.2 Potential Residual Adverse Effects

The potential residual adverse effects on current use of lands and resources for traditional purposes associated with the proposed Project (Table 16-4) are listed in Table 16-5. The potential residual adverse effects on trails and travelways and on habitation sites are identified separately in Table 16-4. However, the use of habitation sites relies on the use of trails and travelways and, therefore, is discussed in an integrated manner in Table 16-5.

16.6.3 Characterization of Potential Residual Adverse Effects

Table 16-5 provides a summary of the characterization of the potential residual adverse effects of the proposed Project on current use of land and resources for traditional purposes. The rationale used to characterize each of the potential residual adverse effects is provided below. Potential adverse effects where no residual effect was identified were not characterized.

The characterization of potential residual adverse social effects considers extent, duration, frequency, reversibility and likelihood of the effect. Coastal GasLink has consulted with/engaged with participating Aboriginal groups who have historically used or currently use the Traditional Land and Resource Use study areas to identify potential resource use issues, including current uses of the land and resource for traditional purposes, which may be disturbed by proposed Project construction and cleanup activities. The implementation of appropriate mitigation will reduce the potential adverse effects from construction and operations activities within the traditional land and resource use study areas.

Table 16-5: Characterization of Potential Residual Adverse Social Effects of Proposed Project on Current Use of Lands and Resources for Traditional Purposes

Potential Residual Adverse Social Effect(s)	Spatial Boundary ^{a)}	Temporal Context			Magnitude	Likelihood
		Duration	Frequency	Reversibility		
Subsistence Activities						
Disruption of subsistence activities	RSA	Short-term	Isolated to Periodic	Short-term	Medium	High
Subsistence Resources						
Alteration of subsistence resources	RSA	Short-term	Isolated to Periodic	Long-term	Medium	High
Trails, Travelways, Habitation Sites						
Disruption of trail, travelway and habitation site use	RSA	Short-term	Isolated to Periodic	Short-term	Medium	High
Note:						
a) RSA = Traditional Land and Resource Use RSA						

Disruption of Subsistence Activities

The disruption of subsistence hunting, fishing, trapping and plant gathering activities is a potential residual adverse effect of interactions between traditional resource users and construction and operations activities of the proposed Project. In the event that subsistence activities are disrupted by the construction or operations of the proposed Project, the interruption could mean that the traditional resource user misses the harvest opportunity or that their participation is curtailed. The disruption of subsistence activities also refers to the possibility that traditional resource users could be prevented from accessing key harvesting areas resulting from limited access or increased public access to traditional harvesting areas. The operations of the proposed Project will affect subsistence activities primarily due to temporary disturbances related to site-specific maintenance.

This assessment considers that subsistence activities including fishing, hunting, trapping and plant gathering are potentially practiced throughout the Project Footprint, the Traditional Land and Resource Use LSA and the RSA. Coastal GasLink will reduce the amount of land disturbance by using previously disturbed areas, as much as practical, for stockpiles and temporary construction camp sites and, where appropriate, use existing roads and disturbances, as much as practical, for access.

During the Planning phase for the proposed Project, Coastal GasLink will provide Aboriginal groups with the proposed construction schedule and maps of the proposed route. Project personnel will not be permitted to hunt or fish on the work site and, where appropriate, Coastal GasLink will implement the Access Control Management Plan, including access control measures (e.g., signage, road closures, restrictions, access control structures, vegetation screens) to reduce unauthorized motorized access.

A summary of the rationale for the potential adverse effects characterization is provided below:

- Context: The proposed Project is located in an area where Aboriginal groups are carrying out traditional activities on the landscape.
- Spatial boundary: Traditional Land and Resource Use RSA – the proposed Project may affect subsistence activities beyond the construction footprint and may also indirectly affect the distribution of traditional resource users in other areas of the Traditional Land and Resource Use RSA.
- Duration: short-term - the event causing disruption of subsistence activities occurs during the construction phase or periods of site-specific maintenance occurring in any one year during operations.
- Frequency: isolated to periodic – the event causing disruption of subsistence activities is confined to the construction phase or occurs intermittently, but repeatedly during the operations phase.

- Reversibility: short-term - the residual adverse effect would be limited to the construction phase or to less than any one year during the operations phase.
- Magnitude: medium – it is expected that Project-related disruptions would be temporary through the implementation of the proposed mitigation during the construction and operations phases to reduce, but not eliminate, the potential effects on subsistence activities.
- Likelihood: high - the proposed Project is likely to disrupt subsistence activities.

Alteration of Subsistence Resources

Subsistence resources may be altered as a result of construction and operations activities of the proposed Project. The alteration of subsistence activities could manifest itself through changes to local harvesting locales, behavioural alteration or sensory disturbance of environmental resources or increased public access to traditional harvesting areas and increased pressure on environmental resources. The operation of the proposed Project will affect subsistence resources primarily due to temporary disturbances related to maintenance activities.

While the locations of subsistence resources in the Traditional Land and Resource Use RSA can be approximated based on known locations of historical harvesting areas (Section 23), the extent and current use of these locations by Aboriginal groups is not precisely known. TLU studies with potentially affected Aboriginal groups to identify hunting, trapping, fishing and plant gathering sites are ongoing. Coastal GasLink will implement the proposed measures described in Table 16-4 to mitigate the potential adverse effects of the proposed Project on site-specific subsistence resources. Sites will be assessed based on the following criteria: the location of the site with respect to the proposed area of development, the relative importance of the site to the Aboriginal group, and the potential for an alteration of construction activities to reduce or avoid sensory disturbance. The proposed mitigation that may be implemented will be dependent upon the type of site identified and are in addition to the measures outlined under the assessment of environmental resources implemented to mitigate potential adverse effects of the proposed Project on the atmospheric environment, the aquatic environment, vegetation, wetlands and wildlife.

A summary of the rationale for the potential adverse effect characterization is provided below:

- Context: The proposed Project is located in an area where Aboriginal groups are carrying out traditional activities on the landscape.
- Spatial boundary: Traditional Land and Resource Use RSA – since potential effects of Project-related construction and operations activities may extend beyond the Project Footprint into the ZOIs of target species' sensitivities (e.g., edge effects, sensory disturbance, mortality risk).

- 1 • Duration: short-term - the event causing disruption of subsistence resources
2 occurs during the construction phase or periods of site-specific maintenance
3 occurring within any one year during operations.
- 4 • Frequency: isolated to periodic - the event causing alteration of subsistence
5 resources is confined to the construction phase or occurs intermittently, but
6 repeatedly during the operations phase.
- 7 • Reversibility: long-term – the effects on traditionally harvested resources will
8 depend upon each target species' sensitivities, including the regeneration of native
9 vegetation, and could extend more than 10 years following the decommissioning
10 and abandonment phase.
- 11 • Magnitude: medium - the effects assessment results for the aquatic environment,
12 wildlife, vegetation and wetlands indicate that the potential effects on traditionally
13 harvested resources may be detectable and are dependent upon each target
14 species' sensitivities.
- 15 • Likelihood: high – the proposed Project will affect environmental resources and
16 thereby also affecting subsistence resources.

Disruption of Trail, Travelway and Habitation Site Use

17 Because access and use patterns during construction and operations are expected to
18 change as a result of short-term physical disturbance of land, access restrictions may
19 affect the practice of traditional activities by Aboriginal groups. Similar effects of
20 reduced access may occur during periods of site-specific maintenance.

