13 METLAKATLA FIRST NATION

This section of the Application provides an assessment of the effects of the Project on Metlakatla First Nation interests, conducted as described in Section 6.0, with departures from conventional assessment based on the feedback provided by interested Indigenous nations (e.g., duration; magnitude). Additional feedback provided by Metlakatla First Nation has influenced other aspects of the assessment (i.e., not limited to the assessment methods). For example, as described in Section 13.1.4, Metlakatla First Nation prepared a Traditional Knowledge and Use Study for the Project that identified four Nation-specific Valued Components (**VCs**) and associated pathways that relate to Metlakatla First Nation knowledge and use (Metlakatla First Nation 2022); this information was incorporated into the assessment.

The assessment of potential Project effects (both positive and adverse) on Metlakatla First Nation interests includes consideration of impacts to Aboriginal rights recognized and affirmed by section 35 of the *Constitution Act*, *1982* as well as any other interests identified by the Nation.

13.1 Scope and Methods

The assessment of effects on Metlakatla First Nation interests was scoped according to the following steps:

- Identify appropriate contacts and engage with Metlakatla First Nation to understand the nature and content of their Indigenous rights, recognizing that Metlakatla First Nation are best placed to identify the Project's potential impacts on their rights
- Identify guiding values and "valued components" (**VC's**) with respect to the Application, through the identification of Metlakatla First Nation priority values and topics associated with community well-being, cultural expression, and the preferred means of exercising their rights
- Establish clear criteria with input from the Metlakatla First Nation on impact characterizations
- Establish an iterative two-way dialogue on measures proposed to address the impact
- Maintain ongoing engagement throughout the environmental assessment (**EA**) process, which includes revisiting these steps and the analysis, which will be subject to revision based on new information and continued dialogue between all parties

Additional information regarding the efforts taken to scope the assessment with Metlakatla First Nation is provided in Section 13.1.2.

13.1.1 REGULATORY CONTEXT

The following current federal and provincial acts, impact assessment (**IA**) policies and best practices guided the assessment:

- British Columbia Declaration on the *Rights of Indigenous Peoples Act* (Province of British Columbia 2019) and associated Action Plan for 2022-2027 (Province of British Columbia 2022)
- British Columbia *Environmental Assessment Act* (**BC EAA**) (2018)
- BC Environmental Assessment Office (**BC EAO**) (2020a) Guide to Indigenous Knowledge in Environmental Assessments
- BC EAO (2020b) Effects Assessment Policy
- Impact Assessment Agency of Canada (**The Agency**) (2022) Guidance: Assessment of Potential Impacts on the Rights of Indigenous Peoples
- The Agency (2020a) Guidance: Indigenous Knowledge under the *Impact Assessment Act*
- The Agency (2020b) Guidance: Protecting Confidential Indigenous Knowledge under the *Impact Assessment Act*
- The Agency (2021) Guidance: Gender-based Analysis Plus in Impact Assessment
- The Agency (2022a) *Impact Assessment Act* – Effects within Federal Jurisdiction
- The Agency (2022b) *Impact Assessment Act* – Factors defined under Section 22(1)
- The Agency (2022c) Indigenous Knowledge Policy Framework for Project Reviews and Regulatory Decisions

13.1.1.1 Statutory Requirements Under the Federal *Impact Assessment Act*

The scope of this assessment is designed to address statutory requirements under the IAA and the equivalent requirements of the BC EAA for the assessment of Project-related effects on Metlakatla First Nation's rights and interests. The outcomes of this assessment relative to the statutory requirements under the federal *Impact Assessment Act* are provided in Section 13.14.1 and address the following factors and effects:

- Factor 22 (1)(c): Changes to Metlakatla First Nation's Rights Recognized and Affirmed by section 35 of the *Constitution Act, 1982*
- Factor 22 (1)(g): Consideration of Indigenous Knowledge Provided with Respect to the Project
- Factor 22(1)(l): Consideration of Changes to Metlakatla First Nation Culture
- Factor 22(1)(r): Consistency with any Plan or Study Prepared by Metlakatla First Nation that has been Provided for the Project (including any existing Land-Use or Marine-Use Plans)

- Factor 22(1)(s): Disproportionate Effects on Distinct Human Populations (Intersections of Sex and Gender with Other Identity Factors)
- Effects under Section 2(b)(i): Changes to the Environment that would occur on Federal Lands
- Effects under Section 2(c)(i): Changes to Physical and Cultural Heritage
- Effects under Section 2(c)(ii): Changes to Current Use of Lands and Resources for Traditional Purposes
- Effects under Section 2(c)(iii): Changes to any Structure, Site or Thing of Historical, Archaeological, Paleontological, or Architectural
- Effects under Section 2(d): Changes to the Health, Social or Economic Conditions of the Indigenous Peoples of Canada

A complete listing and analysis of the Application's concordance to federal requirements can be found in Section 24.0 summary of Statutory Requirements under the federal *Impact Assessment Act*.

13.1.2 INFLUENCE OF CONSULTATION AND ENGAGEMENT

This section of the Application provides information regarding the efforts taken to seek the views of Metlakatla First Nation with respect to the Project.

13.1.2.1 Summary of Past Engagement

The Proponents have engaged directly with Metlakatla First Nation since March 2021. This engagement includes:

- Providing an oral announcement of the Project at the First Nation Climate Initiative Technical Group meeting
- Introducing the Project and the Proponents
- Providing notification of Project steps and processes
- Providing a copy of the draft Application Information Requirements (dAIR), the Detailed Project Description (**DPD**), the VC selection document, and other Project materials for review and comment
- Providing a copy of the preliminary list of potential effects and preliminary list of information sources for review and comment
- Signing an Environmental Assessment and Regulatory Process Funding Agreement that provides funding for Metlakatla First Nation to undertake studies to understand Project-related effects to their interests and to participate in the environmental assessment process
- Providing preliminary drafts of EA documents and technical data reports for review in advance of submission to the BC EAO
- Providing updates regarding Project design and evolving timelines

The Proponents remained available to engage diverse populations of Metlakatla First Nation (also referred to herein as 'the Nation') in culturally appropriate ways at the direction of Nation leadership, including a consideration of disproportionately distributed effects on Indigenous local group/sub-group (e.g., clan, family) areas within the broader territory, and groups identified by gender, age, or other community-relevant factors to support the collection of information needed to complete the gender-based analysis plus (**GBA Plus**). For the GBA Plus assessment, the Proponents also relied on publicly available information, and information contained in the studies prepared for the Project by Metlakatla First Nation (see Section 13.1.3).

Other diverse methods of engagement were also made available through public consultation activities, including the following:

- Online or phone-based consultation opportunities were often used as alternatives to in-person meetings, included holding open houses and information sessions virtually and in the evenings, to provide greater accessibility for those limited in mobility, with time, financial or other familial constraints
- Early engagement phase documents were posted on the BC EAO's website
- A website with Project information and contact information for how to request in-person meetings was maintained

Information regarding the influence of Metlakatla First Nation comments, key information, and concerns on the assessment are described below in Table 13.1–1.

Additional information regarding the Proponents' engagement with Metlakatla First Nation will be provided in the Proponents' Indigenous Engagement Report.

13.1.2.2 Key Areas of Concern

The development of the Application Information Requirements (AIR) and this assessment was influenced by the Proponents' engagement with members of Metlakatla First Nation. This section describes information and concerns related to Metlakatla First Nation interests shared through consultation.

Table 13.1–1 provides a summary of the key information, including Indigenous knowledge, and concerns that the Proponents identified as part of their consultation and engagement efforts with Metlakatla First Nation, as well as a summary of the influence that the outcomes of this consultation and engagement had on the assessment.

Table 13.1–1 – Summary of Key Information, Indigenous Knowledge and Concerns for the Project Related to Metlakatla First Nation Interests

Key Information and Concerns	Influence on the Assessment
Collaboration on the Project regulatory process including: ▪ approach and schedule for information and document sharing ▪ timing of engagement with Metlakatla Stewardship Society and Metlakatla Development Corporation ▪ Metlakatla First Nation's procurement interests, capabilities, and priorities	▪ The Proponents have established an Environmental Assessment and Regulatory Process Funding Agreement that provides funding for Metlakatla First Nation to undertake studies to understand Project related effects to their interests and to participate in the environmental assessment process. ▪ The Proponents have provided preliminary drafts of EA documents and technical data reports for review in advance of submission to the BC EAO ▪ The Proponents have continued engagement with Metlakatla First Nation to discuss the Project and its effects, understand concerns that may arise and respond to those concerns. ▪ Summaries of past and planned engagement with Metlakatla First Nation are provided in Sections 13.1.2.1 and 13.14.3.
Extent of Project planning and scope, including: ▪ marine shipping route and increased marine vessel traffic ▪ water supply ▪ management of waste ▪ transmission line, and associated lack of assessment of potential residual effects because Metlakatla First Nation may not have an opportunity to review the potential effects of the transmission line to the same extent as for this Project.	▪ The Application has assessed the potential effects of the Project activities and interactions identified by Metlakatla First Nation. These assessments are found in Sections 7.2 to 7.15, the results of which have informed the assessment of potential effects on Metlakatla First Nation interests. <u>Marine shipping route and increased marine vessel traffic</u> ▪ LNGCs, NGL product vessels, and tugboats will be owned, insured, and operated by third parties. The present estimate of LNG shipments per year is between 140 and 160, depending on the size of the LNGCs used and the total LNG produced by the Project (see Section 1.4.6.3). To address marine safety and potential marine accidents and malfunctions, a navigation safety assessment has been conducted as part of the Application. See Section 9.0 for more information on the navigation safety assessment. Marine shipping is also included as a Project component for the assessment of potential effects on Metlakatla First Nation interests (see Section 13.1.5). <u>Water supply</u> ▪ The Project is currently considering water supply options for domestic and process water. Water supply options considered are local surface water, groundwater (well), rainwater and desalination of seawater. Additional information regarding water supply is found in Section 1.9.5.

Table 13.1–1 – Summary of Key Information, Indigenous Knowledge and Concerns for the Project Related to Metlakatla First Nation Interests

Key Information and Concerns	Influence on the Assessment
	Management of waste ▪ Management of solid and hazardous wastes during the construction and operation phases of the Project is described in in Section 1.9.5.1. Where possible, non-hazardous wastes will be recycled or reused. Where reuse is not possible, waste will be stored at the Site and then shipped for disposal at a local landfill, other approved waste disposal facility, or a recycling facility in compliance with applicable legal requirements. No other means for waste management have been considered for the Project. Management of wastewater during the construction and operation phases of the Project is described in Section 1.9.5.2. Transmission line ▪ Nisga'a Nation intends to undertake a lead role in the assessment of the transmission line on Nisga'a Lands under Chapter 10 of the Nisga'a Treaty and will be responsible for granting the land authorizations for the right-of-way that will be required. The interconnection transmission line from Nisga'a lands to the Site is included in the assessment as a Project component (see Section 13.1.5). The third-party provider will be responsible for applying for the other necessary Crown authorizations for the interconnection transmission line for those sections not located on Nisga'a Lands. ▪ Section 13.10.2 provides a summary of potential adverse residual effects of the transmission line on the interests identified by Metlakatla First Nation. ▪ Section 13.13.2 provides a summary of potential adverse residual cumulative effects on Metlakatla First Nation interests in relation to the transmission line. ▪ Metlakatla First Nation concerns regarding the assessment of potential residual effects and cumulative effects associated with the transmission line will be communicated by the Proponents to the third-party responsible for the transmission line.
▪ Extents of local and regional assessment areas for VCs.	▪ As described in Section 6.3, the VC assessments describe the spatial, temporal, administrative and technical boundaries used in assessing the potential adverse and positive environmental, economic, social, cultural and health effects of the Project. Rationale for these assessment areas is included in Table 6-1 of the AIR as well as the relevant VC Sections. ▪ The spatial boundaries selected for the VC assessments do not preclude the consideration of potential Project interactions with Metlakatla First Nation's territorial lands and waters (as defined in Section 13.1.5.1). All information shared through ongoing engagement was evaluated in the context of relevant VC assessments and the assessment of potential effects on Metlakatla First Nation interests.

Table 13.1–1 – Summary of Key Information, Indigenous Knowledge and Concerns for the Project Related to Metlakatla First Nation Interests

Key Information and Concerns	Influence on the Assessment
	▪ Feedback, including Indigenous knowledge, provided by Metlakatla First Nation has the potential to inform VC linkages and change spatial boundaries. For example, based on feedback from all participating Indigenous nations, the Proponents expanded the marine shipping route assessment to include an assessment area between the BC Pilot Station at Triple Island and Canada's 12 nautical mile (**nm**) territorial sea limit. Where available, the VC assessments explain how the Proponents considered the information received from Metlakatla First Nation in defining spatial and temporal boundaries, particularly for VCs related to effects on Metlakatla First Nation interests. ▪ Based on feedback received from Metlakatla First Nation, the Proponents expanded the Wildlife and Wildlife Habitat RAA.
Potential impacts on Metlakatla First Nation rights and interests, including: ▪ loss of place-based knowledge and cultural landscape, and the associated disruption to cultural transference and cultural identity ▪ quality of experience and sense of place at cultural and spiritual sites ▪ access and travel, governance and decision-making, industrialization of the land ▪ changes to the marine environment from shipping activities ▪ health, safety, and well-being, and sensory disturbance on land and water ▪ access to, and quality and quantity of harvested resources for subsistence, livelihood, commercial and trade ▪ loss of marine and intertidal harvesting sites	▪ Feedback, including Indigenous knowledge, shared by Metlakatla First Nation has informed the Proponents' understanding of existing conditions and the assessment of Project effects on Metlakatla First Nation interests in Section 13.0 and applicable VC Sections. ▪ The Application has also assessed the potential effects of the Project on the VCs that support the interests identified by Metlakatla First Nation (e.g., marine resources). These assessments are found in Sections 7.2 to 7.15, the results of which have informed the assessment of potential effects on Metlakatla First Nation interests. ▪ Sections 13.2 to 13.9 provide the assessments of potential effects of the Project on the interests identified by Metlakatla First Nation. Section 13.12 provides the assessment of cumulative effects on Metlakatla First Nation interests. ▪ The Proponents are committed to working directly with Metlakatla First Nation to identify opportunities for Metlakatla First Nation to realize potential benefits from the Project that can be used to both offset potential adverse effects and create positive effects for the Nation.

Table 13.1–1 – Summary of Key Information, Indigenous Knowledge and Concerns for the Project Related to Metlakatla First Nation Interests

Key Information and Concerns	Influence on the Assessment
▪ cumulative effects on marine, terrestrial, socioeconomic, and heritage values from the Project and other past, present, and future developments	
Potential disturbance to heritage, cultural and spiritual sites within and around the Project footprint.	▪ The assessment of changes to Metlakatla First Nation heritage, cultural and spiritual sites is provided in Sections 13.5 and 13.12.5. ▪ Additionally, potential effects of the Project on archaeological and heritage resources from the Project (during all Project phases) are assessed in Section 7.15. This assessment considers the area which clearing and/or ground disturbance (including terrestrial, intertidal, and subtidal areas) is anticipated to occur. This includes the Project's terrestrial footprint, including overburden storage areas, anchor points, and marine features. The outcomes of this assessments relative to Metlakatla First Nation are discussed within Sections 13.5 and 13.12.5, as applicable.
▪ Potential social and economic impacts from the Project workforce.	▪ The assessment of changes to Metlakatla First Nation social and economic conditions resulting from potential effects of the Project workforce is provided in Sections 13.4 and 13.6. Cumulative changes to Metlakatla First Nation health, social and economic conditions are assessed in Section 13.12. ▪ The Proponents have committed to implementing mitigation and enhancement measures to reduce potential adverse effects and enhance positive effects of the Project on the social and economic interests of Indigenous nations and local communities. These measures include developing and implementing a personnel drug and alcohol policy, developing and implementing traffic safety measures for Project-related travel between Prince Rupert, Terrace and Gingolx, and developing and implementing a Socio and Economic Effects Management Plan. The complete list of Project mitigation measures is found in Appendix A. ▪ Potential effects of the Project workforce are also assessed in Section 7.10 Employment and Economy, Section 7.11 Marine Use, Section 7.12 Infrastructure and Services, Section 7.13 Community Health and Wellness and Section 7.14 Human Health. The outcomes of these assessments relative to Metlakatla First Nation are discussed within Sections 13.2 to 13.9, as applicable.

Table 13.1–1 – Summary of Key Information, Indigenous Knowledge and Concerns for the Project Related to Metlakatla First Nation Interests

Key Information and Concerns	Influence on the Assessment
▪ Potential impacts on vegetation, wildlife, and marine resources due to spills, releases, waste disposal, accidents or malfunctions, and challenging weather conditions.	▪ Management of solid and hazardous wastes during the construction and operation phases of the Project is described in Section 1.9.5.1. Where possible, non-hazardous wastes will be recycled or reused. Where reuse is not possible, waste will be stored at the Site and then shipped for disposal at a local landfill, other approved waste disposal facility, or a recycling facility in compliance with applicable legal requirements. No other means for waste management have been considered for the Project. Management of wastewater during the construction and operation phases of the Project is described in Section 1.9.5.2. ▪ The Application has assessed the potential effects of malfunctions and accidents to vegetation, wildlife, and marine resources. To address marine safety and potential marine accidents and malfunctions, a navigation safety assessment has been conducted as part of the Application. See Section 9.0 for more information on the navigation safety assessment and malfunctions and accidents. ▪ Section 9.0 also describes the prevention and response methods the Proponents will employ to reduce the risk of and manage potential effects of malfunctions and accidents, including spill and release scenarios. ▪ The potential effects of the environment on the Project, and any cascading potential effects of the Project on the environment, including the hazards posed by extreme weather and natural disasters, are assessed in Section 10.0.

1

13.1.3 INDIGENOUS KNOWLEDGE, INFORMATION SOURCES, ASSUMPTIONS AND LIMITATIONS

The Proponents understand that there is no universally accepted definition of Indigenous knowledge, and that it is community specific, and place based, arising from Indigenous peoples' intimate relationship with their environment and territory over thousands of years (The Agency 2022c). Indigenous knowledge is therefore understood to be embedded within Indigenous legal, political, and governance systems, and may include Nation-specific direct observations about the biophysical world, as well as ecological indicators, oral histories, community practices, language, teachings, laws, relationships, rituals, cultural identity, spirituality, worldview, cultural values and other ways of knowing that have been identified by the Nation (BC EAO 2020a; The Agency 2022c). Indigenous knowledge is considered cumulative and dynamic, developed through the experiences of earlier generations, informing the practice of current generations, and evolving in the context of contemporary Indigenous societies (The Agency 2022c). Indigenous knowledge used in this Application is derived from ongoing engagement, Project-specific and nation-led studies, secondary sources, and publicly available information identified through engagement with Metlakatla First Nation. The treatment of Indigenous knowledge within this section of the Application is presented with any changes requested by Metlakatla First Nation following opportunities for review and comment.

The Proponents recognize that Metlakatla First Nation is best positioned to identify the sources of information, including Indigenous knowledge, appropriate for this assessment. The sources of information and Indigenous knowledge used in describing background information for the assessment of effects on Metlakatla First Nation interests were provided to Metlakatla First Nation for review and comment. This included meeting with Metlakatla First Nation to discuss the Nation's preferred approach and use of appropriate publicly available documents.

Metlakatla First Nation has prepared the following study for the Project, which has been reviewed and incorporated into this assessment:

- Metlakatla First Nation Traditional Knowledge and Use Study Specific to the Project Proposed by Nisga'a Nation, Rockies LNG Limited Partnership, and Western LNG LLC.

Metlakatla First Nation is currently preparing the following studies for the Project which, once available, will be reviewed and considered in the context of this assessment as well as for future Project planning:

- Metlakatla First Nation Cumulative Effects Management Report for the Ksi Lisims LNG – Natural Gas Liquefaction and Marine Terminal Project
- Metlakatla First Nation membership census report

This section provides information regarding the alignment of the use of Indigenous knowledge shared by Metlakatla First Nation with its respective policies and protocols, consent for its use and public disclosure, and views regarding the characterization of Indigenous knowledge within the Application.

This section also describes, as applicable, if no feedback regarding the use, public disclosure or characterization of Indigenous knowledge was provided by an Indigenous nation. In this case and as applicable, the Application has considered publicly available information and non-confidential outcomes of Project consultation activities to date.

Refer to Section 6.0 for detailed methods regarding the incorporation of Indigenous knowledge into the Application.

The Proponents will remain available through Application review should Metlakatla First Nation bring forward additional information related to this assessment.

This assessment uses a conservative approach that recognizes that an absence of Indigenous or traditional use information does not necessarily represent an absence of Indigenous or traditional use for that location or activity. This assessment assumes that Indigenous and traditional use sites, activities and resources have the potential to occur on accessible land within the Nation's territory and that Indigenous or traditional use species identified as being present near the Project could be hunted, trapped, fished, or gathered by Indigenous nations, even if Indigenous nations did not identify specific sites, areas or resources in relation to the Project.

13.1.3.1 Literature Review

A literature review was conducted to provide an overview of existing publicly available information for Metlakatla First Nation.

The literature review focused on social, economic, demographic and ethnographic information for Metlakatla First Nation as well as information related to the availability of harvested resources, access to resources and use areas, and locations of cultural importance that support the exercise of rights as described by Metlakatla First Nation. The Proponents also identified and considered potential Project effects on Metlakatla sub-groups from literature review where effects have been demonstrated in similar resource development projects. The identification of Metlakatla sub-groups considered those members that may experience disproportionate effects of the Project due to the intersectionality of identity factors (e.g., Indigenous females, Indigenous low-income single parent households, Indigenous two spirit individuals, Indigenous individuals with disabilities) (The Agency 2021; Province of British Columbia 2018; see also Section 7.13.)

The literature review considers information from the following sources:

- Publicly available information collected for studies previously completed by the Indigenous nations for other development projects in the region
- Regulatory filings for proximate projects
- Government reports and databases
- Historical and ethnographic literature
- Relevant internet sources (e.g., Nation websites)

Information was drawn from sources relevant to the locations of the Project assessment areas and to Metlakatla First Nation.

13.1.4 IDENTIFYING INTERESTS FOR ASSESSMENT

Indigenous interests, as defined by the BC EAO, refer to "interests related to an Indigenous nation and their rights recognized and affirmed by section 35 of the *Constitution Act, 1982*, including Treaty rights and Aboriginal rights and title, that may be impacted by a proposed project" (BC EAO 2020a). The Proponents understand that Indigenous interests are intricately linked and are also connected to the Nation's rights, culture, history, protocols, health and well-being.

A preliminary list of eight Indigenous interests was identified for this assessment through engagement with Metlakatla First Nation and review of issues and concerns about the Project raised by Metlakatla First Nation (Section 13.1.2.2 Key Areas of Concern). Additional guidance from current federal and provincial acts, IA policies and best practices also informed the identification of Indigenous interests for this assessment (Section 13.1.1 Regulatory Context). The preliminary list of potential effects on Metlakatla First Nation interests is as follows:

- Changes to Metlakatla First Nation marine harvest and consumption
- Changes to Metlakatla First Nation terrestrial harvest and consumption
- Changes to Metlakatla First Nation governance, decision-making, and economic development
- Changes to Metlakatla First Nation sacred places and heritage sites
- Changes to Metlakatla First Nation health, well-being, and safety
- Changes to Metlakatla First Nation cultural identity
- Changes to Metlakatla First Nation access and travel
- Changes to Metlakatla First Nation sense of place

Through discussion and interviews conducted with Nation members for the Metlakatla First Nation Traditional Knowledge and Use Study prepared for the Project, four Nation-specific VCs were identified that relate to Metlakatla First Nation knowledge and use (Metlakatla First Nation 2022). The four VCs are "marine harvesting", "foreshore harvesting", "cultural continuity", and "other values" (Metlakatla First Nation 2022). The marine harvesting VC refers to harvesting activity which happens in the marine environment beyond the intertidal areas, including fishing, crabbing, and harvesting roe on kelp (Metlakatla First Nation 2022). The foreshore harvesting VC refers to harvesting and other activities within intertidal areas (Metlakatla First Nation 2022). The marine harvesting and foreshore harvesting VCs are considered through the assessment of changes to Metlakatla First Nation marine harvest and consumption. The cultural continuity VC refers to a range of important values for Metlakatla First Nation that are tied to identity and knowledge transmission (Metlakatla First Nation 2022). The cultural continuity VC is considered through the assessment of changes to Metlakatla First Nation cultural identity and sense of place. The other values VC refers to terrestrial harvesting activities and is considered through

the assessment of changes to Metlakatla First Nation terrestrial harvest and consumption. Pathways related to the four identified VCs are included in Table 13.1–2.

No additional interests or potential effects were recommended for this assessment by Metlakatla First Nation following provision of drafts of this section of the Application for review.

Potential effects on Metlakatla First Nation interests may occur through multiple pathways including but not limited to the following:

- Biophysical (e.g., effects to marine resources)
- Related to the ability to use and access lands and waters
- Cultural/experiential (e.g., presence of industrial activity disrupts peaceful enjoyment)
- Social and economic (e.g., presence and demands of Project workforce)

This assessment uses a conservative approach that recognizes that an absence of information regarding Metlakatla First Nation's interests does not necessarily represent an absence of the exercise or practice of an Indigenous right. As such, this assessment assumes that Metlakatla First Nation's interests have the potential to occur on accessible lands and waters within Project assessment areas that overlap with the Nation's traditional territory (as defined in Section 13.1.5). This assessment reflects the best available information regarding Metlakatla First Nation interests in relation to the Project and efforts to validate assessment assumptions are described in Section 13.1.2.1.

Where possible, the assessment of potential effects on Metlakatla First Nation's interests considered measurable parameters that are quantifiable (e.g., area of direct marine habitat loss). However, not all effects pathways can be quantified (e.g., cultural/experiential). Therefore, some effects are predicted qualitatively through use of feedback shared by Metlakatla First Nation, the results of other assessments for relevant VCs, and professional judgment. Finally, this assessment was shared in draft form with Metlakatla First Nation for review and comment. Feedback shared by Metlakatla First Nation on the draft assessment was incorporated, where noted.

The potential effects on Metlakatla First Nation interests listed in Table 13.1–2 were identified through ongoing consultation with Metlakatla First Nation. For each effect in Table 13.1–2, effect pathways and indicators/ measurable parameters have been identified to facilitate the quantitative and/or qualitative measurement of change in Project-specific and cumulative effects potentially caused by the Project.

Table 13.1–2 – Potential Effects, Effects Pathways and Indicators/Measurable Parameters for Metlakatla First Nation Interests

Potential Effect	Effect Pathway	Indicator and/or Measurable Parameter(s) and Units of Measurement
Changes to Metlakatla First Nation marine harvest and consumption	▪ Loss or alteration of preferred marine harvesting methods, locations, or opportunities (e.g., alteration to the cultural component of harvesting, interference with fishing equipment; alteration of access). ▪ Loss of time when harvesting, including when harvesting for Elders or redistribution to other Metlakatla First Nation members. ▪ Loss or alteration of harvested marine species including culturally critical species (e.g., change in species population health, abundance, migration routes, distribution, morbidity, and mortality). ▪ Alteration in marine species behaviour (e.g., noise pollution from marine vessels resulting in dispersal of preferred fish species from traditional harvesting areas) ▪ Alteration to the harvesting experience (e.g., noise pollution from marine vessels). ▪ Alteration or reduction of subsistence-based livelihoods and trade networks with neighbouring Indigenous nations ▪ Alteration to the quality and quantity of marine species and country foods (real or perceived) (e.g., marine birds, marine fish). ▪ Reduced safety or sense of safety of Metlakatla First Nation members travelling and harvesting marine resources. ▪ Alteration marine environments crucial for harvesting due to potential spills and contamination of harvested species (e.g., shellfish, seaweed).	▪ Quantitative consideration of change in availability of habitat for harvested marine resources with qualitative consideration for indirect effects on habitat (e.g., changes in underwater noise and sensory disturbances, changes in light conditions, increased risk of species mortality or injury). ▪ Quantitative consideration of change in water quality and quantity parameters (i.e., salinity, total suspended solids [mg/L], nutrients [nitrogen], hydrocarbon [from stormwater]). ▪ Qualitative consideration of factors contributing to lost or altered access, opportunities, and quality of experience (e.g., sensory disturbance associated with marine vessel traffic, increased vessel traffic and type, changes in aesthetic qualities). ▪ Qualitative consideration of estimated change in provision of food to Elders and hereditary leaders as well as feasting events. ▪ Qualitative consideration of estimated change to status building activities such as in-community and external trade relationships with other Indigenous nations. ▪ Qualitative consideration of the intersectionality of factors contributing to the distribution of disproportionate effects on Metlakatla First Nation sub-groups. ▪ Other changes identified by Metlakatla First Nation.

Table 13.1–2 – Potential Effects, Effects Pathways and Indicators/Measurable Parameters for Metlakatla First Nation Interests

Potential Effect	Effect Pathway	Indicator and/or Measurable Parameter(s) and Units of Measurement
Changes to Metlakatla First Nation terrestrial harvest and consumption	▪ Loss or alteration of preferred terrestrial harvesting methods, locations, or opportunities (e.g., alteration to the cultural component of harvesting, interference with traplines). ▪ Loss of time when harvesting, including when harvesting for Elders or redistribution to other Metlakatla First Nation members. ▪ Loss or alteration of harvested terrestrial species including culturally critical species (e.g., change in species population health, abundance, migration routes, distribution, morbidity, and mortality). ▪ Alteration to the harvesting experience. ▪ Alteration or reduction of subsistence-based livelihoods and trade networks with neighbouring Indigenous nations. ▪ Alteration to the quality and quantity of country foods (real or perceived).	▪ Quantitative consideration of change in availability of habitat for harvested terrestrial resources with qualitative consideration for indirect effects on habitat (e.g., changes in light conditions, increased risk of species mortality or injury). ▪ Qualitative consideration of factors contributing to lost or altered access, opportunities, and quality of experience (e.g., increased highway traffic and type, changes in aesthetic qualities). ▪ Qualitative consideration of estimated change in provision of food to Elders and hereditary leaders as well as feasting events. ▪ Qualitative consideration of estimated change to status building activities such as in-community and external trade relationships with other Indigenous nations. ▪ Qualitative consideration of the intersectionality of factors contributing to the distribution of disproportionate effects on Metlakatla First Nation sub-groups. ▪ Other changes identified by Metlakatla First Nation.

Table 13.1–2 – Potential Effects, Effects Pathways and Indicators/Measurable Parameters for Metlakatla First Nation Interests

Potential Effect	Effect Pathway	Indicator and/or Measurable Parameter(s) and Units of Measurement
Changes to Metlakatla First Nation governance, decision-making and economic development	▪ Alteration in the status and position of Hereditary leaders ▪ Loss or alteration in the production of foods from discrete house territories. ▪ Loss or alteration in the ability to uphold Metlakatla First Nation management principles and ability to make decisions regarding land and marine use. ▪ Loss or alteration in regional employment, business, and economy.	▪ Qualitative consideration of available opportunities for Metlakatla First Nation involvement in development decision-making. ▪ Qualitative consideration of change in the quality and quantity harvested resources at discrete house territories. ▪ Qualitative consideration of access to and use of house territories. ▪ Qualitative consideration of potential changes in level of feasting. ▪ Qualitative consideration of reduction in rank of a house due to disruption of their house territory. ▪ Qualitative consideration of estimated change to status building activities such as in-community and external trade relationships with other Indigenous nations. ▪ Qualitative consideration of Nation members' ability to access employment opportunities, training for youth and existing workforce. ▪ Qualitative consideration of the intersectionality of factors contributing to the distribution of disproportionate effects on Metlakatla First Nation sub-groups. ▪ Other changes identified by Metlakatla First Nation, including change in the ability of Metlakatla First Nation to meet its stewardship objectives, restricted range of options for stewardship management initiatives, change in the ability to monitor environmental conditions and recognition of jurisdiction and authority

Table 13.1–2 – Potential Effects, Effects Pathways and Indicators/Measurable Parameters for Metlakatla First Nation Interests

Potential Effect	Effect Pathway	Indicator and/or Measurable Parameter(s) and Units of Measurement
Changes to Metlakatla First Nation sacred places and heritage sites	▪ Loss or alteration of use or access or required conditions of sacred places and heritage sites. ▪ Loss or alteration of ability to share Indigenous knowledge at sacred places and heritage sites. ▪ Reduced quality of experience and increased avoidance due to sensory disturbance (e.g., qualitative disconnect due to changes in noise levels). ▪ Loss or alteration of heritage sites.	▪ Qualitative consideration of factors contributing to loss or altered access and opportunities (e.g., associated with marine vessel traffic, increased vessel traffic and type, changes in aesthetic qualities). ▪ Quantitative consideration of affected heritage and cultural sites. ▪ Qualitative consideration of the intersectionality of factors contributing to the distribution of disproportionate effects on Metlakatla First Nation sub-groups. ▪ Other changes identified by Metlakatla First Nation.
Changes to Metlakatla First Nation health, well-being, and safety	▪ Alteration in Indigenous health (e.g., psychological and physical) due to outside stressors and loss of culture. ▪ Loss or alteration in infrastructure, services, accommodation, and transportation. ▪ Loss or alteration to quality of country foods. ▪ Alteration to the safety of Nation members. ▪ Alteration to community health and well-being. ▪ Reduced safety or sense of safety of Metlakatla First Nation members travelling and harvesting marine resources.	▪ Qualitative consideration of Nation members' ability to access suitable accommodations, heath care and social services, emergency services, travel (land, sea, air). ▪ Qualitative consideration of factors contributing to changes in human exposure to chemicals of potential concern, quality of country foods, noise level and electric and magnetic fields, and subsequent health effects. ▪ Qualitative consideration of changes in community health and Nation members well-being due to changes to related interest (e.g., change in harvest and consumption, change in cultural identity). ▪ Qualitative consideration of the intersectionality of factors contributing to the distribution of disproportionate effects on Metlakatla First Nation sub-groups. ▪ Other changes identified by Metlakatla First Nation, changes identified by Metlakatla First Nation, including qualitative consideration in Metlakatla First Nation members' experiences of anxiety, fear, depression, and

Table 13.1–2 – Potential Effects, Effects Pathways and Indicators/Measurable Parameters for Metlakatla First Nation Interests

Potential Effect	Effect Pathway	Indicator and/or Measurable Parameter(s) and Units of Measurement
		solostalgia (i.e., distress caused by environmental change)
Changes to Metlakatla First Nation cultural identity	▪ Reduction or alteration of trust within the community. ▪ Reduction or alteration of norms of reciprocity within the community. ▪ Reduction or alteration of cultural practices tied to identity, including resource harvesting, feasts, potlatches and other events and practices. ▪ Reduction or alteration of participation in the community. ▪ Reduction or alteration of intergenerational solidarity and social networks of emotional, social, and spiritual support. ▪ Reduction of house status due to loss or alteration of harvested resources within discrete house territories and/or preferred harvesting areas. ▪ Reduction of cultural transference opportunities in the territory (i.e., intergenerational knowledge transmission). ▪ Reduction or alteration of community cohesion (i.e., alteration of sense of belonging and common identity, interpersonal and/or intergroup trust, norms of reciprocity, participation in community/cultural events, intergenerational solidarity and social networks of emotional, social and spiritual support).	▪ Qualitative consideration of change to community cohesion (e.g., alteration of sense of belonging and common identity, interpersonal and/or intergroup trust, norms of reciprocity, participation in community/cultural events, intergenerational solidarity and social networks of emotional, social and spiritual support; change in social and economic conditions due population influx; change in the number of people who know how and/or can hunt/ gather/ process/ redistribute traditional resources). ▪ Qualitative consideration of estimated change to status building activities, social role, and reciprocity due to a reduction in trade relationships and/or provisioning of resources within the community and/or with other Indigenous nations. ▪ Qualitative consideration of demographic instability resulting from new people coming into the community (e.g., Metlakatla members living off-reserve return to live in the village after securing employment in the region, or, conversely, Metlakatla members leaving the village because of job opportunities requiring relocation). ▪ Qualitative consideration of changes to the right to maintain cultural distinctiveness and integrity. ▪ Qualitative consideration of Metlakatla First Nation conditions for connection to their territory. ▪ Qualitative consideration of change in trust and community cohesion due to potential change in values (e.g., potential for disagreements within the community). ▪ Quantitative consideration of changes in harvesting opportunities.

