KSI LISIMS LNG

Natural Gas Liquefaction and Marine Terminal Project

DETAILED PROJECT DESCRIPTION (BC EAA 2018, IAA 2019)

Date: April 25, 2022

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Acronyms and Abbreviations

(the) Agency	Impact Assessment Agency of Canada
°C	celsius
µg/m^3	micrograms
ABS	American Bureau of Shipping
ADCP	Acoustic Doppler Current Profiler
AGRU	Acid Gas Removal Unit
AIA	Archaeological Impact Assessment
AIR	Application Information Requirements
AIS	automatic identification system
AK	Alaska
ARU	Acoustic recording units
ATON	Aids to Navigation
BC	British Columbia
BC CDC	BC Conservation Data Centre
BC EAA	British Columbia *Environmental Assessment Act*
BC EAO	British Columbia Environmental Assessment Office
BC ENV	British Columbia Ministry of Environment and Climate Change Strategy
BC Hydro	British Columbia Hydro and Power Authority
BC Hydro grid	BC Hydro electricity distribution system
BC OGC	British Columbia Oil and Gas Commission
Bcf/d	billion cubic feet per day
Bcf/yr	billion cubic feet per year
BOG	boil off gas
CAC	critical air contaminant
CCG	Canadian Coast Guard
CFA	Capacity Funding Agreement
CH_4	methane
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
cm/s	centimeters per second
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CSA	Canadian Standards Association
CWHvh2	Central variant of the Very Wet Hypermaritime subzone
dAIR	draft Application Information Requirements
DFO	Fisheries and Oceans Canada
DL	District Lot
DPD	Detailed Project Description
DPM	diesel particulate matter

EA	environmental assessment
EAC	Environmental Assessment Certificate
EA-IA	environmental assessment and impact assessment
ECCC	Environment and Climate Change Canada
EMA	BC *Environmental Management Act*
EMP	environmental management plan
EP	Engagement Plan
FEED	front-end engineering and design
FID	final investment decision
FLNG	floating liquefaction, storage and off-loading barge
FLNRORD	Ministry of Forests, Lands, Natural Resource Operations and Rural Development
floatel	floating hotel; temporary workforce accommodation
FNCI	First Nations Climate Initiative
FOR	Ministry of Forests
GBA+	Gender-based Analysis
GGIRCA	*Greenhouse Gas Industrial Reporting and Control Act*
GHG	greenhouse gas
Gitxaała	Gitxaała Nation
GoBC	Government of British Columbia
GoCN	Government of Canada
GTMA	Gitxaala Territorial Management Agency
GTS	Gitxaała Nation technical staff
GWP	global warming potential
H_2S	hydrogen sulfide
ha	hectare
HCA	Heritage Conservation Act
HNS	Hazardous Noxious Substance
IA	impact assessment
IAA	Federal *Impact Assessment Act*
INAC	Indigenous and Northern Affairs Canada
IPCC	Intergovernmental Panel on Climate Change
IPD	Initial Project Description
ISO	International Standards Organization
JSOIE	Joint Summary of Issues and Engagement
kg	kilogram
KITS	Kitselas First Nation technical staff
km	kilometre
km^2	square kilometres
kPa	kilopascal
$ktCO_2e/yr$	kilotonne(s) of carbon dioxide equivalent per year
KTS	Kitsumkalum technical staff
kV	kilovolt
kWh	kilowatt hour

LNG	liquefied natural gas
LNGC	LNG carrier
LUP	Land Use Plan
m	metre
m/s	metre per second
m^3	cubic metres
MaPP	Marine Plan Partnership for the North Pacific Coast
masl	metres above sea level
MCTS	Marine Communications and Traffic Services
MDC	Metlakatla Development Corporation
MLA	Member of the Legislative Assembly
mm	millimetre
MOF	Material off-loading facility
MOU	Memorandum of Understanding
MP	Member of Parliament
MSS	Metlakatla Stewardship Society
MSS	Metlakatla Stewardship and Treaty Staff
mtpa	million tonne(s) per annum
MW	megawatt
N_2O	nitrous oxide
NC LRMP	North Coast Land and Resource Management Plan
NCMP	North Coast Management Plan
net-zero	net-zero refers to a state in which the GHGs going into the atmosphere are balanced by removal of an equivalent amount of GHGs out of the atmosphere
NGL	Natural gas liquid
NHA	Northern Health Authority
Nisga'a LUP	*A Land Use Plan for Nisga'a Lands* (NLG 2002)
Nisga'a Treaty	Nisga'a Final Agreement (the Nisga'a Treaty)
NLG	Nisga'a Lisims Government
NO_2	Nitrogen Dioxide
NO_X	nitrogen oxides
NSA	Navigation Safety Assessment
OGAA	*Oil and Gas Activity Act*
PAH	polycyclic aromatic hydrocarbons
PFR	preliminary field reconnaissance
pig	pipeline inspection gauge
PM	particulate matter
PM_{10}	Coarse particulate matter
$PM_{2.5}$	Respirable particulate matter
Pre-FEED	Preliminary front-end engineering and design
PRGT	Prince Rupert Gas Transmission
Project	Ksi Lisims LNG - Natural Gas Liquefaction and Marine Terminal Project
Project Footprint	physical footprint for all Project components
Proponent	Nisga'a Nation, Rockies LNG and Western LNG

Rockies LNG	Rockies LNG Limited Partnership
SACC	Strategic Assessment on Climate Change
SAR	Search and Rescue
SARA	Federal *Species at Risk Act*
Site	Project site at Wil Milit including both DL 5431 and 7235
SO_2	sulphur dioxide
SOx	sulphur oxides
spp.	species
ssp.	subspecies
STS	ship-to-ship
t	metric tonne (equal to 1,000 kilograms)
TA	Technical Advisors
TC Energy	TransCanada Energy
TEM	Terrestrial Ecosystem Mapping
TERMPOL	Technical Review Process of Marine Terminal Systems and Transshipment Sites
the Agreement	Article V of the Canada-United States Air Quality Agreement
TSP	total suspended particulates
UARU	ultrasonic acoustic recording units
UBCM	Union of BC Municipalities
UKC	Underwater Keel Clearance
USA	United States of America
VC	Valued Component
VOC	volatile organic compounds
VTS	Vessel Traffic Services
WCGT	Westcoast Connector Gas Transmission
WCSB	Western Canadian Sedimentary Basin
Western LNG	Western LNG LLC

EXECUTIVE SUMMARY

Introduction and Overview

The Nisga'a Nation, Rockies LNG Limited Partnership (**Rockies LNG**) and Western LNG LLC (via its subsidiary, **Western LNG**) (each a **Proponent** and collectively referred to herein as the Proponents), are proposing to jointly develop the Ksi Lisims LNG - Natural Gas Liquefaction and Marine Terminal Project (the **Project**), a floating natural gas liquefaction facility and marine terminal, including related infrastructure, on Category A Lands (District Lots 5431 and 7235), as defined in the Nisga'a Treaty, owned in fee simple by the Nisga'a Nation, and an adjacent proposed Water Lot, on the northwest coast of British Columbia (**BC**) at the northern end of Pearse Island. The Project site (**Site**) is remote, located approximately 15 kilometres (**km**) west of the Nisga'a community of Gingolx (Figure 2.1) at a site known as Wil Milit.

The Project will convert Canadian natural gas from the Western Canadian Sedimentary Basin of northeastern BC and northwest/central Alberta to liquefied natural gas (**LNG**). Natural gas will be transported to the Site via a pipeline originating in northeastern BC. The feed gas pipeline will be owned and operated by a third party and will be subject to the regulatory requirements of the Nisga'a Lisims Government (**NLG**), BC and Canada. The Project will select either TransCanada Energy's (**TC Energy**) Prince Rupert Gas Transmission or Enbridge's Westcoast Connector Gas Transmission to provide natural gas transportation services to the Project. Both pipeline projects currently have valid BC Environmental Assessment Certificates and approved routes from northeastern BC to the BC northwest coast.