21 While the locations of trails, travelways and habitation sites in the Traditional Land
22 and Resource Use RSA can be approximated based on known locations of historical
23 use areas (Section 23), the extent and current use by Aboriginal groups of these
24 locations are not precisely known. TLU studies with potentially affected Aboriginal
25 groups are ongoing to identify trails, travelways and habitations sites. Coastal
26 GasLink will implement the proposed measures described in Table 16-4 to mitigate
27 the potential adverse effects of the proposed Project on these site types. Sites will be
28 assessed based on the following criteria: the location of the site with respect to the
29 proposed area of development, the relative importance of the site to the Aboriginal
30 group, and the potential for an alteration of construction activities to reduce or avoid
31 sensory disturbance. The proposed mitigation that may be implemented will be
32 dependent upon the type of site identified.

33 Additional measures to reduce the disruption of use of trails, travelways and
34 habitation sites include notification regarding construction schedules, as well as
35 sharing of maps and other relevant information on anticipated trail, road and area
36 closures to Aboriginal groups. Coastal GasLink will implement the Access Control
37 Management Plan, including access control measures (e.g., signage, road closures,

1 restrictions, access control structures, vegetation screens) to reduce unauthorized
2 motorized access.

3 Despite the implementation of the proposed mitigation, traditional land and resource
4 users may still be unable to use, or be deterred from using, certain areas at times
5 during construction and operations.

6 A summary of the rationale for the potential adverse effects characterization is
7 provided below:

- 8 • Context: The proposed Project is located in an area where Aboriginal groups are
9 carrying out traditional activities on the landscape.
- 10 • Spatial boundary: Traditional Land and Resource Use RSA – trails, travelways
11 and habitation sites in the Traditional Land and Resource Use RSA may be
12 physically disturbed by construction activity and disrupted by construction-related
13 traffic.
- 14 • Duration: short-term - the event causing disruption of use occurs during the
15 construction phase or periods of site-specific maintenance occurring within any
16 one year during operations.
- 17 • Frequency: isolated to periodic – the event causing disruption of use is confined
18 to the construction phase or occurs intermittently, but repeatedly during the
19 operations phase.
- 20 • Reversibility: short-term - the residual effect would be limited to the construction
21 phase or to less than any one year during the operations phase.
- 22 • Magnitude: medium – it is expected that Project-related disruptions would be
23 temporary through the implementation of the proposed mitigation during
24 construction and operations to reduce, but not eliminate, the potential effects on
25 use of trails, travelways and habitation sites.
- 26 • Likelihood: high - the proposed Project is likely to disrupt use of trails, travelways
27 and habitation sites.

16.6.4 Potential Residual Adverse Effects - Determination of Significance and Confidence

28 Qualitative thresholds were determined to be the most appropriate method to evaluate
29 the significance of potential residual adverse effects of the proposed Project on the
30 current use of lands and resources for traditional purposes. The determination of
31 significance considers:

- 32 • feedback from potentially affected Aboriginal groups
- 33 • the established or accepted thresholds and standards for environmental VCs, since
34 the potential Project-related adverse effects on traditional land and resource use
35 are expected to be related to the availability, sensitivity and resiliency of
36 environmental resources that support these activities

- relevant land-use planning objectives and strategies
- previous environmental assessments reviewed and approved under provincial environmental regulatory processes, where appropriate
- the professional judgment of the assessment team that includes members with over 15 years of pipeline construction and environmental and socio-economic impact assessment experience

The determination of significance and confidence is informed by inputs to Project-specific assessments and established or accepted thresholds and standards for environmental KIs, since the potential residual adverse effects of the proposed Project on each current use of lands and resources for traditional purposes KI are expected to be related to the availability of environmental resources that support these activities.

For example, if significant residual effects on the environmental KIs are identified, then it is reasonable to assume that Project-related residual adverse effects on traditionally used resources, features, sites or the land base on which they occur could also be considered significant.

A residual adverse social effect is considered significant if the effect is predicted to be:

- high magnitude, high likelihood, short to medium-term reversibility and regional, provincial or national in extent that cannot be technically or economically mitigated
- high magnitude, high likelihood, long-term or permanent reversibility and any spatial boundary that cannot be technically or economically mitigated

16.6.5 Significance and Confidence for Residual Adverse Effects on Current Use of Lands and Resources for Traditional Purposes Key Indicators

Table 16-6 provides a summary of the determination of significance and confidence in the prediction of the potential residual adverse effects identified as well as the rationale for the determination of significance.

Table 16-6: Determination of Significance and Confidence for Potential Residual Adverse Effects on Current Use of Land and Resources for Traditional Purposes

Potential Residual Adverse Social Effect(s)	Determination of Significance and Confidence	Recommended Follow-up and Monitoring
Disruption of subsistence activities	Not significant and high confidence	<ul style="list-style-type: none"> • Environmental Monitoring Program. • Respond to issues identified by Aboriginal groups over the life of the proposed Project in a timely manner.
Alteration of subsistence resources	Not significant and moderate confidence	<ul style="list-style-type: none"> • Continue pre-construction TLU studies with potentially affected Aboriginal groups. • Environmental Monitoring Program. • Respond to issues identified by Aboriginal groups over the life of the proposed Project in a timely manner.
Disruption of trail, travelway and habitation site use	Not significant and moderate confidence	<ul style="list-style-type: none"> • Continue pre-construction TLU studies with potentially affected Aboriginal groups. • Environmental Monitoring Program. • Respond to issues identified by Aboriginal groups over the life of the proposed Project in a timely manner.

Disruption of Subsistence Activities

1 With the implementation of the mitigation outlined in Table 16-4, including providing
2 Aboriginal groups with the proposed construction schedule and maps of the proposed
3 route, and implementing the Access Control Management Plan, the potential adverse
4 effects of the proposed Project on subsistence activities are considered not significant.
5 Confidence is considered to be high based on a good understanding of cause-effect
6 relationships and data pertinent to the proposed Project area. The recommended
7 follow-up includes implementation of monitoring efforts outlined in the
8 Environmental Monitoring Program.

9 The residual effect of disruption of subsistence activities is considered to be not
10 significant and determined with high confidence.

Alteration of Subsistence Resources

11 With the implementation of the mitigation outlined in Table 16-4, including
12 reclamation and monitoring efforts outlined in this Application and the EMP to
13 maintain equivalent land use capability, as well as the mitigation strategies in place
14 for sites confirmed and/or discovered during pre-construction TLU studies, the
15 potential adverse effects of the proposed Project on subsistence resources are
16 considered not significant. Confidence is considered to be moderate based on a good
17 understanding of cause-effect relationships, but is based on a limited understanding of
18 site-specific features in the proposed Project area. The recommended follow-up

1 includes implementation of monitoring efforts outlined in Section 25.2 and
2 Section 25.6.

3 As noted in Section 16.6 and Table 16-4, additional measures are necessary to
4 address potential residual Project effects on site-specific TLU features. Coastal
5 GasLink's commitment to completing ongoing pre-construction TLU studies is
6 considered in the characterization of magnitude and the significance determination.
7 The implementation of these pre-construction TLU studies with potentially affected
8 Aboriginal groups is expected to reduce uncertainty associated with the assessment of
9 the potential adverse effects of the proposed Project.

10 The residual adverse effect of the alteration of subsistence resources is considered to
11 be not significant and determined with moderate confidence.