Table 13.1–2 – Potential Effects, Effects Pathways and Indicators/Measurable Parameters for Metlakatla First Nation Interests

Potential Effect	Effect Pathway	Indicator and/or Measurable Parameter(s) and Units of Measurement
		▪ Qualitative consideration of changes to the frequency and ability to contribute resources and/or participate in cultural events and practices such as traditional funerals, feasts, resource sharing, harvesting, and teaching. ▪ Qualitative consideration of the intersectionality of factors contributing to the distribution of disproportionate effects on Metlakatla First Nation sub-groups. ▪ Other changes identified by Metlakatla First Nation, including a qualitative consideration of changes to language, sense of place, identity, spirituality and cultural keystone species and places
Changes to Metlakatla First Nation access and travel	▪ Loss or alteration of access to preferred terrestrial harvesting locations and associated travel routes. ▪ Loss or alteration of access to preferred marine harvesting locations and associated travel routes. ▪ Loss or alteration of access to sacred places and heritage sites and associated travel route. ▪ Loss or alteration of access to regional infrastructure and services (e.g., health centers, shopping centers) and associated travel routes (marine and terrestrial). ▪ Reduced safety or sense of safety of Metlakatla First Nation members when travelling and harvesting marine resources.	▪ Qualitative consideration of factors contributing to loss or altered access to important cultural areas. (e.g., sacred places, heritage sites, marine and terrestrial harvesting sites) and regional infrastructure and services (e.g., health centers, shopping centers). ▪ Qualitative consideration of factors contributing to loss or altered access to preferred travel routes on land and water (e.g., increased vessel traffic and type, increased highway traffic). ▪ Qualitative consideration of the intersectionality of factors contributing to the distribution of disproportionate effects on Metlakatla First Nation sub-groups. ▪ Other changes identified by Metlakatla First Nation.

Table 13.1–2 – Potential Effects, Effects Pathways and Indicators/Measurable Parameters for Metlakatla First Nation Interests

Potential Effect	Effect Pathway	Indicator and/or Measurable Parameter(s) and Units of Measurement
Changes to Metlakatla First Nation sense of place	▪ Disruption to sense of place. ▪ Changes to related Indigenous interests (e.g., changes to cultural identity, changes to access and travel, changes to sacred places and heritage sites).	▪ Qualitative consideration of changes to the right to maintain emotional and spiritual attachment to culturally important places within Metlakatla First Nation territory. ▪ Qualitative consideration of Metlakatla First Nation conditions for connection to their territory (change in peaceful enjoyment of lands and waters). ▪ Qualitative consideration of changes to related Indigenous interests (e.g., changes to cultural identity, changes to access and travel). ▪ Qualitative consideration of the intersectionality of factors contributing to the distribution of disproportionate effects on Metlakatla First Nation sub-groups. ▪ Other changes identified by Metlakatla First Nation, including attachment to place; experience of comfort, safety and wellbeing; meaningful shared experiences in place; memories of and in place; and rich sensory experience.

13.1.5 ASSESSMENT BOUNDARIES

The spatial, temporal, administrative, and technical boundaries for the assessment of effects on Metlakatla First Nation interests are described below.

13.1.5.1 Spatial Boundaries

The assessment areas are defined by spatial boundaries that consider the geographic extent over which Project activities may affect Metlakatla First Nation's interests and are illustrated in Figure 13.16–1 to Figure 13.16–11.

The spatial boundaries for this assessment are based on the Project components and activities, which include:

- **Project footprint**: the physical footprint for the Project (i.e., the areal extent of planned onshore clearing and marine infrastructure development at the Project Site (**the Site**). The Project footprint measures 43.6 hectares (**ha**), and encompasses terrestrial areas (34.9 ha), riparian areas (7.9 ha), and intertidal areas (0.8 ha). The adjacent Water Lot measures approximately 96.4 ha. The Project footprint has been defined conservatively to encompass the maximum extent for Project development for both land-based and marine-based Project infrastructure and activities.
- **Marine shipping route (MSR)**: the marine transit route between Wil Milit and the BC Coast Pilots boarding location at or near Triple Island Pilotage Station, and the materials and supply shipping routes between Wil Milit and Prince Rupert and between Wil Milit and Gingolx.
- **Open Water Assessment Area (OWAA)**: the open water marine shipping route between the 12 nm limit of Canada's territorial sea and the BC Coast Pilots boarding location at or near Triple Island Pilotage; as assessed for Air Quality (Section 7.02), Acoustic (Section 7.03), Wildlife and Wildlife Habitat (Section 7.07), Marine Resources (Section 7.09), Marine Use (Section 7.11), and Community Health and Wellness (Section 7.13). The OWAA includes the geographic extent over which direct and indirect effects may be expected to occur, and the geographic extent over which the predicted residual effects of the Project may act in combination with those of past, present, and reasonably foreseeable future projects.

The spatial boundaries for the assessment of third-party infrastructure that may be developed in relation to the Project include:

- **Transmission Line Assessment Area (TLAA):** the marine and/or terrestrial areas within which a portion of the transmission line between the Project and Nisga'a Lands (as defined under the Nisga'a Treaty) will be developed. A third-party will own, design, construct and operate the transmission line. The transmission line within the TLAA will connect to that portion of the transmission line that will be developed on Nisga'a Lands and connect to the BC Hydro grid at a substation in New Aiyansh. The TLAA encompasses portions of Nisga'a Category A Lands and the Nass Area. As a specific route for the transmission line has not been developed, the TLAA encompasses a broad area measuring approximately 36,400 ha, within which the route is anticipated to occur (Figure 13.16–12).

The Project footprint, MSR, OWAA, and TLAA are located within or intersect Metlakatla First Nation's traditional territory.

The assessment areas considered for the assessment of effects on Metlakatla First Nation interests include:

- **Local assessment areas (LAAs)**: the geographic extent over which direct (e.g., habitat loss) and indirect (e.g., sensory disturbance) effects may reasonably be expected to occur. As the LAAs are VC-specific, the LAAs of VCs that overlap Metlakatla First Nation's traditional territory are considered in turn throughout this assessment. All VC LAAs intersect with Metlakatla First Nation traditional territory (Figure 13.16–1 to Figure 13.16–11). The LAAs overlap with the Local Study Area identified in Metlakatla First Nation Traditional Knowledge and Use Study prepared for the Project (Metlakatla First Nation 2022)
- **Regional assessment areas (RAAs)**: the geographic extent over which the predicted residual effects of the Project may act in combination with those of past, present and reasonably foreseeable future projects. As the RAAs are VC-specific, the RAAs of VCs that overlap Metlakatla First Nation's traditional territory are considered in turn throughout the assessment of cumulative effects. All VC RAAs intersect with Metlakatla First Nation traditional territory (Figure 13.16–1 to Figure 13.16–11). The RAAs overlap with the Regional Study Area identified in Metlakatla First Nation Traditional Knowledge and Use Study prepared for the Project (i.e., within 25 km of proposed terrestrial Project components, as well as within the marine environment of Metlakatla traditional territory, with an additional 1 km buffer on the foreshore) (Metlakatla First Nation 2022)
- **Metlakatla First Nation Traditional Territory:** encompasses 19,920 km^2 in the North Coast Region of BC and extends from west of the coastal islands in eastern Hecate Strait to east of Lakelse Lake near Terrace. Portland Canal and Observatory Inlet mark the northern extent of their territory, and the headwaters of the Ecstall River mark the southern extent. Metlakatla First Nation territory includes the lower portions and the mouth of the Skeena River and its tributaries (Figure 13.16–1)

Descriptions of each of the VC LAAs and RAAs are provided in Sections 7.02 to 7.15 of the Application.

13.1.5.2 Temporal Boundaries

Temporal boundaries identify when an effect is evaluated in relation to specific Project phases and activities. Temporal boundaries are based on the timing and duration of Project activities and the nature of the interactions with Metlakatla First Nation's interests, where relevant. Temporal boundaries also consider seasonal sensitivities, as applicable, (e.g., seasonal harvesting) associated with Project activities within each Project phase.

The temporal boundaries for the assessment of effects on Metlakatla First Nation interests are the same as those described in Section 6.3.2:

- **Construction:** approximately three to four years, commencing following receipt of necessary regulatory approvals and a final investment decision by the Proponents
- **Operation:** a minimum of 30 years following completion of construction
- **Decommissioning:** approximately 12 months following the end of operation

13.1.5.3 Administrative and Technical Boundaries

Metlakatla First Nation administration, governance, and guardianship of its territory inform this assessment. The Project footprint, MSR, and OWAA are located within Metlakatla First Nation traditional territory. Metlakatla First Nation has developed several planning initiatives for the management of lands, waters, and resources within their traditional territory, including a draft marine use plan [MUP] (Metlakatla First Nation n.d.). The Metlakatla draft MUP is an ecosystem-based approach to help manage market and non-market marine resources within Metlakatla territory (Metlakatla First Nation n.d.). The implementation of the MUP is based on the needs and interests of Metlakatla community members and is guided by a full-time Community Coordinator and Marine Planning Committee comprised of Elders, Chiefs, council, and fisheries experts (Metlakatla 2022). Overall objectives of the draft MUP are intended to foster Government-to-Government negotiation and partnerships with various industries in collaboration with other Indigenous groups, if applicable (Metlakatla First Nation n.d.).

Metlakatla First Nation marine spatial planning describes place-based approaches that are rooted in the Nation's traditional management style (Metlakatla First Nation n.d.). Marine spatial planning offers Metlakatla First Nation families and clans the opportunity to maintain strong connection to place, through the practice of customary stewardship over their inherited lands and resources (Metlakatla First Nation n.d.). Through application of marine spatial planning, the draft MUP identifies 12 discrete Metlakatla Marine Use Zones within the Nation's traditional territory (Metlakatla First Nation n.d.) Three of the marine use zones – Duncan Bay Crab Management Area, Metlakatla Pass Management Area, and Lucy Islands – are located east and south of the MSR. Two of the marine use zones, Tree Knob Group Management Area and Melville Island Special Management Area, will be transected by the MSR. None of the marine use zones overlap with, or are in the vicinity of, the proposed Project footprint.

Section 13.1.5.1 further defines the way in which Project components and potential effects overlap with Metlakatla First Nation's territory; in addition to the existing marine use plan described above, Metlakatla First Nation's administration, governance and guardianship of its territory are described in Section 13.4 and inform this assessment.

13.1.6 PROJECT INTERACTIONS

Table 13.1–3 identifies which Project components and physical activities have the potential to result in effects on Metlakatla First Nation interests. Interactions that have been identified (ranked as 1 or 2) are carried forward and assessed within this section. Each of the effects identified are discussed in detail, in the context of effects pathways, mitigation/enhancement, and residual effects.

The highest-ranking interaction was selected in cases where multiple valued components or potential effects inform the Nation-specific assessment (e.g., change in marine habitat and changes due to sensory disturbance, which both inform Metlakatla First Nation's harvest and consumption practices). Ranking of interactions was further informed by input received from Metlakatla First Nation.

Rationale for interactions ranked as 0 is provided following Table 13.1–3.

Table 13.1–3 – Potential Project Interactions and Effects on Metlakatla First Nation Interests

Project Activities and Physical Works	Potential Project Effects							
	Change s to marine harvest and consumption	Changes to terrestrial harvest and consumption	Changes to governance, decision-making and economic development	Changes to sacred places and heritage sites	Changes to health, well-being, and safety	Changes to cultural identity	Changes to access and travel	Changes to sense of place
Construction								
Procurement of labour, goods, and services	1	1	1/+	1	1/+	1	1	1
Site preparation and clearing	2	2	2	2	2	2	2	2
Construction of temporary and permanent land-based infrastructure (includes transmission line within the TLAA)	2	2	2	2	2	2	2	2
Construction of temporary and permanent marine-based infrastructure (includes transmission line within the TLAA)	2	2	2	2	2	2	2	2

Table 13.1–3 – Potential Project Interactions and Effects on Metlakatla First Nation Interests

Project Activities and Physical Works	Potential Project Effects							
	Change s to marine harvest and consumption	Changes to terrestrial harvest and consumption	Changes to governance, decision-making and economic development	Changes to sacred places and heritage sites	Changes to health, well-being, and safety	Changes to cultural identity	Changes to access and travel	Changes to sense of place
Marine transport of workforce, and construction materials to the Site	2	2	2	2	2	2	2	2
Land transportation of workforce and construction materials from Terrace to Gingolx or Prince Rupert/Port Edward (for marine transport to Site)	2	2	2	2	2	2	2	2
Waste management	1	1	1	1	1	1	1	1
Operation								
Procurement of labour, goods, and services	1	1	1/+	1	1/+	1	1	1
Natural gas pre-treatment, liquefaction, storage and offloading of LNG and NGL products (condensate) at the floating liquefied natural gas (**FLNG**) production, storage and offloading facility barges (includes storage of NGLs)	2	2	2	2	2	2	2	2
LNG carrier and NGL product vessel loading	1	1	1	1	1	1	1	1
Marine shipping and transportation (includes tugs) to Site	2	2	2	2	2	2	2	2
Land transportation of workforce to Gingolx (for marine transport to Site)	2	2	2	2	2	2	2	2
Facility and infrastructure maintenance (includes transmission line within the TLAA)	2	2	2	2	2	2	2	2
Waste management	2	2	2	2	2	2	2	2
Temporary on-Site power generation on barges	2	2	2	2	2	2	2	2

Table 13.1–3 – Potential Project Interactions and Effects on Metlakatla First Nation Interests

Project Activities and Physical Works	Potential Project Effects							
	Change s to marine harvest and consumption	Changes to terrestrial harvest and consumption	Changes to governance, decision-making and economic development	Changes to sacred places and heritage sites	Changes to health, well-being, and safety	Changes to cultural identity	Changes to access and travel	Changes to sense of place
Decommissioning								
Procurement of labour, goods and services	1	1	1/+	1	1/+	1	1	1
Decommissioning or re-purposing of land-based infrastructure (includes transmission line within the TLAA)	2	2	2	2	2	2	2	2
Decommissioning of marine-based infrastructure (includes transmission line within the TLAA)	2	2	2	2	2	2	2	2
Land transportation of workforce to Gingolx (for marine transport to Site)	2	2	2	2	2	2	2	2
Marine transport of decommissioned infrastructure	1	1	1	1	1	1	1	1
Waste management	1	1	1	1	1	1	1	1

Key:

0 = Negligible or no effect expected; no further consideration warranted.

1 = Potential adverse effect that warrants consideration, and requires mitigation through current legal or policy management, best management practice(s) and/or Project-specific mitigation.

2 = Potential adverse effect of particular importance or concern that warrants further detailed assessment.

+ = Potential positive effect that can be enhanced; warrants further consideration.

13.1.7 RESIDUAL EFFECTS CHARACTERIZATION

Each residual effect on Metlakatla First Nation interests is characterized using the following characterization terms: magnitude, geographic extent, timing, duration, reversibility, frequency, affected sub-population, risk (likelihood and consequence). The definitions for these terms as they relate to this assessment are provided in Table 13.1–4.

Table 13.1–4 – Characterization of Residual Effects on Metlakatla First Nation Interests

Characterization	Description	Quantitative Measure or Definition of Qualitative Categories
Magnitude	The amount of change in measurable parameters or the ability to maintain the interest, relative to existing conditions.	**No Measurable Change –** no measurable change. **Low –** effect may increase the effort necessary but will not reduce the ability to exercise or practice rights / maintain the interest. **Moderate –** effect may reduce but not eliminate the ability to exercise or practice rights / maintain the interest. **High –** effect will greatly reduce or eliminate the ability to exercise or practice rights / maintain the interest.
Geographic Extent	The geographic area in which a residual effect occurs.	**Project footprint –** residual effects are restricted to the Project footprint. **OWAA –** residual effects are restricted to the OWAA. **LAAs –** residual effects extend into the LAAs. **RAAs –** residual effects extend into the RAAs. **MSR** – residual effects extend into the MSR. **Beyond Regional** – residual effects extend beyond the VC RAAs but are within or beyond Metlakatla First Nation traditional territory.
Timing	Considers when the residual environmental effect is expected to occur. Timing considerations are noted in the evaluation of the residual environmental effect on Indigenous interests, where applicable or relevant.	**Not Applicable** – seasonal aspects are unlikely to affect residual effects on the Indigenous interest. **Applicable** – seasonal aspects may affect residual effect on the Indigenous interest.
Duration	The length of time the residual effect is expected to persist or be experienced by Metlakatla First Nation.	**Short-term –** the residual effect is restricted to the construction phase (3 years), or decommissioning phase (12 months). **Medium-term –**the residual effect extends beyond the construction or decommission phases but is less than the timespan of a single human generation (25 years[1]). **Long-term –** the residual effect extends beyond the timespan of a single human generation (>25 years) and the operation phase (30 years).

Table 13.1–4 – Characterization of Residual Effects on Metlakatla First Nation Interests

<table>
<tr><th>Characterization</th><th>Description</th><th>Quantitative Measure or
Definition of Qualitative Categories</th></tr>
<tr><td>Reversibility</td><td>Pertains to whether or not the residual effect on the Indigenous interest can return to its existing condition after the Project activity ceases.</td><td>Reversible – the residual effect is likely to be reversed after activity completion and reclamation.
Partially reversible – the residual effect can be partially reversed after activity completion and reclamation.
Irreversible – the residual effect is unlikely to be reversed after activity completion and reclamation.</td></tr>
<tr><td>Frequency</td><td>How often the residual effect occurs and how often during the Project or in a specific phase.</td><td>Single event - effect occurs once.
Multiple irregular event – occurs at no set schedule.
Multiple regular event – occurs at regular intervals.
Continuous – occurs continuously.</td></tr>
<tr><td>Affected Sub-Populations (where appropriate)</td><td>The distribution of the effect amongst the Metlakatla First Nation population.</td><td>Evenly distributed – the effect will be experienced by any or all Metlakatla subpopulations.
Disproportionally distributed – the effect will be experienced only by certain Metlakatla subpopulations or experienced more acutely by certain Metlakatla subpopulations.</td></tr>
<tr><td>Risk (likelihood and consequences)</td><td>Assesses the likelihood and consequences of the potential residual effect. Likelihood is the probability of the residual effect occurring and should consider many factors. Consequence is the potential outcome of the residual effect.
Risk is the interaction between likelihood and consequence (see risk rating table).</td><td>Consequences: are assessed as minor, moderate, or major based primarily on a combination of Magnitude and Geographic Extent as:
<table>
<tr><th colspan="2" rowspan="2"></th><th colspan="2">Geographic Extent*</th></tr>
<tr><th>Project Footprint or LAA (if different from RAA)</th><th>RAA and/or OWAA</th></tr>
<tr><td rowspan="4">Magnitude</td><td>No Measurable Change</td><td>Minor</td><td>Minor</td></tr>
<tr><td>Low</td><td>Minor</td><td>Minor or Moderate</td></tr>
<tr><td>Moderate</td><td>Minor or Moderate</td><td>Moderate</td></tr>
<tr><td>High</td><td>Moderate or Major</td><td>Major</td></tr>
<tr><td colspan="4">*Where relevant, Duration is also taken into consideration (e.g., a high Magnitude event within the LAAs may be Moderate or Major in Consequence and Duration could be considered)</td></tr>
</table></td></tr>
</table>

Table 13.1–4 – Characterization of Residual Effects on Metlakatla First Nation Interests

<table>
<tr><th>Characterization</th><th>Description</th><th>Quantitative Measure or
Definition of Qualitative Categories</th></tr>
<tr><td></td><td></td><td>Likelihood: as defined in the Risk table below
Risk:
Low: Low risk/uncertainty of effect prediction
Moderate: Moderate risk/uncertainty of impact prediction
High: High risk/uncertainty of impact prediction
<table>
<tr><th colspan="2" rowspan="2"></th><th colspan="3">Consequence</th></tr>
<tr><th>Major</th><th>Moderate</th><th>Minor</th></tr>
<tr><td rowspan="3">Likelihood</td><td>High (>80% chance)</td><td>High</td><td>Moderate</td><td>Low</td></tr>
<tr><td>Medium (40-80% chance)</td><td>High</td><td>Moderate</td><td>Low</td></tr>
<tr><td>Low (<40% chance)</td><td>Moderate</td><td>Low</td><td>Low</td></tr>
</table></td></tr>
<tr><td>Uncertainty</td><td>The degree of uncertainty as assessed for the data and methods including potential effectiveness of mitigation that have been used in the assessment of effects.</td><td>Low – good understanding of the pathway to effect(s) on the Indigenous interest due to the Project activities and/or physical works and sufficient data is available to support the assessment. Uncertainty associated with data and/or modelling is low. The effectiveness of the selected mitigation is expected to be moderate to high. Overall, uncertainty in the predicted residual effect is low.
Moderate – potential uncertainty associated with the pathway to effect(s) on the Indigenous interest due to the Project activities and/or physical works, e.g., due to unknown external variables or incomplete data. Potential for uncertainty associated with data and/or modelling. The effectiveness of mitigation is expected to be moderate to low. Uncertainty in the predicted residual effect is considered moderate.
High – poor understanding of the pathway to effect(s) on the Indigenous interest due to the Project activities and/or physical works. May be unknown external variables and/or data for the Project is incomplete. Modelling results may vary considerably with inputs. The effectiveness of the mitigation may be expected to be low or is unproven. Overall, there is a high degree of uncertainty associated with the predicted residual effect.</td></tr>
</table>

Table 13.1–4 – Characterization of Residual Effects on Metlakatla First Nation Interests

Characterization	Description	Quantitative Measure or Definition of Qualitative Categories

NOTE:

[1] "Twenty-five years" is representative of a single generation as established by environmental assessments conducted for comparable projects on the North Coast and based on the Proponents' understanding that Indigenous knowledge and associated customs, traditions, practices, or locales, can be displaced from collective memory if transmission of knowledge, or the ability to engage in associated cultural activities, are disrupted beyond a single generation's time.

13.1.7.1 Context and Resilience

The characterization of every residual Project effect inherently considers the effects of past and present projects and activities, and potential trends in the condition of the Interest, as applicable. Literature reviewed, and feedback received from Metlakatla First Nation describes historical, ongoing, and future development as modifications to the existing conditions of their Interests.

Resilience is notionally understood as the ability of a receptor to recover from or adapt to a change in its environment, real or perceived. The degree of resilience may be measured or characterized for species or ecosystems relied upon by Indigenous peoples for the exercise of their rights, traditional activities, and practices. Such characterization may be relevant and incorporated into this assessment, where noted, given the interdependence of community health, well-being and culture and the health and availability of the land and water. However, the ability of Indigenous peoples to recover from or adapt to environmental effects of the Project remains contingent on personal, cultural, esthetic, or spiritual values that are subjective and cannot be meaningfully reduced to environmental assessment criteria. When applied to human receptors, resilience in this sense, or as a concept overall, is viewed as uniquely personal as it is informed by an individual's lived experience, individually and/or collectively in social and community groups. It would not be appropriate given the subjective and complex nature of these considerations for anyone but the affected party to characterize resilience. As such, the "context" or "resilience" criterion is not carried forward for the assessment of Project effects on the collectively held rights and interests of Metlakatla First Nation.

The more commonly understood and accepted criteria defined for this assessment, including: (1) consideration for disproportionate effects on vulnerable populations, (2) Metlakatla First Nation views regarding existing environmental, social or economic barriers, and (3) Metlakatla First Nation preferred conditions required to maintain or enhance their rights and Interests, are viewed as sufficient to assist the BC EAO in determining the overall seriousness of the Project effects on Metlakatla First Nation Interests.

13.1.7.2 Transmission Line Assessment Approach

As described in Section 13.1.5.1, a third-party will own, design, construct and operate the transmission line that is proposed within the TLAA, a portion of which will support the electrification of the Project. The third-party will be responsible for route selection and siting the proposed transmission line within the TLAA (Figure 13.16–12).

A high voltage (287 kV) electrical cable will be installed within the TLAA to distribute power to smaller substations, the FLNGs, and the plant buildings at the marine terminal location. While the transmission line route is not currently known, for the purposes of this assessment, the TLAA encompasses a broad area measuring approximately 36,400 ha, and represents the area within which the transmission line is expected to be installed (Figure 13.16–12). Preliminary transmission line scenarios, including aerial and submarine options, with segments of variable lengths have been identified as potential routes; however, final route selection will be the responsibility of the third-party owner. Installation methods associated with submarine route scenarios include the potential for areas of transmission line burial as well as areas of surface-lay on the seabed. The decommissioning plan is not currently known, so for the purposes of this assessment, two scenarios have been considered: removal or abandonment in place.

As described in Section 13.1.3, this assessment assumes that Indigenous and traditional use sites, activities and resources have the potential to occur on accessible land and waters within a Nation's territory and that Indigenous or traditional use species present within the TLAA could be hunted, trapped, fished, or gathered by Indigenous nations, even if Indigenous nations did not identify specific sites, areas or resources in relation to the TLAA.

Potential adverse residual effects identified within this assessment area in relation to the development of the proposed transmission line are not characterized. The potential effects associated with the construction, operation, and decommissioning of the portion of the transmission line within the TLAA are however considered in Section 13.10.2. Potential effects, effects pathways, and indicators / measurable parameters considered for the TLAA are the same as those identified in Table 13.1–2.

13.1.8 MITIGATION MEASURES

Mitigation and enhancement measures described throughout this Application are proposed to reduce adverse residual effects and enhance positive effects on Metlakatla First Nation interests, as applicable, and are discussed relative to specific potential effects for each of the identified Indigenous interests in Sections 13.2 to 13.9. These sections also describe:

- The criteria or rationale used to determine technically and economically feasible mitigation measures
- Additional accommodation, mitigations, complementary and enhancement measures that are specific to Metlakatla First Nation interests, as applicable
- The relative level of uncertainty, effectiveness, or risk associated with the accommodation, mitigation and complementary options

- An assessment of the effectiveness of the mitigation measures and adaptive management measures applied to mitigate the residual effects and cumulative effects
- In cases where measures to mitigate these effects are beyond the control of the Proponents, what parties have authority to act on the measures and commitments made by the other parties regarding the implementation of necessary measures and any associated communication plans
- A discussion of potential regional implications of applying Project-specific mitigation and enhancement measures (e.g., interactions with initiatives of other projects), taking into account any reasonably foreseeable development in the area
- How the measures will be integrated into the Project design, if applicable
- How the GBA Plus results in disproportionate effects specific to Metlakatla First Nation, as described in Section 7.13 Community Health and Wellness, have been used to inform these measures

Mitigation measures were selected based on:

- their effectiveness to limit Project interactions that affect Metlakatla First Nation interests during all Project phases
- their technical and economic feasibility
- their inclusion on similar projects proposed for the Pacific North Coast
- the views of Metlakatla First Nation regarding mitigation appropriateness
- and the professional judgment of the effects assessment team

A summary of mitigation or enhancement measures, review processes or monitoring initiatives for Metlakatla First Nation interests is described in Sections 13.2 to 13.9.

13.1.9 ASSESSMENT OF ADVERSE RESIDUAL EFFECTS

The assessment of residual effects is described for each of the identified Indigenous interests in Sections 13.2 to 13.9. This evaluation focuses on the effect pathways listed in Section 13.1.4 and characterizes adverse residual effects according to the approach described in Section 13.1.7. A summary of the assessment of adverse residual effects is described in Section 13.10.

Residual effects on aspects of Metlakatla First Nation interests identified for assessment have been conservatively overestimated with consideration for the interconnectedness of the effect pathways that inform Metlakatla First Nation interests. The analysis in Sections 13.2 to 13.9 incorporates the findings of relevant VCs; however, potential effects may not fully align with effects on Metlakatla First Nation interests. As a result, the characterization of residual effects on Metlakatla First Nation interests are generally ranked higher than the residual effects characterized for related VCs, specifically, duration, magnitude, and likelihood. This is considered when evaluating the need for additional mitigation and enhancement measures, review processes, or monitoring initiatives that are specific to Metlakatla First Nation interests.

13.1.10 ASSESSMENT OF POSITIVE RESIDUAL EFFECTS

The assessment of any positive residual effects to Metlakatla First Nation interests, where anticipated because of the Project and its associated effects management approaches is provided in Section 13.11.

13.1.11 ASSESSMENT OF CUMULATIVE EFFECTS

The assessment of cumulative effects is initiated when the following two conditions are met:

- The Project is assessed as having residual effects on the Indigenous interest
- Residual effects could act cumulatively with residual effects of other past, present, or reasonably foreseeable future physical activities

If neither condition is met, the assessment of cumulative effects concludes with a statement that further assessment of cumulative effects is not warranted because the Project does not interact cumulatively with other projects or activities.

When both conditions are met, the Application identifies the Project residual effects likely to interact cumulatively with the residual effects of other projects or physical activities.

The assessment of the Project's contribution to cumulative effects on Metlakatla First Nation interests and the identification of any additional mitigation measures is described for the identified Indigenous interests in Section 13.12 (Cumulative Effects Assessment). The assessment of cumulative effects includes:

- Background and context, including how the identified Indigenous interests have been affected by cumulative effects to date
- A description of the Project's residual effects on Metlakatla First Nation interests that are likely to interact cumulatively with residual effects of past, present, or reasonably foreseeable projects and physical activities
- An assessment of the likelihood of any adverse residual cumulative effects on the Indigenous interests

A summary of the results of the cumulative effects assessment is described in Section 13.13.

13.2 Changes to Metlakatla First Nation Marine Harvest and Consumption

This section provides the assessment of potential Project effects on Metlakatla First Nation marine harvest and consumption.

13.2.1 BACKGROUND AND EXISTING CONDITIONS

The marine harvesting and foreshore harvesting VCs are related to Metlakatla First Nation marine harvest and consumption (Metlakatla First Nation 2022). Marine harvesting includes fishing for a range of marine species, as well as harvesting of crab and roe on kelp (Metlakatla First Nation 2022). Foreshore harvesting includes harvesting of shellfish, seaweed, and other resources in intertidal areas (Metlakatla First Nation 2022). Metlakatla First Nation identified 17 marine harvesting sites (or values) within the Project

footprint, 24 within their local study area and 30 within their regional study area (i.e., along the MSR) (Metlakatla First Nation 2022). Marine harvesting values include areas used for harvesting chinook, chum, coho, pink and sockeye salmon, catch sites for halibut and steelhead trout, camps used for fishing, general fishing areas of value and harvesting locations for crab and abalone (Metlakatla First Nation 2022). Metlakatla First Nation identified 1 foreshore harvesting site within the Project footprint, 6 within their local study area and 14 within their regional study area (i.e., along the MSR) (Metlakatla First Nation 2022). Foreshore values include seaweed harvesting locations, areas used for the collection of black chitons, blue mussels, clams, purple sea urchins, and sea cucumber (Metlakatla First Nation 2022).

Marine harvesting is a central pillar of Metlakatla First Nations use and remains fundamental for income generation and health for many Metlakatla First Nation members (Metlakatla First Nation 2022). Foreshore harvesting for species such as shellfish and seaweed are also considered vital practices that Metlakatla First Nation "cannot go without" (Metlakatla First Nation 2022:33). Metlakatla First Nation are therefore deeply connected to the marine environment and resources within their traditional territory (Cedar 2022a, b). Metlakatla First Nation consider their Nation member's health and well-being to be closely connected to ecosystem health (Metlakatla n.d.). Metlakatla First Nation have maintained use and occupancy of their marine territories and outer islands despite pressures and conflict with other Indigenous nations during historical times (Cedar 2022a, b). Metlakatla First Nation marine territories and harvesting practices continue to be an important component of the Nation's way of life, with connection to the Nation's food security, access to country foods, subsistence, economic prosperity and cultural identity (Cedar 2022a, b). When Metlakatla First Nation engage in commercial fishing, fish are also harvested for sustenance for family members and fish are considered "especially important to support large extended families" (Metlakatla First Nation 2022:27). Sharing among community members is a key element of marine harvesting and is crucial for food security, with catches distributed among family, friends, and elders and preserved for year-round consumption (Metlakatla First Nation 2022). For Metlakatla First Nation, marine harvesting "is not only a source of income and food, but also a way of life" (Metlakatla First Nation 2022:27). Metlakatla First Nation engage in marine harvesting, both commercially and for subsistence, along the MSR and in the vicinity of the Project footprint (Metlakatla First Nation 2022).

By the eighteenth century Metlakatla First Nation established seasonal resource gathering practices and would travel to various marine harvesting sites and camps throughout their territory; this practice is called a seasonal round (Cedar 2022a, b; Metlakatla First Nation 2022). Prior to colonization the supply of marine resources for the purpose of trade and subsistence were bountiful and consistent (Cedar 2022a, b). Presently, food security is a concern among Metlakatla First Nation members (Metlakatla First Nation 2022). Community surveys conducted by Metlakatla First Nation revealed that on average, Nation members feel they do not get enough access to country foods, and they seek to increase the quantity of harvested species such as salmon and crab (Metlakatla n.d.). During the spring, eulachon is the first harvested fish species to return from the ocean to the rivers in BC. Harvesting eulachon is important to Metlakatla First Nation for purposes of subsistence, trade, and eulachon oil production (Metlakatla n.d.). Metlakatla First Nation have observed declines in eulachon abundance along the south

and central coast which they attribute to cumulative impacts of shrimp trawling, loss of habitat due to dredging and logging, as well as warming waters and shoreline pollution (Metlakatla n.d.).

In late spring and summer each year, Metlakatla First Nation harvest seaweed and herring roe at historic seaweed camps, perpetuating multi-generation harvesting practices in the Prince Rupert area and beyond (Cedar 2022a, b). Seaweed, such as giant kelp, has social and cultural significance for Metlakatla First Nation, and is often used for medicinal purposes (Cedar 2022a, b). Herring will spawn on seaweed (or hemlock boughs) set by Metlakatla First Nation members, and herring roe-on-kelp (or branches) are often harvested from nearshore areas (Cedar 2022a, b). Herring roe is a good source of nutrition and is also used for ceremonial purposes by Metlakatla First Nation (Cedar 2022a, b). During the late spring and summer, Metlakatla First Nation travel along the coast of Chatham Sound to harvest abalone, octopus, salmon, sea cucumber and sea urchins (Cedar 2022a, b). Northern abalone has traditionally been a staple in Metlakatla diets, and the species is primarily harvested within intertidal zones (Metlakatla n.d.). Since the late 1970's, Metlakatla First Nation have become concerned about the health and abundance of Northern abalone due to perceived impacts from increased recreational activities, such as scuba diving and fishing, and the lack of monitoring and enforcement of abalone poachers in the area (Metlakatla n.d.). Halibut is also caught during the spring months, along with lingcod, Pacific cod, Pacific herring, red snapper and rockfish (Cedar 2022a, b). Seagull and oystercatcher eggs are also harvested in the month of June, from Islands just west of the Prince Rupert Harbour (Cedar 2022a, b).