At full build-out, the Project will receive between 1.7 and 2 billion cubic feet per day (**Bcf/d**) (i.e., 48.1 and 56.6 million m^3 per day) of pipeline grade natural gas and produce up to 12 million tonnes per annum (**mtpa**) of LNG. The Proponents are designing the Project to be fully electrified and to be one of the lowest carbon emitting LNG export facilities in the world with an overarching goal of meeting federal net-zero targets and aligning to goals of the Provincial CleanBC plan. This will be achieved by using renewable power and other greenhouse gas (**GHG**) reducing design elements, in combination with a robust monitoring and measurement program, an operating culture focused on low emissions, as well as through the purchase of carbon offsets.

Project Benefits

The Project will create economic self-determination for the Nisga'a Nation and improve the quality of life for Nisga'a citizens; create direct and indirect economic benefits for other Indigenous Nations, BC, Alberta and Canada; enable the export of clean and reliable Canadian natural gas to markets outside of North America; and provide a lower carbon intensive energy source to meet growing global energy demands.

Benefits to the Nisga'a Nation - The Project will provide substantive direct economic development for the Nisga'a Nation and its citizens. By providing training, education, employment and contracting opportunities for unemployed and underemployed Nisga'a citizens, the Project will reduce employment barriers and promote economic self-determination.

Benefits to Other Indigenous Groups, BC, and Canada - The Project and supporting infrastructure will provide direct and indirect economic opportunities to other Indigenous Nations. Such opportunities could include education, skills training, employment and contracting opportunities for Indigenous citizens and entrepreneurs. The Project will provide direct and indirect benefits to BC, Alberta and Canada including local employment, contracting and procurement. The Project will provide tax revenue that will support Indigenous, provincial and federal objectives to improve health, education, transportation infrastructure and other social benefits. The Project will also result in billions of direct capital expenditures within BC.

Export of Canadian Natural Gas - The Project will enable the export of clean, reliable Canadian natural gas to foreign markets, responding to the growing global demand for responsible and reliable natural gas.

Lower Carbon Intensive Energy Source – The Project is expected to have best-in-class GHG emissions intensity and to be one of the lowest carbon emitting LNG export facilities in the world, which will help to mitigate global GHG emissions. Energy demand is growing globally; in 2021 the International Energy Agency projected that global demand from natural gas will increase by 31% by 2040 (IEA 2021). LNG serves as a cost-effective fuel that supports energy security in global markets and can improve quality of life, while supporting the transition away from more carbon intensive forms of energy, such as coal.

Biophysical, Human, Social and Economic Setting

The Project is located on BC's north coast. The region is dominated by temperate rainforest and complex coastal terrain with a humid, maritime or oceanic climate characterized by a long growing season, heavy rainfall, and mild, cool, cloudy summers. The acoustic environment is characterized by various sounds from the natural environment with limited anthropogenic sounds.

The marine waters in the vicinity of the Site are within the Inner Pacific Shelf Ecoregion and North Coast Fjords Ecosection. Water levels throughout the area are strongly tidal (range approximately seven metres above chart datum). Marine currents within Portland Inlet, Portland and Pearse Canals are highly variable due to a combination of wind and tidal forcing.

The maximum elevation at the southern edge of DL 7235 is about 60 metres above sea level (**masl**) and the maximum elevation at the southern edge of DL 5431 is about 120 masl (GoBC 2021d). The surficial geology of the Site is organic veneer or organic blanket over glaciomarine materials characterized by silty clays with minor sand, silt and granular gravels colluvial materials characterized by diamicton or bedrock. Soils on the Site are primarily Folisols composed of upland organic material, with Podzols uncommonly found on sloping sites and organic soils present in wetlands. Groundwater levels across the Site can be expected to be a subdued expression of topography (Freeze and Cherry, 1979) and general characteristics of the local groundwater flow system can be inferred on this basis.

The terrestrial portion of the Site is within the Southern Boundary Ranges Ecosection. The Site is within the Coastal Western Hemlock Biogeoclimatic Zone (**CWH**), specifically the Central variant of the Very Wet Hypermaritime subzone (**CWHvh2**). The terrain is mostly subdued and rocky, the climate is extremely wet, and the vegetation is a mosaic of poor forest and wetland, with productive forests restricted to moderate

and steep slopes or floodplains (Banner et al. 1993). The vegetation of the northern part of Pearse Island is primarily coniferous forest interspersed with low lying wetlands.

Foreshore habitats and salmon-bearing streams in the vicinity of the Site provide important habitats for many species of wildlife, including grizzly bear, moose, American marten, fisher, black bear, grey wolf, river otter, mink, wolverine, bald eagle, and gulls. Old forests provide important habitat for birds such as marbled murrelet, sooty grouse and northern goshawk. In addition, numerous other species of birds (migratory and non-migratory), mammals and other wildlife are known or suspected to occur in the vicinity of the Site.

Nine unnamed streams and their tributaries have been confirmed within the Site. Several of these streams have been confirmed fish-bearing. Fish captured or observed within streams at the Site include coho salmon (*Oncorhynchus kisutch*), pink salmon (*Oncorhynchus gorbuscha*), Dolly Varden (*Salvelinus malma*), coastal cutthroat trout (*Oncorhynchus clarkii clarkii*), and prickly sculpin (*Cottus asper*).

The waters and shoreline surrounding the Site as well as that along the preliminary identified shipping routes support a diverse marine community and a variety of marine ecosystem types (e.g., estuaries, marshes, rocky coastlines, sandy shores). Intertidal habitats in the proposed Water Lot include rocky shorelines and sand/gravel beaches that vary in slope from steep to shallow across the Site. A diverse assemblage of marine vegetation (rockweed [*Fucus* spp.], sea lettuce [*Ulva* spp.], eelgrass [*Zostera* spp.]); invertebrates (butter clams [*Saxidomus gigantea*], cockles [*Clinocardium* spp.], mussels [*Mytilus* spp.], barnacles [*Balanus* spp.], periwinkles [*Littorina* spp.], limpets [*Lottia* spp.], hermit crabs [*Pagurus* spp.]); fish (halibut [*Hippoglossus stenolipus*], rockfish [*Sebastes* spp.], Pacific salmon [*Oncorhynchus* spp.], Pacific herring [*Clupea pallasii*], eulachon [*Thaleichthys pacificus*]); and mammals (whales, dolphins, porpoises, seals, sea lions) exists throughout the Site.

The Site is within the boundaries of the Regional District of Kitimat-Stikine (RDKS). However, the Site is not subject to an Official Community Plan or Zoning By-law as might be administered by a regional district or municipality. There are no schools, provincial or regional parks, hospitals, houses, water supplies, roads, or railways nearby. Regional BC population centres include Gingolx and other Nisga'a Villages upriver in the Nass Valley, Prince Rupert, Port Edward, Terrace, Kitsumkalum IR 1, Kitselas IR 1, Lax Kw'alaams, Metlakatla, Stewart and in Alaska; Hyder, Ketchikan and Metlakatla. The asserted traditional territories and reserves for the following Indigenous Nations are intersected or are in proximity to components of the Project: Lax Kw'alaams Band, Metlakatla First Nation, Kitsumkalum First Nation, Kitselas First Nation, Gitxaala Nation, Gitga'at First Nation, Haida Nation, and Métis Nation of British Columbia. The Project is located on Nisga'a Nation treaty lands, a former Nisga'a Indian Reserve; there are no current Indian Reserves of other federal properties within 15 km of the Site.

While the Project is located with the RDKS, it is adjacent to the North Coast Regional District (NCRD), in which Prince Rupert is located. In 2021, the population of the RDKS was 37,790 persons while NCRD had a population of 18,181 persons. In 2016, approximately 36% of the RDKS and 50% of the NCRD identified as Indigenous. In 2016, the employment rate was 55.5% in the RDKS and 58.5% in the NCRD while

unemployment was 13.8% in RDKS and 12.3% in NCRD. The range of Community Well-Being index scores in 2016 was 48 to 80 in RDKS and 49 to 81 in NCRD.

From a local perspective, the Village of Gingolx had a population of 370 persons in 2016 with an employment rate of 38.3% and an unemployment rate of 35.1%. The City of Prince Rupert, in 2021 had a population of 12,300 and in 2016 had an employment rate of 59.3% and an unemployment rate of 12.6%. The City of Terrace, in 2021 had a population of 12,017 and in 2016 had an employment rate of 61.9% and an unemployment rate of 8.8%.