Disruption of Trail, Travelway and Habitation Site Use

12 With the implementation of the mitigation outlined in Table 16-4, including providing
13 Aboriginal groups with the proposed construction schedule and maps of the proposed
14 route, and implementing the Access Control Management Plan, as well as the
15 mitigation strategies in place for sites confirmed and/or discovered during pre-
16 construction TLU studies, the potential adverse effects of the proposed Project on
17 trail, travelway and habitation site use are considered not significant. Confidence is
18 considered to be moderate based on a good understanding of cause-effect
19 relationships, but is based on a limited understanding of site-specific features in the
20 proposed Project area. The recommended follow-up includes implementation of
21 monitoring efforts outlined in Section 25.2 and Section 25.3.

22 As noted in Section 16.4.3 and Table 16-4, additional measures are necessary to
23 address potential residual adverse Project effects on site-specific TLU features.
24 Coastal GasLink's commitment to completing ongoing pre-construction TLU studies
25 to address potential residual adverse effects on subsistence resources, trails,
26 travelways and habitation sites is considered in the characterization of magnitude and
27 the significance determination. The implementation of these pre-construction TLU
28 studies with potentially affected Aboriginal groups is expected to reduce uncertainty
29 associated with the assessment of the potential adverse effects of the proposed Project.

30 The residual adverse effect of the disruption of trail, travelway and habitation site use
31 is considered to be not significant and determined with moderate confidence.

16.6.6 Cumulative Adverse Effects Assessment Overview

32 Cumulative effects are defined as changes to the environment that are caused by a
33 proposed project in combination with other past, present or future human disturbance
34 including development. It is recognized that cumulative effects may be different in
35 nature or extent from the effects of the individual activities (Federal Environmental
36 Assessment Review Office [FEARO] 1994).

Projects and Activities Considered for the Cumulative Effects Assessment

1 The list of potential projects and activities outlined in Appendix 3-A was reviewed to
2 determine which projects and activities are located within the Traditional Land and
3 Resource Use RSA in order to assess if there is overlap in potential residual adverse
4 social effects within the Traditional Land and Resource Use LSA.

16.6.7 Cumulative Effects, Mitigation and Environmental Management Strategies

5 The potential and likely residual adverse social effects associated with the proposed
6 Project on the current use of lands and resources for traditional purpose key indicators
7 were identified in Section 16.1.1 and are listed in Table 16-7 along with the
8 identification of existing activities and reasonably foreseeable developments acting in
9 combination with the proposed Project.

**Table 16-7: Potential Residual Adverse Effects of the Proposed Project on Current Use of
Lands and Resources for Traditional Purposes Considered for the Cumulative Effects
Assessment**

Potential Residual Adverse Effect	Project Component/ Location	Temporal Boundary	Potential Cumulative Effect	Existing Activities/Reasonably Foreseeable Developments with Residual Adverse Effects Acting in Combination with the Proposed Project
Subsistence Activities				
Disruption of subsistence activities	All Project components	Construction, operations	Cumulative disruption of subsistence activities	<ul style="list-style-type: none"> Existing activities: agriculture, forestry, utility activities, rural and urban residential development, transportation development, natural resource development, oil and gas, and other development Known reasonably foreseeable future developments and activities: Appendix 3-A Project-related activities that could interact with the above activities include clearing and topsoil salvage, grading, trenching, backfilling, reclamation and maintenance
Subsistence Resources				
Alteration of subsistence resources	All Project components	Construction, operations	Cumulative alteration of subsistence resources	<ul style="list-style-type: none"> Existing activities: agriculture, forestry, utility activities, rural and urban residential development, transportation development, natural resource development, oil and gas, and other development Known reasonably foreseeable future developments and activities: Appendix 3-A Project-related activities that could interact with the above activities include clearing and topsoil salvage, grading, trenching, backfilling, reclamation and maintenance

Table 16-7: Potential Residual Adverse Effects of the Proposed Project on Current Use of Lands and Resources for Traditional Purposes Considered for the Cumulative Effects Assessment (cont'd)

Potential Residual Adverse Effect	Project Component/ Location	Temporal Boundary	Potential Cumulative Effect	Existing Activities/Reasonably Foreseeable Developments with Residual Adverse Effects Acting in Combination with the Proposed Project
Trails, Travelways and Habitation Sites				
Disruption of trail, travelway and habitation site use	All Project components	Construction, operations	Cumulative disruption of trail, travelway and habitation site use	<ul style="list-style-type: none"> Existing activities: agriculture, forestry, utility activities, rural and urban residential development, transportation development, natural resource development, oil and gas, and other development Known reasonably foreseeable future developments and activities: Appendix 3-A Project-related activities that could interact with the above activities include clearing and topsoil salvage, grading, trenching, backfilling, reclamation and maintenance

1 A qualitative assessment of the potential alteration of current use of land and
2 resources for traditional purposes was deemed to be the most appropriate approach
3 during the cumulative effects assessment, given the lack of quantifiable data.

4 Additional mitigation implemented by the proposed Project to reduce the potential
5 cumulative effects on current use of land and resources for traditional purposes are
6 described in Table 16-8. After the implementation of the mitigation, the potential
7 residual cumulative effects on current use of land and resources for traditional
8 purposes are described.

Table 16-8: Mitigation for Cumulative Adverse Effects and Identification of Residual Cumulative Adverse Effects on Current Use of Lands and Resources for Traditional Purposes

Cumulative Adverse Effect	Additional Mitigation	Residual Cumulative Adverse Effect
Cumulative disruption of subsistence activities	<ul style="list-style-type: none"> Continue to notify all potentially affected Aboriginal groups of the schedule updates for the proposed Project when changes occur. Review proposed schedules of other projects to coordinate reclamation schedules. 	Residual cumulative effects on disruption of subsistence activities
Cumulative alteration of subsistence resources	<ul style="list-style-type: none"> Consult with potentially affected Aboriginal groups regarding known reasonably foreseeable future developments and activities (Appendix 3-A) to address any cumulative concerns related to the subsistence resources within the Traditional Land and Resource Use RSA. Review proposed schedules of other projects to coordinate reclamation schedules. 	Residual cumulative alteration of subsistence resources
Cumulative disruption of trail, travelway and habitation site use	<ul style="list-style-type: none"> Continue to notify all potentially affected Aboriginal groups of the schedule updates for the proposed Project when changes occur. Consult with potentially affected Aboriginal groups regarding known reasonably foreseeable future developments and activities (Appendix 3-A) to address any cumulative concerns related to the trails, travelways and habitation sites within the Traditional Land and Resource Use RSA. Communicate with potentially affected Aboriginal groups regarding additional site-specific measures for specific access points along the proposed route. Review proposed schedules of other projects to coordinate reclamation schedules. 	Residual cumulative disruption of trail, travelway and habitation site use

1 Table 16-9 provides a summary of the characterization of identified potential residual
2 cumulative effects on current use of land and resources for traditional purposes. The
3 rationale for the characterization is provided below the table.

Table 16-9: Characterization of the Residual Cumulative Effects on Current Use of Land and Resources for Traditional Purposes

Residual Cumulative Effects	Spatial Boundary ^{a)}	Temporal Context			Magnitude	Likelihood
		Duration	Frequency	Reversibility		
Subsistence Activities						
Residual cumulative effects on disruption of subsistence activities	RSA	Short-term	Isolated to Periodic	Short-term	Medium	High
Subsistence Resources						
Residual cumulative alteration of subsistence resources	RSA	Short-term	Isolated to Periodic	Long-term	Medium	High
Trails, Travelways and Habitation Sites						
Residual cumulative disruption of trail, travelway and habitation site use	RSA	Short-term	Isolated to Periodic	Short-term	Medium	High
Note: a) RSA = Traditional Land and Resource Use RSA						

Residual Cumulative Effects on Disruption of Subsistence Activities

1 As discussed in Section 16.6, the Traditional Land and Resource Use LSA and RSA
2 are used for various subsistence activities including hunting, fishing, trapping and
3 plant gathering. These subsistence activities will be disturbed during the construction
4 and operations phases of the proposed Project at particular locations and specific
5 times.