Through the summer and into autumn, from June to October, Metlakatla First Nation harvest five different salmon species, largely from the Skeena watershed when the salmon are spawning (Cedar 2022a, b). Metlakatla First Nation have a deep cultural and spiritual connection with salmon, which evolved over generations due to the reliance on the abundance of salmon as means of subsistence, and livelihood (Metlakatla n.d.).

Winter harvests occur from permanent winter villages in the Prince Rupert area and consist mainly of invertebrates and shellfish such as butter clams, cockles, mussels, rock scallops, slippers, and occasionally seal, sea lion and sea otter from November to February (Cedar 2022a, b). Metlakatla First Nation have indicated that cockles, clams and other shellfish remain at risk because of degrading environments and pollution from raw sewage and surrounding local industry and development (Metlakatla n.d.). Crab is one of the most harvested and consumed species of shellfish by Metlakatla First Nation; over time, community members have observed declines in crab abundance and quality (Cedar 2022a, b). Over the last decade the quality and abundance of crab has declined to the point that Metlakatla First Nation consider their section 35 Rights are being infringed upon (Metlakatla n.d.). Metlakatla First Nation have reported increasing pressures on marine environments, declining resources, harvesting restrictions, and degraded conditions along the northwest coast, which have created additional pressure on Metlakatla First Nation marine harvesting efforts (Cedar 2022a, b). In addition, commercial harvest within Metlakatla territory increases safety risks to Metlakatla vessels, endangering passengers, such as school children, due to increased marine traffic and accidents caused by loose fishing lines that become entangled in Metlakatla vessel propellers (Metlakatla n.d.).

Metlakatla First Nation have observed general fish stock declines (e.g., salmon, crab, and herring roe on kelp), commercial and sports overfishing, as well as the effects of pollution, climate change, and excessive noise in the marine environments of the Project footprint and MSR (Metlakatla First Nation 2022). Some community members have described their current ability to harvest marine species as "heavily impacted due to acute decreases in abundance and health of populations" (Metlakatla First Nation 2022:29). Metlakatla First Nation members have experienced fisheries closures and have had their licenses stalled due to lack of abundant species; a trend that has been observed each decade since the 1970's (Metlakatla First Nation 2022). Metlakatla First Nation have also observed the impacts of oil and fuel spills resulting in contamination and loss of foreshore resources and increased pressure on foreshore resources from additional harvesters (i.e., sports fishermen, non-Indigenous harvesters) within their traditional territory (Metlakatla First Nation 2022). Metlakatla First Nation have also experienced reduced access to foreshore harvesting sites due to increased marine vessels in their territory and congestion caused by numerous ships anchoring at preferred harvesting areas (Metlakatla First Nation 2022). This has resulted in Metlakatla First Nation members having to travel further to harvest shellfish and other foreshore resources in sufficient quantities (Metlakatla First Nation 2022).

13.2.2 PROJECT PATHWAYS

All phases of the Project (construction, operation, decommissioning) have the potential to affect Metlakatla First Nation marine harvest and consumption. Changes to Metlakatla First Nation marine harvest and consumption could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

The conclusions in this section are informed by the results of engagement with Metlakatla First Nation, the literature review, and related biophysical VC assessments presented in the Application.

13.2.3 MITIGATION AND ENHANCEMENT MEASURES

Mitigation measures were selected based on the consideration described in Section 13.1.8 and are intended to be implemented in combination with Project design considerations and measures to mitigate and enhance potential effects of the Project on environmental resources and conditions that support Metlakatla First Nation marine harvest and consumption. A complete listing of measures can be found in Appendix A and additional details can be found in the following VC Sections:

- Air Quality (Section 7.02)
- Acoustic (Section 7.03)
- Wildlife and Wildlife Habitat (Section 7.07)
- Marine Resources (Section 7.09)
- Marine Use (Section 7.11)
- Human Health (Section 7.14)

Table 13.2–1 provides additional mitigation and enhancement measures to further avoid or reduce impacts to Metlakatla First Nation interests, including marine harvest and consumption. In conjunction with these measures, the Proponents will develop and implement a Project-specific construction environmental management plan that describes the mitigation and enhancement measures tied to Project-related activities and physical works associated with construction. The construction environmental management plan will be incorporated into appropriate construction-related contracts.

Table 13.2–1 – Mitigation and Enhancement Measures Proposed to Avoid or Reduce Potential Effects on Metlakatla First Nation Interests

Mitigation/Mitigation Mechanism	Rationale for Selection	Expected Success/Risks and Uncertainty	Timing	Management and/or Compensation Plans
Mitigation IN-1: The Proponents will continue to work with Metlakatla First Nation to develop a shared understanding of how the Project may affect their Indigenous interests. The Proponents will continue engaging with Metlakatla First Nation to discuss the Project and its effects, understand concerns that may arise and respond to those concerns. **Mechanism:** The Proponents will continue to work with Metlakatla First Nation to explore opportunities to further mitigate adverse effects to Metlakatla First Nation's interests and enhance Project benefits. Through ongoing engagement (i.e., throughout the life of the Project) and in development of the Indigenous Engagement and Collaboration Plan and the social and economic effects management plan, the Proponents aim to maintain a positive long-term relationship with Metlakatla First Nation.	This measure was selected based on their effectiveness to mitigate potential changes in health, technical and economic feasibility, their inclusion as mitigation measures in similar Projects proposed for the Pacific North Coast, the views of Metlakatla First Nation regarding mitigation appropriateness, and professional judgment of the effects assessment team.	**Expected Success:** The success of this measure is contingent upon Metlakatla First Nation willingness to engage with the Proponents, Metlakatla First Nation's specific communication protocol needs, and implementation of additional public notices. **Risk and Uncertainty:** Low.	**Project Phase:** All phases **Effectiveness**: This mitigation measure is effective in the long-term.	Indigenous Engagement and Collaboration Plan Construction environmental management plan Health and medical services plan social and economic effects Management plan

13.2.4 PROJECT RESIDUAL EFFECT

During the construction phase, two floating liquefied natural gas (FLNG) production, storage and offloading facility barges will be towed through the OWAA and MSR for installation at the Project footprint. During the decommissioning phase, the FLNG barges will either be moved to a Canadian shipyard or a foreign shipyard for re-furbishing or salvage. If the FLNG barges are destined for a Canadian shipyard, they would be towed through the MSR and south along the coast of BC during the decommissioning phase. If the FLNG barges are destined for a foreign shipyard, they would be towed through the MSR and the OWAA during the decommissioning phase. FLNG barge transits through the MSR and OWAA during the construction phase and the decommissioning phase represent single events.

The Project is not predicted to result in a change in the quality of country foods harvested within the Human Health LAA, the MSR, the OWAA, and the Project footprint during the operation phase; all exposure pathways for country foods are inoperable (Section 7.14). Residual effects on air quality are predicted within the Air Quality LAA, the Project footprint, and along the OWAA and MSR during the operation phase, however, the predicted criteria air contaminants are less than the applicable regulatory criteria at all receptors in the vicinity of the Project footprint, including sensitive receptors (i.e., vegetation, aquatic ecosystems, human health) (Sections 7.02 and 7.14). Along the Air Quality LAA, the MSR and the OWAA, emission concentrations do not persist in one location due to the transient nature of the LNG carrier and tugboat, and concentrations decrease rapidly with increasing distance from the sources (Sections 7.02 and 7.14). Noise levels will increase during the operation phase within the Acoustic LAA, the Project footprint, the MSR and OWAA but will comply with federal and provincial noise guidance at most receptors (Sections 7.03 and 7.14). Sensory disturbances (including perceived change in air quality and noise levels) may result in an alteration to Metlakatla First Nation harvesting experience and associated activities during the operation phase.

Project construction will result in a direct habitat loss or alteration of marine bird habitat throughout the Wildlife and Wildlife Habitat Marine Terminal LAA and Project footprint due to vegetation clearing and Site preparation activities (Section 7.07). Underwater noise will also be emitted into the marine environment at the Wildlife and Wildlife Habitat Marine Terminal LAA and Project footprint (e.g., through pile installation, infilling, idling vessels) during the construction phase (Section 7.09). Construction activities at the Wildlife and Wildlife Habitat Marine Terminal LAA and Project footprint will affect the behaviour and movements of Metlakatla First Nation culturally important marine birds, marine fish (e.g., Pacific herring, eulachon), and marine mammals (e.g., baleen whales, sea lions) (Sections 7.07 and 7.09).

During the operation phase, approximately 140 to 160 Project-related LNG carriers and 8 to 12 NGL product vessels travelling at speeds of 12 to 19 knots/hour will transit the OWAA and MSR. An LNG carrier will therefore transit the OWAA and MSR approximately every 2.3 days during the operation phase (30 years). The Project is not predicted to result in a change in the quality of country foods harvested within the Human Health LAA, the MSR, the OWAA, and in the vicinity of the Project footprint during the operation phase; all exposure pathways for country foods are inoperable (Section 7.14). Residual effects on air quality are predicted within the Air Quality LAA, and at the Project facility, and along the OWAA and

MSR during the operation phase, however, the predicted criteria air contaminants are less than the applicable regulatory criteria at all receptors in the vicinity of the Project footprint, including sensitive receptors (i.e., vegetation, aquatic ecosystems, human health) (Sections 7.02 and 7.14). Within the Air Quality LAA, the MSR and the OWAA, emission concentrations do not persist in one location due to the transient nature of the LNG carrier and tugboat, and concentrations decrease rapidly with increasing distance from the LNG carrier and tugboat emission sources (Sections 7.02 and 7.14). Noise levels will increase during the operation phase in the Acoustic LAA, the Project footprint and along the MSR and OWAA but will comply with federal and provincial noise guidance at most receptors (Sections 7.03 and 7.14). Sensory disturbances (change in air quality and noise levels) may result in an alteration to Metlakatla First Nation harvesting experience during the operation phase within applicable VC LAAs.

During the operation phase, an indirect loss or alteration of marine bird habitat within the Wildlife and Wildlife Habitat LAA and at the Project footprint will occur due to sensory disturbance (i.e., reduced habitat effectiveness) (Section 7.07). Physical and sensory barriers may present semi-permeable barriers that can result in temporary local shifts in wildlife distributions in the vicinity of the Project footprint, but the sustainability of regional marine bird populations is not expected to be adversely affected (Section 7.07). Project activities (shipping and activities at the Project footprint) may increase marine bird mortality risk and some mortality events may be unavoidable, but the sustainability of regional marine bird populations harvested and consumed by Metlakatla First Nation is not expected to be adversely affected (Section 7.07).

Marine shipping activities during the operation phase may adversely affect Metlakatla First Nation marine harvest and consumption by altering the abundance and distribution of fish and marine mammals within the Marine Resources LAA, the OWAA, the MSR and in the vicinity of the Project footprint (Section 7.09). Vessel wakes produced during operation will result in increased wave activity throughout the Marine Resources LAA, the OWAA and MSR, however they are not expected to result in additional shoreline erosion, degradation of marine vegetation or meaningful increases to total suspended solids (TSS) when compared to natural wave action in the area (Section 7.09). Underwater noise will be emitted into the marine environment at the Marine Resources LAA, the Project footprint (e.g., seawater intakes) and along the MSR and OWAA (e.g., LNG carrier and tugboats underway) during the operation phase, however, noise is not expected to exceed the threshold of injury for species of cultural importance to Metlakatla First Nation (Section 7.09).

The Project is not expected to result in residual effects that may adversely affect the long-term persistence of any marine population harvested and consumed by Metlakatla First Nation. A measurable change in the productivity of relevant fish, invertebrate, marine mammal, or sea turtle populations is not predicted within the Marine Resources LAA, the OWAA, the MSR and the Project footprint (Section 7.09). Population-wide effects to any culturally important marine mammal species caused by vessel strikes are not anticipated (Section 7.09). During all Project phases, Project activities may increase mortality risk for marine birds and some mortality events may be unavoidable, but the sustainability of regional populations within the Marine Resources LAA, the OWAA, the MSR and in the vicinity of the Project footprint are not expected to be adversely affected (Section 7.07).

A measurable change in Metlakatla First Nation marine access along the Marine Use LAA, the OWAA, the MSR and in the vicinity of the Project footprint is predicted to occur during the operation phase due to the increase in marine shipping activity, however, as the Project is expected to comply with existing marine use plans and participate in federal initiatives and requirements (e.g., development and implementation of recommendations from a Navigational Safety Assessment), it is not expected to create a change or disruption that widely reduces or restricts Metlakatla First Nation present marine access and use activities to a point where they cannot continue at current activity levels (Section 7.11). Marine navigation is unlikely to be affected as the waters of the Marine Use LAA, the OWAA and MSR are open and not confined by geography, allowing adequate space for Metlakatla First Nation marine users to navigate.

All the residual effects identified above are predicted to result in residual effects on Metlakatla First Nation marine harvest and consumption. For example, Metlakatla First Nation may experience alienation of harvesting sites or avoidance of harvesting sites due to sensory disturbances (real or perceived; change in air quality and noise levels). Although marine navigation is unlikely to be affected, Metlakatla First Nation may perceive access and navigation to be affected (e.g., change in sense of safety), and this in turn could lead to a change in harvesting success if Nation members are unable to access preferred harvesting areas or, are unable to harvest using preferred methods. Although all exposure pathways for change in country foods were determined to be inoperable (Section 7.14), Metlakatla First Nation may perceive a change in the quality or safety of country foods harvested from shoreline and/ or marine environments, and therefore may have less confidence in harvestable resources, which could, in turn, result in a change in harvesting success.

With the implementation of mitigation measures outlined in Table 13.2–1 and Appendix A, residual effects on Metlakatla First Nation interests related to marine harvest and consumption during all Project phases are anticipated to be moderate in magnitude within the applicable VC LAAs, the OWAA, the MSR and the Project footprint, inclusive of timing considerations due to the seasonal movements of migratory species. Residual effects are short-term during the construction and decommissioning phases and will occur as multiple irregular events. Residual effects are long-term (lasting for longer than one generation [25 years]) during the operation phase and will occur as multiple regular events. However, residual effects are considered reversible during all phases as they are primarily tied to marine shipping; the effects cease once the FLNG barges, LNG carriers, tugs, and crew vessels pass through the applicable VC LAAs, the MSR and OWAA, and noise levels and air quality will return to current conditions once Project activities cease. The risk of a residual effect on Metlakatla First Nation marine harvest and consumption is moderate (moderate consequence, high likelihood) during all phases, with moderate uncertainty due to unknown external variables. The LNG carriers, tugs, and crew vessels will transit an established shipping route where marine and other cultural activities will be able to safely continue in a manner that is generally consistent with existing conditions.

13.3 Changes to Metlakatla First Nation Terrestrial Harvest and Consumption

This section provides the assessment of the Project's potential effects on Metlakatla First Nation terrestrial harvest and consumption.

13.3.1 BACKGROUND AND EXISTING CONDITIONS

Metlakatla First Nation identified the following values associated with terrestrial areas in the vicinity of the Project footprint and the MSR (i.e., within the Project footprint, local study area and regional study area as identified in the Metlakatla First Nation Traditional Knowledge and Use Study prepared for the Project (Metlakatla First Nation 2022). These include locations for collecting plant resources including cedar bark and devils club, and areas used for harvesting blueberries and seagull eggs (Metlakatla First Nation 2022). Metlakatla First Nation identified no terrestrial sites (or values) within the Project footprint, four within their local study area and four within their regional study area (i.e., along the MSR) (Metlakatla First Nation 2022).

Discrete lineages within the broader Metlakatla First Nation maintain hunting and harvesting areas that are managed by "houses" of "house groups" (Vopak 2020). Metlakatla First Nation has noted that houses are responsible for managing any observed declines in species or resource abundance and may choose not to hunt or harvest in a particular area to allow the resource populations to increase or attain adequate conditions for harvest (Vopak 2020). Traditionally, Metlakatla First Nation hunted bear, mountain goat, beaver and deer in the summer months. In the winter months, mountain goat and moose were hunted as well as elk, sheep, mountain lions and bears (Vopak 2020). Metlakatla First Nation also trap fur-bearing species including beaver, mink, marmot, lynx, raccoon, hare, porcupine, muskrat, and fox. Metlakatla First Nation harvests huckleberries, cow parsnips, salmonberries, soapberries, black currants, red currants, bunchberries, great currants (stinkberries), gooseberries, raspberries, strawberries, licorice root, devil's club, fireweed, Hudson Bay tea, crab apples, and unspecified medicinal plants. Additionally, alder, cedar, spruce, lodgepole pine, hemlock, skunk cabbage, salal, ferns, lichens and various berries are harvested for subsistence, medicinal, ceremonial, clothing, and tool-making purposes (Vopak 2020).

Metlakatla First Nation reported that the heritage features and associated harvesting sites within their territory remain important to Metlakatla First Nation and that traditional feast tables must still include wild meats, sprouts, roots, berries and other traditional delicacies. Metlakatla First Nation members continue to harvest the same resources in ancient sites in the present day. All the Metlakatla First Nation reserves were set aside for the purpose of harvesting salmon, shellfish, and all other marine and terrestrial resources for the Metlakatla people (Metlakatla First Nation 2012; Metlakatla First Nation 2022).

Metlakatla First Nation has previously expressed concerns about industrial projects and associated marine shipping activities interfering with the Nation's marine access to terrestrial harvesting locations on islands adjacent to MSRs. There is also concern regarding the impact of development on wildlife habitat and alteration of wildlife movement patterns (Cedar 2022a, b).

13.3.2 PROJECT PATHWAYS

All phases of the Project (construction, operation, decommissioning) have the potential to affect Metlakatla First Nation terrestrial harvest and consumption. Changes to Metlakatla First Nation terrestrial harvest and consumption could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

The conclusions in this section are informed by the results of engagement with Metlakatla First Nation, the literature review, and related biophysical VC assessments presented in the Application.

13.3.3 MITIGATION AND ENHANCEMENT MEASURES

Mitigation measures were selected based on the considerations described in Section 13.1.8 and are intended to be implemented in combination with Project design considerations and measures to mitigate and enhance potential effects of the Project on environmental resources and conditions that support Metlakatla First Nation terrestrial harvest and consumption. A complete listing of measures can be found in Appendix A and additional details can be found in the following VC Sections:

- Air Quality (Section 7.02)
- Acoustic (Section 7.03)
- Wildlife and Wildlife Habitat (Section 7.07)
- Human Health (Section 7.14)

Table 13.2–1 provides the additional mitigation and enhancement measures to avoid or reduce impacts to Metlakatla First Nation terrestrial harvest and consumption.

13.3.4 PROJECT RESIDUAL EFFECT

As described in Section 13.2.4, changes in air quality and noise are predicted within applicable VC LAAs, the Project footprint and along the MSR and OWAA during all Project phases. The Project is not predicted to result in a change in the quality of country foods within applicable VC LAAs, during any of the Project phases as all pathways are inoperable.

Project construction will result in a direct habitat loss or alteration of terrestrial wildlife habitat throughout the Wildlife and Wildlife habitat LAA and the Project footprint due to vegetation clearing and Site preparation activities and an indirect loss or alteration of terrestrial wildlife habitat at the Project footprint will occur during the operation phase due to sensory disturbance (i.e., reduced habitat effectiveness). These activities and associated residual effects on terrestrial wildlife will however occur on Nisga'a Category A lands that are not accessible to Metlakatla First Nation, however, through engagement with Metlakatla First Nation, the Proponents understand that Metlakatla First Nation asserts "its right to harvest terrestrial resources in the study area, which is located within its territory".

Metlakatla First Nation may however encounter alteration of the harvesting experience at terrestrial harvesting sites adjacent the applicable VC LAAs, the MSR, the OWAA, and in the vicinity of the Project footprint due to real or perceived sensory disturbances associated with the increase in LNG carriers and associated change in air quality and noise levels (primarily during the operation phase). Shipping activities

and associated residual effects may reduce Metlakatla First Nation terrestrial harvesting activities within their territory that they rely upon for Food, Social and Ceremonial (FSC), economic, subsistence, trade, and other purposes.

With the implementation of mitigation measures outlined in Table 13.2–1 and Appendix A, a low magnitude residual effect on Metlakatla First Nation terrestrial harvest and consumption is anticipated at terrestrial harvesting sites within applicable VC LAAs, and adjacent the MSR and OWAA, and in the vicinity of the Project footprint due to potential changes in overall quality of the harvesting experience. Residual effects are short-term during the construction and decommissioning phases and will occur as multiple irregular events. Residual effects are long-term (lasting for longer than one generation [25 years]) during the operation phase and will occur as multiple regular events. Residual effects are considered reversible during all Project phases as they are tied to marine shipping; the effects cease once the vessels pass through the applicable VC LAAs, the MSR and OWAA. The risk of a residual effect on Metlakatla First Nation terrestrial harvest and consumption is moderate (moderate consequence, high likelihood) during all Project phases, with moderate uncertainty due to unknown external variables.

13.4 Changes to Metlakatla First Nation Governance, Decision Making and Economic Development

This section provides the assessment of potential Project effects on Metlakatla First Nation governance, decision-making and economic development.

13.4.1 BACKGROUND AND EXISTING CONDITIONS

Metlakatla First Nation are one of two modern nations that comprise the Coast Tsimshian (Metlakatla First Nation 2022). The other nation is Lax Kw'alaams Band (Metlaktala First Nation 2022). Both nations share a collective history, as descendants of the Coast Tsimshian alliance of Nine Tribes (Metlaktala First Nation 2022). Metlakatla First Nation are the northernmost community of the Coast Tsimshian people (Cedar 2022a, b; Metlakatla n.d.). The Nine Allied Tribes or *waaps* (house groups) of the Coast Tsimshian include: the Gispaxlo'ots, the Gitzaxlaal, the Gitlaan, the Gitsi'iis, the Gitnaxangiik, the Gitando, the Gitusta'aw, the Gitnadoiks, and the Gitwilgyoots (Cedar 2022a, b; Metlakatla n.d.; Metlakatla First Nation 2022). Combined, the tribes span the Great Bear Rainforest from the Portland Canal and Observatory Inlet in the north, to Escstall River in the south, and from the coastal islands of eastern Hecate Strait in the west, to Lakelse lake just outside of Terrace in the east (Metlakatla n.d.). Each territory of the Nine Tribes of the Coast Tsimshian society is comprised of several socio-political institutions including house, tribe, region, nation, clan and lineage (Metlakatla First Nation 2022). Along the Skeena River and its tributaries, each of the Metlakatla house groups or tribes own territory, and each territory includes a summer village and several resource-use camps. A territory is a clan stewardship area which is passed down from generation to generation and carries the entitlement of ownership of the watershed that comprises the territory (Metlakatla First Nation 2012). The pre-contact economy of Metlakatla First Nation centered on fishing, hunting, and harvesting resources from their territories of each house group and shared village use areas and it involved the "careful processing and storage of the preserved products, and strategic deployment of surplus production in feasting and trade"

(Metlakatla First Nation 2022:16). The post-contact economy of Metlakatla First Nation evolved into a wage-based economy, with members participating in the fur trade and commercial fisheries; some Metlakatla First Nation members continue to participate in commercial fisheries today (Metlakatla First Nation 2022). Territory owners have an obligation to protect living things in their stewardship areas, a duty that Metlakatla First Nation still recognizes, and their leaders are obligated to respect. Metlakatla First Nation does not separate humans from the ecosystem; to sustain their existence, Metlakatla must sustain and protect the existence of the resources they rely upon (Metlakatla First Nation 2012). Metlakatla First Nation actively engages in feasts and ceremonies according to cultural practices as a key component of their governance systems and requires culturally important harvested resources.

Metlakatla First Nation recognize both traditional Hereditary Chiefs, and a contemporary elected Chief and Council system known as the Metlakatla Governing Council (Metlakatla First Nation 2016; Vopak 2020). The Hereditary Chief and elected Chiefs are responsible for separate though related decision-making processes and the overall governance of Metlakatla people. Metlakatla Hereditary Chiefs govern and manage discrete house groups that occupy specific territories within the Nation's larger territory, that are separated into villages and tribes (Vopak 2020). Hereditary Chiefs are responsible for the maintenance and perpetuation of the well-being and health of the house group and territory (inclusive of its lands, waters and resources) (Vopak 2020). Metlakatla First Nation's a*daawx* (oral histories) and a*yaaxw* (Tsimshian law) document the long-term use and occupancy of the Nine Allied Tribes of the Coast Tsimshian; these bodies of Indigenous knowledge and law continue to inform the framework for Metlakatla First Nation assertion of rights and title and stewardship of their traditional territory and resources in the present day (Cedar 2022a, b; Metlakatla First Nation 2022).

Metlakatla' s Governing Council are based in Metlakatla, BC and are administered through a Custom Electoral System (CIRNAC 2023a). The elected council includes a Chief and six councillors and elections are held every four years; the current term expires in September 2023 (CIRNAC 2023a). The elected Governing Council upholds a contemporary leadership structure and make political decisions regarding reserve lands and supporting infrastructures (e.g., public health, education, housing) as well as decision-making as it pertains to the Indigenous rights and title of the Nation.

Concerns raised by Metlakatla First Nation identified through the consultation and engagement efforts for the Project include potential impacts on governance and decision-making through industrialization of the land and increased marine traffic, potential restricted access and reduced ability of commercially harvested resources and trade items, potential loss of economic development opportunities through alienation from territorial lands and waters, and potential social and economic impacts from the Project workforce.

13.4.1.1 Metlakatla First Nation Arrangements with the Province of British Columbia, the Government of Canada, and Other Indigenous Nations

In 2006, the Province of British Columbia (**BC**) and Metlakatla First Nation signed the Strategic Land Use Planning Agreement, wherein the parties committed to working on a Government-to-Government basis, in a spirit of mutual recognition, respect, and reconciliation toward the implementation of their respective

land use plans in the North Coast Land and Resource Management Plan area, as appliable, which fall within Metlakatla First Nation Traditional Territory (Province of British Columbia 2006). In 2016, the province of BC entered into an LNG coastal fund benefits agreement with Metlakatla First Nation. This agreement is intended to enable Metlakatla First Nation to share in the benefits associated with the development of an LNG industry on the north coast of BC. The agreements provide provincial revenue that can be used for specified purposes that will benefit the social and economic conditions of the community.

The Environmental Stewardship Initiative (ESI) was established in 2014 between the Province of BC, Metlakatla First Nation, and other coastal First Nations (Government of British Columbia n.d.; FDMS 2018). The ESI aimed to build relationships among the participating groups through the cooperative development of projects centered on ecosystem assessment, monitoring, restoration, enhancement, research, and knowledge exchange and on stewardship education and training (Government of British Columbia 2016). Metlakatla First Nation also entered into an agreement and signed a Letter of Understanding (LOU) regarding the LNG ESI in 2016 (Government of British Columbia 2016). In 2018, the ESI agreement was modified to include the North Coast Cumulative Effects Demonstration Project Agreement; the revised agreement stipulated that the ESI was a collaborative government to government initiative between the Province of BC and the signatory First Nations and was "intended to generate a positive environmental stewardship legacy" (Government of British Columbia 2018a). Shortly after the ESI agreement was modified, the ESI North Coast Ecosystem Restoration Project Agreement was signed by the Province of BC, Metlakatla First Nation, and other coastal First Nations (Government of British Columbia 2018b). The ESI North Coast Ecosystem Restoration Project Agreement was established to support the collaborative design and implementation of various Nation-specific Indigenous Stewardship Projects for terrestrial and aquatic ecosystems within each Nation's traditional territory (Government of British Columbia 2018b).

Metlakatla First Nation are also members of the recent Marine Plan Partnership for the North Pacific Coast (MaPP 2020). The Marine Plan Partnership is a co-led process between the Government of BC and 16 coastal Indigenous nations focused on the development and implementation of plans for marine uses on the Pacific North Coast of BC (MaPP 2020). The Government of Canada has also entered into agreements with Metlakatla First Nation. These include the 2017 Coastal First Nation Reconciliation Protocol Amending Agreement and the 2021 Great Bear Rainforest Agreement.

Metlakatla First Nation is part of the Tsimshian First Nations Treaty Society which is negotiating within the BC treaty process on behalf of its five member bands that are either in Stage 4 or 5 of the treaty process (Government of British Columbia 2022). Metlakatla First Nation is currently in Stage 5 (negotiating to finalize) of the BC treaty process (Government of British Columbia 2022).

The Proponents are not aware of any existing agreements made directly between Metlakatla First Nation and other Indigenous nations regarding governance of areas of territory overlap, as relevant to the Project.

13.4.1.2 Population and Reserves

The current registered population of Metlakatla First Nation is 1,056 as of June 2022, comprised of 514 men and 542 women (CIRNAC 2023b).

Metlakatla First Nation has 21 reserves: reserve land area totals 7,740.70 hectares (ha) (CIRNAC 2023c; BCAFN 2022). A list of Metlakatla First Nation reserve lands is provided in Table 13.4–1 and the Nation's reserves are shown on Figure 13.16–1. Approximately 94 Metlakatla First Nation members (42 men and 52 women) live on reserve at the remote Metlakatla Village (Indigenous Reserve [IR] S1/2 Tsimpsean 2) (CIRNAC 2023b; BCAFN 2022). Metlakatla Village is only accessible by airplane or boat and is located on the Tsimshian Peninsula approximately 5 km north of Prince Rupert. Metlakatla First Nation member's living on reserve therefore have no year-round access to a service center and experience a higher cost of transportation (CIRNAC 2023d). Most Metlakatla First Nation members (462 men and 481 women) reside off-reserve (CIRNAC 2023b; BCAFN 2022).

Metlakatla First Nation shares and co-manages 11 reserves with Lax Kw'alaams Band. Through their co-management agreement, both Nations must approve proposed developments on the shared reserves (Vopak 2020).

Table 13.4–1 – Metlakatla First Nation Reserves

Number	Name	Location	Size (ha)	Valued Component Assessment Areas Overlapping Reserve Lands	Distance to Project Footprint (km)	Distance to OWAA (km)	Distance to MSR (km)
07768	AVERY ISLAND 92	COAST DISTRICT , RG. 5, LOT 3917, ENTIRE AVERY ISLAND, NORTH OF STEPHENS ISLAND IN BELL PASSAGE	20.40	Marine Shipping RAA; Marine Use RAA	96.67	5.4	9.9
07769	EDYE 93	COAST DISTRICT, RGE 5, LOT 3916, ALL OF A SMALL ISLAND IN EDYE PASSAGE, SOUTH OF PRESCOTT ISLAND	0.40	N/A	108.88	12.5	19.1
10023	GRASSY BAY	ALL OF PARCEL A OF DISTRICT LOT 251 AS SHOWN ON PLAN EPP 16565 DEPOSITED IN THE LAND TITLE OFFICE IN NEW WESTMINSTER B.C	8.30	Community Health and Wellness RAA; Employment and Economy RAA; Infrastructure and Services RAA	78.81	35.5	5.5
07766	RUSHTON ISLAND 90	COAST DIST RGE 5, LOT 3915, ENTIRE RUSHTON ISLAND & 1 SMALL ISLAND TO N., IN BROWN PASS. ENTRANGE TO CHATHAM SOUND	6.80	Marine Shipping RAA; Marine Use RAA	94.07	9.6	5
07754	S1/2 TSIMPSEAN 2	COAST DISTRICT, RANGE 5, ON W COAST OF TSIMPSEAN PENINSULA AND NORTH END OF DIGBY ISLAND, ON E SHORE OF CHATHAM SOUND	3270	Acoustic RAA; Community Health and Wellness RAA; Employment and Economy RAA; Infrastructure and Services RAA; Marine Shipping RAA; Marine Use RAA;	70.02	22.6	4.3

Table 13.4–1 – Metlakatla First Nation Reserves

Number	Name	Location	Size (ha)	Valued Component Assessment Areas Overlapping Reserve Lands	Distance to Project Footprint (km)	Distance to OWAA (km)	Distance to MSR (km)
07756	SHOOWAHTLANS (SHAWTLANS) 4	COAST DIS. RGE 5, WEST END OF SHAWATTAN LAKE, NORTH END OF MORSE BASIN, 2 MILES NORTHEAST OF PRINCE RUPERT	0.50	Community Health and Wellness RAA; Employment and Economy RAA; Infrastructure and Services RAA; Marine Shipping RAA; Marine Use RAA	76.64	37.4	6.3
07767	SQUADEREE 91	COAST DISTRICT, RANGE 5, LOT 3914, ON POINT ON SOUTHWEST COAST OF STEPHENS ISLAND, N. ENTRANCE TO HECATE STRAIT	2.20	N/A	104.56	0	17.6
07765	TUCK INLET 89	COAST DISTRICT, RANGE 5, LOT 3950, AT HEAD OF TUCK INLET, 10 MILES NORTH OF PRINCE RUPERT	1.60	Community Health and Wellness RAA; Employment and Economy RAA; Infrastructure and Services RAA; Marine Shipping RAA; Marine Use RAA	64.73	64	28.2
07760	TUGWELL ISLAND 21	COAST DISTRICT, ENTIRE TUGWELL ISLAND, ENTRANCE TO VENN PASS, 8 MILES WEST OF PRINCE RUPERT	126.20	Community Health and Wellness RAA; Employment and Economy RAA; Infrastructure and Services RAA; Marine Shipping RAA; Marine Use RAA	78.05	47.4	7.8

Table 13.4–1 – Metlakatla First Nation Reserves

Number	Name	Location	Size (ha)	Valued Component Assessment Areas Overlapping Reserve Lands	Distance to Project Footprint (km)	Distance to OWAA (km)	Distance to MSR (km)
07755	WILNASKANCAUD 3	COAST DISTRICT, RANGE 5, ON EAST SHORE OF KAIEN ISLAND, 2 MILES EAST OF PRINCE RUPERT	2.30	Community Health and Wellness RAA; Employment and Economy RAA; Infrastructure and Services RAA	78.04	36	5.5
Co-Managed Reserves with Lax Kw'alaams Band							
07760	DASHKEN 22	COAST DISTRICT, RANGE 5, ON EAST SHORE OF SMITH ISLAND AT MOUTH OF SKEENA RIVER	3.0	N/A	95.67	37	15
07758	KHTAHDA 10	COAST DISTRICT, RANGE 5, ON RIGHT BANK OF THE SKEENA RIVER AT MOUTH OF KHYEX RIVER	1.40	N/A	100.24	73.7	49.8
07757	KHYEX 8	COAST DISTRICT, RANGE 5, ON RIGHT BANK OF SKEENA RIVER AT THE MOUTH OF KHYEX RIVER	17.50	Community Health and Wellness RAA; Employment and Economy RAA; Infrastructure and Services RAA	89.62	60.8	35.7
07762	KSHAOOM 23	COAST DISTRICT, RANGE 5, A NORTH END OF DE HORSEY ISLAND AT MOUTH OF SKEENA RIVER	2.60	N/A	96.55	37.7	16.1
07764	LAKELSE 25	COAST DISTRICT, RANGE 5, ON RIGHT BANK OF THE LAKELSE RIVER 1 MILE NORTHWEST OF LAKELSE LAKE	8.50	Community Health and Wellness RAA; Employment and Economy RAA; Infrastructure and Services RAA	122.33	139.7	109.4

Table 13.4–1 – Metlakatla First Nation Reserves

Number	Name	Location	Size (ha)	Valued Component Assessment Areas Overlapping Reserve Lands	Distance to Project Footprint (km)	Distance to OWAA (km)	Distance to MSR (km)
07763	MEANLAW 24	COAST DISTRICT, RANGE 5, ON RIGHT BANK OF THE SKEENA RIVER 2 MILES NORTH OF VEITCH POINT	2.70	Community Health and Wellness RAA; Employment and Economy RAA; Infrastructure and Services RAA	94.10	45.4	22
10025	POINT VEITCH 7	COAST DISTRICT, RANGE 5, ON RIGHT BANK OF THE SKEENA RIVER 2 MILES NORTH OF VEITCH POINT	6.20	N/A	97.17	45.2	22.9
07841	RED BLUFF 88	COAST DISTRICT, RANGE 5, LOT 3965, ON NORTH SIDE OF NASS BAY, AT MOUTH OF THE NASS RIVER	135.50	Community Health and Wellness RAA; Employment and Economy RAA; Infrastructure and Services RAA	29.11	90.9	15
07759	SCUTTSAP 11	COAST DISTRICT, RANGE 5, LOT 3946, ON LEFT BANK OF THE SKEENA RIVER, 1 MILE SOUTHWEST OF KWINITSA C.N. STATION	1.50	N/A	97.41	76.4	51.9
10024	TSIMPSEAN 2A	COAST DISTRICT, RANGE C5	4114.00	Community Health and Wellness RAA; Employment and Economy RAA; Infrastructure and Services RAA	67.35	22.6	4.3
10026	WILLLACLOUGH 6	COAST DISTRICT, RANGE 5	10.20	Community Health and Wellness RAA; Employment and Economy RAA; Infrastructure and Services RAA	90.30	30.7	6.1

13.4.1.3 Economic Development

Metlakatla Development Corporation aims to provide opportunities to diversify the local economy for Metlakatla First Nation and to support a stable environment while promoting economic development (Metlakatla n.d.). Recreational fisheries are important to the maintenance of economic well-being of Metlakatla First Nation however, Metlakatla First Nation have also cited have adverse impacts to environmental, social and cultural well-being of Nation members (Metlakatla n.d.). Implications of the draft MUP are intended to support Metlakatla First Nation shared decision-making with provincial and federal governing bodies towards the management, monitoring and enforcement of management practices, and greater opportunities for employment and revenue sharing in recreational fishing industries (Metlakatla First Nation n.d.). Metlakatla First Nation believe accessibility to commercial resource extraction can provide Metlakatla Nation members with secure employment (Metlakatla n.d.).