The land and water use of the Project area can be described as generally natural, sparsely populated, with a long history of commercial fishing, tourism, and forest harvesting (particularly in decades past). Coastal forest harvesting in the general area has diminished in recent years. Significant economic, cultural and social value near the Site and marine waters of the region are derived from the harvest of aquatic resources. For example, within the Nass Area, harvest by Nisg̲a'a citizens occurs in the commercial fisheries, Nisg̲a'a commercial fisheries for salmon, and Nisg̲a'a domestic fisheries for food, social and cultural purposes.

The marine waters of the region serve as navigation routes for Indigenous, commercial, industrial, and recreational users connecting Stewart, Hyder, Alaska (AK), Kitsault, Ging̲olx, and Laxg̲alts'ap to communities and ports to the south, as well as to international destinations. For centuries, the Nass River was the primary connection between Ging̲olx to Nisg̲a'a Villages upriver. This changed approximately 30 years ago following the paving of Highway 113 between the Nass Valley and Terrace.

The northern Pearse Island land and marine area has been inhabited by the Nisga'a Nation for millennia. There are numerous archaeological sites in this region recorded on the Province's Remote Access to Archaeological Data application, and many areas are modeled as having high potential for archaeological sites.

Field work and data collection for some of the Project baseline study programs is complete. For other baseline programs, work continues into 2022. Opportunities have been provided for Indigenous Nations to participate and/or comment on the studies.

Potential Project Effects

The Project's BC environmental assessment (**EA**) process and the federal impact assessment (**IA**) process (**EA-IA**) will examine direct, indirect (i.e., via effects pathway), and cumulative effects. A preliminary list of Project activities that have the potential to result in negative or positive effects include:

- Project construction and operation critical air contaminant (**CAC**) emission sources have the potential to increase the concentrations of ambient air pollutants
- The processing of LNG and the short-term use of natural gas by power barges to produce electric power generates GHG emissions
- The diversion of groundwater could result in a change in groundwater discharge and/or chemical and physical composition of groundwater from saltwater intrusion

- The Project has the potential to result in a change to the chemical and physical composition of surface water and may result in a change in surface water quantity
- Site clearing has the potential to result in a changes in the abundance of plant species of interest including those of conservation concern, traditional use plant species as well as invasive plant species, potential for change in the abundance or condition of ecological communities of interest including those of conservation concern and old forest and the potential to result in effects on wetland area and functions
- Noise emissions during Project construction and operations has the potential to result in a change in ambient noise levels that may cause annoyance and sleep disturbance to people and displacement of and sensory disturbance to wildlife
- The Project is expected to have effects on terrestrial wildlife and marine birds by causing a change in habitat, mortality risk, and movement
- Construction of marine infrastructure has the potential to result in changes in fish habitat as well as potential change in fish health, growth, survival or reproduction including for fish species of concern or those valued for cultural, social or commercial purposes. In addition, potential Project effects may result in a change in marine mammal injury or mortality risk and/or behaviour caused by sensory disturbance. Likewise, the Project has the potential to result in a change in fish injury or mortality risk and/or behaviour caused by sensory disturbance
- The Project has the potential to result in change in regional employment, change in regional business, and change in the regional economy
- Potential Project effects could include a change in marine navigation and/or a change in marine fisheries and other uses
- Potential effects of the Project on infrastructure and services may include change in infrastructure and services, change in transportation infrastructure, and change in accommodation availability
- The Project has the potential to result in a change to human health as a result of such Project related effects as change in air quality and ambient noise.
- Ground disturbance activities and tree clearing associated with the Project have the potential to cause adverse effects on heritage as a result of the alteration, disturbance, or destruction of archaeological or cultural resources.
- The Project has the potential to impact Indigenous Nations as a result of changes to the environment that affect: physical and cultural heritage through changes to the Site; current use of lands and resources for traditional purposes, through a change in access to resources; changes to the Site resulting in a change to a structure, site or thing that is of historical, archaeological, paleontological or architectural significance; and, the potential to impact the health, social and economic conditions of Indigenous Nations
- Accidents and malfunctions may occur during construction, operation and decommissioning of the Project. Detailed assessment for these scenarios will be completed as part of the EA-IA

Regulatory and Policy Context

The environmental assessment for the Project is regulated under the BC *Environmental Assessment Act* (**BC EAA**) and the federal *Impact Assessment Act* (**IAA**). The Project will also conduct the environmental assessment in a manner that complies with Chapter 10 (Environmental Assessment and Protection) of the Nisga'a Final Agreement (the Nisga'a Treaty), which will be incorporated into the BC EA-IA process.

The overarching goal for the EA-IA is: "One Project, One Assessment", a goal shared by BC, Canada and the Nisga'a Nation. Accordingly, the Project intends to seek substitution of the IAA under the BC EAA pursuant to the Canada-British Columbia Impact Assessment Cooperation Agreement. The regulatory process is expected to conclude with positive decisions from BC, Canada and the Nisga'a Nation in late 2024.

The Proponents share the vision that this Project can integrate with BC's CleanBC plan, post COVID-19 economic recovery plans for BC, Alberta and Canada, the policy goals of the First Nations Climate Initiative, and provincial and federal goals to reconcile and recognize the rights of the Indigenous peoples of Canada.

Indigenous Nations, Government and Public Engagement

The Project recognizes the importance of early and meaningful engagement with Indigenous Nations and strives to establish and maintain mutually respectful relationships with Indigenous Nations engaged with the Project. To date, the Project has endeavoured to engage regional Indigenous Groups through: (1) Nation-to-Nation engagement led by Nisga'a leadership and (2) technical engagements led by the Ksi Lisims LNG Project team. The focus has been on early engagement at the technical level with designates of each of the Indigenous Nations/Groups. Comprehensive records of engagement, summaries of that engagement as well as records and responses to concerns, issues and comments have been documented.

The Proponents have conducted various engagement activities with federal, provincial, municipal and regional governments beginning in Q4 of 2020 and continuing through 2021 to present. A summary record of the engagement with federal, provincial, regional and municipal governments and United States of America agencies completed in 2021 has been documented.

Formal opportunities for comment and issue identification on the Project have been provided as:

- Public commenting on the Initial Project Description (**IPD**) including printed copies available in various public offices and libraries
- Two Project virtual information sessions
- The Project website (https://www.ksilisimslng.com/) contact page
- Technical Advisor review of a draft of this Detailed Project Description and draft Application Information Requirements

On October 14, 2021, the BC Environmental Assessment Office and Impact Assessment Agency of Canada prepared the Joint Summary of Issues and Engagement (**JSOIE**) based on comments received during the public engagement and comment period on the IPD. The JSOIE provides a summary of the issues raised during the comment period from both Indigenous Nations[1], government agencies and the public.

The Project will continue to engage with Indigenous Nations, government and the public.

Conclusion

The Project is being undertaken by a unique and progressive collaboration of Proponents, that are looking to develop a Project that will create economic reconciliation and self-determination for the Nisga'a Nation and improve the quality of life for Nisga'a citizens while also creating direct and indirect economic benefits for other Indigenous Nations, BC, Alberta and Canada. The Project is being designed in a manner consistent with the environmental goals of BC, Canada and the Nisga'a Nation and will be one of the lowest carbon emitting LNG export facilities in the world. Once in operations the Project will create significant benefits in Canada and produce global benefits as the world transitions to a low carbon energy economy.

[1] "Participating Indigenous Nations", as initially identified by the EAO, will be referred to herein as "Indigenous Nations", except for in the instances of original correspondence summarized in this DPD.

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1 INTRODUCTION

The Nisga'a Nation, Rockies LNG Limited Partnership (**Rockies LNG**) and Western LNG LLC (via its subsidiary, **Western LNG**) (each a **Proponent** and collectively referred to herein as the Proponents), are proposing to jointly develop an energy project, the Ksi Lisims LNG - Natural Gas Liquefaction and Marine Terminal Project (the **Project**). It is proposed to be a floating natural gas liquefaction facility and marine terminal located at Wil Milit on the northwest coast of British Columbia (**BC**) at the northern end of Pearse Island. The Project site (**Site**) is approximately 15 kilometres (**km**) west of the Nisga'a community of Gingolx (Figure 2.1). The Project will be located on Category A Land (District Lots 5431 and 7235) owned in fee simple by the Nisga'a Nation and located within the Nass Area, as defined in the Nisga'a Treaty, and on an adjacent proposed Water Lot located on Portland Canal at the northern point of Pearse Island (the proposed Water Lot is shown in Figure 2.2).