6 Reasonably foreseeable developments may also disturb subsistence activities
7 (Appendix 3-A). For example, multiple pipeline projects such as Prince Rupert Gas
8 Transmission Ltd (PRGT), the West Coast Connector Gas Transmission Project
9 (Spectra Energy and BG Group), Kitimat-Summit Lake Pipeline Looping Project
10 (Pacific Trail Pipelines LP) and Enbridge Northern Gateway Project (Northern
11 Gateway Pipelines Limited Partnership) will cross some of the same asserted
12 traditional territories as the Aboriginal groups potentially affected by the proposed
13 Project. Existing activities contributing to disturbances of nature-based activities
14 include natural resource, and oil and gas developments. Existing and reasonably
15 foreseeable developments occurring within the wider Traditional Land and Resource
16 Use RSA will contribute to cumulative disruptions to subsistence activities at the
17 regional scale.

18 The mitigation proposed in Table 16-8 will reduce the Project-related cumulative
19 effects on disruption of subsistence activities. Coastal GasLink will continue to notify

all potentially affected Aboriginal groups of the schedule updates for the proposed Project when changes occur and review the proposed schedules of other projects to coordinate reclamation schedules.

A summary of the rationale for the potential residual cumulative effect characterization is provided below:

- Context: The proposed Project is located in an area where Aboriginal groups are carrying out traditional activities on the landscape.
- Spatial boundary: Traditional Land and Resource Use RSA – the proposed Project may contribute to cumulative effects on subsistence activities within the Traditional Land and Resource Use RSA.
- Duration: short-term – the proposed Project’s contribution to cumulative effects on disruption of subsistence activities occurs during the construction phase or periods of site-specific maintenance occurring within any one year during operations.
- Frequency: isolated to periodic – the proposed Project’s contribution to cumulative effects on disruption of subsistence activities is confined to the construction phase or occurs intermittently, but repeatedly during the operations phase.
- Reversibility: short-term - the proposed Project’s contribution to cumulative effects on disruption of subsistence activities would be limited to the construction phase or to less than any one year during the operations phase.
- Magnitude: medium - it is expected that the implementation of the proposed mitigation during construction and operations will reduce, but not eliminate the potential cumulative effects on subsistence activities.
- Likelihood: high - the proposed Project is likely to contribute to cumulative effects on subsistence activities

Residual Cumulative Alteration of Subsistence Resources

As discussed in Section 16.6, all components of the terrestrial environment are understood to support the subsistence resource base and habitat conditions essential to the practice of traditional activities. Therefore, the potential cumulative effects on subsistence resources are assessed in consideration of all pertinent biophysical resources known or assumed to be of importance to Aboriginal groups for traditional use, as well as in consideration of the of the existing, approximated distribution of harvesting areas within the Traditional Land and Resource Use RSA.

The proposed Project is likely to interact with existing and foreseeable future disturbances to have cumulative effects on the habitat alteration and availability, movement, and mortality risk within the Traditional Land and Resource Use RSA.

Reasonably foreseeable developments that may act cumulatively with the proposed Project in the Traditional Land and Resource Use RSA are listed in Appendix 3-A.

The mitigation proposed in Table 16-8 will reduce the Project-related cumulative effects on the alteration of subsistence resources and are in addition to the measures outlined within the assessment of environmental resources implemented to mitigate potential adverse effects of the proposed Project on the atmospheric environment, the aquatic environment, vegetation, wetlands and wildlife. Coastal GasLink will continue to consult with potentially affected Aboriginal groups regarding known reasonably foreseeable future developments and activities to address any cumulative concerns related to the subsistence resources within the Traditional Land and Resource Use RSA and to review the proposed schedules of other projects to coordinate reclamation schedules.

A summary of the rationale for the potential residual cumulative effect characterization is provided below:

- Context: The proposed Project is located in an area where Aboriginal groups are carrying out traditional activities on the landscape.
- Spatial boundary: Traditional Land and Resource Use RSA - the proposed Project's contribution to cumulative effects on subsistence resources are assessed within the regional context of the Traditional Land and Resource Use RSA to include wide-ranging harvested species.
- Duration: short-term - the proposed Project's contribution to cumulative effects on alteration of subsistence resources occurs during the construction phase or periods of site-specific maintenance occurring within any one year during operations.
- Frequency: isolated to periodic - the proposed Project's contribution to cumulative effects on alteration of subsistence resources is confined to the construction phase or occurs intermittently, but repeatedly during the operations phase.
- Reversibility: long-term – the proposed Project's contribution to cumulative effects on traditionally harvested resources will be dependent upon each target species' sensitivities, including the regeneration of native vegetation, and could extend more than 10 years following decommissioning and abandonment phase.
- Magnitude: medium - the cumulative effects assessment results for the aquatic environment, wildlife, vegetation and wetlands indicate that the potential cumulative effects on traditionally harvested resources may be detectable and are dependent upon each target species' sensitivities.
- Likelihood: high - the proposed Project is likely to contribute to cumulative effects on environmental resources also affecting subsistence resources.

Residual Cumulative Disruption of Trail, Travelway and Habitation Site Use

As discussed in Section 16.4.3, changes to access and use patterns during construction and operations are anticipated to result from short-term physical disturbance of land or access restrictions that may affect the practice of traditional activities by Aboriginal groups. Similar effects regarding reduced access to land due to disturbances would occur during periods of site-specific maintenance.

The proposed Project is likely to interact with existing and foreseeable future disturbances to have cumulative effects on the use of trails, travelways and habitation sites within the Traditional Land and Resource Use RSA. Reasonably foreseeable developments that may act cumulatively with the proposed Project in the Traditional Land and Resource Use RSA are listed in Appendix 3-A.

The mitigation proposed in Table 16-8 will reduce the Project-related cumulative effects on the disruption of trails, travelways and habitation site use. Coastal GasLink will continue to consult with potentially affected Aboriginal groups regarding known reasonably foreseeable future developments and activities to address any cumulative concerns related to the trails, travelways and habitation sites within the Traditional Land and Resource Use RSA as well as to confirm any additional site-specific measures for specific access points along the proposed route, where warranted. Coastal GasLink will also continue to notify all potentially affected Aboriginal groups of the schedule updates for the proposed Project when changes occur and review proposed schedules of other projects to coordinate reclamation schedules.

A summary of the rationale for the potential residual cumulative effect characterization is provided below:

- Context: The proposed Project is located in an area where Aboriginal groups are carrying out traditional activities on the landscape.
- Spatial boundary: Traditional Land and Resource Use RSA - the proposed Project may contribute to cumulative effects on trails, travelways and habitation sites within the Traditional Land and Resource Use RSA.
- Duration: short-term - the proposed Project's contribution to cumulative effects on disruption of trail, travelway and habitation site use occurs during the construction phase or periods of site-specific maintenance occurring within any one year during operations.
- Frequency: isolated to periodic - the proposed Project's contribution to cumulative effects on disruption of trail, travelway and habitation site use is confined to the construction phase or occurs intermittently, but repeatedly during the operations phase.
- Reversibility: short-term - the proposed Project's contribution to cumulative effects on disruption of trail, travelway and habitation site use would be limited to the construction phase or to less than any one year during the operations phase.