Metlakatla First Nation have historically relied on the fishing industry for economic prosperity (Metlakatla n.d.). However, Metlakatla First Nation remarked that recent declines in the health of the oceans and increased competition have impacted Metlakatla participation in the fishing industry. Approximately 17% of Metlakatla residents are employed in commercial fisheries, including seasonal employment opportunities (Metlakatla n.d.). The unemployment rate within Metlakatla communities is higher than the Provincial average (Metlakatla n.d.). Metlakatla First Nation economic studies identified the need to enhance Nation members capacity to improve and develop resource management practices, local governance institutions, and employ local nation members to undertake management and resource activities. Metlakatla First Nation believe that working collaboratively with both government and non-government organizations to improve capacity within the Nation will help Metlakatla achieve long-term sustainability in marine resource management (Metlakatla n.d.).

13.4.2 PROJECT PATHWAYS

All phases of the Project (construction, operation, decommissioning) have the potential to affect Metlakatla First Nation governance, decision-making and economic development. Changes to Metlakatla First Nation governance, decision-making and economic development could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

The conclusions in this section are informed by the results of engagement with Metlakatla First Nation, the literature review, and related biophysical VC assessments presented in the Application.

13.4.3 MITIGATION AND ENHANCEMENT MEASURES

Mitigation measures were selected based on the considerations described in Section 13.1.8 and are intended to be implemented in combination with Project design considerations and measures to mitigate and enhance potential effects of the Project on environmental resources and conditions that support Metlakatla First Nation governance, decision-making, and economic development. A complete listing of measures can be found in Appendix A and additional details can be found in the following VC Sections:

- Air Quality (Section 7.02)
- Acoustic (Section 7.03)
- Wildlife and Wildlife Habitat (Section 7.07)
- Marine Resources (Section 7.09)
- Employment and Economy (Section 7.10)
- Marine Use (Section 7.11)
- Human Health (Section 7.14)

Table 13.2–1 provides the additional mitigation and enhancement measures to further avoid or reduce impacts to Metlakatla First Nation governance, decision-making and economic development.

13.4.4 PROJECT RESIDUAL EFFECT

As described in Section 13.2.4, residual effects are anticipated on Metlakatla First Nation marine harvest and consumption during all phases due to alteration of the harvesting experience through change in air quality and increased sound levels and change in the abundance and distribution of harvested species in the vicinity of the Project footprint and within the OWAA and MSR (inclusive of timing considerations due to the seasonal movements of migratory species).

As described in Section 13.3.4, residual effects on Metlakatla First Nation terrestrial harvest and consumption are anticipated along terrestrial areas (harvesting sites) adjacent the MSR and OWAA that are accessed by Metlakatla First Nation due to potential changes in overall quality of experience (increased noise level and change in air quality associated with marine shipping activities). Metlakatla First Nation governance, decision-making and economic development may therefore be affected through a related change in the status and position of hereditary leaders and change in the production of foods from discrete house territories overlapping applicable VC LAAs, the MSR, the OWAA and in the vicinity of the Project footprint.

As described in Section 13.2.4, a measurable change in Metlakatla First Nation marine access and ability to make decisions regarding vessel traffic in the OWAA and the MSR is predicted to occur due to the increase in LNG carrier transits occurring each year during the operation phase (30 years). However, as the Project is expected to comply with existing marine use plans and participate in federal initiatives and requirements (e.g., development and implementation of recommendations from a Navigational Safety Assessment), it is not expected to create a change or disruption that widely reduces or restricts Metlakatla First Nation present marine access and use activities to a point where they cannot continue at

current activity levels (Section 7.11). The increase in marine shipping activities within the applicable VC LAAs, the OWAA and the MSR may however result in changes in Metlakatla First Nation ability to uphold the Nation's management principles in these areas.

Residual effects are anticipated on regional business and regional economy during all Project phases (construction, operation, and decommissioning) within the Employment and Economy LAA (Section 7.10). Adverse effects on regional business stem from increased competition for labour and upward pressure on wages due to Project-related wages being greater than existing conditions and due to the potential for Project employment to be deemed more desirable than other forms of employment in the Employment and Economy LAA (Section 7.10). Upward pressure on wages can lead businesses to increase the price of consumer goods (consumables) to cover increased operating expenses contributing to an increased cost of living (change in regional economy). Real estate speculation and increased demand for housing from in-migrating workers to the Employment and Economy LAA (primarily during the operation phase of the Project) are anticipated to contribute to increased housing costs (Section 7.10).

With the implementation of mitigation measures outlined in Table 13.2–1 and Appendix A, residual effects on Metlakatla First Nation governance, decision-making and economic development during all Project phases are anticipated to be moderate in magnitude within the applicable VC LAAs, the OWAA, the MSR and in the vicinity of the Project footprint, inclusive of timing considerations due to the seasonal movements of migratory species and seasonal activities at sacred places and heritage sites. Residual effects are short-term during the construction and decommissioning phases and will occur as multiple irregular events. Residual effects are long-term (lasting for longer than one generation [25 years]) during the operation phase and will occur as multiple regular events. Residual effects are considered reversible during all Project phases; effects associated with marine shipping cease once the FLNG barges, LNG carriers and tugboats pass through applicable VC LAAs, the MSR and OWAA; noise levels will return to current conditions once noise-generating activities cease, and employment and labour income impacts cease upon Project completion. The risk of a residual effect on Metlakatla First Nation governance, decision-making and economic development is moderate (moderate consequence, high likelihood) during all Project phases, with moderate uncertainty due to unknown external variables.

13.5 Changes to Metlakatla First Nation Sacred Places and Heritage Sites

This section provides the assessment of potential Project effects on Metlakatla First Nation sacred places and heritage sites.

13.5.1 BACKGROUND AND EXISTING CONDITIONS

Heritage features of Metlakatla First Nation's territory remain important to Metlakatla First Nation (Metlakatla First Nation 2012). Many cultural spaces, archaeological sites, and place names throughout their territory are used by Metlakatla First Nation to teach and share traditions (Vopak 2020). Throughout the year, Metlakatla First Nation members travel over land and water to access seasonal camps throughout their territory, across continuous historic and recent occupation sites, such as Dundas Island, evident by culturally modified trees, traditional use trees, and cabins that are still present at sites on the

island today (Cedar 2022a, b). Dundas Island is documented as the most consistent, populated and recently occupied site, and is used most often by Nation members who reside on the mainland (Cedar 2022a, b). There are many other habitation and traditional use sites along the MSR that Metlakatla First Nation continue to use and occupy (Cedar 2022a, b).

Archaeological work in their territory has identified sizeable populations of Tsimshian Peoples in Prince Rupert Harbour and the surrounding areas throughout the last 10,000 years (Metlakatla First Nation 2022). In the Dundas-Melville area, there are 10,000-year-old sites. On Lucy Island, Metlakatla First Nation identified an 8,000-year-old site as well as 6,000-year-old to 1,000-year-old sites in the Prince Rupert Harbour and Metlakatla Pass. The presently occupied village of Metlakatla (IR S1/2) is situated on an ancient Tsimshian habitation site that has been occupied for thousands of years by Metlakatla people (BCAFN 2022). Metlakatla First Nation indicated that these sites show the continuous marine use and adaptation by Metlakatla First Nation ancestors through to the present community. Metlakatla First Nation members continue to harvest the same resources in ancient sites in the present day (Metlakatla First Nation 2012). Metlakatla First Nation has taken part in a multi-year DNA analysis study to understand the link between modern Metlakatla members and ancient human skeletal remains excavated from archaeological sites in the Prince Rupert area (Metlakatla First Nation 2012).

Metlakatla First Nation has previously expressed concerns about the permanent removal of pre-1846 and post-1846 archaeological features that prove continued use and occupancy by the Metlakatla First Nation. Metlakatla First Nation is also concerned about disturbances to unmarked gravesites, petroglyphs, Culturally Modified Trees and other cultural and spiritual sites (Vopak 2020).

13.5.2 PROJECT PATHWAYS

All phases of the Project (construction, operation, decommissioning) have the potential to affect Metlakatla First Nation sacred place and heritage sites. Changes to Metlakatla First Nation sacred places and heritage sites could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

The conclusions in this section are informed by the results of engagement with Metlakatla First Nation, the literature review, and related biophysical VC assessments presented in the Application.

13.5.3 MITIGATION AND ENHANCEMENT MEASURES

Mitigation measures were selected based on the considerations described in Section 13.1.8 and are intended to be implemented in combination with Project design considerations and measures to mitigate and enhance potential effects of the Project on environmental resources and conditions that support Metlakatla First Nation sacred places and heritage sites. A complete listing of measures can be found in Appendix A and additional details can be found in the following VC Sections:

- Air Quality (Section 7.02)
- Acoustic (Section 7.03)
- Marine Use (Section 7.11)

- Human Health (Section 7.14)
- Archaeological and Heritage Resources (Section 7.15)

Table 13.2–1 provides the additional mitigation and enhancement measures to avoid or reduce impacts to Metlakatla First Nation sacred places and heritage sites.

13.5.4 PROJECT RESIDUAL EFFECT

As described in Section 13.2.4, changes in air quality and noise are predicted at the applicable VC LAAs, the Project footprint and along the MSR and OWAA during all Project phases and may alter the quality of experience at Metlakatla First Nation sacred places and heritage sites.

As described in Section 13.2.4, a measurable change in Metlakatla First Nation marine access, and therefore Metlakatla First Nation ability to access sacred places and heritage sites, is expected along the MSR, the OWAA, and in the vicinity of the Project footprint, due to the increase in LNG carrier transits occurring during the operation phase (30 years). However, as the Project is expected to comply with existing marine use plans and participate in federal initiatives and requirements (e.g., development and implementation of recommendations from a Navigational Safety Assessment), it is not expected to create a change or disruption that widely reduces or restricts Metlakatla First Nation ability to access sacred places and heritage sites to a point where they cannot continue at current activity levels.

As described in Section 7.15, 12 archaeological sites and 18 historic Culturally Modified Tree sites are located within the Archaeological and Heritage Resources LAA (Nisga'a Category A lands). After implementation of mitigation measures identified in Section 7.15 and engagement with Nisga'a Nation and other affected Indigenous groups, no adverse residual effects on Archaeological and Heritage Resources are anticipated within the VC LAA. As described in Section 7.11, wave heights generated by transiting LNG carriers and escort tugs are anticipated to be within the range of natural wave conditions. Therefore, wake waves are not expected to have adverse effects on sacred places and heritage sites within marine, intertidal, or shoreline areas and are therefore not carried forward in the assessment.

Metlakatla First Nation may however encounter reduced quality of experience at and increased avoidance of sacred places and heritage sites within applicable VC LAAs, and adjacent the MSR, the OWAA, and in the vicinity of the Project footprint due to real or perceived sensory disturbances associated with the increase in LNG carriers and associated change in air quality and noise levels (primarily during the operation phase). If Metlakatla First Nation experience qualitative disconnect from their sacred places and heritage sites, they may also experience loss or alteration of the ability to share knowledge and history with current and future generations.

With the implementation of mitigation measures outlined in Table 13.2–1 and Appendix A, residual effects on Metlakatla First Nation interests related to sacred places and heritage sites during all Project phases are anticipated to be moderate in magnitude within the applicable VC LAAs, the MSR, the OWAA, and in the vicinity of the Project footprint, inclusive of timing considerations due to the seasonal use of sacred places and heritage sites. Residual effects are short-term during the construction and decommissioning phases and will occur as multiple irregular events. Residual effects are long-term (lasting for longer than

one generation [25 years]) during the operation phase and will occur as multiple regular events. Residual effects are considered reversible during all Project phases as effects associated with marine shipping cease once the vessels pass through the applicable VC LAAs, the MSR and OWAA. During all Project phases, the risk of a residual effect on Metlakatla First Nation sacred places and heritage is moderate (moderate consequence, high likelihood) with moderate uncertainty due to unknown external variables. However, Project activities will occur within an established shipping route where access to sacred places and heritage sites will be able to safely continue in a manner that is generally consistent with existing conditions and direct impacts to Metlakatla First Nation sacred places and heritage sites are not anticipated.

13.6 Changes to Metlakatla First Nation Health, Well-being, and Safety

This section provides the assessment of potential Project effects on Metlakatla First Nation health, well-being and safety.

13.6.1 BACKGROUND AND EXISTING CONDITIONS

Metlakatla First Nation is greatly invested in the health and well-being of Nation members. The Metlakatla Health Centre was built in 2013 and provides healthcare services to members of Metlakatla First Nation on-reserve, including immunizations, first aid, and home care for Elders, and it arranges for specialists to administer services such as dieticians, diabetes specialists, home assessments, and physiotherapy to the Nation (Metlakatla 2016a).The Metlakatla Governing Council also provides healthcare programs on-reserve, including Indigenous Head Start, Canada Prenatal Nutrition Program, Alcohol & Drug Program, Solvent Abuse, Brighter Futures, Mental Health, Indigenous Diabetes Initiative, Communicable Disease and Injury Prevention, Drinking Water Safety Program, Community Health Nurse, Community Health Representative and Operating and Maintenance support (Metlakatla 2016b). The Metlakatla fire department is located on-reserve and is staffed by trained volunteers. There are no other emergency care services on-reserve (Metlakatla 2016c). Metlakatla First Nation members residing off-reserve primarily rely on health, education and other regional infrastructure in cities where they reside (e.g., Terrace, Prince Rupert, Vancouver).

Metlakatla First Nation has previously emphasized that participation in harvesting has a strong social, mental, and spiritual health component and is concerned about the decreased participation of country food harvest and the consequent loss of traditional knowledge transmission, changes to overall human well-being, and the loss of intergenerational connectedness (Vopak 2020). The damage and destruction of areas holding placenames could lead to the loss of traditional environmental knowledge (Vopak 2020). Health, well-being and safety can be influenced by several contributing factors that can affect quality of life, including housing, employment, education, income, and community cohesion (discussed in Section 13.4.1; Section 7.13), as well as crime rates, access to health care, and overall conditions of human health, which can include various sensory components such as light, noise, and quality of air (odours).

13.6.2 PROJECT PATHWAYS

All phases of the Project (construction, operation, decommissioning) have the potential to affect Metlakatla First Nation health, well-being and safety. Changes to Metlakatla First Nation health, well-being and safety could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

The conclusions in this section are informed by the results of engagement with Metlakatla First Nation, the literature review, and related biophysical VC assessments presented in the Application.

13.6.3 MITIGATION AND ENHANCEMENT MEASURES

Mitigation measures were selected based on the criteria described in Section 13.1.8 and are intended to be implemented in combination with Project design considerations and measures to mitigate and enhance potential effects of the Project on environmental resources and conditions that support Metlakatla First Nation health, well-being, and safety. A complete listing of measures can be found in Appendix A and additional details can be found in the following VC Sections:

- Air Quality (Section 7.02)
- Acoustic (Section 7.03)
- Wildlife and Wildlife Habitat (Section 7.07)
- Marine Resources (Section 7.09)
- Marine Use (Section 7.11)
- Infrastructure and Services (Section 7.12)
- Community Health and Well-being (Section 7.13)
- Human Health (Section 7.14)

Table 13.2–1 provides the additional mitigation and enhancement measures to avoid or reduce impacts to Metlakatla First Nation health, well-being and safety.

13.6.4 PROJECT RESIDUAL EFFECT

As described in Sections 13.2.4, 13.3.4 and 13.4.4, residual effects are anticipated on Metlakatla First Nation marine and terrestrial harvest and consumption during all phases due to alteration of the harvesting experience through increased sound levels and changes in air quality associated with marine shipping activities. Change in the abundance and distribution of harvested species in the applicable VC LAAs, the Project footprint, the OWAA and MSR (inclusive of timing considerations due to the seasonal movements of migratory species) are also anticipated. Change in the abundance and distribution of harvested species in applicable VC LAAs, in the vicinity of the Project footprint, the OWAA and MSR (inclusive of timing considerations due to the seasonal movements of migratory species) are also anticipated. Changes in harvest and consumption are connected to food security and connection to place and are therefore connected to Metlakatla First Nation overall health and well-being.

A measurable change in Metlakatla First Nation marine access is also expected along the Marine Use LAA, the MSR, the OWAA, and in the vicinity of the Project footprint, due to the increase in LNG carrier transits occurring during the operation phase. However, as the Project is expected to comply with existing marine use plans and participate in federal initiatives and requirements (e.g., development and implementation of recommendations from a Navigational Safety Assessment), it is not expected to create a change or disruption that widely reduces or restricts Metlakatla First Nation marine access to a point where they cannot continue at current activity levels.

As described in Section 13.5.4, residual effects on Metlakatla First Nation interests related to sacred places and heritage sites are also anticipated during all Project phases within the MSR, the OWAA, and in the vicinity of the Project footprint due to change in quality of experience. If Metlakatla First Nation experience qualitative disconnect from their sacred places and heritage sites adjacent the OWAA, MSR, the Project footprint and applicable VC LAAs, they may also experience loss or alteration of the ability to share knowledge and history with current and future generations. However, Project activities will occur within an established shipping route where access to sacred places and heritage sites will be able to safely continue in a manner that is generally consistent with existing conditions and direct impacts to Metlakatla First Nation sacred places and heritage sites are not anticipated.

Adverse residual effects are anticipated on utilities and waste management, emergency services, housing availability, and transportation infrastructure within the Infrastructure and Services LAA. Although Metlakatla Village (IR S1/2 Tsimpsean 2) is not located within the Infrastructure and Services LAA, Nation members may experience an alteration of access to regional infrastructure and services (e.g., health centers, shopping centers) and associated travel routes (marine and terrestrial), including those that they rely upon in Prince Rupert and Terrace. With the application of mitigation and enhancement measures, including the use of the self-contained floatel and other permanent on-Site accommodations to house the Project workforce during construction and operation, and the implementation of Project-specific management plans, such as those for waste and traffic, residual effects are not predicted to result in an exceedance of available capacity, or a decrease in the quality of a service provided, on a persistent and ongoing basis (Section 7.12).

Health and well-being can be influenced by several contributing factors that can affect quality of life, including housing, employment, education, income, and community cohesion (discussed in Section 7.13), as well as crime rates, access to health care, and overall conditions of human health, which can include various sensory components such as light, noise, and quality of air (odours).

Adverse residual effects on change in community health, community wellness, food security, and health and medical infrastructure and services are predicted to occur within the Community Health and Wellness LAA due to Project-related population growth, change in demographics, employment opportunities and potential income advancement, and potential Project workforce risk behaviours (Section 7.13). Residual effects in the Community Health and Wellness LAA represent outside stressors that may result in a change in Metlakatla First Nation sense of safety and overall health, well-being, and safety. However, as described

in Section 7.13, the Proponents will provide its workforce with access to on-Site primary care as well as personnel programs such as personal and family assistance.

Some or all the residual effects identified above may result in a change to some the experience of anxiety, fear, depression, and solastalgia (i.e., distress caused by environmental change) for some Metlakatla First Nation members, and therefore a change in the overall health and well-being of Metlakatla First Nation. As these psychological/ emotional experiences are highly personal, they can compound for individuals with pre-existing mental health disorders and are not experienced evenly across human populations (i.e., for all members of an Indigenous Nation), this is considered further in Section 13.10.1, as a disproportionately distributed residual effect.

With the implementation of mitigation measures outlined in Section 7.13, Table 13.2–1 and Appendix A, residual effects on Metlakatla First Nation health, well-being and safety during all Project phases are anticipated to be moderate in magnitude within the applicable VC LAAs, the MSR, the OWAA, and in the vicinity of the Project footprint, inclusive of timing considerations due to the seasonal use of sacred places and heritage sites, the seasonal movements of migratory species, and potential seasonal recreational activities of the Project workforce (e.g., fly fishing, trail use). Residual effects are short-term during the construction and decommissioning phases and long-term during the operation phase, lasting for longer than one generation (25 years). Residual effects will occur as multiple irregular events during the construction and decommissioning phases and multiple regular events during the operation phase. Residual effects are considered reversible during all Project phases. Effects associated with marine shipping cease once the vessels pass through applicable VC LAAs, the MSR and OWAA; noise levels and air quality will return to current conditions once Project activities cease, and Project workforce recreational activities and use of local infrastructure and services cease once the Project is decommissioned. The risk of a residual effect on Metlakatla First Nation health, well-being and safety is moderate (moderate consequence, high likelihood) with moderate uncertainty due to unknown external variables.

13.7 Changes to Metlakatla First Nation Cultural Identity

This section provides the assessment of potential Project effects on Metlakatla First Nation cultural identity.

13.7.1 BACKGROUND AND EXISTING CONDITIONS

The cultural continuity VC is related to Metlakatla First Nation interest in cultural identity and sense of place (Metlakatla First Nation 2022). Cultural continuity values or sites include locations used as a boat launch, campsites and cabins used by families as well as the broader community while marine harvesting, traditional place names, and areas used for teaching important skills and knowledge such as fishing, harvesting, and the Sm’algyax (Tsimshian) language to younger members of the community (Metlakatla First Nation 2022). Metlakatla First Nation identified two cultural continuity sites within the Project footprint, eight within their local study area and 13 within their regional study area (i.e., along the MSR) (Metlakatla First Nation 2022). Cultural continuity includes a range of tangible and intangible values

and resources important to Metlakatla First Nation (Metlakatla First Nation 2022). These resources and values support the continuation of their unique culture, including cultural norms and protocols, knowledge transmissions, identities, sense of place and ceremonial practices and gatherings (Metlakatla First Nation 2022). The cultural continuity VC is intertwined with all other interests identified in this assessment. Metlakatla cultural identity is founded on its knowledge of place, practice of culture, language, and ways of being as all these components are inseparable from and perpetuated through knowledge transmission (Metlakatla First Nation 2022).

The traditional language of Metlakatla First Nation is *Sm'algyax,* and it is seen as a critical component in the maintenance of Metlakatla cultural history and cultural identity (Metlakatla n.d.). Metlakatla First Nation have stated that teaching youth *Sm'algyax* will help increase their Nation's capacity to effectively manage the lands, waters, and resources within Metlakatla First Nation traditional territory and maintain connection to place (Metlakatla n.d.).

The ability to teach and share traditions is an important component of Metlakatla First Nation's cultural identity. Metlakatla First Nation consider "the transmission of cultural knowledge across generations as foundational for the persistence of all aspects of Metlakatla First Nation culture, from harvesting rights to cultural identity, to place meaning" (Metlakatla First Nation 2022:37). Transmission of cultural knowledge is "grounded in place, experiential, visual and verbal, and social" Metlakatla First Nation 2022:37). Knowledge transmission is not always active, and learning can take other passive forms such as "watching and listening to knowledgeable elders, family and friends […] underscoring the importance of time on the land and access to health and abundant resources" (Metlakatla First Nation 2022:38).

An example of active learning includes the sharing of *Adaawx* (oral history), which is a record of oral histories and testimonies of territorial ownership and rights, ancient migrations, and major events for each house group (Metlakatla First Nation 2022). The transmission of *Adaawx* is accomplished through the hosting of feasts, overseen by Hereditary Chiefs and their house groups (Metlakatla First Nation 2022). Harvested resources play a central role in "grander" ceremonies, such as naming feasts; preparing for naming feasts can take approximately two years (Metlakatla First Nation 2022). Despite an observed decrease in species and associated harvesting activities, harvesting marine and terrestrial species remains important to the strength of Metlakatla cultural identity, which Metlakatla First Nation has been working to revitalize (Hutchinson 2017). Metlakatla First Nation has reported that having youth participate in traditional harvesting is crucial to ensure associated Indigenous knowledge and practices continue (Hutchinson 2017). Metlakatla First Nation noted six cultural values that are important to Metlakatla Cultural identity, including speaking Sm'algyax, participating in activities such as feasts and art, protection of culturally significant locations, eating traditional foods, harvesting traditional foods and goods, and stewardship of land and marine resources, with the latter three being the most important for Metlakatla First Nation (Hutchinson 2017).

Metlakatla First Nation has previously expressed concerns about various development projects negatively effecting the distinctiveness of their culture through the loss of access, loss of traditional skill, community fabric, and history (Vopak 2020). Metlakatla First Nation expressed concern that marine traffic has the potential to adversely affect their cultural identity due to reduced access and avoidance of marine use areas, resulting in loss of place-based knowledge and reduced ability to transmit knowledge between older and younger generations (Cedar 2022a, b). Metlakatla First Nation has previously reported concern about the continuation of Metlakatla First Nation cultural identity into the future, as youth tend to be uninterested or have become used to receiving traditional foods from Elder and parents without learning to be an active part of harvesting (Hutchinson 2017).

The Proponents understand that sites associated with resources and cultural values support the continuation of their unique culture, including cultural norms and protocols, knowledge transmissions, identities, sense of place and ceremonial practices and gatherings (Metlakatla First Nation 2022). For this assessment, community cohesion is defined as the social attachment and/or sense of belonging that Indigenous people may express within their unique communities (e.g., common identity, interpersonal and/or intergroup trust, norms of reciprocity, participation in community/cultural events, intergenerational solidarity and social networks of emotional, and social and spiritual support) (Northern Health 2018; Statistics Canada 2016).

13.7.2 PROJECT PATHWAYS

All phases of the Project (construction, operation, decommissioning) have the potential to affect Metlakatla First Nation cultural identity. Changes to Metlakatla First Nation cultural identity could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

The conclusions in this section are informed by the results of engagement with Metlakatla First Nation, the literature review, and related biophysical VC assessments presented in the Application.

13.7.3 MITIGATION AND ENHANCEMENT MEASURES

Mitigation measures were selected based on the considerations described in Section 13.1.8 and are intended to be implemented in combination with Project design considerations and measures to mitigate and enhance potential effects of the Project on environmental resources and conditions that support Metlakatla First Nation cultural identity. A complete listing of measures can be found in Appendix A and additional details can be found in the following VC Sections:

- Wildlife and Wildlife Habitat (Section 7.07)
- Marine Resources (Section 7.09)
- Marine Use (Section 7.11)
- Archaeological and Heritage Resources (Section 7.15)

Table 13.2–1 provides the additional mitigation and enhancement measures to avoid or reduce impacts to Metlakatla First Nation cultural identity.

13.7.4 PROJECT RESIDUAL EFFECT

As described in Sections 13.2.4 to 13.5.4 residual effects are anticipated on Metlakatla First Nation marine and terrestrial harvest and consumption and sacred places and heritage sites during all Project phases due to alteration of the quality of experience through increased sound levels and changes in air quality associated with marine shipping activities. Change in the abundance and distribution of harvested species in applicable VC LAAs, and in the vicinity of the Project footprint, the OWAA and MSR (inclusive of timing considerations due to the seasonal movements of migratory species) are also anticipated; this may result in a reduction of house status due to loss or alteration of harvested resources within discrete house territories and/or preferred harvesting areas, and / or an alteration of cultural practices tied to identity and community cohesion, including resource harvesting, feasts, potlatches and other events and practices.

A measurable change in Metlakatla First Nation marine access is also expected along the Marine Use LAA, the MSR, the OWAA, and in the vicinity of the Project footprint, due to the increase in LNG carrier transits occurring during the operation phase. However, as the Project is expected to comply with existing marine use plans and participate in federal initiatives and requirements (e.g., development and implementation of recommendations from a Navigational Safety Assessment), it is not expected to create a change or disruption that widely reduces or restricts Metlakatla First Nation marine access to a point where they cannot continue at current activity levels. These changes may nevertheless result in an alteration of Metlakatla First Nation cultural practices and opportunities for cultural transference in these areas of their traditional territory. If Metlakatla First Nation experience qualitative disconnect from their harvesting sites and sacred places and heritage sites, they may also experience loss or alteration of the ability to share knowledge and history with current and future generations, with potential impacts to intergenerational solidarity and social networks of emotional, social, and spiritual support.

With the implementation of mitigation measures outlined in Table 13.2–1 and Appendix A, residual effects on Metlakatla First Nation interests related to cultural identity during all Project phases are anticipated to be moderate in magnitude within applicable VC LAAs, the MSR, the OWAA, and in the vicinity of the Project footprint, inclusive of timing considerations due to the seasonal use of sacred places and heritage sites, the seasonal movements of migratory species, and associated seasonal cultural practices. Residual effects are short-term during the construction and decommissioning phases and long-term during the operation phase, lasting for longer than one generation (25 years). Residual effects will occur as multiple irregular events during the construction and decommissioning phases and multiple regular events during the operation phase. Residual effects are considered reversible during all Project phases. Effects associated with marine shipping cease once the vessels pass through the applicable VC LAAs, the MSR and OWAA, and noise levels and air quality will return to current conditions once Project activities cease. The risk of a residual effect on Metlakatla First Nation cultural identity is moderate (moderate consequence, high likelihood) with moderate uncertainty due to unknown external variables.

13.8 Changes to Metlakatla First Nation Sense of Place

This section provides the assessment of potential Project effects on Metlakatla First Nation sense of place.

13.8.1 BACKGROUND AND EXISTING CONDITIONS

The name "Metlakatla" is associated with its geographic location, meaning "a passage connecting two bodies of salt water" when translated to English from the traditional language of Sm'algyax (BCAFN 2022). The meaning behind a 'sense of place' is derived from continuous emotional and spiritual attachment to traditional territories. These deep connections are formed over time, through interaction and collective accumulation of knowledge of the land, water and resources (Cedar 2022a, b). Evident in *adaawax*, Metlakatla First Nation sense of place is connected to knowledge, stories, cultural practices, and ancestors that are associated with specific geographical locations and placenames (Cedar 2022a, b). To experience a 'sense of place' it is critical to have the ability to enjoy the surroundings without sensory disturbances, stress, or harassment (Cedar 2022a, b).

As described in Section 13.7.1, the cultural continuity VC is related to Metlakatla First Nation interest in cultural identity and sense of place, and the Nation has identified cultural continuity values and sites within the Project footprint and along the MSR (Metlakatla First Nation 2022). Knowledge of place and place meaning is important for Metlakatla identity, and this information is transmitted across generations through direct and indirect teaching and interacting in their territory (Metlakatla First Nation 2022). For Metlakatla First Nation, "place names embody place meaning and history through language" and many community members have personal histories that are tied to the areas along the MSR that are fundamental to their identity and culture (Metlakatla First Nation 2022). The lands, waters and resources in the vicinity of the Project footprint and along the MSR "remain important parts of Metlakatla First Nation life, identity, and sense of place" (Metlakatla First Nation 2022:39).

13.8.2 PROJECT PATHWAYS

All phases of the Project (construction, operation, decommissioning) have the potential to affect Metlakatla First Nation sense of place. Changes to Metlakatla First Nation sense of place could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

The conclusions in this section are informed by the results of engagement with Metlakatla First Nation, the literature review, and related biophysical VC assessments presented in the Application.

13.8.3 MITIGATION AND ENHANCEMENT MEASURES

Mitigation measures were selected based on the considerations described in Section 13.1.8 and are intended to be implemented in combination with Project design considerations and measures to mitigate and enhance potential effects of the Project on environmental resources and conditions that support Metlakatla First Nation sense of place. A complete listing of measures can be found in Appendix A and additional details can be found in the following VC Sections:

- Air Quality (Section 7.02)
- Acoustic (Section 7.03)
- Wildlife and Wildlife Habitat (Section 7.07)
- Marine Resources (Section 7.09)

- Marine Use (Section 7.11)
- Human Health (Section 7.14)

Table 13.2–1 provides the additional mitigation and enhancement measures to avoid or reduce impacts to Metlakatla First Nation sense of place.

13.8.4 PROJECT RESIDUAL EFFECT

As described in Sections 13.2 to 13.7, residual effects are anticipated on Metlakatla First Nation marine and terrestrial harvest and consumption, sacred places and heritage sites, governance, decision-making and economic development, health, well-being and safety, access and travel, and cultural identity during all phases; all of which are connected to Metlakatla First Nation overall sense of place. Changes in these related Indigenous interests may result in changes to the Nations peaceful enjoyment of lands and waters and their emotional and spiritual attachment to culturally important places in their territory (e.g., through sensory disturbance).

With the implementation of mitigation measures outlined in Table 13.2–1 and Appendix A, residual effects on Metlakatla First Nation interests related to sense of place during all Project phases are anticipated to be moderate in magnitude within the applicable VC LAAs, the MSR, the OWAA, and in the vicinity of the Project footprint, inclusive of timing considerations due to the seasonal use of sacred places and heritage sites and the seasonal movements of migratory species. Residual effects are short-term during the construction and decommissioning phases and long-term during the operation phase, lasting for longer than one generation (25 years). Residual effects will occur as multiple irregular events during the construction and decommissioning phases and multiple regular events during the operation phase. Residual effects are considered reversible during all Project phases. Effects associated with marine shipping cease once the vessels pass through the applicable VC LAAs, the MSR and OWAA, and noise levels and air quality will return to current conditions once Project activities cease. The risk of a residual effect on Metlakatla First Nation sense of place is moderate (moderate consequence, high likelihood) with moderate uncertainty due to unknown external variables.