The name of the Project, "Ksi Lisims", means "from the Nass" in the Nisga'a language. Since 2014 the Nisga'a Nation has been working to develop liquefied natural gas (**LNG**) and pipeline facilities in and around its Nisga'a treaty territory. Wil Milit is one of the prospective sites initially proposed by the Nisg̲a'a Nation in a publicly distributed document entitled: *Nisg̲a'a Lisims Government – New Available LNG Sites on Canada's West Coast – February 2014* (see also Section 2.13.2.1). This Project is the culmination of that work and is a key element of the Nisga'a Nation's economic and social development strategies. It will provide training, jobs and new business opportunities for Nisga'a citizens and other Indigenous Nation communities. Economic development opportunities such as this Project will help ensure the continued growth and vitality of the Nisga'a Nation and other Indigenous Nations[2].

The Project will operate under a governance structure that provides the Proponents with the opportunity to provide meaningful input into the management and operation of the Project, enabling the Project to be operated in a manner that is consistent with the Nisga'a Nation's commitment to stewardship of the land. The Project is consistent with the economic development aspirations of the Nisga'a Nation and provincial government LNG development requirements while still meeting the sustainable economic development objectives of the Nisga'a Nation, BC and Canada.

The Project has secured investigative licenses, permits and authorizations from the Nisg̲a'a Nation, BC and Canada to undertake baseline field surveys. It is anticipated that the Project will be subject to a review under both the federal *Impact Assessment Act* (**IAA**) and the BC *Environmental Assessment Act* (**BC EAA**) (Section 6.3) as well as an assessment under Chapter 10 of the Nisga'a Final Agreement (**Nisga'a Treaty**; NLG 1999) (Section 6.1.1). This Detailed Project Description (**DPD**) was prepared in accordance with the Information and Management of Time Limits Regulations under the IAA and the Environmental Assessment Office's Early Engagement Policy (British Columbia Environmental Assessment Office [BC EAO] 2019). Tables of Concordance documenting the locations of required information within this DPD for both the BC environmental assessment (**EA**) and the federal impact assessment (**IA**) process

[2] "Participating Indigenous Nations", as initially identified by the EAO, will be referred to herein as "Indigenous Nations", except for in the instances of original correspondence summarized in this DPD.

(collectively, **EA-IA**) are provided in Appendix 3 and Appendix 4, respectively. An exemption from the BC *Environmental Assessment Act* (GoBC 2018b) is not being sought. Refer to Section 6 for further detail on regulatory parameters.

1.1 Proponent Information

The Proponents for the Project are the Nisga'a Nation, Rockies LNG and Western LNG. These three Proponents have developed and executed a joint development agreement and senior personnel from all three organizations jointly manage and control Project activities through a steering committee. At an appropriate time, the Proponents intend to create partnerships that will own the Project assets and conduct further development and operation of the Project.

The Nisga'a Nation, as represented by the Nisga'a Lisims Government (**NLG**), is a self-governing Indigenous Nation. The Nisga'a Nation is a party to the Nisga'a Treaty, along with Her Majesty the Queen in right of Canada and Her Majesty the Queen in right of British Columbia. The Nisga'a Treaty is a treaty and land claims agreement within the meaning of sections 25 and 35 of the *Constitution Act*, *1982,* and has an effective date of May 11, 2000.

Rockies LNG is an Alberta-based limited partnership comprised of seven Calgary-based natural gas producers: Advantage Energy Ltd.; ARC Resources Ltd.; Birchcliff Energy Ltd; Bonavista Energy Corporation; NuVista Energy Ltd.; Paramount Resources Ltd.; and Peyto Exploration and Development Corporation.

Western LNG is a Houston-based company engaged in the development of North American LNG export facilities with a management team experienced in the development of LNG and related energy infrastructure industries.

Proponent and Contact Information

Project Name	Ksi Lisims LNG – Natural Gas Liquefaction and Marine Terminal Project
Proponents	Nisga'a Nation, Rockies LNG, and Western LNG
Address	Suite 1600 – 925 West Georgia Street, Vancouver BC V6C 3L2
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	Chris Chong-Ping, Managing Director cping@westernlng.com 604-265-0700
Principal Contact(s) for the Environmental Assessment	Sandra Webster, Director, Environment and Regulatory Affairs swebster@ksilisimslng.com 604-265-0700
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This DPD was prepared primarily by the professionals identified in the table below with support by technical discipline experts.

Responsible Authors for the Project Description

Name	Project Role	Relevant Experience
Erin Flory, M.Sc., EP	Primary author	More than 20 years of experience as an environmental professional supporting major energy projects in obtaining environmental approvals.
Sandra Webster, Ph.D., R.P.Bio.	BC EAA and IAA Requirements	More than 20 years of environmental professional experience focusing on environmental assessment in the oil and gas sector, including work on four LNG import and export terminals in Canada.
Eric Kennedy, B.Sc., ME	Project Execution & Engineering Management	More than 30 years of project and engineering management experience on LNG and other oil and gas projects.

1.2 Purpose and Need

Since the effective date of the Nisga'a Treaty, the Nisga'a Nation has sought economic development opportunities that will provide a higher quality of life for Nisga'a citizens. With this objective in mind, the Nisga'a Nation has pursued an LNG facility for nearly a decade. The Ksi Lisims LNG Project will advance the Nisga'a Nation's goal of economic self-determination by providing economic opportunities for the Nisga'a Nation, meaningful employment and contracting opportunities for Nisga'a citizens, as well as increased economic opportunities for other Indigenous Nations, BC, Alberta and Canada.

The Proponents are committed to developing a project that balances the need to build a strong local economy in northwestern BC with protecting the environment. From a regional environmental perspective, the Project is working towards net-zero LNG production by using renewable electricity. The Project will not only meet the increasing global demand for low-carbon LNG, it may also displace the use of higher emission energy sources such as coal.

The Project creates additional access to global markets for the export of Canadian natural gas, which will help mitigate risk caused by North American market fluctuations while contributing to economic development by improving energy security in those global markets.

The Project serves four foundational purposes:

- Create economic self-determination for the Nisga'a Nation and improve the quality of life for Nisga'a citizens
- Create direct and indirect economic benefits for other Indigenous Nations, BC, Alberta and Canada
- Enable the export of clean and reliable Canadian natural gas to markets outside of North America
- Provide a lower carbon intensive energy source to meet growing global energy demands and support lower global GHGs

The key Project benefits are provided in Table 1.1 and detailed in Sections 1.2.1 through 1.2.4.

Table 1.1 – Ksi Lisims LNG Project Benefits

Potential Benefit	Description
Nisga'a Nation economic reconciliation and self-determination	The Nisga'a Nation see the Project as an opportunity for economic reconciliation. The Project will provide substantive direct economic development for the Nisga'a Nation and its citizens. By providing training, education, employment and contracting opportunities for unemployed and underemployed Nisga'a citizens, the Project will reduce employment barriers and promote economic self-determination.
Economic opportunities for other Indigenous Nations	The Project and supporting infrastructure will provide direct and indirect economic opportunities to other Indigenous Nations. Such opportunities could include education, skills training, employment and contracting opportunities for Indigenous citizens and entrepreneurs.
Economic diversification in northwest BC and BC in general	The Project will provide direct and indirect benefits to BC, Alberta and Canada including local employment, contracting and procurement. The Project will provide economic diversification, complementing other BC based developments.
Direct and indirect economic benefits to Canada	The Project will provide tax revenue that will support Indigenous, provincial and federal objectives to improve health, education, transportation infrastructure and other social benefits. In addition to tax revenue, the Project will also result in billions of direct capital expenditures within BC.
Improved access to global markets for Canadian natural gas	The Project will enable the export of Canadian natural gas to serve the growing global demand for responsible and reliable natural gas.
Provide lower carbon intensity Canadian natural gas	LNG exported from the Project is expected to have lower GHG emissions intensity than LNG from other exporting countries, which will help to mitigate global GHG emissions.
Social, economic, and environmental benefits globally through provision of reliable, lower-carbon, and cost-effective LNG	Energy demand is growing globally. Canadian LNG serves as a responsible, reliable and cost-effective fuel that supports energy security in global markets and can improve quality of life, while supporting the transition away from more carbon intensive forms of energy, such as coal.