- Magnitude: medium - it is expected that the implementation of the proposed mitigation during construction and operations will reduce, but not eliminate, the potential cumulative effects on trails, travelways and habitation sites.
- Likelihood: high - the proposed Project is likely to contribute to cumulative effects on trails, travelways and habitation sites.

16.6.8 Residual Cumulative Effects - Determination of Significance and Confidence

As discussed in Section 16.6.4, the determination of significance considers feedback from potentially affected Aboriginal groups, relevant land use and Aboriginal community planning objectives and strategies, inputs to Project-specific assessments and established or accepted thresholds and standards for environmental KIs and previous environmental assessments reviewed and approved under provincial environmental regulatory processes, where appropriate.

A residual cumulative social effect is considered significant if the effect is predicted to be:

- high magnitude, high likelihood, short to medium-term reversibility and regional, provincial or national in extent that cannot be technically or economically mitigated
- high magnitude, high likelihood, long-term or permanent reversibility and any spatial boundary that cannot be technically or economically mitigated

Table 16-10 provides a summary of the determination of significance and confidence in the prediction of the potential residual cumulative effects identified as well as the rationale for the determination of significance.

Table 16-10: Determination of Significance and Confidence for Residual Cumulative Adverse Effects of the Proposed Project on Current Use of Land and Resources for Traditional Purposes

Residual Cumulative Adverse Effect	Determination of Significance and Confidence	Recommended Follow-up and Monitoring
Residual cumulative effects on disruption of subsistence activities	Not significant and moderate confidence	• Environmental Monitoring Program
Residual cumulative effects on alteration of subsistence resources	Not significant and moderate confidence	• Environmental Monitoring Program
Residual cumulative effects on disruption of trail, travelway and habitation site use	Not significant and moderate confidence	• Environmental Monitoring Program

Residual Cumulative Effects on Disruption of Subsistence Activities

1 With the implementation of the proposed mitigation outlined in Table 16-8, including
2 continuing to notify all potentially affected Aboriginal groups of the schedule updates
3 for the proposed Project when changes occur, the residual cumulative effects on
4 subsistence activities are considered not significant. Confidence is considered to be
5 moderate based on a good understanding of cause-effect relationships, but is based on
6 a limited understanding of site-specific features in the proposed Project area. The
7 recommended follow-up includes the implementation of the monitoring efforts
8 outlined in Section 25.2 and Section 25.3.

9 The residual cumulative effects on the disruption of subsistence activities is
10 considered to be not significant and determined with moderate confidence.

Residual Cumulative Effects on Alteration of Subsistence Resources

11 With the implementation of the proposed mitigation outlined in Table 16-8, including
12 continuing to consult with potentially affected Aboriginal groups regarding known
13 reasonably foreseeable future developments and activities to address any cumulative
14 concerns related to the subsistence resources within the Traditional Land and
15 Resource Use RSA, the residual cumulative effects on subsistence resources is
16 considered not significant. Confidence is considered to be moderate based on a good
17 understanding of cause-effect relationships, but is based on a limited understanding of
18 site-specific features in the proposed Project area. The recommended follow-up
19 includes implementation of the monitoring efforts outlined in the Section 25.2 and
20 Section 25.3.

21 The residual cumulative effects on the alteration of subsistence resources is
22 considered to be not significant and determined with moderate confidence.

Residual Cumulative Effects on Disruption of Trail, Travelway and Habitation Site Use

23 With the implementation of the proposed mitigation outlined in Table 16-8, including
24 continuing to consult with potentially affected Aboriginal groups regarding known
25 reasonably foreseeable future developments and activities to address any cumulative
26 concerns related to the trails, travelways and habitation sites within the Traditional
27 Land Resource Use RSA as well as to confirm any additional site-specific measures
28 for specific access points along the proposed route, where warranted, the residual
29 cumulative effects on trail, travelway and habitation site use are considered not
30 significant. Confidence is considered to be moderate based on a good understanding
31 of cause-effect relationships, but is based on a limited understanding of site-specific
32 features in the proposed Project area. The recommended follow-up includes
33 implementation of the monitoring efforts outlined in Section 25.2 and Section 25.3.

34 The residual cumulative effects on the disruption of trail, travelway and habitation
35 site use is considered to be not significant and determined with moderate confidence.

16.6.9 Conclusion

1 As identified in Tables 16-6 and 16-10, there are no situations where there is a
2 potential residual adverse effect or potential residual cumulative effect of high
3 magnitude on current use of land and resources for traditional purposes that cannot be
4 technically or economically mitigated. Therefore, the proposed Project is not likely to
5 result in any significant adverse effects on current use of land and resources for
6 traditional purposes.

16.7 CULTURAL SITES EFFECTS ASSESSMENT

16.7.1 Potential Adverse Effects, Mitigation and Environmental Management Strategies

7 The identification of the potential environmental effects associated with the
8 construction and operations phases of the proposed Project on cultural sites was based
9 on the results of a literature review, desktop analysis, TLU studies and biophysical
10 field participation, as well as consultation with Aboriginal groups (Section 23) and
11 the experience of the assessment team. Where potential interactions were likely to
12 occur, the potential residual effect is identified in Table 16-11.

13 A summary of recommended mitigation provided in Table 16-11 was principally
14 developed in accordance with TransCanada's standards as well as industry accepted
15 best practices related to specific topics such as aquatic environment, vegetation,
16 wetlands, wildlife and wildlife habitat, and are recommended based on consultation
17 with Aboriginal groups, experience gained from other pipeline projects with similar
18 conditions and professional judgment. Through the implementation of these measures,
19 it is believed that the proposed Project meets the objectives of the Nak'azdli Nation
20 Stewardship Policy (draft) pertaining to the environment and its resources.

21 The assessment of cultural sites focused on existing or potential land use encountered
22 within the Traditional Land and Resource Use RSA and describes the potential
23 adverse social effects of the proposed Project on gathering places and sacred sites.
24 The potential adverse effects on economic, social and health topics are considered in
25 Sections 12, 14, 15 and 20.

Table 16-11: Potential Adverse Effects, Mitigation and Residual Social Effects of the Proposed Project on Cultural Sites

Project Phase	Potential Adverse Social Effect	Project Component/ Location	Key Recommendations/ Mitigation	Potential Residual Social Effect(s)
Gathering Places				
Construction, Operations	Disturbance of gathering places	All Project components	<ul style="list-style-type: none"> • Distribute construction schedules, maps and other relevant information on anticipated trail, road and area closures to government agencies, community representatives, Aboriginal groups and potential user groups to inform them of the presence of construction activity, potential access restrictions and noise disturbance in recreational areas. • Reduce the amount of land disturbance by using previously disturbed areas, as much as practical, for stockpiles and temporary construction camp sites. • Where appropriate, use existing adjacent pipeline ROWs, as much as practical, for access and stockpile sites. • Complete pre-construction TLU discussions with Aboriginal groups to identify gathering places that warrant mitigation. Mitigation may include one or more of the following: <ul style="list-style-type: none"> • detailed recording, mapping and avoidance • assess visual impact • alternative site-specific mitigation strategies recommended by participating Aboriginal groups • Implement the Access Control Management Plan, including access control measures (e.g., signage, road closures, restrictions, access control structures, vegetation screens) to reduce unauthorized motorized access. • All motorized vehicle traffic, including ATV, ARGO and snowmobile traffic will be confined to the approved route, access roads or trails except where specifically authorized by the appropriate authority. • Implement mitigation outlined under the assessment of the atmospheric environment (Section 6). • Implement applicable mitigation listed above during maintenance activities (e.g., integrity digs). 	Disturbance of gathering places during construction and operations.