13.9 Changes to Metlakatla First Nation Access and Travel

This section provides the assessment of potential Project effects on Metlakatla First Nation access and travel.

13.9.1 BACKGROUND AND EXISTING CONDITIONS

Metlakatla village is only accessible by float plane or by boat. Marine transportation is therefore of concern to Metlakatla First Nation, especially impacts to Metlakatla Pass and the Tree Knob group, identified as important core harvesting areas (Metlakatla First Nation n.d.) (Figure 13.16–1). Increased traffic of marine vessels can create safety issues along marine transportation corridors and increase pollution and turbidity of waters, which negatively impact water and sediment quality and marine organisms (Metlakatla First Nation n.d.). Metlakatla First Nation is particularly concerned about the risk to marine territories, with little to no economic benefits to the Nation (Metlakatla First Nation n.d.).

Metlakatla First Nation have stated that increasing pressures on marine environments, declining resources, harvesting restrictions, and degraded conditions along the northwest coast have created additional pressure on Metlakatla First Nation marine harvesting efforts (Cedar 2022a, b). In addition, commercial harvest within Metlakatla territory increases safety risks to Metlakatla vessels, endangering passengers, such as school children, due increased traffic and accidents caused by loose fishing lines that become entangled in vessel propellers (Metlakatla n.d.).

13.9.2 PROJECT PATHWAYS

All phases of the Project (construction, operation, decommissioning) have the potential to affect Metlakatla First Nation access and travel. Changes to Metlakatla First Nation access and travel could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

The conclusions in this section are informed by the results of engagement with Metlakatla First Nation, the literature review, and related biophysical VC assessments presented in the Application.

13.9.3 MITIGATION AND ENHANCEMENT MEASURES

Mitigation measures were selected based on the considerations described in Section 13.1.8 and are intended to be implemented in combination with Project design considerations and measures to mitigate and enhance potential effects of the Project on environmental resources and conditions that support Metlakatla First Nation access and travel. A complete listing of measures can be found in Appendix A and additional details can be found in the following VC Sections:

- Air Quality (Section 7.02)
- Acoustic (Section 7.03)
- Marine Use (Section 7.11)
- Infrastructure and Services (Section 7.12)
- Human Health (Section 7.13)

Table 13.2–1 provides the additional mitigation and enhancement measures to avoid or reduce impacts to Metlakatla First Nation access and travel.

13.9.4 PROJECT RESIDUAL EFFECT

As described in Section 13.2.4, sensory disturbances (changes in air quality and noise levels) are predicted within applicable VC LAAS, in the vicinity of the Project footprint and within the OWAA and MSR during all Project phases which may result in an alteration to Metlakatla First Nation use of preferred harvesting locations, sacred places and heritage sites and access routes.

A measurable change in Metlakatla First Nation marine access and travel is also expected in the applicable VC LAAs, the Project footprint and within the OWAA and MSR due to the increase in LNG carrier transits during the operation phase. However, as the Project is expected to comply with existing marine use plans and participate in federal initiatives and requirements (e.g., development and implementation of

recommendations from a Navigational Safety Assessment), it is not expected to create a change or disruption that widely reduces or restricts Metlakatla First Nation ability to access and travel to a point where they cannot continue at current activity levels. However, although marine navigation is unlikely to be affected, Metlakatla First Nation may perceive access and navigation to be affected (e.g., change in sense of safety), and this in turn could lead to a change in harvesting success if Nation members are unable to access preferred harvesting areas or, are unable to harvest using preferred methods.

As described in Section 13.6.4, adverse residual effects are anticipated on transportation infrastructure within the Infrastructure and Services LAA (Section 7.12), and Metlakatla First Nation may experience an alteration of access to terrestrial travel routes, including those that they rely upon in Prince Rupert and Terrace. However, with the application of mitigation and enhancement measures, including the implementation of Project-specific management plans, such as those for traffic, residual effects are not predicted to result in an exceedance of available capacity, or a decrease in the quality of a service provided, on a persistent and ongoing basis for Metlakatla First Nation (Section 7.12).

With the implementation of mitigation measures outlined in Table 13.2–1 and Appendix A, residual effects on Metlakatla First Nation interests related to access and travel during all Project phases are anticipated to be moderate in magnitude within the applicable VC LAAs, the MSR, the OWAA, and in the vicinity of the Project footprint, inclusive of timing considerations due to the seasonal use of sacred places and heritage sites and the seasonal movements of migratory species. Residual effects are short-term during the construction and decommissioning phases and long-term during the operation phase, lasting for longer than one generation (25 years). Residual effects will occur as multiple irregular events during the construction and decommissioning phases and multiple regular events during the operation phase. Residual effects are considered reversible during all Project phases. Effects associated with marine shipping cease once the vessels pass through the applicable VC LAAs, the MSR and OWAA, and noise levels and air quality will return to current conditions once Project activities cease. The risk of a residual effect on Metlakatla First Nation access and travel is moderate (moderate consequence, high likelihood) with moderate uncertainty due to unknown external variables.

13.10 Summary of Adverse Residual Effects

Table 13.10–1 summarizes Project residual effects on Metlakatla First Nation Indigenous interests. The assessment of disproportionately distributed residual effects on Metlakatla First Nation interests is provided following the table.

Table 13.10–1 – Project Residual Effects on Metlakatla First Nation Indigenous Interests

Project Phase	Mitigation and Enhancement Measures	Residual Effects Characterization Criteria								
		Magnitude	Geographic Extent	Timing	Duration	Reversibility	Frequency	Affected Sub-Populations	Risk (Likelihood and Consequences)	Uncertainty
Changes to Metlakatla First Nation marine harvest and consumption										
Construction	Mitigation IN-1; Applicable mitigations in Appendix A	M	PF; OWAA; LAAs; MSR	A	ST	R	MIR	DD	M	M
Operation		M	PF; OWAA; LAAs; MSR	A	LT	R	MR	DD	M	M
Decommissioning		M	PF; OWAA; LAAs; MSR	A	ST	R	MIR	DD	M	M
Changes to Metlakatla First Nation terrestrial harvest and consumption										
Construction	Mitigation IN-1; Applicable mitigations in Appendix A	L	PF; OWAA; LAAs; MSR	A	ST	R	S	DD	M	M
Operation		L	PF; OWAA; LAAs; MSR	A	LT	R	MR	DD	M	M
Decommissioning		L	PF; OWAA; LAAs; MSR	A	ST	R	S	DD	M	M

Table 13.10–1 – Project Residual Effects on Metlakatla First Nation Indigenous Interests

Project Phase	Mitigation and Enhancement Measures	Residual Effects Characterization Criteria								
		Magnitude	Geographic Extent	Timing	Duration	Reversibility	Frequency	Affected Sub-Populations	Risk (Likelihood and Consequences)	Uncertainty
Changes to Metlakatla First Nation governance, decision-making, and economic development										
Construction	Mitigation IN-1; Applicable mitigations in Appendix A	M	PF; OWAA; LAAs; MSR	A	ST	R	MIR	DD	M	M
Operation		M	PF; OWAA; LAAs; MSR	A	LT	R	MR	DD	M	M
Decommissioning		M	PF; OWAA; LAAs; MSR	A	ST	R	MIR	DD	M	M
Changes to Metlakatla First Nation sacred places and heritage sites										
Construction	Mitigation IN-1; Applicable mitigations in Appendix A	M	PF; OWAA; LAAs; MSR	A	ST	R	MIR	DD	M	M
Operation		M	PF; OWAA; LAAs; MSR	A	LT	R	MR	DD	M	M
Decommissioning		M	PF; OWAA; LAAs; MSR	A	ST	R	MIR	DD	M	M

Table 13.10–1 – Project Residual Effects on Metlakatla First Nation Indigenous Interests

Project Phase	Mitigation and Enhancement Measures	Residual Effects Characterization Criteria								
		Magnitude	Geographic Extent	Timing	Duration	Reversibility	Frequency	Affected Sub-Populations	Risk (Likelihood and Consequences)	Uncertainty
Changes to Metlakatla First Nation health, well-being, and safety										
Construction	Mitigation IN-1; Applicable mitigations in Appendix A	M	PF; OWAA; LAAs; MSR	A	ST	R	MIR	DD	M	M
Operation		M	PF; OWAA; LAAs; MSR	A	LT	R	MR	DD	M	M
Decommissioning		M	PF; OWAA; LAAs; MSR	A	ST	R	MIR	DD	M	M
Changes to Metlakatla First Nation cultural identity										
Construction	Mitigation IN-1; Applicable mitigations in Appendix A	M	PF; OWAA; LAAs; MSR	A	ST	R	MIR	DD	M	M
Operation		M	PF; OWAA; LAAs; MSR	A	LT	R	MR	DD	M	M
Decommissioning		M	PF; OWAA; LAAs; MSR	A	ST	R	MIR	DD	M	M

Table 13.10–1 – Project Residual Effects on Metlakatla First Nation Indigenous Interests

Project Phase	Mitigation and Enhancement Measures	Residual Effects Characterization Criteria								
		Magnitude	Geographic Extent	Timing	Duration	Reversibility	Frequency	Affected Sub-Populations	Risk (Likelihood and Consequences)	Uncertainty
Changes to Metlakatla First Nation access and travel										
Construction	Mitigation IN-1; Applicable mitigations in Appendix A	M	PF; OWAA; LAAs; MSR	A	ST	R	MIR	DD	M	M
Operation		M	PF; OWAA; LAAs; MSR	A	LT	R	MR	DD	M	M
Decommissioning		M	PF; OWAA; LAAs; MSR	A	ST	R	MIR	DD	M	M
Changes to Metlakatla First Nation sense of place										
Construction	Mitigation IN-1; Applicable mitigations in Appendix A	M	PF; OWAA; LAAs; MSR	A	ST	R	MIR	DD	M	M
Operation		M	PF; OWAA; LAAs; MSR	A	LT	R	MR	DD	M	M
Decommissioning		M	PF; OWAA; LAAs; MSR	A	ST	R	MIR	DD	M	M

Table 13.10–1 – Project Residual Effects on Metlakatla First Nation Indigenous Interests

Project Phase	Mitigation and Enhancement Measures	Residual Effects Characterization Criteria								
		Magnitude	Geographic Extent	Timing	Duration	Reversibility	Frequency	Affected Sub-Populations	Risk (Likelihood and Consequences)	Uncertainty

KEY

See Table 13.1–4 for detailed definitions

Magnitude:

NMC: No Measurable Change

L: Low

M: Moderate

H: High

Geographic Extent:

PF: Project Footprint

LAAs: Local Assessment Areas

MSR: Marine Shipping Route

OWAA: Open Water Assessment Area

BR: Beyond Regional

Timing:

N/A: Not Applicable

A: Applicable

Duration:

ST: Short-term

MT: Medium-term

LT: Long-term

Reversibility:

R: Reversible

PR: Partially reversible

I: Irreversible

Frequency:

S: Single event

MIR: Multiple irregular event

MR: Multiple regular event

C: Continuous

Affected Sub-Populations:

E: Evenly distributed

DD: Disproportionally distributed

Risk (Likelihood and Consequences)

L: Low

M: Moderate

H: High

Uncertainty:

L: Low

M: Moderate

H: High

1

13.10.1 DISPROPORTIONATELY DISTRIBUTED RESIDUAL EFFECTS ON METLAKATLA FIRST NATION SUBGROUPS

Based on the predicted residual effects, the Project may disproportionately affect Metlakatla First Nation subgroups in the following ways:

- reduced quality of the marine and terrestrial harvesting experience, as well as access to fishing or shoreline harvesting sites, which may disproportionately affect Metlakatla First Nation members who rely more heavily on these environments and their resources for FSC purposes and or to provide for Elders, hereditary leaders, and others in the community, as well as for feasting or other culturally important events, and for other purposes (e.g., spiritual, trade)
- reduced decision-making and reduced access to areas where social and economic activities occur (e.g., commercial fishing), which may disproportionately affect Metlakatla First Nation members who rely more heavily on these environments and their resources for income or FSC purposes and for other purposes (e.g., cultural, economic, spiritual, trade)
- reduced access and quality of experience at sacred places and heritage sites, which may disproportionately affect Metlakatla First Nation members who rely more heavily on these places for knowledge transmission, sharing cultural teachings and history, and spirituality
- reduced access and travel, which may disproportionately affect Metlakatla First Nation members who rely more heavily on established travel and access routes for safe navigation (e.g., seasonal considerations), or to access marine and terrestrial harvesting sites and sacred places and heritage sites, or for the maintenance of trade relationships, or for income or FSC purposes and for other purposes (e.g., spiritual, trade)

If Metlakatla First Nation decision-making is reduced, or if access and travel routes are altered, or the quality of experience at marine harvesting sites, sacred places and cultural sites is altered, or if the quality and quantity of resources available is diminished, the culture, identity, mental health and physical health, and well-being of Metlakatla First Nation sub-groups may be impacted.

Residual effects within the Community Health and Wellness LAA may be disproportionately experienced by Metlakatla First Nation subgroups (e.g., Metlakatla women requiring specific health services, low-income families requiring housing) that already experience challenges in accessing infrastructure and services and housing in larger centers in Terrace and Prince Rupert. These subgroups may be more adversely affected than other groups by the increased competition for such services resulting from a Project-related temporary increase in the population. With the use of mitigation and enhancement measures described throughout the Application, including the development and implementation of a feedback process to hear concerns from residents of the Infrastructure and Services LAA and members of vulnerable groups, the Proponents aim to reduce the differential effects on Metlakatla sub-groups.

Adverse effects on Metlakatla First Nation may also be disproportionately distributed across the Employment and Economy LAA. Employers within Nisga'a Lands and communities outside larger population centres in the Employment and Economy LAA, such as Metlakatla Village, are expected to

experience more pronounced effects of labour scarcity and resultant wage inflation. As such, these communities are also expected to experience more pronounced effects of regional consumer good price inflation. Effects of real estate speculation and increased demand for housing from in-migrating workers (and in some cases families) on housing costs are expected to be more pronounced in communities closest the Project, including for members of Metlakatla First Nation residing off-reserve. Within these communities, Metlakatla First Nation individuals and families that fall within low-income brackets are most likely to experience economic hardship associated with regional changes in the cost-of-living.

As described in Section 7.13, statistics at the provincial and national levels indicate that Indigenous Two-Spirit, Lesbian, Gay, Bisexual, Transgender, Queer, Questioning, Intersex, and Asexual Plus (2SLGBTQQIA+) communities are disproportionally affected by gender-based violence and intimate partner violence. For example, 82% of 2SLGBTQQIA+ First Nations, Métis, and Inuit people in Canada have been sexually or physically assaulted by the age of 15 compared to 41% of non-2SLGBTQQIA+ non-Indigenous people (Perreault 2022). Members of Metlakatla First Nation who identify as 2SLGBTQQIA+ may be disproportionately susceptible to sexual or physical assault. As a primary means to avoid Project effects in communities, Project personnel during construction and operation will be housed at the Site, limiting the effects of transient workers. For those successful in procuring employment, they may be more prone to workplace violence and harassment. To address workplace harassment and violence, the Proponents will develop and implement a policy that speaks to discrimination, bullying and harassment in the workplace with relevant training. The Proponents will also provide cultural awareness trainings. The Proponents will develop and implement disease and infection management measures as part of its health and medical services plan. As a result of the disease and infection management measures, subpopulations who are disproportionately affected by communicable diseases, such as Indigenous 2SLGBTQQIA+ populations, will potentially be protected.

With the use of mitigation and enhancement measures described throughout the Application, including the development and implementation of a feedback process to hear concerns from residents and members of vulnerable groups, the Proponents aim to reduce the differential effects on Metlakatla First Nation sub-groups.

13.10.2 SUMMARY OF POTENTIAL ADVERSE RESIDUAL EFFECTS IDENTIFIED FOR THE TLAA

As the transmission line is proposed to be located within Metlakatla First Nation traditional territory, potential adverse residual effects on Metlakatla First Nation interests are anticipated. This assessment conservatively assumes that construction and/or operation of the transmission line may result in the same or similar potential effects on Metlakatla First Nation interests as those identified in Section 13.1.4. Potential pathways for changes to Metlakatla First Nation interests are therefore the same as those identified in Table 13.1–2. Some examples include loss or alteration of access to preferred harvesting areas and / or sacred places and heritage sites if present within the TLAA, alteration of necessary conditions, change in the quality and quantity (real or perceived) of culturally important species and country foods, alteration of management principles and ability to make decisions regarding land and

marine use, and alteration of community practices tied to identity, community cohesion, and cultural transference opportunities in the territory.

As a third-party will ultimately design, implement, and operate the transmission line, the Proponents are not able to commit to mitigation measures specific to the transmission line in relation to adverse residual effects on Metlakatla First Nation interests. Legal processes during future permit applications (e.g., a *Fisheries Act* Authorization, [Section 7.10]) are in place to formally commit specific mitigation measures to the transmission line, as applicable, and are expected to be tailored to suit environmental concerns associated with the route selected and equipment to be used based on the final design.

Environmental assessments conducted for the Vancouver Island Transmission Reinforcement, Sea Breeze Juan de Fuca Cable, Northwest Transmission Line, and Interior-Lower Mainland Transmission Line projects, considered similar types of potential interactions and mitigation measures and it was determined that the adverse residual effects arising from these projects could be adequately managed. In each of the above-mentioned projects, the BC EAO determined in their assessment report that there would be no significant adverse residual effects associated with construction and operation of these transmission lines.

13.11 Summary of Positive Residual Effects

As described in Section 7.11, the addition of aids to navigation near the Site will have a positive effect on marine navigation. The installation of aids to navigation will not only mark dangers and obstructions related to the Project but assist marine users in determining their position and course, warn marine users of other dangers or obstructions, and advise marine users of the location of the best or preferred route (Section 7.09).

Positive effects are anticipated within Nisga'a villages, Terrace and Prince Rupert (i.e., Infrastructure and Services LAA and the Community Health and Wellness LAA) through regional gains in employment and income, business and improvements to municipal services, housing, utilities, and transportation infrastructure. As described in Section 13.4.1.2, most Metlakatla First Nation members reside off-reserve, including in Terrace and Prince Rupert. Although members of Metlakatla First Nation reside in towns located within the Infrastructure and Services LAA and the Community Health and Wellness LAA direct positive effects Metlakatla First Nation interests are anticipated to be limited.

Increased employment opportunities in the Employment and Economy LAA may have positive effects on Metlakatla First Nation unemployment rates, increase income levels for Metlakatla First Nation individuals (and families) who secure employment with the Project and will provide valuable employment experience that can be leveraged by workers to secure employment with other projects/employers following completion of Project-related work. The Project may also serve to diversify the economic base of the Employment and Economy LAA increasing the economic resiliency of the region.

Given existing labour force characteristics it is likely that a larger percentage of non-Indigenous men will be employed on the Project than other subpopulations. Mitigation and enhancement measures described in Table 13.2–1, Section 7.10, and Appendix A, will be implemented to increase participation among underrepresented groups on the Project, however, given the estimated size of the Project's workforce, measurable changes in employment equity across the Employment and Economy LAA are not expected.

Although the Employment and Economy and Community Health and Wellness LAAs overlap with Metlakatla First Nation reserve lands and broader traditional territory, direct positive effects Metlakatla First Nation interests will be limited when compared to existing conditions. The Proponents are committed to working directly with Metlakatla First Nation to identify opportunities for Metlakatla First Nation to realize potential benefits from the Project that can be used to both offset potential adverse effects and create positive effects for the Nation.

13.12 Cumulative Effects Assessment

This section provides the assessment of potential cumulative effects on Metlakatla First Nation interests.

13.12.1 PROJECT RESIDUAL EFFECTS LIKELY TO INTERACT CUMULATIVELY WITH METLAKATLA FIRST NATION INTERESTS

The Project residual effects identified in Sections 13.2 to 13.9 likely to act cumulatively with those projects and physical activities found in Table 6.9-1, Section 6.9.1 (Project and Physical Activities Inclusion List) are listed in Table 13.12–1. Where residual effects from the Project act cumulatively with residual effects from other projects and physical activities, a cumulative effects assessment is carried out. Effects identified in Table 13.12–1 as not likely to interact cumulatively with residual effects of other projects and physical activities (no check mark) are not discussed further. The assessment of the cumulative effects that are likely to result from the Project in combination with other projects and physical activities are discussed in subsequent sections.

Since not all reasonably foreseeable projects and physical activities may proceed, the cumulative effects assessment should be considered conservative.

Table 13.12–1 – Interactions with the Potential to Contribute to Cumulative Effects on Metlakatla First Interests

Other Projects and Physical Activities with Potential for Cumulative Effects	Metlakatla First Nation Interests							
	Changes to marine harvest and consumption	Changes to terrestrial harvest and consumption	Changes to governance, decision-making, and economic development	Changes to sacred places and heritage sites	Changes to health, well-being, and safety	Changes to cultural identity	Change in sense of place	Changes to access and travel
Past and Present Projects and Physical Activities								
Port of Prince Rupert	✓	✓	✓	✓	✓	✓	✓	✓
LNG Canada Export Terminal	✓	✓	✓	✓	✓	✓	✓	✓
Prince Rupert Airport	-	-	✓	-	✓	✓	✓	✓
Northwest Regional Airport Terrace-Kitimat (YXT)	-	-	-	✓	-	✓	✓	✓
Swamp Point – Sand and Gravel	✓	✓	✓	✓	✓	✓	✓	✓
Stewart Bulk Terminals	✓	✓	✓	✓	✓	✓	✓	✓
Stewart World Port	✓	✓	✓	✓	✓	✓	✓	✓
Port of Hyder, Alaska	✓	✓	✓	✓	✓	✓	✓	✓
Kitsault Mine	✓	✓	✓	✓	✓	✓	✓	✓
Tru Grit Abrasives	✓	✓	✓	✓	✓	✓	✓	✓
All West Trading	✓	✓	✓	✓	✓	✓	✓	✓
Various forestry activities	-	✓	✓	✓	✓	✓	✓	✓
Various fishing and aquaculture activities	✓	-	✓	✓	✓	✓	✓	✓
Marine shipping activities	✓	✓	✓	✓	✓	✓	✓	✓
Coastal GasLink	✓	✓	✓	✓	✓	✓	✓	✓

Table 13.12–1 – Interactions with the Potential to Contribute to Cumulative Effects on Metlakatla First Interests

Other Projects and Physical Activities with Potential for Cumulative Effects	Metlakatla First Nation Interests							
	Changes to marine harvest and consumption	Changes to terrestrial harvest and consumption	Changes to governance, decision-making, and economic development	Changes to sacred places and heritage sites	Changes to health, well-being, and safety	Changes to cultural identity	Change in sense of place	Changes to access and travel
Reasonably Foreseeable Future Projects and Physical Activities								
Third-party powerline	✓	✓	✓	✓	✓	✓	✓	✓
Port of Prince Rupert	✓	✓	✓	✓	✓	✓	✓	✓
Port Edward Small Scale LNG (Port Edward LNG)	✓	✓	✓	✓	✓	✓	✓	✓
Prince Rupert Gas Transmission Project (TransCanada Corp.)	✓	✓	✓	✓	✓	✓	✓	✓
Westcoast Connector Gas Transmission Project (Enbridge Inc.)	✓	✓	✓	✓	✓	✓	✓	✓
Kinskuch Lake Hydro (Wind River Power Corporation)	-	-	-	-	-	-	-	-
Cedar LNG	✓	✓	✓	✓	✓	✓	✓	✓
Skeena LNG	✓	✓	✓	✓	✓	✓	✓	✓
Totem LNG	✓	✓	✓	✓	✓	✓	✓	✓
BC Hydro Transmission Line Upgrades	-	-	✓	✓	-	-	-	✓

NOTES:

✓ = Those "other projects and physical activities" whose effects are likely to interact cumulatively with the Project's residual effects.

– = Interactions between the residual effects of other projects and residual effects of the Project are not expected.

1

13.12.2 ASSESSMENT OF CUMULATIVE EFFECTS ON METLAKATLA FIRST NATION MARINE HARVEST AND CONSUMPTION

Metlakatla First Nation is concerned about cumulative impacts to the marine environment becoming intensified by climate change (Metlakatla n.d.; Metlakatla First Nation 2022). Metlakatla First Nation see climate change effects compounding with long-existing impacts to fishing stocks, and Metlakatla First Nation members have felt pressure to adapt to the rapid changes they've observed in the marine environments of their traditional territory (Metlakatla First Nation 2022). Metlakatla First Nation noted that preferred species are harder to find today; instead, new or invasive species are found in their marine waters with increasing frequency (Metlakatla First Nation 2022). Metlakatla First Nation is concerned about rising ocean levels, acidification, increasing temperatures, shifting weather patterns and the spread of invasive species (Metlakatla n.d.). Metlakatla First Nation considers the current approaches to cumulative effects assessments to be siloed and inadequate for addressing their environmental concerns regarding the health of the marine ecosystem and regard the current approaches to be incompatible with the breadth of interactions that have cumulatively affected coastal and ocean space (Metlakatla n.d.). Metlakatla First Nation believe that the implementation of a more holistic approach to ecosystem health would provide a better understanding of cumulative environmental impacts, in a more comprehensive and effective manner that protects the totality and integrity of the ecosystem instead of its individual parts (Metlakatla n.d.).

13.12.2.1 Cumulative Effect Pathways

As summarized in Table 13.12–1, past and present Project and physical activities that have been or are being carried out have contributed to the existing conditions for the Project footprint, MSR and OWAA and the exercise of Metlakatla First Nation rights and title. Reasonably foreseeable projects are also anticipated to contribute to the future conditions in the Project assessment areas. Overall, increased marine vessel traffic within the Project footprint, MSR and OWAA has altered the current regional marine areas, contributing to existing cumulative effects on Metlakatla First Nation marine harvest and consumption.

All phases of the Project (construction, operation, decommissioning) have the potential to contribute to cumulative effects on Metlakatla First Nation marine harvest and consumption. Cumulative effects on Metlakatla First Nation marine harvest and consumption could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

13.12.2.2 Mitigation and Enhancement Measures for Cumulative Effects

Mitigation measures to limit residual cumulative effects to Metlakatla First Nation marine harvest and consumption are described in Table 13.2–1 and Appendix A, and additional details can be found in the following VC Sections:

- Air Quality (Section 7.02)
- Acoustic (Section 7.03)
- Wildlife and Wildlife Habitat (Section 7.07)

- Marine Resources (Section 7.09)
- Marine Use (Section 7.11)
- Human Health (Section 7.14)

Mitigation measures include legislation, best practices, and guidelines applicable to limiting cumulative effects within the region, such as:

- Federal legislation related to marine shipping and navigation (e.g., *Canada Shipping Act*, 2001, *Canadian Navigable Waters Act*)
- Project-specific management plans developed in accordance with federal and provincial legislation, regulations, and best practices

The Proponents have identified their willingness to collaborate in the following initiatives or programs regarding cumulative effects in the region:

- Develop and implement, subject to navigation safety, speed profiles for marine shipping to prevent or reduce the risk of collision between LNG carriers and marine vessels and mammals, fishers and other marine users (Section 7.09)
- Programs planned and developed by government and in conjunction with other proponents, stakeholders, and Indigenous nations regarding regional management of potential cumulative effects of underwater noise on marine mammals in the MSR (e.g., Transport Canada Cumulative Effects of Marine Shipping [CEMS] initiative; Section 7.09)
- Government-led initiatives with respect to cumulative effects on marine navigation, marine fisheries, and other uses in the MSR (Section 7.11; e.g., the ESI with respect to cumulative effects on marine and terrestrial ecosystems within Metlakatla First Nation traditional territory [Government of British Columbia 2018a] [Section 13.4.1.1])

It is expected that proponents of future projects that require regulatory approval will develop mitigation measures like those proposed for this Project. The Proponents are committed to working with Metlakatla First Nation to explore opportunities to further mitigate adverse effects to Metlakatla First Nation interests and enhance Project benefits. The Proponents are committed to working directly with Metlakatla First Nation to identify opportunities for Metlakatla First Nation to realize potential benefits from the Project that can be used to both offset potential adverse effects and create positive effects for the Nation.

13.12.2.3 Residual Cumulative Effects

Cumulative effects from past, present, and reasonably foreseeable future projects in combination with the Project are predicted to adversely affect Metlakatla First Nation marine harvest and consumption. The general presence of vessels and increased number of vessels on the water within the MSR, the OWAA, and in the vicinity of the Project footprint, may result in reduced access, interference, community concerns, and safety constraints on the water, which may affect Metlakatla First Nation's marine harvest and consumption activities.

As described in Sections 7.02, 7.03, and 7.14 residual cumulative effects are anticipated on air quality but not on noise levels within applicable VC RAAs, the MSR, the OWAA, and at the Project footprint. Residual effects on air quality are predicted to be close to the LNG carriers within the OWAA and MSR, and at the Project facility, however, the change to air quality is predicted to be low to moderate magnitude (within normal variability or within regulatory criteria) within the Air Quality RAA (Sections 7.02 and 7.14). There are no contributing cumulative effects on noise from past projects and physical activities as any noise effects will have ceased after the activities are complete (Section 7.03). Present or reasonably foreseeable projects and physical activities that are located along the applicable VC LAAs, the OWAA, the MSR, and at the Project footprint are not expected to interact cumulatively with noise levels, as noise from shipping activities is expected to attenuate to levels well below the background level within 3 km of their source and there are no other noise sources within this area (3 km) to interact with(Sections 7.03 and 7.14).

As described in Section 7.07, residual cumulative effects on marine bird habitat, movement, and mortality risk are predicted within the Wildlife and Wildlife Habitat Marine Terminal RAA, the OWAA, and the MSR. The primary contributors to cumulative effects on marine bird movement within the Wildlife and Wildlife Habitat RAA, the MSR and OWAA are marine traffic associated with export facilities, other industrial projects, and passenger transport. The primary contributors to future cumulative effects on marine bird mortality risk within the Wildlife and Wildlife Habitat RAA, the MSR and OWAA are infrastructure within the assessment areas (e.g., Port of Prince Rupert) and marine traffic associated with export facilities, other industrial Projects, and passenger transport. Overall, the Project is not expected to affect the long-term sustainability of regional marine bird populations.

As described in Section 7.09, residual cumulative effects on marine resources are predicted within the Marine Resources RAA, the OWAA and the MSR due to increased marine vessel traffic and associated underwater noise related behavioural changes in marine mammals and fish as well as increased risk of marine mammal vessel strikes. Residual cumulative effects on marine resources are also predicted at the Project footprint due to marine construction and operation activities and associated change in water quality, habitat, behaviour (e.g., sensory disturbance from pile installation, infilling), and increased injury or mortality risk (e.g., fish crushing or burial).

As described in Section 7.11, residual cumulative effects on marine access are predicted within the Marine Use RAA, the MSR, the OWAA and in the vicinity of the Project footprint as the Project will contribute approximately 148 to 172 additional large vessels to the present and reasonably foreseeable future marine traffic. The Project will contribute up to 160 LNGCs, or approximately 5.9% to the total present and future large marine vessel traffic predicted for the region if all present and future projects and physical activities are built and proceed to operations.

With mitigation, contribution of the Project to residual cumulative effects on Metlakatla First Nation marine harvest and consumption is expected to be moderate in magnitude within the applicable VC RAAs, the OWAA, the MSR and at the Project footprint, inclusive of timing considerations due to the seasonal movements of migratory species. Residual cumulative effects are long-term, lasting for longer than one generation (25 years), and will occur as multiple regular events. Residual cumulative effects are

considered partially reversible as they are primarily tied to Project marine shipping traffic and associated effects. However, residual effects of past, present, and reasonably foreseeable future projects and physical activities combined with the predicted residual effects of the Project are anticipated to be irreversible for Metlakatla First Nation members who have already experienced alienation and dispossession from harvesting areas within the applicable VC RAAs, the OWAA, MSR, and in the vicinity of the Project footprint, as these experiences are likely to increase in the future rather than decrease and require regional initiatives and programs to be addressed. The risk of a residual cumulative effect is moderate (moderate consequence, high likelihood) with moderate uncertainty due to unknown external variables. The Proponents have identified their willingness to collaborate in government-led initiatives with respect to cumulative effects on marine navigation and marine fisheries which may assist with reducing further perceptions of barriers and alienation.

No additional mitigation measures are proposed for incremental Project contributions to the cumulative effects on the related VCs or on Metlakatla First Nation marine harvest and consumption. The Proponents will remain available through Application review should Metlakatla First Nation bring forward additional information regarding the assessment of cumulative effects on Metlakatla First Nation marine harvest and consumption.

13.12.3 ASSESSMENT OF CUMULATIVE EFFECTS ON METLAKATLA FIRST NATION TERRESTRIAL HARVEST AND CONSUMPTION

Metlakatla First Nation has reported that consumption of country foods, diversity of species, harvest access, harvest experience and participation levels in harvesting are below historical averages (Hutchinson 2017). Metlakatla First Nation has previously expressed concern regarding the loss of quantity and quality of harvestable resources due to spills, accidents, or malfunctions as well as adverse effects on harvesters' qualitative experience (Vopak 2022). Metlakatla First Nation has also expressed concern about the continued alienation from the lands of their territory and the permanent removal of vegetation, wetlands, and timber from Ridley Island as well as the removal of habitat for key species. Additionally, there has been concern about the loss of confidence in the preferred resources harvested by Metlakatla First Nation due to development (Vopak 2020).

13.12.3.1 Cumulative Effect Pathways

As summarized in Table 13.12–1, past and present Project and physical activities that have been or are being carried out have contributed to the existing conditions for the Project footprint, MSR and OWAA and the exercise of Metlakatla First Nation rights and title. Reasonably foreseeable projects are also anticipated to contribute to the future conditions in the Project assessment areas. Overall, increased marine vessel traffic in the vicinity of the Project footprint, the MSR and OWAA has altered the current regional marine and adjacent terrestrial lands, contributing to existing cumulative effects on Metlakatla First Nation terrestrial harvest and consumption.

All phases of the Project (construction, operation, decommissioning) have the potential to contribute to cumulative effects on Metlakatla First Nation terrestrial harvest and consumption. Cumulative effects on Metlakatla First Nation terrestrial harvest and consumption could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

13.12.3.2 Mitigation and Enhancement Measures for Cumulative Effects

Mitigation measures to limit residual cumulative effects to Metlakatla First Nation terrestrial harvest and consumption are described Section 13.12.2.2, as well as in Table 13.2–1, and Appendix A.

13.12.3.3 Residual Cumulative Effects

Cumulative effects from past, present, and reasonably foreseeable future projects in combination with the Project are predicted to adversely affect Metlakatla First Nation terrestrial harvest and consumption. The general presence of vessels and increased number of vessels on the water within the applicable VC RAAs, the MSR, the OWAA, and in the vicinity of the Project footprint, may result in reduced access, interference, community concerns, changes to preferred conditions, and safety constraints on the water, which may affect Metlakatla First Nation's terrestrial harvest and consumption activities.

As described in Section 13.12.2.3, residual cumulative effects are anticipated for air quality within the Air Quality RAA, the OWAA, the MSR, and at the Project footprint due to increased marine vessel traffic.