1.2.1 Nisga'a Nation Economic Self-Determination

The Nisga'a Nation is a self-governing Indigenous Nation on Canada's west coast in the province of BC. The Nisga'a Nation negotiated the first modern-day treaty with the federal and provincial governments. The Nisga'a Treaty provides the Nisga'a Nation with constitutionally protected rights and legislative jurisdiction that can facilitate the construction and operation of projects on or near Nisga'a Lands.

The Nisga'a Nation, like most rural Indigenous communities, struggles with consistently lower employment and labour force participation rates. Currently, a number of employment barriers exist for Nisga'a citizens living on Nisga'a Lands including geography, low population density, and jobs which are typically lower income, lower skilled, and more vulnerable to economic downturns. The direct and indirect economic benefits provided by the Project will reduce social and economic disparities, improve the quality of life for all Nisga'a citizens, and enable the Nisga'a Nation to pursue economic self-determination. An

important benefit for the Nisga'a is that many of these opportunities would be located close to and in local Indigenous communities, enabling Indigenous workers, to remain close to their communities, families, and cultures.

The Project will not only directly provide meaningful employment and contracting opportunities on or near Nisga'a Lands, it is also expected to result in indirect benefits such as improved marine emergency response in the vicinity of the Site as well as training and capacity building opportunities for Nisga'a citizens and Nisga'a entrepreneurs.

1.2.2 Direct and Indirect Economic Benefits to Other Indigenous Nations, BC, AB and Canada

The Project will provide direct and indirect benefits to other Indigenous Nations in the region including economic benefits that could help to alleviate poverty and unemployment within Indigenous communities.

Energy projects of this scope and scale, as well as their supporting infrastructure, support Indigenous and non-Indigenous employment during construction and operation. This employment leads to increased worker training, offering the opportunity for better paid employment in the construction and energy sectors. Growth in local and regional businesses is also anticipated to support the goods and services needs of the Project and people working on the Project. The Project social benefits will include higher household income resulting from stable jobs. The economic benefits flowing into the broader region are determinants of health that will enhance community well-being.

Development of new regional infrastructure incidental to the Project (e.g., new third party natural gas transmission pipeline, new third party electrical transmission line connected to renewable electricity, as well as new marine support infrastructure to support safe navigation) is expected to bring economic opportunities to both Indigenous and non-Indigenous communities and businesses during construction and through operation.

The Project is expected to create significant revenue for BC, Alberta, and Canada. The Project will undertake a detailed economic benefits analysis of the direct, indirect, and induced economic benefits to BC, Alberta, and Canada as part of the EA-IA. At this preliminary stage, the Project has estimated its economic impacts based on the Conference Board of Canada's *A Rising Tide: Economic Impact of B.C.'s Liquified Natural Gas Industry* (2020). Based on the Project's size and scope, the study suggests approximately $2.5 billion in annual gross domestic product, 21,000 employment opportunities, and $890 million in annual provincial and federal tax revenues will be generated in Canada over the construction and operating life of the Project.

Project generated jobs and procurement would benefit Canada's economy, which is particularly needed as the country begins to recover economically from the COVID-19 pandemic. Government revenues generated by the Project could support spending priorities, such as health care, education, infrastructure as well as emission reduction initiatives and renewable developments.

1.2.3 Export Opportunities for Canadian Natural Gas

Demand for natural gas, particularly in Asia, is expected to grow (Shell 2021). Global LNG prices hit record high levels in Q4 2021, and demand is expected to nearly double in the next twenty years (Shell 2021). The Project will provide Canadian natural gas producers with access to the growing markets, allowing for market diversification and helping to mitigate impacts of North American market fluctuations, and will provide foreign countries with opportunities to meet climate change targets with a lower-carbon energy source.

1.2.4 Provision of Lower Carbon Intensity Energy

The Project has the potential to support the Nisga'a Nation and other Indigenous Nation's goals of responding to climate change while allowing for economic development. The Nisga'a Nation are founding members of the First Nations Climate Initiative (**FNCI**). FNCI (2022) is an Indigenous led policy initiative focused on assisting Canada, BC, Alberta, and Indigenous Nations in meeting international, national, provincial and Indigenous Nation objectives to address global climate change due to GHG emissions. A major policy initiative of FNCI is the promotion of net-zero LNG as a transition step to the low carbon economy of the future while supporting "economic self-determination and restoration of traditional territories". It is important to the Nisga'a Nation that this Project work towards net-zero LNG production that is consistent with FNCI objectives. The Project is achieving this by:

- Using renewable hydroelectricity from BC for the liquefaction process
- Using low-carbon Canadian natural gas as the LNG feed-stock
- The adherence of upstream natural gas production to strong Canadian upstream GHG and methane emission regulations
- The short shipping distance to Asian markets

The Project is expected to have one of the lowest GHG emission profiles in the world. For example, the Project estimates its emission intensity including those from upstream production and pipeline transport of natural gas, the liquefaction process, and shipping from the Site to an Asian port to be approximately one fifth of a comparable project on the US Gulf Coast (Roman-White *et.al.* 2021). The Project is an opportunity to meet growing global natural gas demand with LNG that is produced with lower GHG emission intensity versus other global projects.

The export of LNG will serve to provide access to lower-carbon, reliable energy not just for electrical generation but, also as an energy source to power other sectors such as industry, residential and transportation (Shell 2021). LNG enables countries to reduce dependence on coal while being cost-effective enough for developing nations to grow electric generation capacity in a sustainable way, which has significant economic benefits and improvements to quality of life. Further, LNG compliments the increased deployment of renewable power generation by managing intermittency without the need for costly battery storage, allowing for countries to transition to lower carbon fuel sources sooner.

1.2.5 Anticipated Costs

The current estimated capital cost of the Project is approximately $8.3 to $9.0 billion. As the front-end engineering and design (**FEED**) for the Project is still underway, the cost estimate is based upon several studies for similar near-shore floating LNG (**FLNG**) projects, which quote in the range of US$550 to US$600 per tonne per annum of LNG capacity (Advisian 2016; OIES 2019). These estimates have been scaled for the Project's liquefaction capacity of 12 mtpa and the 2021 year-to-date exchange rate of 0.80 US dollars per Canadian dollars. The estimated costs will be refined as the Project progresses through its design and engineering phases. Construction activities are anticipated to be 3 to 5 years in duration.

Based on other LNG facilities (OIES 2018) annual facility operating costs are estimated to range from approximately $250 to $300 million (OIES, 2018), plus the cost of electricity from the BC Hydro and Power Authority (**BC Hydro**) grid and carbon taxes.

Decommissioning costs at the end of the facility life are estimated to be approximately 5% of construction capital, in line with industry norms. This equates to approximately $415 to $450 million in decommissioning capital. The Project anticipates decommissioning costs to be in the lower range, as the FLNG barges are towed away for refurbishment and redeployment, leaving minimal domestic decommissioning or land restoration required. As the landowner, final decisions regarding decommissioning and land restoration will be made by NLG.

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2 PROJECT OVERVIEW

Ksi Lisims LNG is a proposed 12 mtpa LNG project at Wil Milit on northern Pearse Island, BC. The Project will process approximately 575 to 695 billion cubic feet per year (**Bcf/yr**) of natural gas and temporarily store it between LNG carrier (**LNGC**) loadings on two permanently installed FLNG units. The FLNGs will be designed with integrated storage with an aggregate capacity of approximately 450,000 cubic metres (**m^3**) of LNG. The final determination of the production capacity and storage configuration and quantity of each FLNG will be made during the FEED stage of the Project.

The Project will convert Canadian natural gas from the Western Canadian Sedimentary Basin (WCSB) of northeastern BC and northwest/central Alberta into LNG. Natural gas will be transported to the Site via a natural gas transmission pipeline originating in northeastern BC. The feed gas pipeline will be owned and operated by a third party and will be subject to the regulatory requirements of the NLG, BC and Canada.