Table 16-11: Potential Adverse Effects, Mitigation and Residual Social Effects of the Proposed Project on Cultural Sites (cont'd)

Project Phase	Potential Adverse Social Effect	Project Component/ Location	Key Recommendations/ Mitigation	Potential Residual Social Effect(s)
Sacred Areas				
Construction, Operations	Disturbance of sacred areas	All Project components	<ul style="list-style-type: none"> Distribute construction schedules, maps and other relevant information on anticipated trail, road and area closures to government agencies, community representatives, Aboriginal groups and potential user groups to inform them of the presence of construction activity, potential access restrictions and noise disturbance in recreational areas. Reduce the amount of land disturbance by using previously disturbed areas, as much as practical, for stockpiles and temporary construction camp sites. Where appropriate, use existing adjacent pipeline ROWs, as much as practical, for access and stockpile sites. Complete pre-construction TLU discussions with Aboriginal groups to identify sacred areas that warrant mitigation. Mitigation may include one or more of the following: <ul style="list-style-type: none"> detailed recording, mapping and avoidance assess visual impact additional mitigation will be refined and optimized through community discussions alternative site-specific mitigation strategies recommended by participating Aboriginal groups Implement the Access Control Management Plan, including access control measures (e.g., signage, road closures, restrictions, access control structures, vegetation screens) to reduce unauthorized motorized access. All motorized vehicle traffic, including ATV, ARGO and snowmobile traffic will be confined to the approved route, access roads or trails except where specifically authorized by the appropriate authority. Implement mitigation outlined under the assessment of the atmospheric environment (Section 6). Implement appropriate measures identified in the TLU Sites Discovery Contingency Plan in the event of discovery of sacred sites during construction activities. 	Disturbance of sacred areas during construction and operations.

Table 16-11: Potential Adverse Effects, Mitigation and Residual Social Effects of the Proposed Project on Cultural Sites (cont'd)

Project Phase	Potential Adverse Social Effect	Project Component/ Location	Key Recommendations/ Mitigation	Potential Residual Social Effect(s)
Construction, Operations (cont'd)	See above	See above	<ul style="list-style-type: none"> Implement appropriate measures identified in the Heritage Resource Discovery Contingency Plan. Implement applicable mitigation listed above during maintenance activities (e.g., integrity digs). 	See above
Note: a) Detailed mitigation is outlined in the Project-specific EMP (Appendix 2-A).				

16.7.2 Potential Residual Adverse Effects

- 1 The potential residual adverse social effects on cultural sites associated with the
- 2 proposed Project are listed in Table 16-12.

16.7.3 Characterization of Potential Residual Adverse Effects

- 3 Table 16-12 provides a summary of the characterization of the potential residual
- 4 adverse effects of the proposed Project on cultural sites. The rationale used to
- 5 characterize each of the potential residual adverse effects is provided below. Potential
- 6 adverse effects where no residual effect was identified were not characterized.

- 7 The characterization of potential residual adverse social effects considers extent,
- 8 duration, frequency, reversibility and likelihood of the effect. Coastal GasLink has
- 9 consulted with/engaged with participating Aboriginal groups who have historically
- 10 used or currently use the Traditional Land and Resource Use study areas to identify
- 11 potential resource use issues, including cultural sites that may be disturbed by
- 12 proposed Project construction and cleanup activities. The implementation of
- 13 appropriate mitigation will reduce the potential adverse effects from construction and
- 14 operations activities within the traditional land and resource use study areas.

Table 16-12: Characterization of Potential Residual Adverse Social Effects of the proposed Project on Cultural Sites

Potential Residual Adverse Social Effect(s)	Spatial Boundary ^{a)}	Temporal Context			Magnitude	Likelihood
		Duration	Frequency	Reversibility		
Gathering Places						
Disturbance of gathering places	RSA	Short-term	Isolated to Periodic	Short-term	Medium	High
Sacred Areas						
Disturbance of sacred areas	RSA	Short-term	Isolated to Periodic	Short-term	Medium	High
Notes: a) RSA = Traditional Land and Resource Use RSA						

1 The rationale used to characterize the disturbance of gathering places and the
2 disturbance of sacred areas that follows below is presented in an integrated manner
3 since the potential residual adverse effects on the cultural sites KIs and the
4 characterization of these potential residual adverse effects indicate inherent
5 similarities in assessment factors.

Disturbance of Gathering Places and Sacred Areas

6 The disturbance of gathering places and sacred areas is a potential residual adverse
7 effect of interactions between traditional resource users, and construction and
8 operations activities of the proposed Project. The disturbance of gathering places and
9 sacred areas refers to the possibility that traditional resource users could be prevented
10 from accessing cultural sites resulting from limited access or increased public access
11 to cultural sites that may affect the practice of traditional activities by Aboriginal
12 groups. Similar effects regarding reduced access to land due to disturbances would
13 occur during periods of site-specific maintenance.

14 Coastal GasLink will reduce the amount of land disturbance by using previously
15 disturbed areas, as much as practical, for ancillary sites such as stockpiles and
16 temporary construction camps. Before the commencement of Project clearing,
17 construction and operations phases, Coastal GasLink will provide Aboriginal groups
18 with the proposed construction schedule and maps of the proposed route. The Access
19 Control Management Plan will be implemented, including access control measures
20 (e.g., signage, road closures, restrictions, access control structures, vegetation
21 screens) to reduce unauthorized motorized access.

While the locations of cultural sites within the Traditional Land and Resource Use RSA can be approximated based on known locations of historical cultural areas (Section 23), the extent and current use by Aboriginal groups of these locations are not precisely known. This assessment considers that through the completion of ongoing pre-construction TLU studies with potentially affected Aboriginal groups to identify gathering places and sacred sites, Coastal GasLink will implement the proposed measures described in Table 16-11 to mitigate the potential adverse effects of the proposed Project on cultural sites. Sites will be assessed based on the following criteria: the location of the site with respect to the proposed area of development, the relative importance of the site to the Aboriginal group, and the potential for an alteration of construction activities to reduce or avoid sensory disturbance. The proposed mitigation that may be implemented will depend on the type of site identified and is in addition to the measures implemented to mitigate potential adverse effects of the proposed Project on the atmospheric environment.

A summary of the rationale for the potential residual adverse effects characterization is provided below:

- Context: The proposed Project is located in an area where Aboriginal groups are carrying out traditional activities which are expected to include cultural sites.
- Spatial boundary: Traditional Land and Resource Use RSA – the proposed Project may affect gathering places and sacred areas beyond the construction workspace (e.g., sensory disturbance and access limitations).
- Duration: short-term – the event causing disturbance of gathering places and sacred areas occurs during the construction phase or periods of site-specific maintenance occurring within any one year during operations.
- Frequency: isolated to periodic – the event causing disturbance of gathering places and sacred areas is confined to the construction phase or occurs intermittently, but repeatedly during the operations phase.
- Reversibility: short-term – the residual adverse effect would be limited to the construction phase or to less than any one year during the operations phase.
- Magnitude: medium – it is expected that Project-related disruptions would be temporary through the implementation of the proposed mitigation during construction and operations to reduce, but not eliminate, potential adverse effects on disturbance of gathering places and sacred areas.
- Likelihood: high – the proposed Project is likely to disturb gathering places and sacred areas.