With mitigation, contribution of the Project to residual cumulative effects on Metlakatla First Nation terrestrial harvest and consumption is expected to be moderate in magnitude within the applicable VC RAAs, the MSR, the OWAA, and in the vicinity of the Project footprint, inclusive of timing considerations due to the seasonal movements of migratory species. Residual cumulative effects are long-term, lasting for longer than one generation (25 years), and will occur as multiple regular events. Residual cumulative effects are considered partially reversible as they are primarily tied to Project marine shipping traffic and associated effects. However, residual effects of past, present, and reasonably foreseeable future projects and physical activities combined with the predicted residual effects of the Project are anticipated to be irreversible for Metlakatla First Nation members who have already experienced alienation and dispossession from terrestrial harvesting areas within the applicable VC RAAs, the OWAA, the MSR, and in the vicinity of the Project footprint, as these experiences are likely to increase in the future rather than decrease and require regional initiatives and programs to be addressed. The risk of a residual cumulative effect is moderate (moderate consequence, high likelihood) with moderate uncertainty due to unknown external variables.

No additional mitigation measures are proposed for incremental Project contributions to the cumulative effects on the related valued components or on Metlakatla First Nation terrestrial harvest and consumption. The Proponents will remain available through Application review should Metlakatla First Nation bring forward additional information regarding the assessment of cumulative effects on Metlakatla First Nation terrestrial harvest and consumption.

13.12.4 ASSESSMENT OF CUMULATIVE EFFECTS ON METLAKATLA FIRST NATION GOVERNANCE, DECISION MAKING, AND ECONOMIC DEVELOPMENT

Metlakatla First Nation noted that most of their reserves are nearby existing pipeline or shipping routes or have the potential to be impacted by cumulative impacts and accidents associated with development within their traditional territory (Metlakatla First Nation 2012).

13.12.4.1 Cumulative Effect Pathways

As summarized in Table 13.12–1, past and present Project and physical activities that have been or are being carried out have contributed to the existing conditions for the Project footprint, MSR and OWAA and the exercise of Metlakatla First Nation rights and title. Reasonably foreseeable projects are also anticipated to contribute to the future conditions in the Project assessment areas. Overall, increased marine vessel traffic within the Project footprint, MSR and OWAA has altered the current regional marine areas, contributing to existing cumulative effects on Metlakatla First Nation governance, decision-making, and economic development. Increased development in regional business in the Employment and Economy RAA and associated demand on infrastructure, services, accommodation and transportation in the Infrastructure and Services RAA has also contributed to existing cumulative effects on Metlakatla First Nation governance, decision-making, and economic development.

All phases of the Project (construction, operation, decommissioning) have the potential to contribute to cumulative effects on Metlakatla First Nation governance, decision-making, and economic development. Cumulative effects on Metlakatla First Nation governance, decision-making, and economic development result through the pathways identified in Table 13.1–2 in Section 13.1.4.

13.12.4.2 Mitigation and Enhancement Measures for Cumulative Effects

Mitigation measures to limit residual cumulative effects to Metlakatla First Nation governance, decision-making, and economic development are described Section 13.12.2.2, as well as in Table 13.2–1 and Appendix A.

13.12.4.3 Residual Cumulative Effects

Cumulative effects from past, present, and reasonably foreseeable future projects in combination with the Project are predicted to adversely affect Metlakatla First Nation governance, decision-making, and economic development. The general presence of vessels and increased number of vessels on the water within the applicable VC RAAs, the OWAA, the MSR, and in the vicinity of the Project footprint may result in reduced decision-making, interference, community concerns, and safety constraints on the water, which may affect Metlakatla First Nation mental and physical health, consumption of marine and terrestrial resources, quality of fishing, hunting, and cultural sites, trade and traditional journey routes, the transmission of cultural knowledge, the strengthening of family ties, and tourism, all of which are connected to Metlakatla First Nation governance, decision-making, and economic development.

As described in Section 13.12.2.3, residual cumulative effects are anticipated on air quality, marine birds, marine resources, and marine access within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint due to increased marine vessel traffic. Metlakatla First Nation governance,

decision-making, and economic development may therefore be affected through a related change in the status and position of hereditary leaders and change in the production of foods from discrete house territories overlapping the applicable VC RAAs, the OWAA, the MSR, and in the vicinity of the Project footprint.

As described in Section 7.10, residual cumulative effects are anticipated on regional business and economy in the Employment and Economy RAA. Project spending will combine with expenditures made by current and reasonably foreseeable projects and activities to create contracting and business opportunities within the Employment and Economy RAA. If multiple projects are built concurrently, demand and competition for labour may be exacerbated and increase the probability of labour shortages and localized wage inflation within employment and economy RAA communities. Over the longer term, the cumulative effects case may result in a larger and more diversified economic base within the Employment and Economy RAA. Project expenditures on labour, goods, and services may also combine with those of current and reasonably foreseeable future projects and activities creating economic activity and cumulatively increasing demand for labour in the Employment and Economy RAA.

As described in Section 7.11, residual cumulative effects on transportation infrastructure and infrastructure and services within the Infrastructure and Services RAA are not expected to result in an exceedance of available capacity, or a decrease in the quality of a service provided, on a persistent and ongoing basis, which cannot be mitigated with current or anticipated programs, policies, or mitigation measures.

With mitigation, contribution of the Project to residual cumulative effects on Metlakatla First Nation governance, decision-making, and economic development is expected to be moderate in magnitude within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint, inclusive of timing considerations due to the seasonal movements of migratory species and seasonal activities at sacred places and heritage sites. Residual cumulative effects are long-term, lasting for longer than one generation (25 years), and will occur as multiple regular events. Residual cumulative effects are considered partially reversible as they are primarily tied to Project marine shipping traffic and economic developments which are reversible following each phase (construction, operation, decommissioning). However, residual effects of past, present, and reasonably foreseeable future projects and physical activities combined with the predicted residual effects of the Project are anticipated to be irreversible for Metlakatla decision-making and commercial fishers who have already experienced alienation and dispossession from harvesting areas, and for Metlakatla First Nation members who have experienced alienation from sacred places and heritage sites within the applicable VC RAAs, the OWAA, the MSR and at the Project footprint, as these experiences are likely to increase in the future rather than decrease and require regional initiatives and programs to be addressed. The risk of a residual cumulative effect is moderate (moderate consequence, high likelihood) with moderate uncertainty due to unknown external variables. The Proponents have identified their willingness to collaborate in government-led initiatives with respect to cumulative effects on marine navigation and marine fisheries as well as those on regional business and economy, which may assist with reducing further perceptions of barriers and alienation.

No additional mitigation measures are proposed for incremental Project contributions to the cumulative effects on the related VCs or on Metlakatla First Nation governance, decision-making, and economic development. The Proponents will remain available through Application review should Metlakatla First Nation bring forward additional information regarding the assessment of cumulative effects on Metlakatla First Nation governance, decision-making, and economic development.

13.12.5 ASSESSMENT OF CUMULATIVE EFFECTS ON METLAKATLA FIRST NATION SACRED PLACES AND HERITAGE SITES

Metlakatla First Nation has previously reported that cumulative changes in the Prince Rupert Harbour have occurred since contact with Europeans, which has resulted in existing cumulative loss of and access to spiritual and cultural sites, changing Metlakatla First Nation's ability to meaningfully practice their Indigenous rights and exercise title. Metlakatla First Nation has commented that the impact of government and colonial policies, commercial and sport fishing, and industrial and urban development has led to the destruction and alteration of archaeological sites, culturally modified trees, areas holding place names, and key transportation corridors (Vopak 2020).

13.12.5.1 Cumulative Effect Pathways

As summarized in Table 13.12–1, past and present Project and physical activities that have been or are being carried out have contributed to the existing conditions for the Project footprint, MSR and OWAA and the exercise of Metlakatla First Nation rights and title. Reasonably foreseeable projects are also anticipated to contribute to the future conditions in the Project assessment areas. Overall, increased marine vessel traffic in the vicinity of the Project footprint, the MSR and OWAA has altered the current regional marine and adjacent terrestrial lands, contributing to existing cumulative effects on Metlakatla First Nation sacred places and heritage sites.

All phases of the Project (construction, operation, decommissioning) have the potential to contribute to cumulative effects on Metlakatla First Nation sacred places and heritage sites. Cumulative effects on Metlakatla First Nation sacred places and heritage sites could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

13.12.5.2 Mitigation and Enhancement Measures for Cumulative Effects

Mitigation measures to limit residual cumulative effects to Metlakatla First Nation sacred places and heritage sites are described Section 13.12.2.2, as well as in Table 13.2–1, and Appendix A.

13.12.5.3 Residual Cumulative Effects

Cumulative effects from past, present, and reasonably foreseeable future projects in combination with the Project are predicted to adversely affect Metlakatla First Nation sacred places and heritage sites. The general presence of vessels and increased number of vessels on the water in the applicable VC RAAS, the MSR, the OWAA, and in the vicinity of the Project footprint may result in interference, community concerns, and safety constraints on the water, which may affect communities' mental and physical health, the transmission of cultural knowledge, and Metlakatla First Nation ability to access, or maintain the current quality of experience, at Metlakatla First Nation's sacred places and heritage sites.

As described in Section 13.12.2.3, residual cumulative effects are anticipated on air quality and marine access in the vicinity of the Project footprint, the MSR, the OWAA, and applicable VC RAAs due to increased marine vessel traffic. If Metlakatla First Nation experience qualitative disconnect from their sacred places and heritage sites adjacent the Project footprint, the MSR, the OWAA and the applicable VC RAAs, they may also experience loss or alteration of the ability to share knowledge and history with current and future generations.

With mitigation, contribution of the Project to residual cumulative effects on Metlakatla First Nation sacred places and heritage sites is expected to be moderate in magnitude within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint, inclusive of timing considerations due to the seasonal use of sacred places and heritage sites. Residual cumulative effects are long-term, lasting for longer than one generation (25 years), and will occur as multiple regular events. Residual cumulative effects are considered partially reversible as they are primarily tied to Project marine shipping traffic and associated effects. However, residual effects of past, present, and reasonably foreseeable future projects and physical activities combined with the predicted residual effects of the Project are anticipated to be irreversible for Metlakatla First Nation members who have already experienced alienation and dispossession from sacred places and heritages sites within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint as these experiences are likely to increase in the future rather than decrease and require regional initiatives and programs to be addressed. The risk of a residual cumulative effect is moderate (moderate consequence, high likelihood) with moderate uncertainty due to unknown external variables. The Proponents have identified their willingness to collaborate in government-led initiatives with respect to cumulative effects on marine navigation which may assist with reducing further perceptions of barriers and alienation for access to sacred places and heritage sites within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint.

No additional mitigation measures are proposed for incremental Project contributions to the cumulative effects on the related VCs or on Metlakatla First Nation sacred places and heritage sites. The Proponents will remain available through Application review should Metlakatla First Nation bring forward additional information regarding the assessment of cumulative effects on Metlakatla First Nation sacred places and heritage sites.

13.12.6 ASSESSMENT OF CUMULATIVE EFFECTS ON METLAKATLA FIRST HEALTH, WELL-BEING AND SAFETY

Various rulings and acts implemented over more than the last 150 years, including European settlement in Canada, and the creation and implementation of Canadian policy and law have transformed the lives of Indigenous peoples and have shaped Indigenous peoples' rights and subsequently resulted in cumulative effects on Metlakatla First Nation health, well-being and safety.

Metlakatla First Nation reported cumulative effects on the Nation's health, well-being, and safety due to past and present industrial and other developments within its territory (Metlakatla First Nation 2022). These include changes in air quality and GHG emissions in the region over time, sensory disturbance from marine shipping activities and other developments in the region and cumulative impacts to marine and

foreshore harvesting activities. Overall, various industrial and other developments have resulted in cumulative effects on Metlakatla First Nation knowledge transmission, cultural protocols, sense of place, identity, and ceremonies (Metlakatla First Nation 2022)

13.12.6.1 Cumulative Effect Pathways

As summarized in Table 13.13–1, past and present Project and physical activities that have been or are being carried out have contributed to the existing conditions for the Project footprint, MSR and OWAA and the exercise of Metlakatla First Nation rights and title. Reasonably foreseeable projects are also anticipated to contribute to the future conditions in the Project assessment areas. Overall, increased marine vessel traffic in the vicinity of the Project footprint, the MSR and OWAA has altered the current regional marine environment, contributing to existing cumulative effects on Metlakatla First Nation health, well-being, and safety.

All phases of the Project (construction, operation, decommissioning) have the potential to contribute to cumulative effects on Metlakatla First Nation health, well-being, and safety. Cumulative effects on Metlakatla First Nation health, well-being, and safety could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

13.12.6.2 Mitigation and Enhancement Measures for Cumulative Effects

Mitigation measures to limit residual cumulative effects to Metlakatla First Nation health, well-being, and safety are described Section 13.12.2.2, as well as in Table 13.2–1, and Appendix A.

13.12.6.3 Residual Cumulative Effects

Cumulative effects from past, present, and reasonably foreseeable future projects in combination with the Project are predicted to adversely affect Metlakatla First Nation health, well-being, and safety. The general presence of vessels and increased number of vessels on the water in the vicinity of the Project footprint, the MSR and OWAA may result in interference, community concerns, and safety constraints on the water, which may affect communities' mental and physical health, the transmission of cultural knowledge, and Metlakatla First Nation ability to access, or maintain the current quality of experience, at Metlakatla First Nation's harvesting sites and sacred places and heritage sites, all of which are connected to Metlakatla First Nation overall health, well-being, and safety.

As described in Section 13.12.2.3, residual cumulative effects are anticipated on air quality, marine birds, marine resources, and marine access within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint due to increased marine vessel traffic. These residual cumulative effects may result in changes in community health and Nation members well-being due to changes to related interest (e.g., change in harvest and consumption, change in cultural identity).

As described in Section 7.13, adverse and positive residual cumulative effects are anticipated on community health, community wellness, food security, health and medical infrastructure and services, and expression of community cohesion in the Community Health and Wellness RAA. The Proponents will provide its workforce with access to on-Site primary care and personnel programs. These services may provide health and medical services to workers without regular access in their home communities or

whose home communities do not have adequate service capacity, including Indigenous communities in the Community Health and Wellness RAA. These measures may have a positive effect on access to health and medical infrastructure and services for subpopulations employed by the Project. However, given the size of the Project's workforce relative to the size of the Community Health and Wellness RAA and the likelihood that some workers will be hired for the Project from outside the RAA, these measures are not expected to reduce existing inequalities in access to health and medical infrastructure and services between subpopulations in the Community Health and Wellness RAA.

With mitigation, the contribution of the Project to residual cumulative effects on Metlakatla First Nation health, well-being, and safety is expected to be moderate in magnitude within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint, inclusive of timing considerations due to the seasonal use of harvesting sites, sacred places and heritage sites, and potential seasonal recreational activities of workers from various projects in the region (e.g., fly fishing, trail use). Residual cumulative effects are long-term, lasting for longer than one generation (25 years), and will occur as multiple regular events. Residual cumulative effects are considered partially reversible as they are primarily tied to Project marine shipping traffic and associated effects. However, residual effects of past, present, and reasonably foreseeable future projects and physical activities combined with the predicted residual effects of the Project are anticipated to be irreversible for Metlakatla First Nation members who have already experienced alienation and dispossession from harvesting sites and sacred places and heritages sites within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint as these experiences are likely to increase in the future rather than decrease and require regional initiatives and programs to be addressed. The risk of a residual cumulative effect is moderate (moderate consequence, high likelihood) with moderate uncertainty due to unknown external variables. The Proponents have identified their willingness to collaborate in government-led initiatives with respect to cumulative effects on marine navigation which may assist with reducing further perceptions of barriers and alienation for access to harvesting sites and sacred places and heritage sites within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint.

No additional mitigation measures are proposed for incremental Project contributions to the cumulative effects on the related VCs or on Metlakatla First Nation health, well-being, and safety. The Proponents will remain available through Application review should Metlakatla First Nation bring forward additional information regarding the assessment of cumulative effects on Metlakatla First Nation health, well-being, and safety.

13.12.7 ASSESSMENT OF CUMULATIVE EFFECTS ON METLAKATLA FIRST NATION CULTURAL IDENTITY

Metlakatla First Nation reported that opportunities to transmit cultural knowledge has been reduced over time and point to the detrimental cumulative effects of residential schools and contemporary influences of Western life that have associated intergenerational consequences, including the reduction of knowledge holders from which younger generations can learn (Metlakatla First Nation 2022).

Various rulings and acts implemented over more than the last 150 years, including European settlement in Canada, and the creation and implementation of Canadian policy and law have transformed the lives

of Indigenous peoples and have shaped Indigenous peoples' rights and subsequently resulted in cumulative effects on Metlakatla First Nation health, well-being and safety. These changes have also affected Metlakatla First Nation community cohesion.

Metlakatla First Nation have shared the following concerns related to cumulative effects on cultural identity and Project effects on Metlakatla First Nation rights including:

- Potential loss of place-based knowledge and cultural landscape and associated disruption to cultural transference and cultural identity
- Potential impacts on quality of experience and sense of place at cultural and spiritual sites due to sensory disturbance
- Potential disturbance to heritage, cultural and spiritual sites within and around the Project footprint
- Potential for cumulative effects on marine, terrestrial, socioeconomic, and heritage values from the Project and other past, present, and future developments
- Potential impacts on access and travel, governance and decision-making, industrialization of the land, increased marine traffic
- Potential for cumulative impacts to marine and foreshore harvesting and corresponding adverse impacts on knowledge transmission, cultural protocols, sense of place, identity, and ceremonies (Metlakatla First Nation 2022)

13.12.7.1 Cumulative Effect Pathways

As summarized in Table 13.12–1, past and present Project and physical activities that have been or are being carried out have contributed to the existing conditions for the Project footprint, MSR and OWAA and the exercise of Metlakatla First Nation rights and title. Reasonably foreseeable projects are also anticipated to contribute to the future conditions in the Project assessment areas. Overall, increased marine vessel traffic in the vicinity of the Project footprint, the MSR and OWAA has altered the current regional marine environment, contributing to existing cumulative effects on Metlakatla First Nation cultural identity and overall sense of community cohesion.

As described in Sections 7.13, adverse and positive residual cumulative effects are anticipated on community health, community wellness, food security, health and medical infrastructure and services, and expression of community cohesion in the Community Health and Wellness RAA and these changes are all connected to Metlakatla First Nation community cohesion. However, as described in Section 7.13, the Proponents will provide its workforce with access to on-Site primary care and personnel programs. These services may provide health and medical services to workers without regular access in their home communities or whose home communities do not have adequate service capacity, including Indigenous communities in the Community Health and Wellness RAA. These residual cumulative effects may result in changes in Nation members' ability to access suitable accommodations, heath care and social services, emergency services, travel (land, sea, air), employment opportunities, training for youth and existing workforce in the Community Health and Wellness RAA.

All phases of the Project (construction, operation, decommissioning) have the potential to contribute to cumulative effects on Metlakatla First Nation cultural identity. Cumulative effects on Metlakatla First Nation cultural identity could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

13.12.7.2 Mitigation and Enhancement Measures for Cumulative Effects

Mitigation measures to limit residual cumulative effects to Metlakatla First Nation cultural identity are described Section 13.12.2.2, as well as in Table 13.2–1, and Appendix A.

13.12.7.3 Residual Cumulative Effects

Cumulative effects from past, present, and reasonably foreseeable future projects in combination with the Project are predicted to adversely affect Metlakatla First Nation cultural identity. The general presence of vessels and increased number of vessels on the water in the vicinity of the Project footprint, the MSR and OWAA may result in interference, community concerns, and safety constraints on the water, which may affect communities' mental and physical health, the transmission of cultural knowledge, and Metlakatla First Nation ability to access, or maintain the current quality of experience, at Metlakatla First Nation's harvesting sites and sacred places and heritage sites; all of which are connected to Metlakatla First Nation cultural identity.

As described in Section 13.12.2.3, residual cumulative effects are anticipated on marine birds, marine resources, and marine access within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint due to increased marine vessel traffic. These residual cumulative effects may result in changes to Metlakatla First Nation conditions for connection to their territory, and changes to cultural practices such as traditional funerals, feasts, resource sharing, and teaching.

With mitigation, contribution of the Project to residual cumulative effects on Metlakatla First Nation cultural identity is expected to be moderate in magnitude within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint, inclusive of timing considerations due to the seasonal use of harvesting sites, sacred places and heritage sites. Residual cumulative effects are long-term, lasting for longer than one generation (25 years), and will occur as multiple regular events. Residual cumulative effects are considered partially reversible as they are primarily tied to Project marine shipping traffic and associated effects. However, residual effects of past, present, and reasonably foreseeable future projects and physical activities combined with the predicted residual effects of the Project are anticipated to be irreversible for Metlakatla First Nation members who have already experienced alienation and dispossession from harvesting sites and sacred places and heritages sites within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint as these experiences are likely to increase in the future rather than decrease and require regional initiatives and programs to be addressed. The risk of a residual cumulative effect is moderate (moderate consequence, high likelihood) with moderate uncertainty due to unknown external variables. The Proponents have identified their willingness to collaborate in government-led initiatives with respect to cumulative effects on marine navigation which may assist with reducing further perceptions of barriers and alienation for access to harvesting sites and

sacred places and heritage sites within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint.

No additional mitigation measures are proposed for incremental Project contributions to the cumulative effects on the related VCs or on Metlakatla First Nation cultural identity. The Proponents will remain available through Application review should Metlakatla First Nation bring forward additional information regarding the assessment of cumulative effects Metlakatla First Nation cultural identity.

13.12.8 ASSESSMENT OF CUMULATIVE EFFECTS ON METLAKATLA FIRST NATION SENSE OF PLACE

Metlakatla First Nation have stated that their ability to maintain sense of place, and peacefully enjoy their marine environment has been impacted by increasing development, marine traffic, commercial fishing and competition for marine resources (Cedar 2022a, b). The impacts of noise and pollution leading to reduced air quality and water quality, reduced visibility and increased traffic and safety concerns has negatively impacted Metlakatla First Nation experiences on the lands and waters, and ability to harvest quantity and quality resources (Cedar 2022a, b). Metlakatla First Nation reported that it has become increasingly challenging to maintain a sense of connection to place in areas that have been impacted, or will be impacted, by other projects (Cedar 2022a, b).

Metlakatla First Nation have shared the following concerns related to cumulative effects on sense of place:

- Potential loss of place-based knowledge and cultural landscape and associated disruption to cultural transference and cultural identity
- Potential impacts on quality of experience and sense of place at cultural and spiritual sites due to sensory disturbance
- Potential disturbance to heritage, cultural and spiritual sites within and around the Project footprint
- Potential impacts on air quality with a focus on GHG emissions
- Potential impacts on Metlakatla health, safety, and well-being, and sensory disturbance from marine shipping activities
- Potential for cumulative effects on marine, terrestrial, socioeconomic, and heritage values from the Project and other past, present, and future developments
- Potential for cumulative impacts to marine and foreshore harvesting and corresponding adverse impacts on knowledge transmission, cultural protocols, sense of place, identity, and ceremonies (Metlakatla First Nation 2022)

13.12.8.1 Cumulative Effect Pathways

As summarized in Table 13.12–1, past and present Project and physical activities that have been or are being carried out have contributed to the existing conditions for the Project footprint, MSR and OWAA and the exercise of Metlakatla First Nation rights and title. Reasonably foreseeable projects are also anticipated to contribute to the future conditions in the Project assessment areas. Overall, increased

marine vessel traffic in the vicinity of the Project footprint, the MSR and OWAA has altered the current regional marine environment, contributing to existing cumulative effects on Metlakatla First Nation sense of place.

All phases of the Project (construction, operation, decommissioning) have the potential to contribute to cumulative effects on Metlakatla First Nation sense of place. Cumulative effects on Metlakatla First Nation sense of place could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

13.12.8.2 Mitigation and Enhancement Measures for Cumulative Effects

Mitigation measures to limit residual cumulative effects to Metlakatla First Nation sense of place are described Section 13.12.2.2, as well as in Table 13.2–1, and Appendix A.

13.12.8.3 Residual Cumulative Effects

Cumulative effects from past, present, and reasonably foreseeable future projects in combination with the Project are predicted to adversely affect Metlakatla First Nation sense of place. The general presence of vessels and increased number of vessels on the water in the vicinity of the Project footprint, the MSR, the OWAA, and the applicable VC RAAs may result in interference, community concerns, and safety constraints on the water, which may affect communities' mental and physical health, the transmission of cultural knowledge, and Metlakatla First Nation ability to access, or maintain the current quality of experience, at Metlakatla First Nation's harvesting sites and sacred places and heritage sites; all of which are connected to Metlakatla First Nation overall sense of place. Changes in these related indigenous interests may result in changes to the Nations peaceful enjoyment of lands and waters and their emotional and spiritual attachment to culturally important places in their territory (e.g., through sensory disturbance).

As described in Section 13.12.2.3, residual cumulative effects are anticipated on air quality, marine birds, marine resources, and marine access within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint due to increased marine vessel traffic. These residual cumulative effects may result in changes to Metlakatla First Nation conditions for connection to their territory, and changes to cultural practices such as traditional funerals, feasts, resource sharing, and teaching.

With mitigation, contribution of the Project to residual cumulative effects on Metlakatla First Nation sense of place is expected to be moderate in magnitude within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint, inclusive of timing considerations due to the seasonal use of harvesting sites, sacred places and heritage sites. Residual cumulative effects are long-term, lasting for longer than one generation (25 years), and will occur as multiple regular events. Residual cumulative effects are considered partially reversible as they are primarily tied to Project marine shipping traffic and associated effects. However, residual effects of past, present, and reasonably foreseeable future projects and physical activities combined with the predicted residual effects of the Project are anticipated to be irreversible for Metlakatla First Nation members who have already experienced alienation and dispossession from harvesting sites and sacred places and heritages sites within the applicable VC RAAS, the OWAA, the MSR and in the vicinity of the Project footprint as these experiences are likely to increase

in the future rather than decrease and require regional initiatives and programs to be addressed. The risk of a residual cumulative effect is moderate (moderate consequence, high likelihood) with moderate uncertainty due to unknown external variables. The Proponents have identified their willingness to collaborate in government-led initiatives with respect to cumulative effects on marine navigation which may assist with reducing further perceptions of barriers and alienation for access to harvesting sites and sacred places and heritage sites within the applicable VC RAAS, the OWAA, the MSR and in the vicinity of the Project footprint.

No additional mitigation measures are proposed for incremental Project contributions to the cumulative effects on the related VCs or on Metlakatla First Nation sense of place. The Proponents will remain available through Application review should Metlakatla First Nation bring forward additional information regarding the assessment of cumulative effects Metlakatla First Nation sense of place.

13.12.9 ASSESSMENT OF CUMULATIVE EFFECTS ON METLAKATLA FIRST NATION ACCESS AND TRAVEL

Metlakatla First Nation reported the following concerns related to cumulative effects on access and travel:

- Potential impacts on access and travel, governance and decision-making, industrialization of the land, increased marine traffic
- Restricted access and reduced availability of commercially harvested resources and trade items
- Potential for cumulative effects on marine, terrestrial, socioeconomic, and heritage values from the Project and other past, present, and future developments

13.12.9.1 Cumulative Effect Pathways

As summarized in Table 13.12–1, past and present Project and physical activities that have been or are being carried out have contributed to the existing conditions for the Project footprint, MSR and OWAA and the exercise of Metlakatla First Nation rights and title. Reasonably foreseeable projects are also anticipated to contribute to the future conditions in the Project assessment areas. Overall, increased marine vessel traffic in the vicinity of the Project footprint, the MSR and OWAA has altered the current regional marine environment, contributing to existing cumulative effects on Metlakatla First Nation access and travel. Increased development and associated demand on infrastructure, services, accommodation and transportation in the Infrastructure and Services RAA has also contributed to existing cumulative effects on Metlakatla First Nation regional access and travel.

All phases of the Project (construction, operation, decommissioning) have the potential to contribute to cumulative effects on Metlakatla First Nation access and travel. Cumulative effects on Metlakatla First Nation access and travel could result through the pathways identified in Table 13.1–2 in Section 13.1.4.

13.12.9.2 Mitigation and Enhancement Measures for Cumulative Effects

Mitigation measures to limit residual cumulative effects to Metlakatla First Nation access and travel are described Section 13.12.2.2, as well as in Table 13.2–1, and Appendix A.

13.12.9.3 Residual Cumulative Effects

Cumulative effects from past, present, and reasonably foreseeable future projects in combination with the Project are predicted to adversely affect Metlakatla First Nation access and travel. The general presence of vessels and increased number of vessels on the water in the vicinity of the Project footprint, the MSR and OWAA may result in interference, community concerns, safety constraints on the water, and reduced access and travel activities within Metlakatla First Nation traditional territory.

As described in Section 13.12.2.3, residual cumulative effects are anticipated on air quality and marine access in the vicinity of the Project footprint, the MSR, the OWAA, and the applicable VC RAAs due to increased marine vessel traffic and this may result in an alteration of access to Metlakatla First Nation preferred marine harvesting locations and associated travel routes. It may also result in an alteration of access to sacred places and harvesting sites adjacent applicable VC RAAS, the Project footprint, the MSR and the OWAA.

As described in Section 13.12.4.3, residual cumulative effects are not anticipated on transportation infrastructure within the Infrastructure and Services RAA, therefore loss or alteration of access to regional infrastructure and services and associated terrestrial travel routes is not anticipated.

With mitigation, contribution of the Project to residual cumulative effects on to Metlakatla First Nation access and travel is expected to be moderate in magnitude within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint, inclusive of timing considerations due to the seasonal use of harvesting sites, and sacred places and heritage sites. Residual cumulative effects are long-term, lasting for longer than one generation (25 years), and will occur as multiple regular events. Residual cumulative effects are considered partially reversible as they are primarily tied to Project marine shipping traffic and associated effects. However, residual effects of past, present, and reasonably foreseeable future projects and physical activities combined with the predicted residual effects of the Project are anticipated to be irreversible for to Metlakatla First Nation members who have already experienced alienation and dispossession from harvesting sites and sacred places and heritages sites within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint as these experiences are likely to increase in the future rather than decrease and require regional initiatives and programs to be addressed. The risk of a residual cumulative effect is moderate (moderate consequence, high likelihood) with moderate uncertainty due to unknown external variables. The Proponents have identified their willingness to collaborate in government-led initiatives with respect to cumulative effects on marine navigation which may assist with reducing further perceptions of barriers and alienation for access to harvesting sites, and sacred places and heritage sites within the applicable VC RAAs, the OWAA, the MSR and in the vicinity of the Project footprint.

No additional mitigation measures are proposed for incremental Project contributions to the cumulative effects on the related VCs or on to Metlakatla First Nation access and travel. The Proponents will remain available through Application review should to Metlakatla First Nation bring forward additional information regarding the assessment of cumulative effects on to Metlakatla First Nation access and travel.

13.13 Summary of Cumulative Effects

Table 13.13–1 summarizes cumulative effects on Metlakatla First Nation interests. The assessment of disproportionately distributed residual cumulative effects on Metlakatla First Nation interests is provided following the table.

Table 13.13–1 – Summary of Residual Cumulative Effects on Metlakatla First Nation Interests

Residual Cumulative Effect	Mitigation and Enhancement Measures	Residual Cumulative Effects Characterization Criteria								
		Magnitude	Geographic Extent	Timing	Duration	Reversibility	Frequency	Affected Sub-Populations	Risk (Likelihood and Consequences)	Uncertainty
Changes to Marine Harvest and Consumption										
Residual cumulative effect with the Project	Mitigation IN-1; Applicable mitigations in Appendix A; Regional Initiatives and Programs	M	OWAA; RAAs; MSR	A	LT	PR	MR	DD	M	M
Project contribution to residual cumulative effects		M	OWAA; RAAs; MSR	A	LT	I	MR	DD	M	M
Changes to Terrestrial Harvest and Consumption										
Residual cumulative effect with the Project	Mitigation IN-1; Applicable mitigations in Appendix A; Regional Initiatives and Programs	M	OWAA; RAAs; MSR	A	LT	PR	MR	DD	M	M
Project contribution to residual cumulative effects		M	OWAA; RAAs; MSR	A	LT	I	MR	DD	M	M

Table 13.13–1 – Summary of Residual Cumulative Effects on Metlakatla First Nation Interests

Residual Cumulative Effect	Mitigation and Enhancement Measures	Residual Cumulative Effects Characterization Criteria								
		Magnitude	Geographic Extent	Timing	Duration	Reversibility	Frequency	Affected Sub-Populations	Risk (Likelihood and Consequences)	Uncertainty
Changes to Governance, Decision making, and Economic Development										
Residual cumulative effect with the Project	Mitigation IN-1; Applicable mitigations in Appendix A; Regional Initiatives and Programs	M	OWAA; RAAs; MSR	A	LT	PR	MR	DD	M	M
Project contribution to residual cumulative effects		M	OWAA; RAAs; MSR	A	LT	I	MR	DD	M	M
Changes to Sacred Places and Heritage Sites										
Residual cumulative effect with the Project	Mitigation IN-1; Applicable mitigations in Appendix A; Regional Initiatives and Programs	M	OWAA; RAAs; MSR	A	LT	PR	MR	DD	M	M
Project contribution to residual cumulative effects		M	OWAA; RAAs; MSR	A	LT	I	MR	DD	M	M
Changes to Health, Well-being and Safety										
Residual cumulative effect with the Project	Mitigation IN-1; Applicable mitigations in Appendix A; Regional Initiatives and Programs	M	OWAA; RAAs; MSR	A	LT	PR	MR	DD	M	M
Project contribution to residual cumulative effects		M	OWAA; RAAs; MSR	A	LT	I	MR	DD	M	M

Table 13.13–1 – Summary of Residual Cumulative Effects on Metlakatla First Nation Interests

Residual Cumulative Effect	Mitigation and Enhancement Measures	Residual Cumulative Effects Characterization Criteria								
		Magnitude	Geographic Extent	Timing	Duration	Reversibility	Frequency	Affected Sub-Populations	Risk (Likelihood and Consequences)	Uncertainty
Changes to Cultural Identity										
Residual cumulative effect with the Project	Mitigation IN-1; Applicable mitigations in Appendix A; Regional Initiatives and Programs	M	OWAA; RAAs; MSR	A	LT	PR	MR	DD	M	M
Project contribution to residual cumulative effects		M	OWAA; RAAs; MSR	A	LT	I	MR	DD	M	M
Changes to Sense of Place										
Residual cumulative effect with the Project	Mitigation IN-1; Applicable mitigations in Appendix A; Regional Initiatives and Programs	M	OWAA; RAAs; MSR	A	LT	PR	MR	DD	M	M
Project contribution to residual cumulative effects		M	OWAA; RAAs; MSR	A	LT	I	MR	DD	M	M
Changes to Access and Travel										
Residual cumulative effect with the Project	Mitigation IN-1; Applicable mitigations in Appendix A; Regional Initiatives and Programs	M	OWAA; RAAs; MSR	A	LT	PR	MR	DD	M	M
Project contribution to residual cumulative effects		M	OWAA; RAAs; MSR	A	LT	I	MR	DD	M	M

Table 13.13–1 – Summary of Residual Cumulative Effects on Metlakatla First Nation Interests

Residual Cumulative Effect	Mitigation and Enhancement Measures	Residual Cumulative Effects Characterization Criteria								
		Magnitude	Geographic Extent	Timing	Duration	Reversibility	Frequency	Affected Sub-Populations	Risk (Likelihood and Consequences)	Uncertainty

KEY

See Table 13.1–4 for detailed definitions

Magnitude:
NMC: No Measurable Change
L: Low
M: Moderate
H: High

Geographic Extent:
RAAs: Regional Assessment Areas
MSR: Marine Shipping Route
OWAA: Open Water Assessment Area
BR: Beyond Regional

Timing:
N/A: Not Applicable
A: Applicable

Duration:
ST: Short-term
MT: Medium-term
LT: Long-term

Reversibility:
R: Reversible
PR: Partially reversible
I: Irreversible

Frequency:
S: Single event
MIR: Multiple irregular event
MR: Multiple regular event
C: Continuous

Affected Sub-Populations:
E: Evenly distributed
DD: Disproportionally distributed

Risk (Likelihood and Consequences)
L: Low
M: Moderate
H: High

Uncertainty:
L: Low
M: Moderate
H: High

13.13.1 DISPROPORTIONATELY DISTRIBUTED RESIDUAL CUMULATIVE EFFECTS ON METLAKATLA FIRST NATION SUBGROUPS

Project activities in combination with activities associated with past/present and reasonably foreseeable projects are anticipated to result in the same disproportionately distributed effects on Metlakatla First Nation subgroups as those identified in Section 13.10.1. Disproportionately distributed cumulative effects on Metlakatla First Nation subgroups extend into the Marine Use, Marine Resources, Wildlife and Wildlife Habitat, Employment and Economy, Infrastructure and Services, and Community Health and Wellness RAAs (Sections 7.07, 7.09, 7.10, 7.11, 7.12, and 7.13) and may also be experienced within the OWAA, the MSR, and the vicinity of the Project footprint.