The Project will select one of two natural gas transmission pipeline projects: TC Energy's Prince Rupert Gas Transmission (**PRGT**) or Enbridge's Westcoast Connector Gas Transmission (**WCGT**) (Appendices 1 and 2, respectively). Both pipeline projects hold valid BC Environmental Assessment Certificates (**EACs**) and approved routes from northeastern BC to BC's northwest coast with termination at the Port of Prince Rupert (see Figure 2.1). In addition to its EAC, PRGT also has valid BC Oil and Gas Commission (**BC OGC**) authorizations for its pipeline.

The Proponents are designing the Project to be one of the lowest carbon emitting LNG export facilities in the world, targeting to be net-zero during operations once BC Hydro grid connection has been established. This will be achieved by the use of renewable power and other GHG reducing design elements, in combination with a robust monitoring and measurement program, an operating culture focused on low emissions as well as through the purchase of carbon offsets. It is anticipated that renewable power will be supplied to the Project via a new inter-connection with an upgraded BC Hydro substation and transmission system.

The new power transmission line connection from the BC Hydro sub-station to the Site will be designed developed, owned and independently operated by a third party, WindRiver, as discussed in Section 2.4.2.

2.1 Project Updates and Changes

Table 2.1 provides an overview of Project components that have advanced in design since submission of the Initial Project Description (**IPD**).

Table 2.1 – Summary of Project Updates and Changes from the IPD

IPD Permanent Component	Updated DPD Permanent Component	Commentary and Engagement Considerations
Permanent LNGC berth off northeast corner of District Lot (**DL**) 5431, Portland Canal	Permanent LNGC berth no longer required	LNGCs will pull alongside of moored FLNG units and will load directly from FLNGs Consideration of comments related to limiting potential effects on marine resources
Potential barge berthing area in Whiskey Bay	No Project infrastructure in Whiskey Bay	Whiskey Bay has environmental and cultural conservation constraints and is used regionally as a safe anchorage area during storms No development is planned for Whiskey Bay This change was driven primarily by feedback from regional users of Whiskey Bay
Potential floating temporary workforce accommodation (**floatel**) in proposed Pearse Canal Water Lot	Temporary floatel off northeast corner of DL 5431 in proposed Water Lot with connecting jetty to onshore on DL 5431	Temporary construction workforce accommodation in floatel; however, floatel moved to Portland Canal from Pearse Canal No permanent or temporary Project components in Pearse Canal; proposed Water Lot no longer necessary in Pearse Canal Use of the temporary, site-based floatel responds to concerns related reducing demands for local services at nearby communities during construction
A material off-load facility (**MOF**) was not proposed in IPD	MOF off northeast corner of DL 5431 in proposed Water Lot Alternative potential temporary power barge(s) berth alongside MOF if the BC Hydro grid connection is delayed	MOF dimensions (e.g., base case with BC hydro grid connection versus alternatives with temporary power barges, see Section 2.14.1.4) will vary in size. A smaller MOF will be designed if there is no need for power barges Update is based on engineering requirements
Potential on shore flare	Flares housed on FLNGs	Updated FLNG design incorporates flare Update is based on consideration to limit terrestrial footprint

Table 2.1 – Summary of Project Updates and Changes from the IPD

IPD Permanent Component	Updated DPD Permanent Component	Commentary and Engagement Considerations
Potential power generation onshore in DL 7235	No power generation on DL 7235	No large-scale onshore power generation facilities (e.g., emergency diesel-power will be available on DL 5431) Project power generation on Site will be on temporary power barges only if the BC Hydro grid connection is delayed Update is based on engineering requirements
Potential permanent operational workforce accommodations in DL 7235	Moved to north portion of DL 5431 along with other support and utility buildings required for the Project	Update is based on consideration to limit terrestrial footprint
No water treatment plant proposed to support permanent infrastructure at the Site	Water treatment plant on north portion of DL 5431	Permanent operational workforce accommodation will require a water treatment plant to provide water for the permanent workforce. The source for this water remains under consideration (see Sections 2.11 and 2.14.1.3) Onsite treatment of wastewater will reduce the need to transport wastewater from Site, a concern expressed during engagement
No wastewater treatment plant, treated effluent pipe, outfall and diffuser into Portland Canal	Inclusion of a wastewater treatment plant, treated effluent pipe, outfall and diffuser into Portland Canal	Project requires the ability to manage sanitary wastewater and stormwater and dispose of treated effluent in Portland Canal under permit Update is based primarily on engineering requirements
Surface water use was not identified	Potential water diversion structure, pipeline and access road from DL 7235 or DL 5431 to water treatment plant	Further investigation of potential surface water sources may result in a water pipeline and diversion structure on DL 7235 or DL 5431 Update is based on engineering requirements
Temporary helipad noted	Helipad on DL 5431	Permanent helipad identified for safety and transport requirements Update is based, in part, on concerns expressed related to the Project's ability to respond to emergency situations

Table 2.1 – Summary of Project Updates and Changes from the IPD

IPD Permanent Component	Updated DPD Permanent Component	Commentary and Engagement Considerations
No seawater use identified	Potential seawater intake structure and piping to supply water to a desalination plant to provide potable water Potential seawater use as a cooling medium for the temporary power barges Seawater use for firefighting systems onboard the FLNGs	Further refinement is required to define cooling water, plant potable water and firewater needs and suitability for the use of seawater. The Project will be assessing the viability and impacts of multiple options for water sources (including desalination, water wells, etc.) Engagement has identified concerns with Project water needs. Additional follow-up and information will be required
No onshore closed loop cooling infrastructure for FLNGs	Onshore closed loop cooling infrastructure for FLNGs	Water sources for FLNG cooling are under investigation with desalination as an option Current design is for onshore closed loop cooling infrastructure Update is based on engineering requirements
No onshore cooling for power barges	Potential onshore cooling infrastructure to cool power generation gas turbines on temporary power barges	If temporary power barges are necessary (i.e., there is a delay in the BC Hydro grid connection) then gas turbine units will require cooling Update is based on engineering requirements
No desalination plant	Potential desalination plant	If other sources (e.g., water from streams, groundwater or precipitation catchment) are not available or will not meet the Project needs, water requirements may be met by desalinating water from Portland Canal Update is based on engineering requirements
No jetties to FLNGs	Two pile supported jetties from shore to the FLNGs	Safe permanent access from the shore to the FLNGs, one jetty to each FLNG Update is based on engineering requirements

Table 2.1 – Summary of Project Updates and Changes from the IPD

IPD Permanent Component	Updated DPD Permanent Component	Commentary and Engagement Considerations
No power sub-station	On-Site power substation(s) for BC Hydro connection from the mainland with Site electricity distribution system to onshore facilities and FLNGs	Installation of the substation will improve Site connection reliability. Update is based on engineering requirements. Installation of other substations associated with the transmission line may allow for additional BC Hydro grid connection considerations that could facilitate improved connection in the Nass Valley – a concern expressed during engagement
No natural gas receiving station	Natural gas receiving station with pipeline inspection gauge (**pig**) receiver and metering facilities connecting to the feed gas pipeline coming onshore	Update is based on engineering requirements
No back up diesel power generation	Back up diesel power generation	Required for safe shutdown of the processing facility and provision of emergency power should the incoming electrical power grid fail Potential need for black start generator(s) for the temporary power barges should the BC Hydro transmission line be delayed Update is primarily based on engineering requirements; however, it also responds to emergency response concerns expressed during engagement
No diesel fuel storage tanks	Diesel fuel storage tanks	Safe diesel fuel storage. Update is based on engineering requirements related to safe storage of hazardous materials
No roadways or utility corridors indicated	Site roadways and utility corridors for distribution of natural gas, electricity, potable water and sanitary wastewater now identified	Update is based on engineering requirements
No FLNG marine mooring infrastructure	FLNG permanent marine mooring infrastructure consisting of sub-tidal anchors and chains and piles on the nearshore	Update is based on engineering requirements

Table 2.1 – Summary of Project Updates and Changes from the IPD

IPD Permanent Component	Updated DPD Permanent Component	Commentary and Engagement Considerations
No solid waste management and overburden storage areas indicated	Solid waste management and overburden storage areas identified	Need and volume is under investigation but will be determined and delineated spatially during FEED Update is primarily based on Project design requirements; however, it also responds to concerns expressed regarding waste management

2.2 Location

The proposed Project location is in the northwestern coastal region of BC, Canada on a site known to the Nisga'a Nation as Wil Milit, a former Indian Reserve, and located approximately 15 km west of the Nisga'a Nation community of Gingolx. The proposed Site consists of undeveloped land that, in part, has previously been logged and is adjacent to established shipping routes.