16.7.4 Potential Residual Adverse Effects - Determination of Significance and Confidence

Qualitative thresholds were determined to be the most appropriate method to evaluate the significance of the potential residual adverse effects of the proposed Project on cultural sites. The determination of significance considers:

- feedback from potentially affected Aboriginal groups
- relevant land use planning objectives and strategies
- previous environmental assessments reviewed and approved under provincial environmental regulatory processes, where appropriate
- the professional judgment of the assessment team that includes members with over 15 years of pipeline construction and environmental and socio-economic impact assessment experience

A residual adverse social effect is considered significant if the effect is predicted to be:

- high magnitude, high likelihood, short to medium-term reversibility and regional, provincial or national in extent that cannot be technically or economically mitigated
- high magnitude, high likelihood, long-term or permanent reversibility and any spatial boundary that cannot be technically or economically mitigated

16.7.5 Significance and Confidence for Residual Adverse Effects on Cultural Sites Key Indicators

Table 16-13 provides a summary of the determination of significance and confidence in the prediction of the potential residual effects identified as well as the rationale for the determination of significance.

Table 16-13: Determination of Significance and Confidence for Potential Residual Adverse Effects on Cultural Sites

Potential Residual Adverse Social Effect(s)	Determination of Significance and Confidence	Recommended Follow-up and Monitoring
Disturbance of gathering places	Not significant and moderate confidence	<ul style="list-style-type: none">• Continue pre-construction TLU studies with potentially affected Aboriginal groups.• Environmental Monitoring Program• Respond to issues identified by Aboriginal groups over the life of the proposed Project in a timely manner.
Disturbance of sacred areas	Not significant and moderate confidence	<ul style="list-style-type: none">• Continue pre-construction TLU studies with potentially affected Aboriginal groups.• Environmental Monitoring Program• Respond to issues identified by Aboriginal groups over the life of the proposed Project in a timely manner.

Disturbance of Gathering Places and Sacred Areas

1 With the implementation of the mitigation outlined in Table 16-11, including
2 providing Aboriginal groups with the proposed construction schedule and maps of the
3 proposed route, and implementing the Access Control Management Plan, as well as
4 the mitigation strategies in place for sites confirmed and/or discovered during pre-
5 construction TLU studies, the potential adverse effects of the proposed Project on
6 gathering places and sacred areas are considered not significant. Confidence is
7 considered to be moderate based on a good understanding of cause-effect
8 relationships, but is based on a limited understanding of site-specific features in the
9 proposed Project area. The recommended follow-up includes the implementation of
10 monitoring efforts outlined in Section 25.2 and Section 25.3.

11 As noted in Section 16.6 and Table 16-11, additional measures are necessary to
12 address potential residual Project adverse effects on site-specific TLU features.
13 Coastal GasLink's commitment to completing ongoing pre-construction TLU studies
14 is considered in the characterization of magnitude and the significance determination.
15 The implementation of these pre-construction TLU studies with potentially affected
16 Aboriginal groups is expected to reduce uncertainty associated with the assessment of
17 the potential adverse effects of the proposed Project.

16.7.6 Cumulative Adverse Effects Assessment Overview

18 Cumulative effects are defined as changes to the environment that are caused by a
19 proposed project in combination with other past, present or future human disturbances
20 including development. It is recognized that cumulative effects may be different in
21 nature or extent from the effects of the individual activities (FEARO 1994).

Projects and Activities Considered for the Cumulative Effects Assessment

22 The list of potential projects and activities outlined in Appendix 3-A was reviewed to
23 determine which projects and activities are located within the Traditional Land and
24 Resource Use RSA in order to assess if there is overlap in potential residual adverse
25 social effects within the Traditional Land and Resource Use LSA.

16.7.7 Cumulative Effects, Mitigation and Environmental Management Strategies

26 The potential and likely social residual adverse effects associated with the proposed
27 Project on cultural sites key indicators were identified in Section 16-11 and are listed
28 in Table 16-14, along with the identification of existing activities and reasonably
29 foreseeable developments acting in combination with the proposed Project.

**Table 16-14: Potential Residual Adverse Effects of the Proposed Project on Cultural Sites
Considered for the Cumulative Effects Assessment**

Potential Residual Effect	Project Component/ Location	Temporal Boundary	Potential Cumulative Effect	Existing Activities/Reasonably Foreseeable Developments with Residual Effects Acting in Combination with the Proposed Project
Gathering Places				
Disturbance of gathering places	All Project components	Construction, Operations	Cumulative disturbance of gathering places	<ul style="list-style-type: none"> Existing activities: agriculture, forestry, utility activities, rural and urban residential development, transportation development, natural resource development, oil and gas, and other development Known reasonably foreseeable future developments and activities: Appendix 3-A Project-related activities that could interact with the above activities include clearing and topsoil salvage, grading, trenching, backfilling, reclamation and maintenance.
Sacred Areas				
Disturbance of sacred areas	All Project components	Construction, Operations	Cumulative disturbance of sacred areas	<ul style="list-style-type: none"> Existing activities: agriculture, forestry, utility activities, rural and urban residential development, transportation development, natural resource development, oil and gas, and other development Known reasonably foreseeable future developments and activities: Appendix 3-A Project-related activities that could interact with the above activities include clearing and topsoil salvage, grading, trenching, backfilling, reclamation and maintenance.

1 A qualitative assessment of the potential alteration of cultural sites was deemed to be
2 the most appropriate approach during the cumulative effects assessment, given the
3 lack of quantifiable data.

4 Additional mitigation to be implemented by the proposed Project to reduce the
5 potential cumulative effects on cultural sites is described in Table 16-15. After the
6 implementation of this proposed mitigation, the potential residual cumulative effects
7 on cultural sites are described.

Table 16-15: Mitigation for Cumulative Adverse Effects and Identification of Residual Cumulative Adverse Effects on Cultural Sites

Cumulative Adverse Effect	Additional Mitigation	Residual Cumulative Adverse Effect
Cumulative disturbance of gathering places	<ul style="list-style-type: none"> Continue to notify all potentially affected Aboriginal groups of the schedule updates for the proposed Project when changes occur. Consult with potentially affected Aboriginal groups regarding known reasonably foreseeable future developments and activities (Appendix 3-A) to address any cumulative concerns related to the gathering places and sacred areas within the Traditional Land and Resource Use RSA. Communicate with potentially affected Aboriginal groups regarding additional site-specific measures for specific access points along the proposed route. Review proposed schedules of other projects to coordinate reclamation schedules. 	Residual cumulative disturbance of gathering places
Cumulative disturbance of sacred areas	<ul style="list-style-type: none"> Continue to notify all potentially affected Aboriginal groups of the schedule updates for the proposed Project when changes occur. Consult with potentially affected Aboriginal groups regarding known reasonably foreseeable future developments and activities (Appendix 3-A) to address any cumulative concerns related to the gathering places and sacred areas within the Traditional Land and Resource Use RSA. Communicate with potentially affected Aboriginal groups regarding additional site-specific measures for specific access points along the proposed route. Review proposed schedules of other projects to coordinate reclamation schedules. 	Residual cumulative disturbance of sacred areas

1 Table 16-16 provides a summary of the characterization of identified potential residual
2 cumulative effects on cultural sites. The rationale for the characterization is provided below
3 the table.