13.13.2 SUMMARY OF POTENTIAL ADVERSE RESIDUAL CUMULATIVE EFFECTS IDENTIFIED FOR THE TLAA

As the transmission line is proposed to be located within Metlakatla First Nation traditional territory, potential adverse residual effects are conservatively anticipated on Metlakatla First Nation interests resulting from construction and/or operation of the transmission line within the TLAA and these residual effects could act cumulatively with similar effects from other past, present, and likely projects or activities in the region. Cumulative effects on Metlakatla First Nation interests could result through the pathways identified in Table 13.1–2 in Section 13.1.4. As a third-party will ultimately design, implement, and operate the transmission line, the Proponents are not able to commit to mitigation measures specific to the transmission line in relation to potential adverse residual cumulative effects on Metlakatla First Nation interests. However, the Proponents are of the view that legislation, best practices, and guidelines applicable to limiting cumulative effects within the region, as well as legal processes requiring commitment to specific mitigation measures in relation to the transmission line, will be tailored to suit environmental concerns associated with the route selected and equipment to be used based on the final design. It is expected that the same will be required for past, present and likely other projects and activities.

13.14 Summary

Section 13.10 and Section 13.11 provide a summary of the assessment for Metlakatla First Nation outlining the adverse and positive residual effects on Metlakatla First Nation interests for the BC EAO to consider when determining the overall seriousness of impact to the Nation's interests.

The following sections summarize the assessment's concordance to the statutory requirements under the federal *Impact Assessment Act*, the prediction confidence of the assessment overall and discussion regarding follow-up programs for the Project.

13.14.1 STATUTORY REQUIREMENTS UNDER THE FEDERAL *IMPACT ASSESSMENT ACT*

The Proponents understand that Metlakatla First Nation's interests are intricately linked to one another and are also connected to the Nation's rights, culture, history, protocols, health and well-being.

Matters of interest to Metlakatla First Nation and the potential effects on those interests were identified for assessment through engagement with Metlakatla First Nation, a review of issues and concerns about the Project raised by Metlakatla First Nation (Section 13.1.2.2 Key Areas of Concern), and guidance from current federal and provincial acts, IA policies and best practices. Metlakatla First Nation's interests and potential effects on those interests have been disaggregated according to the preference of Metlakatla First Nation. Collectively or independently, as applicable, these interests may inform certain factors for assessment under the federal IAA, as discussed below.

The Application's concordance to all statutory requirements under the federal IAA is provided in Section 24.0.

13.14.1.1 Factor 22 (1)(c): Changes to Metlakatla First Nation Rights Recognized and Affirmed by Section 35 of the *Constitution Act*, 1982

Metlakatla First Nation is a First Nation and a band as defined in section 2(1) of the *Indian Act*. Metlakatla First Nation is in Stage 5 of negotiating independently (through the Tsimshian First Nations Treaty Society) with Canada and BC in the BC treaty process (Section 13.1.1.1, Government of British Columbia 2022), which means there is no treaty available to interpret or define section 35 rights specific to Metlakatla First Nation. Therefore, the Proponents' understanding of Metlakatla First Nation's section 35 rights is informed both in part by interpretations of relevant case law and by the perspectives of Metlakatla First Nation regarding their rights, as identified through publicly available literature and through engagement on the Project. Of note, as environmental assessment is not a rights-determination process, this section of the Application has assessed Project-related effects on Metlakatla First Nation's interests that are broader than the activities typically addressed by case law (e.g., hunting, fishing, trapping) to include any interests or matters of importance identified by Metlakatla First Nation.

As required under Section 22(1) of the IAA, the assessment of effects regarding changes to Metlakatla First Nation's rights recognized and affirmed by section 35 of the *Constitution Act, 1982* focused on Metlakatla First Nation's interests described in Section 13.1.4, as compiled by the methods described in Section 13.1.2, Section 13.1.3, and Section 13.1.4. The findings of the assessment can be found in Sections 13.2 to 13.9 and 13.12 are the same for this federal factor, which are also summarized in Sections 13.10, 13.11 and 13.13.

13.14.1.2 Factor 22 (1) (g): Consideration of Indigenous Knowledge Provided with Respect to the Project

The development of this Application was influenced by the Proponents' engagement with Metlakatla First Nation. As discussed in Section 13.1.3, the Proponents recognize that Metlakatla First Nation is best positioned to identify the sources of information, including Indigenous knowledge, appropriate for this assessment.

Indigenous knowledge used in this Application is derived from ongoing engagement, Project-specific and nation-led studies, secondary sources, and publicly available information identified through engagement with Metlakatla First Nation. The treatment of Indigenous knowledge within this section of the Application is presented with any changes requested by Metlakatla First Nation following iterative opportunities for review and comment. Refer to Section 13.1.3 for additional information.

Additionally, within each applicable assessment section of the Application, a summary of the key information, concerns and Indigenous knowledge shared with the Proponents is provided. This summary also describes the influence that the outcomes of this consultation and engagement has had on the respective assessment.

13.14.1.3 Factor 22(1)(l): Consideration of Changes to Metlakatla First Nation Culture

Changes to Metlakatla First Nation cultural identity was identified as an interest and potential effect for assessment. Accordingly, the assessment of adverse and positive changes to Metlakatla First Nation cultural identity is provided in Section 13.7 and cumulative changes to Metlakatla First Nation cultural identity are assessed in Section 13.12.7.

13.14.1.4 Factor 22(1)(r): Consistency with any Plan or Study Prepared by Metlakatla First Nation that has been Provided for the Project (including any existing Land-Use or Marine-Use Plans)

As described in Section 13.1.5.3, Metlakatla First Nation has developed several planning initiatives for the management of lands, waters, and resources within their traditional territory, including a draft MUP (Metlakatla First Nation n.d.). The Metlakatla draft MUP is an ecosystem-based approach to help manage market and non-market marine resources within Metlakatla territory (Metlakatla First Nation n.d.). The implementation of the plan is based on the needs and interests of Metlakatla community members and is guided by a full-time Community Coordinator and Marine Planning Committee comprised of Elders, Chiefs, council, and fisheries experts (Metlakatla 2022).

Metlakatla First Nation marine spatial planning describes place-based approaches that are rooted in the Nation's traditional management style (Metlakatla First Nation n.d.). Marine spatial planning offers Metlakatla First Nation families and clans the opportunity to maintain strong connection to place, through the practice of customary stewardship over their inherited lands and resources (Metlakatla First Nation n.d.). Through application of marine spatial planning, the draft MUP identifies 12 discrete Metlakatla Marine Use Zones within the Nation's traditional territory (Metlakatla First Nation n.d.) Three of the marine use zones – Duncan Bay Crab Management Area, Metlakatla Pass Management Area, and Lucy Islands – are located east and south of the MSR. Two of the marine use zones, Tree Knob Group Management Area and Melville Island Special Management Area, will be transected by the MSR. None of the marine use zones overlap with, or are in the vicinity of, the proposed Project footprint. Overall objectives of the draft MUP are intended to foster Government-to-Government negotiation and partnerships with various industries in collaboration with other Indigenous groups, if applicable (Metlakatla First Nation n.d.).

While the physical activities associated with Project construction, operation and decommissioning are not explicitly described within Metlakatla First Nation's MUP, the objectives of the MUP are not inconsistent with the Project given the Proponents' mitigation to limit potential effects on Metlakatla First Nation interests through the development and implementation of the Indigenous Engagement and Collaboration Plan and commitment to working directly with Metlakatla First Nation to identify opportunities for Metlakatla First Nation to realize potential benefits from the Project that can be used to both offset potential adverse effects and create positive effects for the Nation.

13.14.1.5 Factor 22(1)(s): Disproportionate Effects on Distinct Human Populations (Intersections of Sex and Gender with Other Identity Factors)

Where appropriate and information has been available, disproportionate effects on Metlakatla First Nation are described in Sections 13.10.1 and 13.13.1. Additionally, Section 7.10

Employment and Economy, Section 7.12 Infrastructure and Services and Section 7.13 Community Health and Wellness assess potential disproportionate effects on distinct human populations, including those identified by sex, age, and other relevant identity factors. The outcomes of these assessments relative to Metlakatla First Nation are discussed within Sections 13.10.1 and 13.13.1, as applicable.

13.14.1.6 Effects under Section 2(b)(i): Changes to the Environment that would occur on Federal Lands

The Project is proposed to be built on Category A lands owned in fee simple by the Nisga'a Nation, one of the Proponents. It does not overlap with a national or provincial park, Crown land, land upon which there are other land tenure holders, or private property not owned by the Proponents. As such, there are no direct physical impacts such as vegetation clearing and grading that would occur on federal lands used or accessed by Metlakatla First Nation. Metlakatla First Nation reserve lands are the federal lands in proximity to the Project footprint, the OWAA, and the MSR (refer to Table 13.4–1). The acoustic (shipping) VC (Section 7.03) is the only VC that may result in changes to the environment with the potential to interact with Metlakatla First Nation federal lands. Metlakatla First Nation reserve lands in proximity to the MSR may be affected by sounds emissions from LNG carriers and tugboats during the construction, operation and decommissioning phases.

Table 13.14–1 provides a summary of the potential residual effects to Metlakatla First Nation federal lands.

Table 13.14–1 – Intersecting VC Project Residual Effects Extending onto Metlakatla First Nation Federal Lands

Potential Effect	Project Component and Phase	Residual Effects	Affected Metlakatla First Nation Federal Lands
Increased noise level (Acoustic Section 7.03).	Shipping – construction and decommissioning	**Direction and Magnitude:** Moderate **Extent**: LAA/RAA **Duration:** Short term **Reversibility:** Reversible **Frequency:** Multiple irregular events **Affected Populations:** Disproportionately distributed	S1/2 TSIMPSEAN 2
Increased noise level (Acoustic Section 7.03).	Shipping – operation	**Direction and Magnitude:** Moderate **Extent**: LAA/RAA **Duration:** Medium term **Reversibility:** Reversible **Frequency:** Continuous, Multiple irregular events **Affected Populations:** Disproportionately distributed	S1/2 TSIMPSEAN 2

13.14.1.7 Effects under Section 2(c)(i): Changes to Physical and Cultural Heritage

Changes to physical and cultural heritage and structures, sites or things of historical, archaeological, paleontological, or architectural significance consider all elements of cultural and historical importance to Metlakatla First Nation, in addition to provincial heritage legislative requirements. The Proponents understand that there are tangible and intangible elements of physical and cultural heritage such as Indigenous language, place names, sacred, ceremonial or culturally important places and cultural landscapes. Tangible and intangible elements of physical and cultural heritage are considered aspects of each of Metlakatla First Nation's interests and potential effects identified for assessment. Therefore, the assessment of changes to Metlakatla First Nation physical and cultural heritage is provided in Sections 13.2 to 13.9 and cumulative changes to Metlakatla First Nation physical and cultural heritage are assessed in Section 13.12.

Additionally, Section 7.15 Archaeological and Heritage Resources assessed potential effects to physical heritage resources, including culturally modified trees, archaeological resources, and materials or other physical evidence of human habitation or use before 1846. The outcomes of this assessment relative to Metlakatla First Nation are discussed within Sections 13.5 and 13.12.5, as applicable.

13.14.1.8 Effects under Section 2(c)(ii): Changes to Current Use of Lands and Resources for Traditional Purposes

Changes to Metlakatla First Nation Marine and Terrestrial Harvest and Consumption, Sacred Places and Heritage Sites, and Access and Travel were identified as interests and potential effects for assessment. Each of these interests are representative of Metlakatla First Nation's current use of land and resources for traditional purposes. The effects pathways evaluated for each of these interests are similarly focused on the conditions and resources that support traditional activities, such as, availability of harvested resources, ability to use and access lands and waters and sensory disturbances. The assessment of adverse and positive changes on each of these interests as they relate to Metlakatla First Nation's current use of land and resources for traditional purposes is provided in Sections 13.2, 13.3, 13.5 and 13.9. Cumulative changes to each of these interests are assessed in Section 13.12.

13.14.1.9 Effects under Section 2(c)(iii): Changes to any Structure, Site or Thing of Historical, Archaeological, Paleontological, or Architectural Significance

The findings of the assessment found in Section 13.14.1.7 are the same for this federal factor.

13.14.1.10 Effects under Section 2(d): Changes to the Health, Social or Economic Conditions of Metlakatla First Nation

Changes to Metlakatla First Nation Governance, Decision-Making and Economic Development and Changes to Metlakatla First Nation Health, Well-Being and Safety were identified as interests and potential effects for assessment. Accordingly, the assessment of changes to Metlakatla First Nation health, social and economic conditions is provided in Sections 13.4 and 13.6, and more broadly in Sections 13.2, 13.3, 13.5, 13.7, 13.8, and 13.9 as these conditions often relate to land-based practices that are intricately connected to health (physical, mental and social well-being) and socio and economic conditions (language, culture, governance, land use planning, economic development and

self-determination). Cumulative changes to Metlakatla First Nation health, social and economic conditions are assessed in Section 13.12.

Additionally, where appropriate and information has been available, the health, social and economic conditions for Metlakatla First Nation are described in Section 7.10 Employment and Economy, Section 7.11 Marine Use, Section 7.12 Infrastructure and Services, Section 7.13 Community Health and Wellness and Section 7.14 Human Health. The outcomes of these assessments relative to Metlakatla First Nation are discussed within Sections 13.2 to 13.9, as applicable.

13.14.2 PREDICTION CONFIDENCE

The predication confidence in the conclusions for Project residual effects and residual cumulative effects for Metlakatla First Nation interests is moderate and is based on:

- available information and feedback provided by Metlakatla First Nation
- the suite of mitigation measures and management plans proposed
- the Proponents' understanding that Metlakatla First Nation interests occur on lands and waters within the Project assessment areas that overlap with the Metlakatla First Nation territory

Conservative assumptions regarding the Project were also made for VCs related to Metlakatla First Nation interests, as described throughout the Application, to overestimate the effects assessed.

13.14.3 FOLLOW-UP PROGRAM

The Proponents' follow-up programs that relate to Metlakatla First Nation interests includes those programs described in Sections 7.02 Air Quality, 7.04 Surface Water, 7.60 Vegetation and Wetlands, 7.07 Wildlife and Wildlife Habitat, Section 7.08 Freshwater Fish and Fish Habitat, 7.09 Marine Resources, 7.10 Employment and Economy, and 7.13 Community Health and Well-being, as well as the following planned engagement activities and commitments:

- engaging with Metlakatla First Nation to develop a shared understanding of how the Project may affect their Indigenous interests
- engaging with Metlakatla First Nation to discuss the Project and its effects, understand concerns that may arise and respond to those concerns
- working directly with Metlakatla First Nation to identify opportunities for Metlakatla First Nation to realize potential benefits from the Project that can be used to both offset potential adverse effects and create positive effects for the Nation

The Proponents will remain available through Application review should Metlakatla First Nation bring forward additional information related to this assessment or should concerns arise or requests for alternate engagement approaches be requested by Metlakatla First Nation. Through ongoing engagement (i.e., throughout the life of the Project) the Proponents aim to maintain a positive long-term relationship with Metlakatla First Nation.

13.15 Metlakatla First Nation Views

This section was authored by the Proponents and sets out the Proponents' understanding of Metlakatla First Nation's views shared through engagement to date.

Section 13.1.2.1 provides a summary of past engagement activities with Metlakatla First Nation that have occurred since March 2021. Table 13.1–1 provides a summary of the key information, including Indigenous knowledge, concerns, and other views that the Proponents identified as part of their engagement efforts with Metlakatla First Nation, as well as a summary of the influence that the outcomes of this engagement had on the assessment. Section 13.1.2.2 and Table 13.1–1 summarize the Proponents' understanding of the feedback provided by Metlakatla First Nation regarding the assessment of the effects of the Project on Metlakatla First Nation's interests as well as other areas of interest related to the EA.

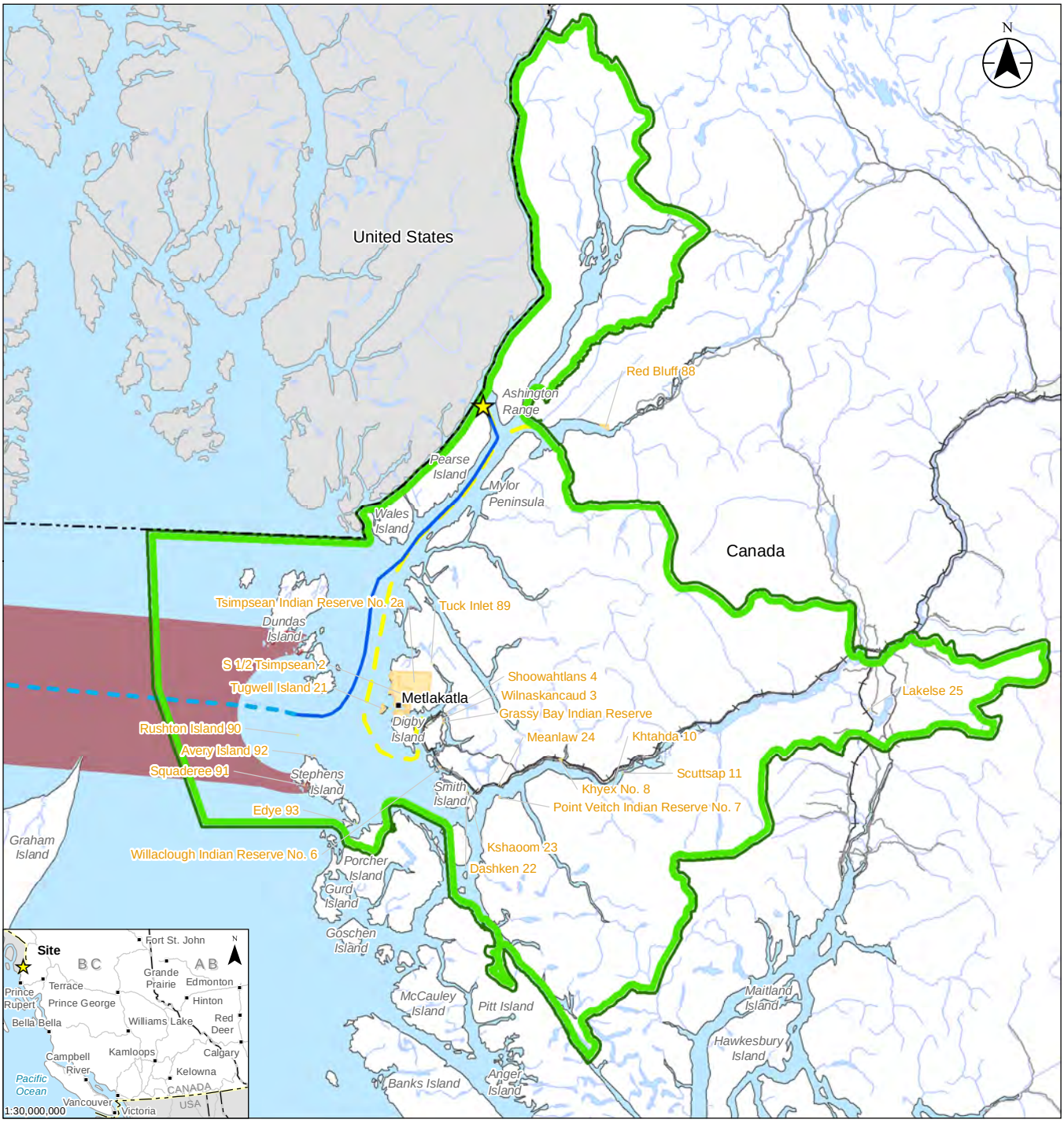
The Proponents have not identified any major points of disagreement raised by Metlakatla First Nation about the conclusions set out in this chapter regarding the assessment of the effects of the Project on Metlakatla First Nation's interests that could not be resolved during the remainder of the EA. Therefore, the Proponents look forward to further engagement and collaboration with Metlakatla First Nation to continue building a mutual understanding of how the Project may impact Metlakatla First Nation's interests and to co-develop measures to reduce such impacts. The Proponents also plan to continue collaboration with Metlakatla First Nation to address any other issues or concerns the Nation may have with the Project or the EA.

The Proponents would particularly welcome further feedback from Metlakatla First Nation regarding: effects management; characterization of residual effects; and conclusions described in the assessment of the effects of the Project on Metlakatla First Nation's interests. The Proponents are also interested to receive feedback from Metlakatla First Nation regarding potentially new engagement and collaboration activities and suggested approaches to issue resolution that could be co-developed during the remainder of the EA.

Further feedback provided by Metlakatla First Nation during the Application Review phase of the EA will be incorporated into the revised Application prior to submission to the BC EAO.

The Proponents understand that Metlakatla First Nation also intends to author its own chapter in the BC EAO's Assessment Report, which would provide the Nation an opportunity to directly express its views regarding the assessment of the effects of the Project on the Metlakatla First Nation's interests.

13.16 Figures



KSI LISIMS LNG

Notes
1. Coordinate System: NAD 1983 BC Environment Albers
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Maxar, Rockies LNG
3. NTS Sheets: 103J, 103O

- Site
- Marine Shipping route
- Open Water Marine Shipping Route
- Materials and Supply Shipping Route
- Metlakatla First Nation Traditional Territory
- Open Water Assessment Area
- International Boundary
- Railway
- Watercourse
- Waterbody
- Reserve Land

0 15 30 45 60 km
1:1,500,000 (at original document size of 8.5x11)

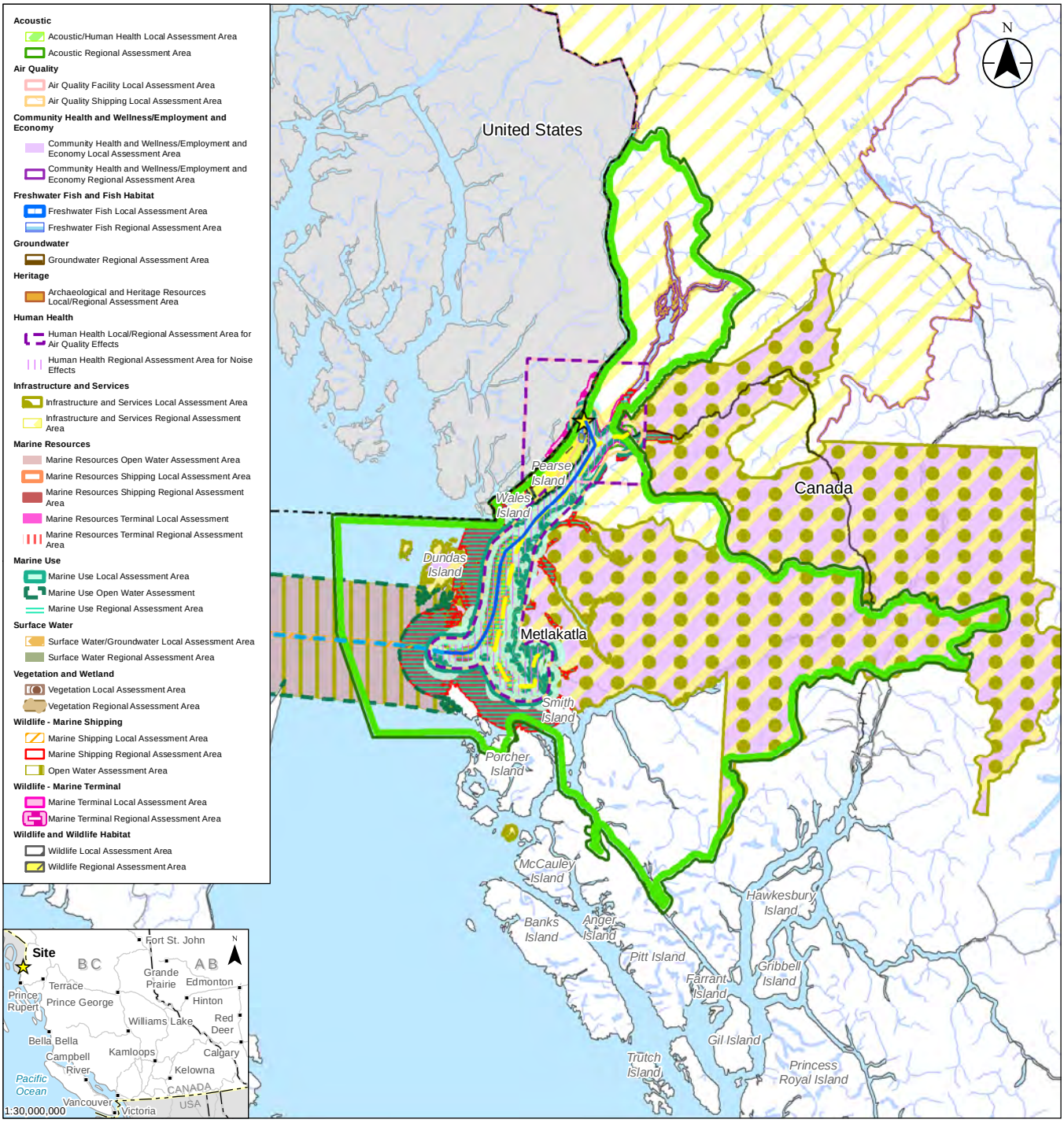
Stantec

Project Location: Pearse Island, BC
Project Number: 123221820
Prepared by CSPYKER on 20220830
Requested by AGAUVREAU on 20220830
Checked by SMOSS on 20220830

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Environmental Assessment - Impact Assessment

Figure No.
13.16-1

Title
Metlakatla First Nation Traditional Territory Overview Map



KSI LISIMS LNG

Site
Marine Shipping Route
Open Water Marine Shipping Route
Materials and Supply Shipping Route
Metlakatla First Nation Traditional Territory
International Boundary
Railway
Watercourse
Waterbody

0 15 30 45 60 km
1:2,000,000 (at original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 BC Environment Albers
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Maxar, Rockies LNG

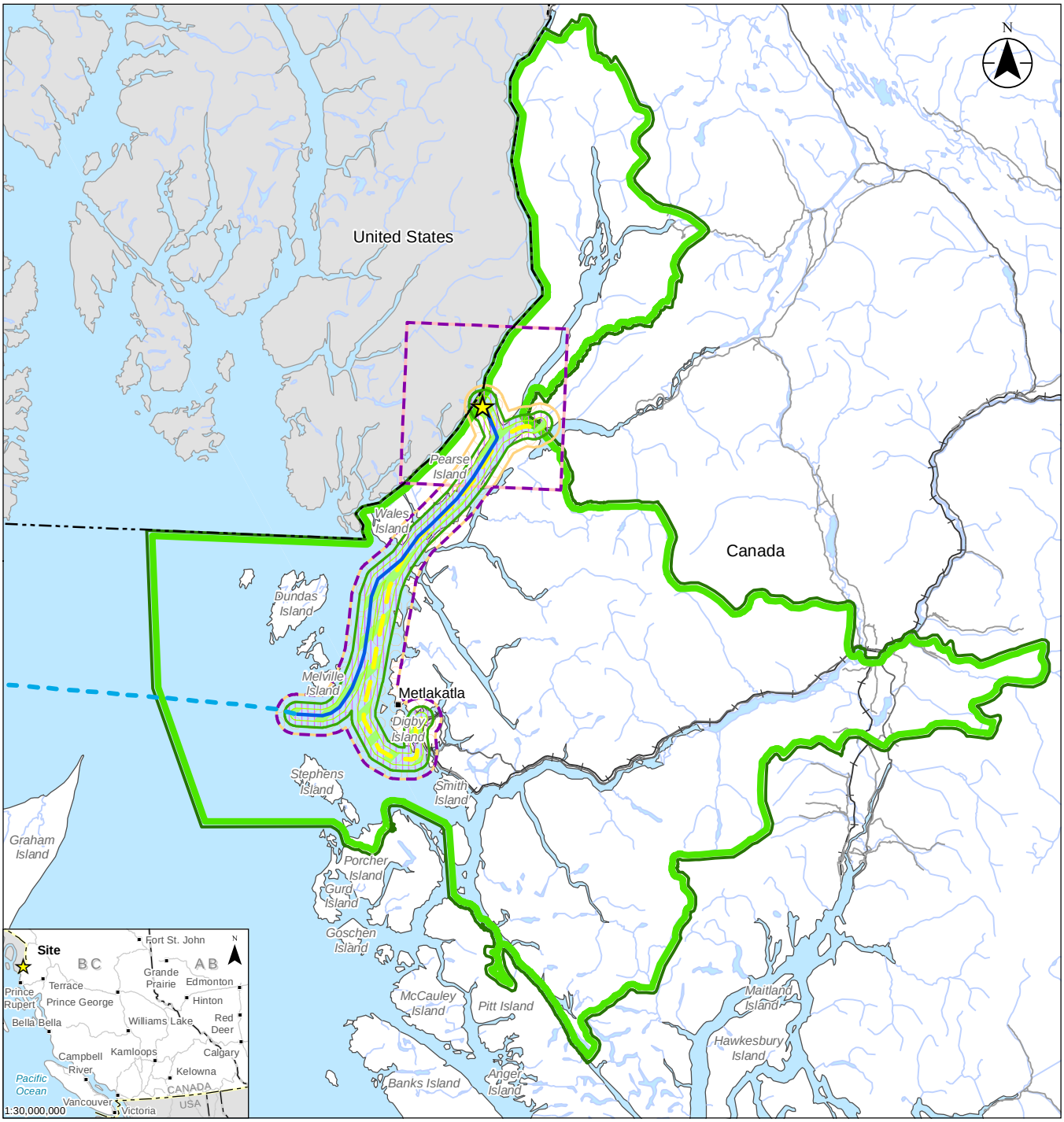
Stantec

Project Location: Pearse Island, BC
Project Number: 123221820
Prepared by TQUILICHINI on 20221201
Requested by AGAUVREAU on 20221121

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Environmental Assessment - Impact Assessment

Figure No.
13.16-2

Title
Assessment Boundaries for Metlakatla First Nation Traditional Territory Key Map



KSI LISIMS LNG

Notes
1. Coordinate System: NAD 1983 BC Environment Albers
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Maxar, Rockies LNG

- Site
- Marine Shipping Route
- Open Water Marine Shipping Route
- Materials and Supply Shipping Route
- Metlakatla First Nation Traditional Territory

Acoustic
- Acoustic/Human Health Local Assessment Area
- Acoustic Regional Assessment Area

Air Quality
- Air Quality Facility Local Assessment Area
- Air Quality Shipping Local Assessment Area

Human Health
- Human Health Local/Regional Assessment Area for Air Quality Effects
- Human Health Regional Assessment Area for Noise Effects

- International Boundary
- Railway
- Watercourse
- Waterbody

0 15 30 45 60 km
1:1,500,000 (at original document size of 8.5x11)

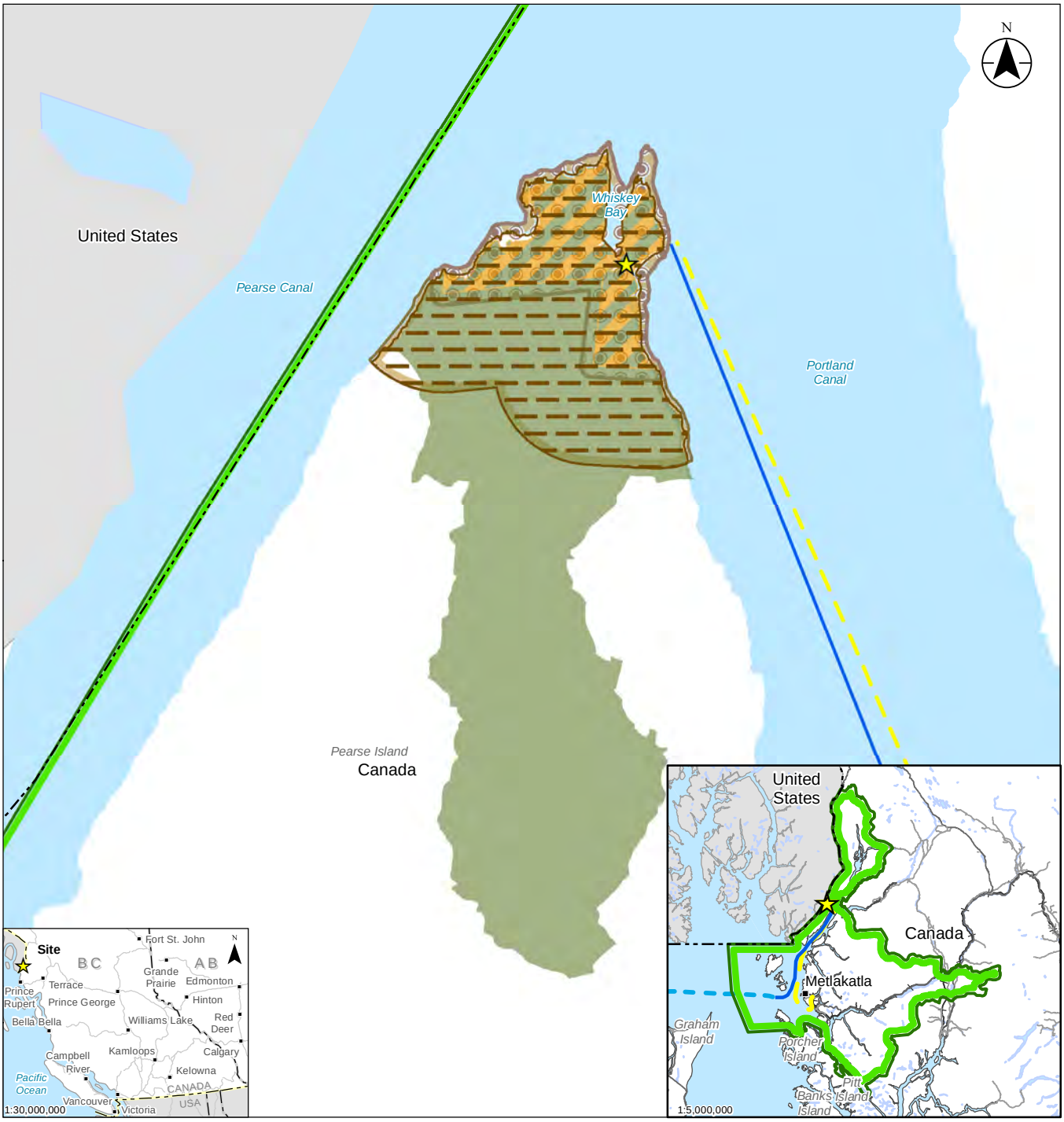
Stantec

Project Location: Pearse Island, BC
Project Number: 123221820
Prepared by CSPYKER on 20220831
Requested by AGAUVREAU on 20220831
Checked by SMOSS on 20220831