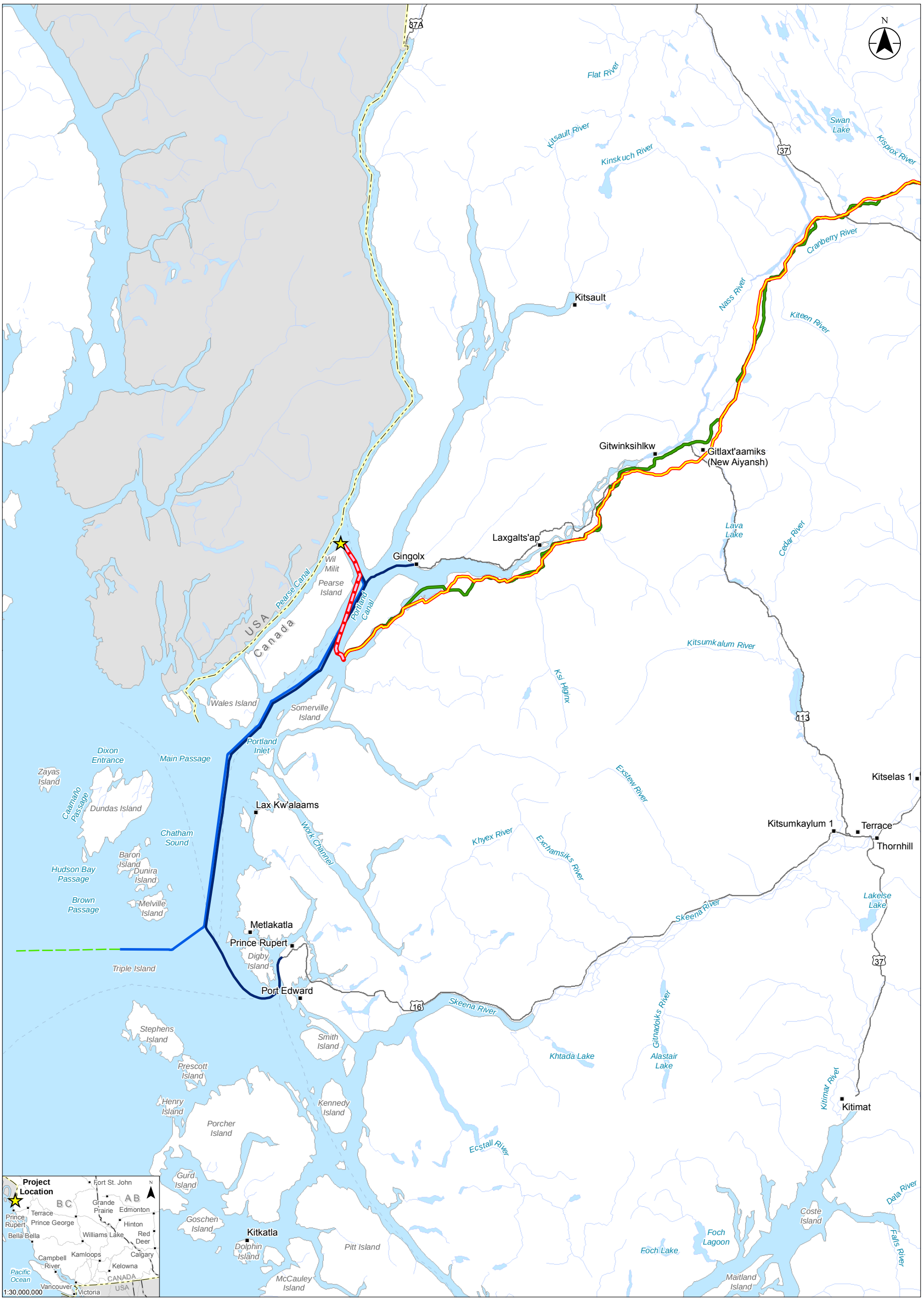
The Project components and activities are to be located at a Site on the most northern portion of Pearse Island within the Nass Area, as defined in the Nisga'a Treaty, on DL 5431 with the potential for Project components on DL 7235 and in the proposed Water Lot (Figure 2.2 and Figure 2.3). The Project's onshore components are located on Category A Land, as defined in the Nisga'a Treaty, owned in fee simple by the Nisga'a Nation (Figure 2.2 and Figure 2.3)[3]. The current, base case, Project layout is provided in Figure 2.2. As outlined in Section 2.14.1.4 and Table 2.15, the Project is, under base case, planned with a BC Hydro grid connection; however, if the connection is delayed, alternative power supply will be required. This will alter the Project layout. The Project layout for Alternative 3 (see Table 2.15) is provided in Figure 2.3.

The Site location is roughly centered at 55°01'26"N and 130°10'49"W. Regional BC population centres include Gingolx and the other the Nisga'a Villages upriver in the Nass Valley, Prince Rupert, Port Edward, Terrace, Kitsumkalum IR 1, Kitselas IR 1, Lax Kw'alaams, Metlakatla, and Stewart and in Alaska include Hyder, Ketchikan and Metlakatla (see also Figure 2.1 and Section 4.1).

District Lots 5431 and 7235 comprise 164 hectares (**ha**) of land with a gentle topographic profile suitable to develop the Project's onshore components. An application to the BC Ministry of Forests (**FOR**) or BC OGC for a Water Lot lease is anticipated prior to making a final investment decision (**FID**) for the Project.

There are no federal lands within or adjacent to the Site. The nearest federal lands are more than 25 km from the Site; refer to Section 4.3 for information on proximity of the Site to federal lands.

[3] Category A lands are as defined in Appendix D-2 and D-3 of the Nisga'a Treaty. Maps and descriptions of these lands can be found at: https://www.rcaanc-cirnac.gc.ca/eng/1100100031339/1542999965806. Ownership of these lands is fee simple, allowing the owner full use of the land subject only to zoning laws or any covenants on the land.



KSI LISIMS LNG

Notes
1. Coordinate System: NAD 1983 UTM Zone 9N
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Stantec, Nisga'a Nation, Rockies LNG

- Wil Milit – Project Location
- Preliminary Materials and Supply Shipping Route
- Expected Marine Transit Route
- Expected Marine Transit Route to Triple Island from Overseas
- Potential Location of Connecting Pipeline
- Prince Rupert Gas Transmission
- Westcoast Connector Gas Transmission Pipeline Route 1

- Populated Place
- Ferry Route
- Highway
- International Boundary
- Watercourse

Country
- Canada
- United States
- Waterbody

0 5 10 15 20 km
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Stantec

Project Location: Pearse Island, BC
Project Number 123221820
Prepared by TQUILICHINI on 20220104
Requested by EFLORY on 20211121
Checked by SMOSS on 20220104

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Detailed Project Description