Table 16-16: Characterization of Residual Cumulative Adverse Effects on Cultural Sites

Potential Residual Cumulative Effects	Spatial Boundary ^{a)}	Temporal Context			Magnitude	Likelihood
		Duration	Frequency	Reversibility		
Cultural Sites						
Residual cumulative effects on disturbance of gathering places	RSA	Short-term	Isolated to Periodic	Short-term	Medium	High
Residual cumulative effects on disturbance of sacred areas	RSA	Short-term	Isolated to Periodic	Short-term	Medium	High
Note: a) RSA = Traditional Land and Resource Use RSA						

Residual Cumulative Effects on Disturbance of Gathering Places and Sacred Areas

4 As discussed in Section 16.7.3, the construction and operations phases of the
5 proposed Project may result in the disturbance of gathering places and sacred areas as
6 well as potentially preventing traditional resource users from accessing cultural sites
7 resulting in limited access or increased public access to cultural sites that may affect
8 the practice of traditional activities by Aboriginal groups.

9 Reasonably foreseeable developments may also disturb gathering places and sacred
10 areas (Appendix 3-A). For example, multiple pipeline projects such as West Coast
11 Connector Gas Transmission Project (Spectra Energy and BG Group), Kitimat-
12 Summit Lake Pipeline Looping Project (Pacific Trail Pipelines LP) and Enbridge
13 Northern Gateway Project (Northern Gateway Pipelines Limited Partnership) will
14 cross some of the same asserted traditional territories of the Aboriginal groups
15 potentially affected by the proposed Project. Existing activities contributing to
16 disturbances of nature-based activities include natural resource, and oil and gas
17 developments. Existing and reasonably foreseeable developments occurring within
18 the wider Traditional Land and Resource Use RSA will contribute to cumulative
19 disturbance to gathering places and sacred areas at the regional scale.

20 The mitigation proposed in Table 16-15 will reduce the Project-related cumulative
21 effects on the disturbance of gathering places and sacred areas. Coastal GasLink will
22 continue to consult with potentially affected Aboriginal groups regarding known
23 reasonably foreseeable future developments and activities to address any cumulative
24 concerns related to the gathering places and sacred areas within the Traditional Land

and Resource Use RSA, as well as to determine any additional site-specific measures for specific access points along the proposed route, where warranted. Coastal GasLink will also continue to notify all potentially affected Aboriginal groups of the schedule updates for the proposed Project when changes occur and review proposed schedules of other projects to coordinate reclamation schedules.

A summary of the rationale for the potential residual cumulative effect characterization is provided below:

- Context: The proposed Project is located in an area where Aboriginal groups are carrying out traditional activities which are expected to include cultural sites.
- Spatial boundary: Traditional Land and Resource Use RSA - The proposed Project may contribute to cumulative effects on gathering places and sacred areas within the Traditional Land and Resource Use RSA.
- Duration: short-term - the proposed Project's contribution to cumulative effects on disturbance of gathering places and sacred areas occurs during the construction phase or periods of site-specific maintenance occurring within any one year during operations.
- Frequency: isolated to periodic - the proposed Project's contribution to cumulative effects on disturbance of gathering places and sacred areas is confined to the construction phase or occurs intermittently, but repeatedly, during the operations phase.
- Reversibility: short-term - the proposed Project's contribution to cumulative effects on disturbance of gathering places and sacred areas would be limited to the construction phase or to less than any one year during the operations phase.
- Magnitude: medium - it is expected that the implementation of the proposed mitigation during construction and operations will reduce, but not eliminate, the potential cumulative effects on gathering places and sacred areas.
- Likelihood: high - the proposed Project is likely to contribute to cumulative effects on gathering places and sacred areas.

16.7.8 Residual Cumulative Adverse Effects - Determination of Significance and Confidence

As discussed in Section 16.7.4, the determination of significance considers feedback from potentially affected Aboriginal groups, relevant land use and Aboriginal community planning objectives and strategies, and previous environmental assessments reviewed and approved under provincial environmental regulatory processes, where appropriate.

Table 16-17 provides a summary of the determination of significance and confidence in the prediction of the potential residual cumulative effects identified as well as the rationale for the determination of significance.

Table 16-17: Determination of Significance and Confidence for Residual Cumulative Adverse Effects of the Proposed Project on Cultural Sites

Residual Cumulative Adverse Effect	Determination of Significance and Confidence	Recommended Follow-up and Monitoring
Residual cumulative effects on disturbance of gathering places	Not significant and moderate confidence	• Environmental Monitoring Program
Residual cumulative effects on disturbance of sacred areas	Not significant and moderate confidence	• Environmental Monitoring Program

Residual Cumulative Effects on Disturbance of Gathering Places and Sacred Areas

With the implementation of the proposed mitigation outlined in Table 16-15, including continuing to consult with potentially affected Aboriginal groups regarding known reasonably foreseeable future developments and activities to address any cumulative concerns related to the gathering places and sacred areas within the Traditional Land and Resource Use RSA as well as to confirm any additional site-specific measures for specific access points along the proposed route, where warranted, the residual cumulative effects on disturbance of gathering places and sacred areas are considered not significant. Confidence is considered to be moderate based on a good understanding of cause-effect relationships, but is based on a limited understanding of site-specific features in the proposed Project area. The recommended follow-up includes implementation of monitoring efforts outlined in Section 25.2 and 25.3.

The residual cumulative effects on the disturbance of gathering places and sacred areas is considered to be not significant and determined with moderate confidence.

16.7.9 Conclusion

As identified in Tables 16-13 and 16-17, there are no situations where there is a residual adverse effect or residual cumulative effect of high magnitude on cultural sites that cannot be technically or economically mitigated. Therefore, the proposed Project is not likely to result in any significant adverse cumulative effects on cultural sites.

16.8 REFERENCES

16.8.1 Literature Cited

Federal Environmental Assessment Review Office. 1994. A Reference Guide for the Canadian Environmental Assessment Act. Federal Environmental Assessment Review Office. Hull, QC. 24 pp.

- 1 Government of British Columbia. 1999a. Dawson Creek Land and Resource
2 Management Plan. Website:
3 http://www.ilmb.gov.bc.ca/slrp/lrmp/fortstjohn/dawson_creek/docs/dawson_creek_lrmp_march_1999.pdf. Accessed: May 2013.
4
- 5 Government of British Columbia. 1999b. Prince George Land and Resource
6 Management Plan. Website:
7 http://www.ilmb.gov.bc.ca/sites/default/files/resources/public/PDF/LRMP/Prince%20George_LRMP.pdf. Accessed: May 2013.
8
- 9 Government of British Columbia. 2000. Lakes District Land and Resource
10 Management Plan. Website:
11 http://www.ilmb.gov.bc.ca/slrp/lrmp/smithers/lakes/plan/files/Lakes_LRMP_approved.pdf. Accessed: May 2013.
12
- 13 Government of British Columbia. 2002. Kalum Land and Resource Management Plan.
14 Website:
15 http://www.ilmb.gov.bc.ca/slrp/lrmp/smithers/kalum_south/docs/April%202006%20Cabinet%20Approved%20Kalum%20LRMP%20_amended_.pdf.
16 Accessed: May 2013.
17
- 18 Government of British Columbia. 2007. Morice Land and Resource Management
19 Plan. Website:
20 http://archive.ilmb.gov.bc.ca/slrp/lrmp/smithers/morice/plan/files/morice_lrm_p_july2007.pdf. Accessed: May 2013.
21
- 22 Integrated Land Management Bureau. 1997. Vanderhoof Land and Resource
23 Management Plan. Website:
24 http://archive.ilmb.gov.bc.ca/slrp/lrmp/princegeorge/vanderhf/plan/vanderhoof_lrmp/index.html. Accessed: July 2013.
25
- 26 Nak'azdli Band. n.d. Nak'azdli Nation Draft Stewardship Policy. 19 pp.