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Environmental Assessment - Impact Assessment

Figure No.
13.16-3

Title
Assessment Boundaries for Metlakatla First Nation Traditional Territory Air Quality, Acoustic, and Human Health



KSI LISIMS LNG

Notes
1. Coordinate System: NAD 1983 BC Environment Albers
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Maxar, Rockies LNG

- Site
- Marine Shipping Route
- Open Water Marine Shipping
- Materials and Supply Shipping Route
- Metlakatla First Nation Traditional Territory

Groundwater
- Groundwater Regional Assessment Area

Surface Water
- Surface Water/Groundwater Local Assessment Area
- Surface Water Regional Assessment Area

Vegetation and Wetland
- Vegetation Local Assessment Area
- Vegetation Regional Assessment Area
- International Boundary
- Waterbody

0 500 1,000 1,500 2,000 m
1:60,000 (at original document size of 8.5x11)

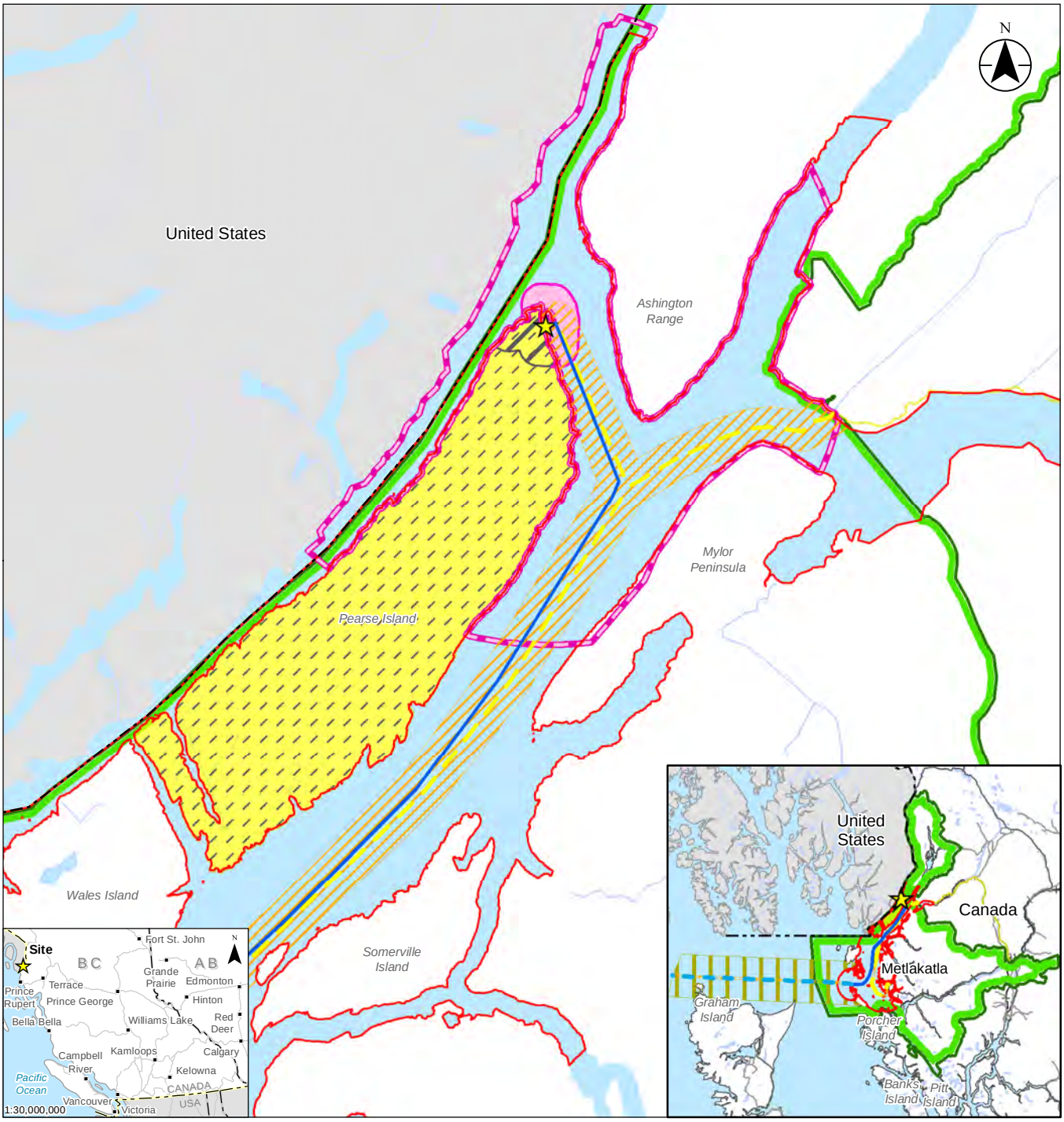
Stantec

Project Location: Pearse Island, BC
Project Number: 123221820
Prepared by CSPYKER on 20220831
Requested by AGAUVREAU on 20220831
Checked by SMOSS on 20220831

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Environmental Assessment - Impact Assessment

Figure No.
13.16-4

Title
Assessment Boundaries for Metlakatla First Nation Traditional Territory Surface Water, Groundwater, Vegetation and Wetlands



KSI LISIMS LNG

Notes
1. Coordinate System: NAD 1983 BC Environment Albers
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Maxar, Rockies LNG

- Site
- Marine Shipping Route
- Open Water Marine Shipping Route
- Materials and Supply Shipping Route
- Metlakatla First Nation Traditional Territory

Wildlife - Marine Shipping
- Marine Shipping Local Assessment Area
- Marine Shipping Regional Assessment Area
- Open Water Assessment Area

Wildlife - Marine Terminal
- Marine Terminal Local Assessment Area
- Marine Terminal Regional Assessment Area

Terrestrial Wildlife and Wildlife Habitat
- Wildlife Local Assessment Area
- Wildlife Regional Assessment Area
- International Boundary
- Watercourse
- Waterbody

0 2.5 5 7.5 10 km
1:300,000 (at original document size of 8.5x11)

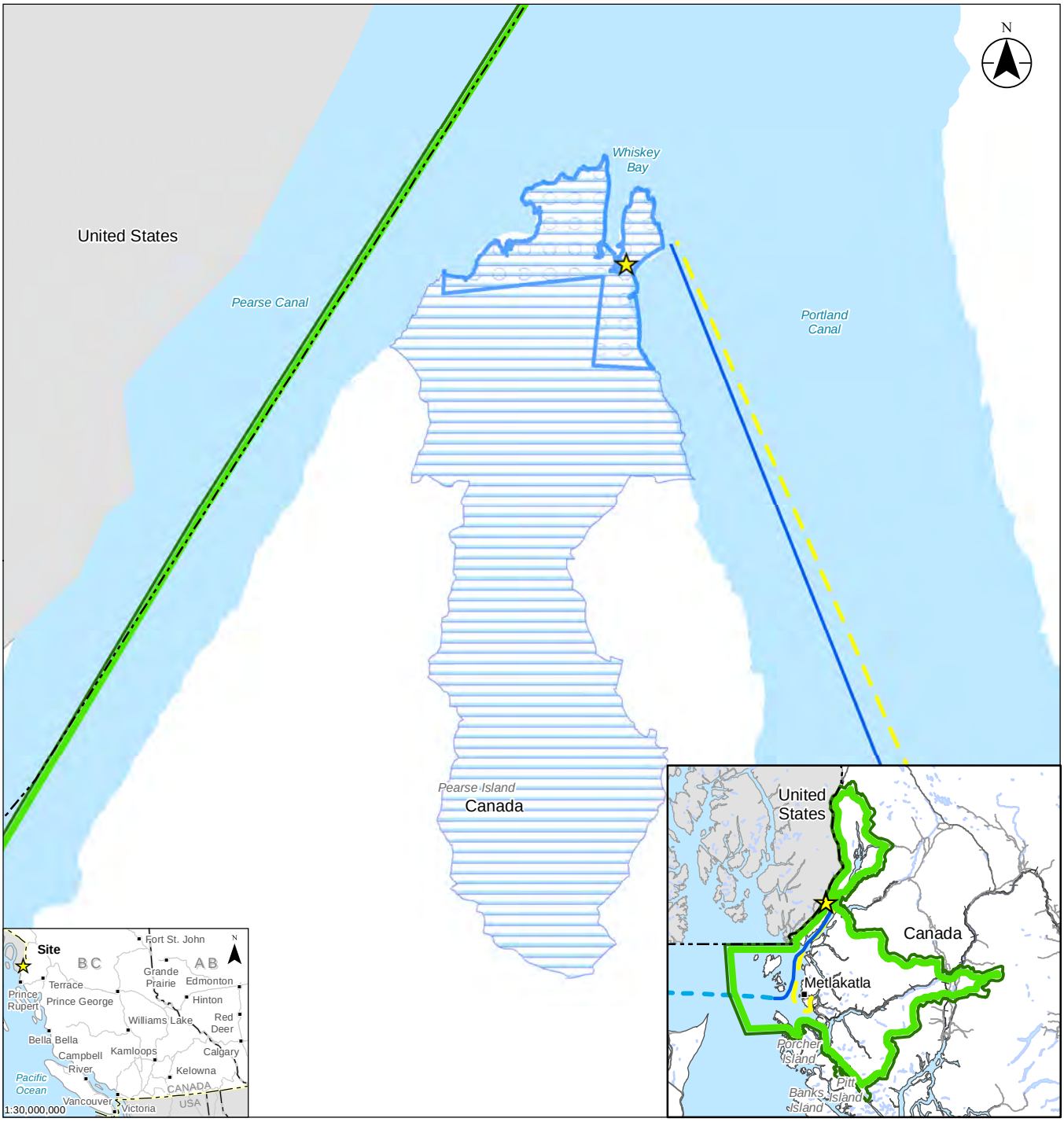
Stantec

Project Location: Pearse Island, BC
Project Number: 123221820
Prepared by CSPYKER on 20220901
Requested by AGAUVREAU on 20220901
Checked by SMOSS on 20220901

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Environmental Assessment - Impact Assessment

Figure No.
13.16-5

Title
Assessment Boundaries for Metlakatla First Nation Traditional Territory Wildlife and Wildlife Habitat



KSI LISIMS LNG

- Site
- Marine Shipping Route
- Open Water Marine Shipping Route
- Materials and Supply Shipping Route
- Metlakatla First Nation Traditional Territory

Freshwater Fish and Fish Habitat

- Freshwater Fish Local Assessment Area
- Freshwater Fish Regional Assessment Area
- International Boundary

0 500 1,000 1,500 2,000 m

1:60,000 (at original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 BC Environment Albers
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Maxar, Rockies LNG

Stantec

Project Location: Pearse Island, BC

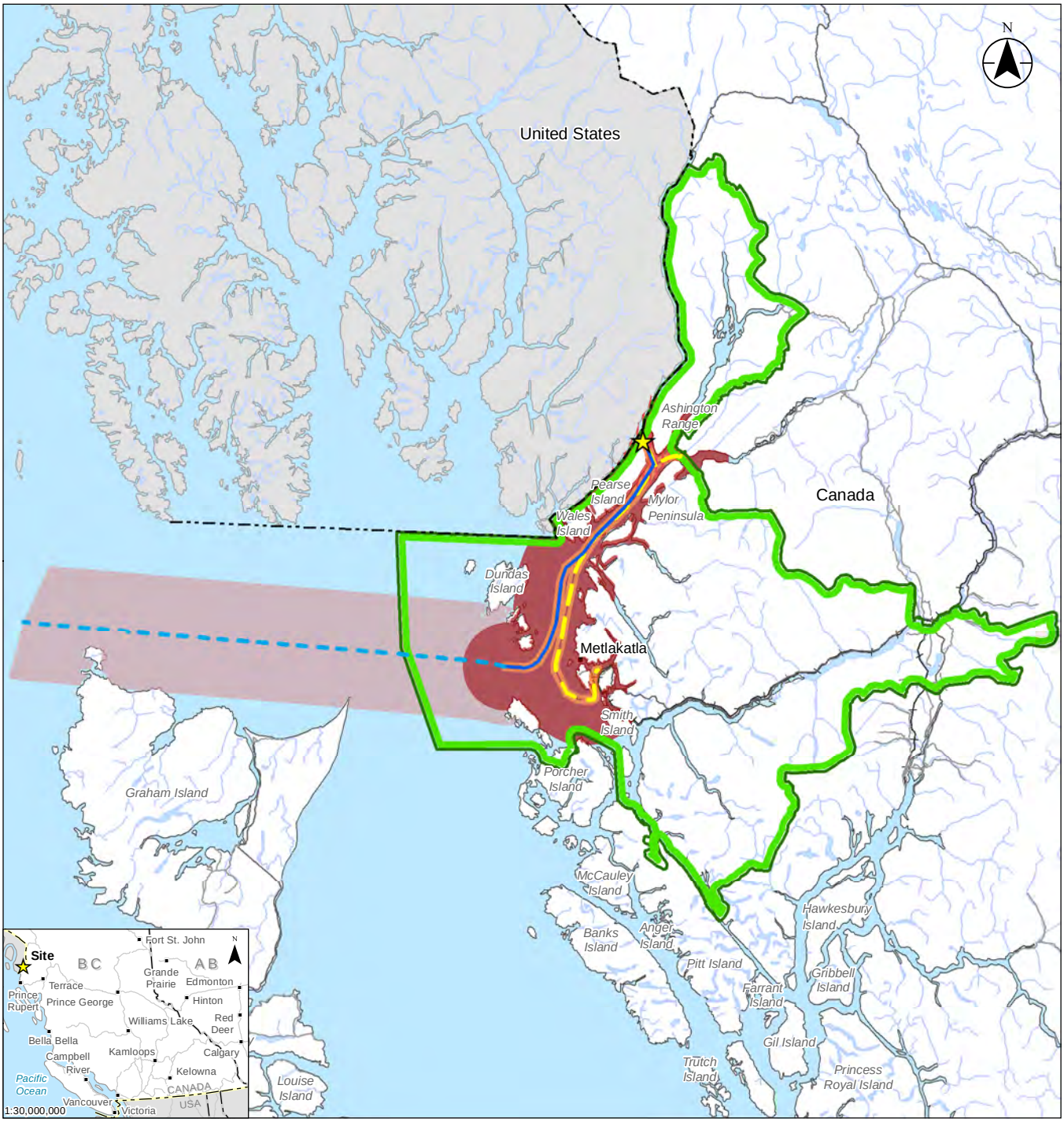
Project Number: 123221820
Prepared by CSPYKER on 20220901
Requested by AGAUVREAU on 20220901
Checked by SMOSS on 20220901

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Environmental Assessment - Impact Assessment

Figure No.
13.16-6

Title
Assessment Boundaries for Metlakatla First Nation Traditional Territory Freshwater Fish and Fish Habitat

S:\1232\projects\123221820\figures\report\EA\Indigenous\fig_13_123221820_306_FN_Metlakatla_FISH.mxd Revised: 2023-09-13 By: tquilichini



KSI LISIMS LNG

Site
Marine Shipping Route
Open Water Marine Shipping Route
Materials and Supply Shipping Route
Metlakatla First Nation Traditional Territory

Marine Resources
- Marine Resources Open Water Assessment Area
- Marine Resources Shipping Local Assessment Area
- Marine Resources Shipping Regional Assessment Area
- Marine Resources Terminal Local Assessment Area
- Marine Resources Terminal Regional Assessment Area
- International Boundary
- Railway
- Watercourse
- Waterbody

0 15 30 45 60 km
1:2,050,000 (at original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 BC Environment Albers
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Maxar, Rockies LNG

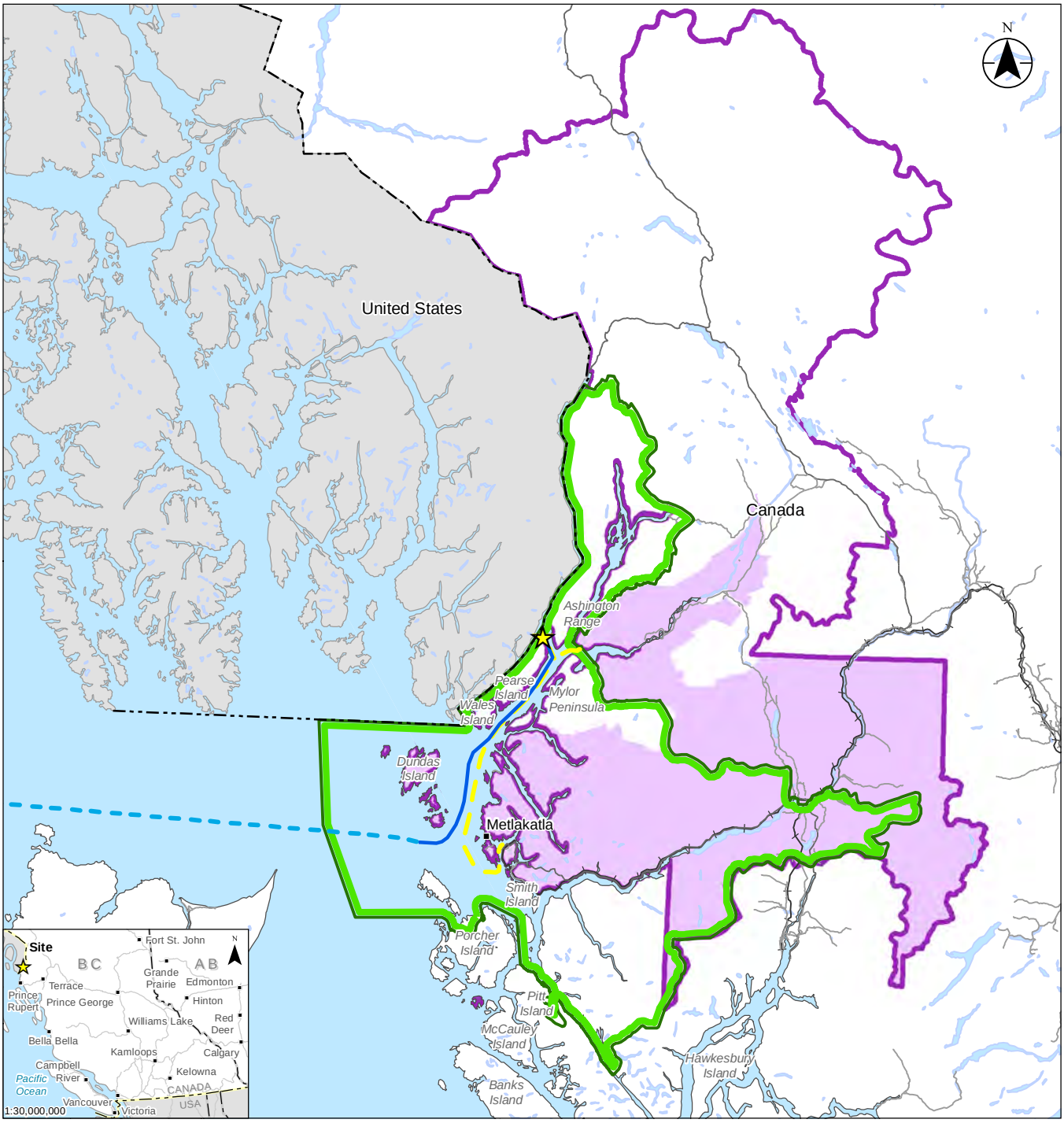
Stantec

Project Location: Pearse Island, BC
Project Number: 123221820
Prepared by CSPYKER on 20220901
Requested by AGAUVREAU on 20220901
Checked by SMOSS on 20220901

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal Environmental Assessment - Impact Assessment

Figure No.
13.16-7

Title
Assessment Boundaries for Metlakatla First Nation Traditional Territory Marine Resources



KSI LISIMS LNG

Site
Marine Shipping Route
Open Water Marine Shipping Route
Materials and Supply Shipping Route
Metlakatla First Nation Traditional Territory

Community Health and Wellness/Employment and Economy

Community Health and Wellness/Employment and EconomyLocal Assessment Area
Community Health and Wellness/Employment and Economy Regional Assessment Area
International Boundary
Railway
Waterbody

0 15 30 45 60 km
1:2,250,000 (at original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 BC Environment Albers
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Maxar, Rockies LNG

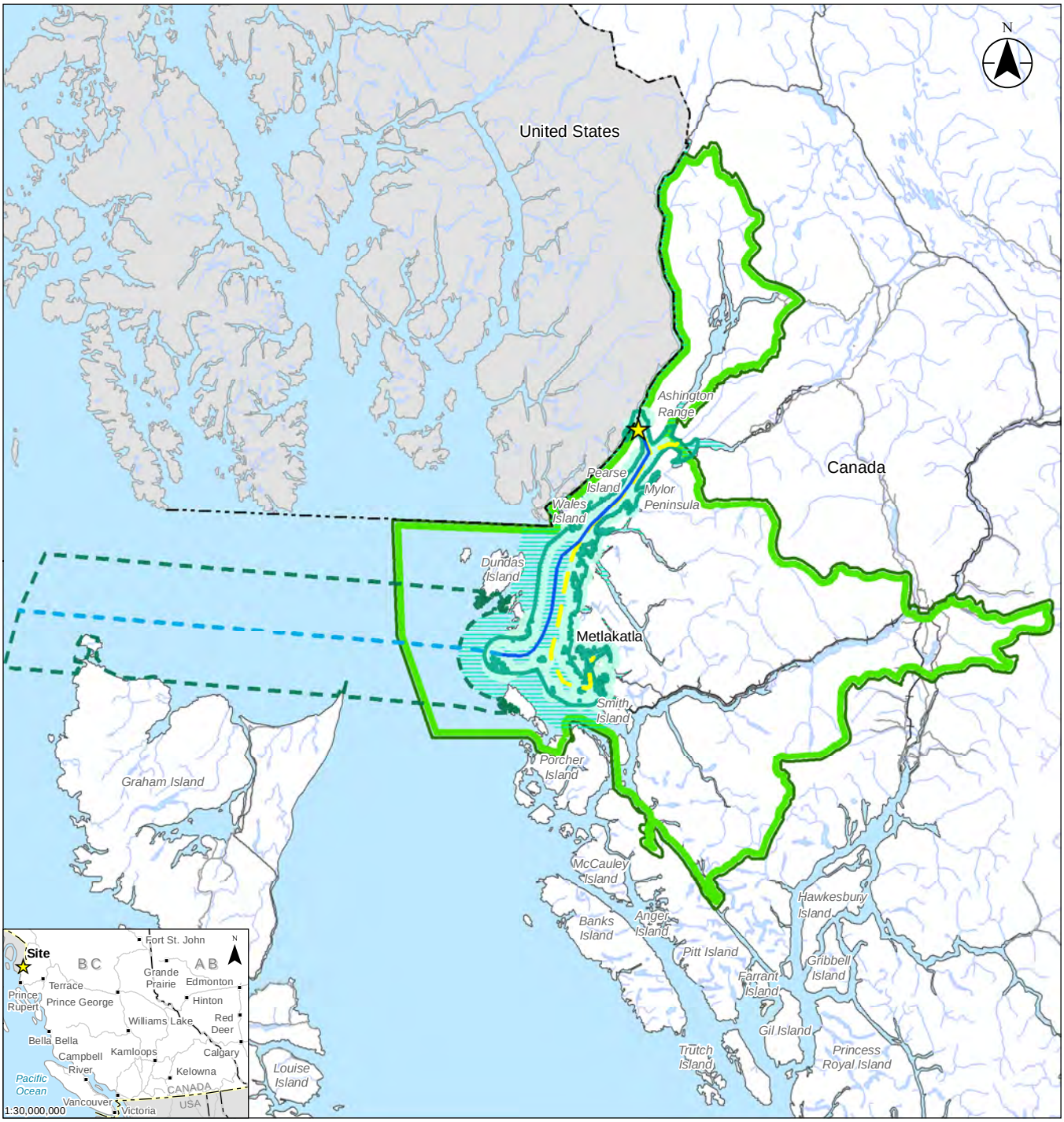
Stantec

Project Location: Pearse Island, BC
Project Number: 123221820
Prepared by CSPYKER on 20220901
Requested by AGAUVREAU on 20220901
Checked by SMOSS on 20220901

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Environmental Assessment - Impact Assessment

Figure No.
13.16-8

Title
Assessment Boundaries for Metlakatla First Nation Traditional Territory Employment and Economy and Community Health and Wellness



KSI LISIMS LNG

Site
Marine Shipping Route
Open Water Marine Shipping Route
Materials and Supply Shipping Route
Metlakatla First Nation Traditional Territory

Marine Use
Marine Use Local Assessment Area
Marine Use Open Water Assessment Area
Marine Use Regional Assessment Area
International Boundary
Railway
Watercourse
Waterbody

0 15 30 45 60 km
1:2,050,000 (at original document size of 8.5x11)

Stantec

Notes
1. Coordinate System: NAD 1983 BC Environment Albers
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Maxar, Rockies LNG

Project Location: Pearse Island, BC
Project Number: 123221820
Prepared by CSPYKER on 20220901
Requested by AGAUVREAU on 20220901
Checked by SMOSS on 20220901

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal Environmental Assessment - Impact Assessment

Figure No.
13.16-9

Title
Assessment Boundaries for Metlakatla First Nation Traditional Territory Marine Use

KSI LISIMS LNG

- Site
- Marine Shipping Route
- Open Water Marine Shipping Route
- Materials and Supply Shipping Route
- Metlakatla Band Council Territory

Heritage

- Archaeological and Heritage Resources Local/Regional Assessment Area
- International Boundary
- Waterbody

0 500 1,000 1,500 2,000 m

1:60,000 (at original document size of 8.5x11)

Stantec

Notes
1. Coordinate System: NAD 1983 BC Environment Albers
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Maxar, Rockies LNG

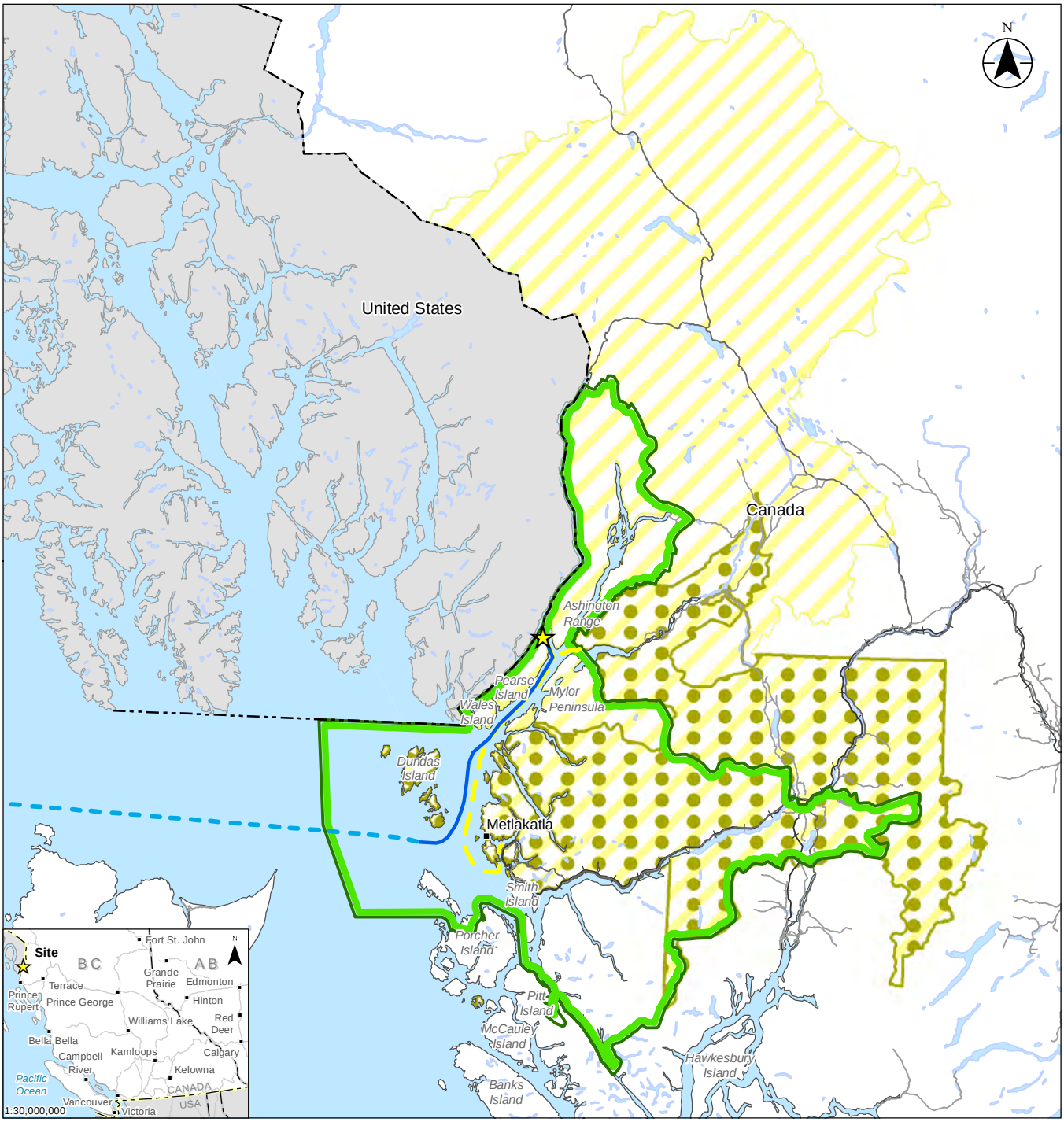
Project Location: Pearse Island, BC

Project Number: 123221820
Prepared by CSPYKER on 20220831
Requested by AGAUVREAU on 20220831
Checked by SMOSS on 20220831

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Environmental Assessment - Impact Assessment

Figure No.
13.16-10

Title
Assessment Boundaries for Metlakatla First Nation Traditional Territory Archaeological Heritage and Resources



KSI LISIMS LNG

Site
Marine Shipping Route
Open Water Marine Shipping Route
Materials and Supply Shipping Route
Metlakatla First Nation Traditional Territory

Infrastructure and Services

Infrastructure and Services Local Assessment Area
Infrastructure and Services Regional Assessment Area

International Boundary
Railway
Waterbody

0 15 30 45 60 km
1:2,250,000 (at original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 BC Environment Albers
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Maxar, Rockies LNG

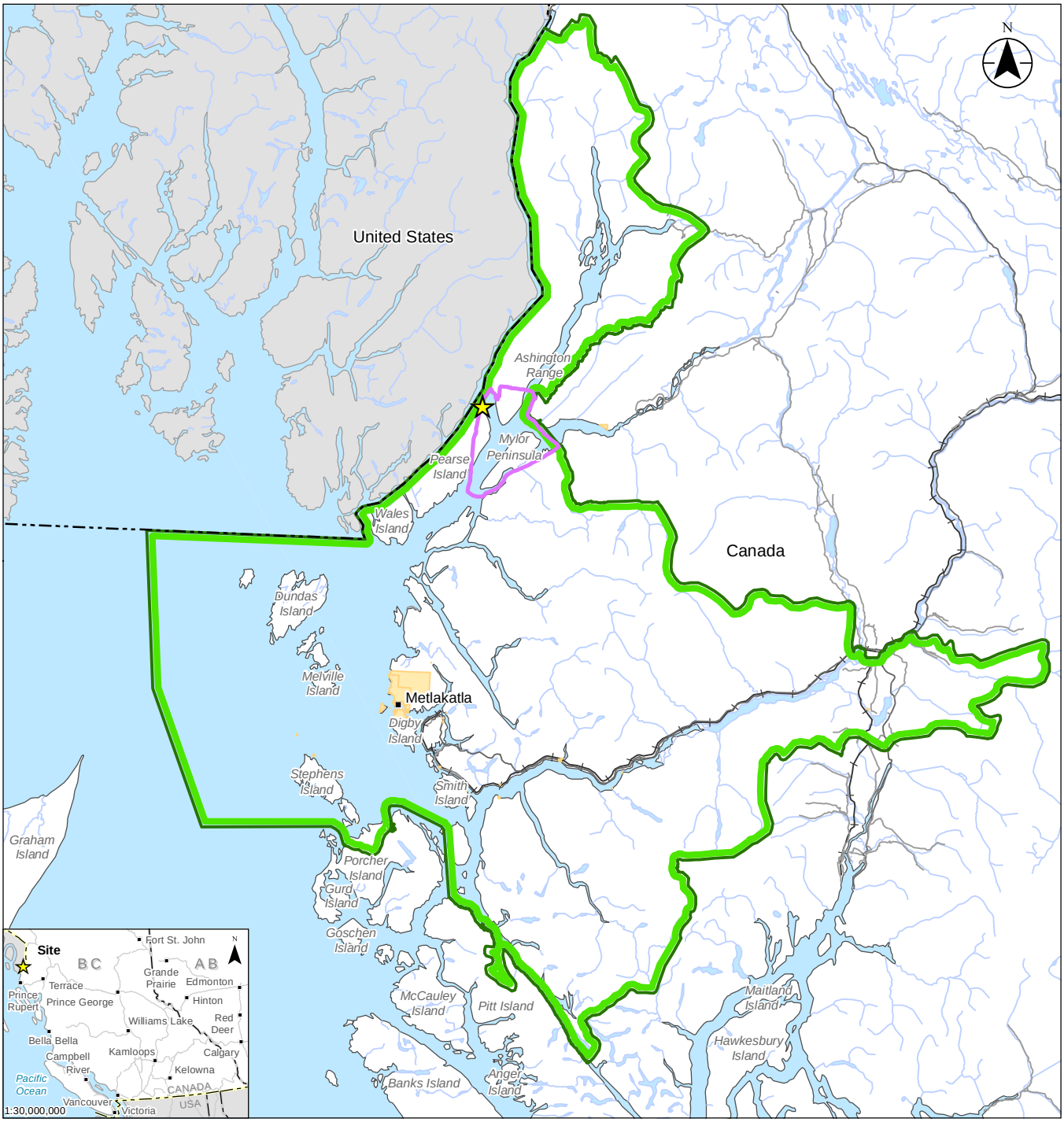
Stantec

Project Location: Pearse Island, BC
Project Number: 123221820
Prepared by TQUILICHINI on 20221201
Requested by AGAUVREAU on 20221121

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Environmental Assessment - Impact Assessment

Figure No.
13.16-11

Title
Assessment Boundaries for Metlakatla First Nation Traditional Territory Infrastructure and Services



KSI LISIMS LNG

Site

Metlakatla First Nation Traditional Territory

Transmission Line Assessment Area

International Boundary

Railway

Watercourse

Waterbody

Reserve Land

0 15 30 45 60 km

1:1,500,000 (at original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 BC Environment Albers
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Maxar, Rockies LNG
3. NTS Sheets: 103J, 103O

Stantec

Project Location:
Pearse Island, BC

Project Number: 123221820
Prepared by TQUILICHINI on 20230710
Requested by AGAVREAU on 20230705
Checked by XX on 20230710

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Environmental Assessment - Impact Assessment

Figure No.
13.16-12

Title
Transmission Line Assessment Area & Metlakatla First Nation Traditional Territory