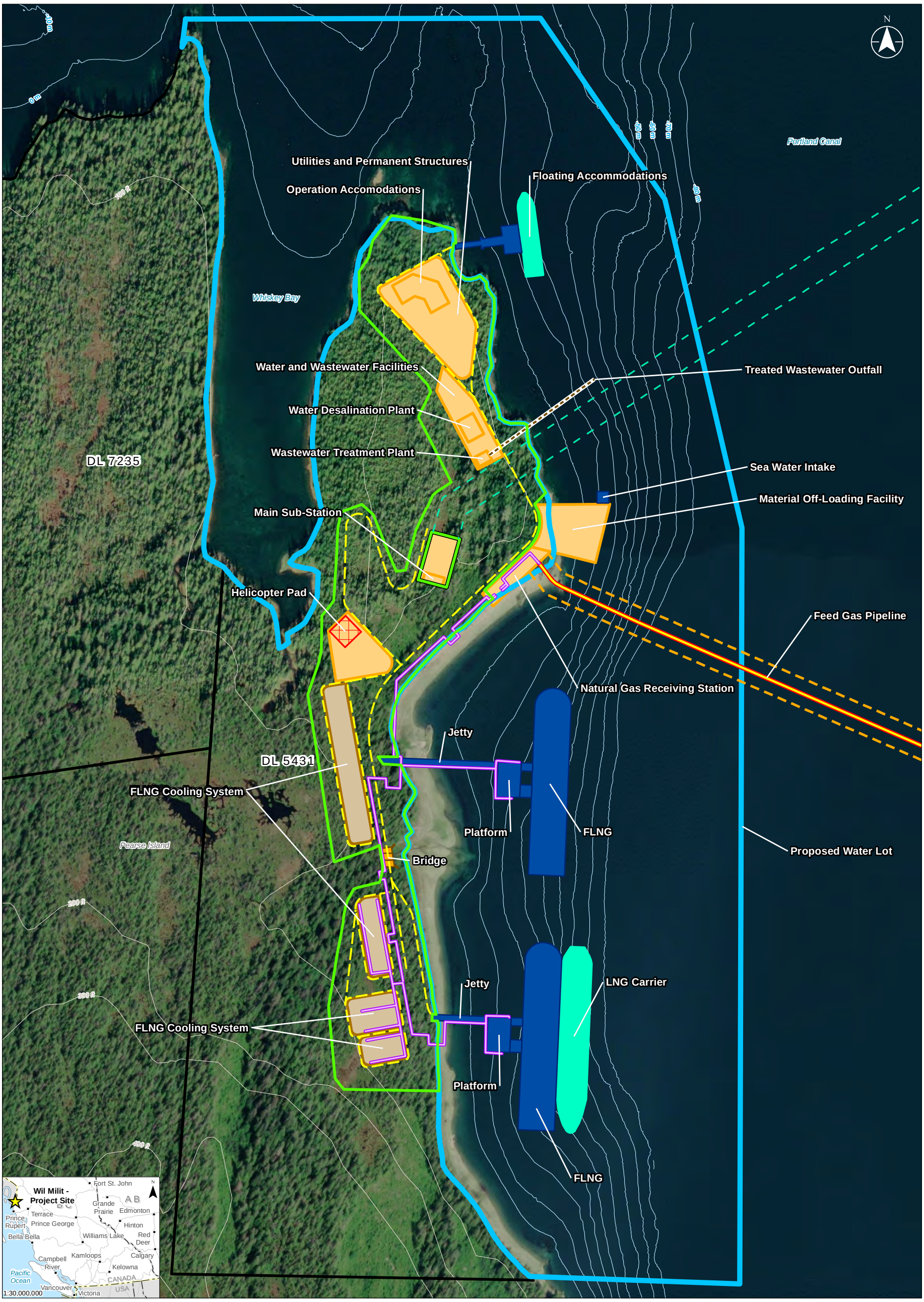
Figure No.
2.1

Title
Project Location

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KSI LISIMS LNG

Notes
1. Coordinate System: NAD 1983 UTM Zone 9N
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Stantec, Nisga'a Nation, Rockies LNG

- Proposed Access Road
- Feed Gas Pipeline
- Feed Gas Pipeline Right-of-Way
- Powerline Right-of-Way from Mainland
- Utility Lines
- Wastewater Treated Effluent Pipeline
- Preliminary Site Fenceline

Footprint Component
- Bridge
- Buildings and Utilities
- Cooling Structures
- Proposed Water Lot
- Helicopter Pad
- Marine Component (Fixed)
- Marine Component (Not Fixed)
- Switchyard

- Wil Milit - Project Site
- Bathymetric Contour
- Topographic Contour
- Boundaries of District Lots 7235 and 5431

0 75 150 225 300 m
1:6,500 (at original document size of 11x17)

Stantec

Project Location: Pearse Island, BC
Project Number 123221820
Prepared by TQUILICHINI on 20220415
Requested by EFLORY on 20220415
Checked by SMOSS on 20220415

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Detailed Project Description

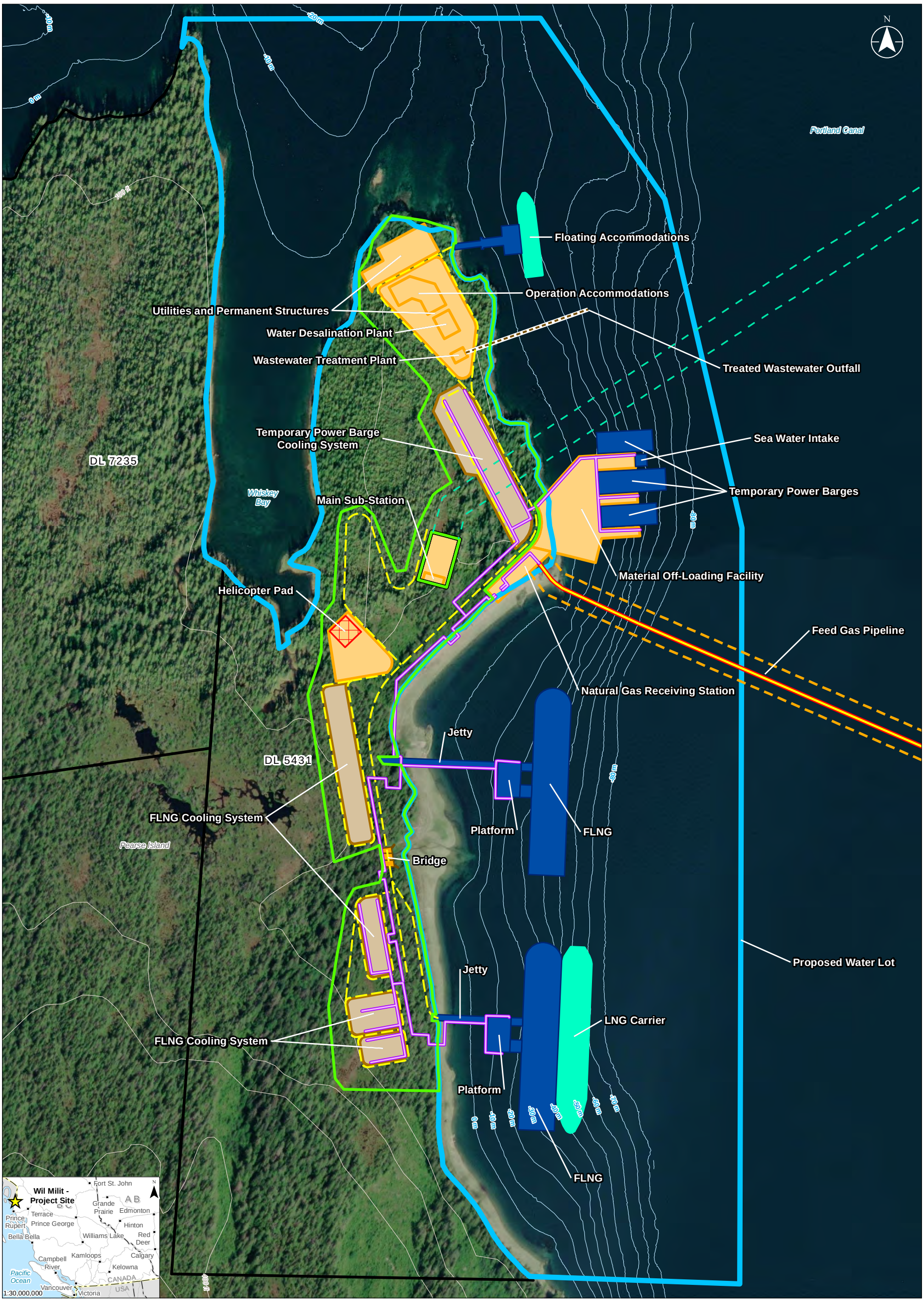
Figure No.
2.2

Title
Conceptual Project Layout - Base Case

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KSI LISIMS LNG

Notes
1. Coordinate System: NAD 1983 UTM Zone 9N
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Stantec, Nisga'a Nation, Rockies LNG

- Proposed Access Road
- Feed Gas Pipeline
- Feed Gas Pipeline Right-of-Way
- Powerline Right-of-Way from Mainland
- Utility Lines
- Wastewater Treated Effluent Pipeline
- Preliminary Site Fenceline

Footprint Component
- Bridge
- Buildings and Utilities
- Cooling Structures
- Proposed Water Lot
- Helicopter Pad
- Marine Component (Fixed)
- Marine Component (Not Fixed)
- Switchyard

- Wil Milit - Project Site
- Bathymetric Contour
- Topographic Contour
- Boundaries of District Lots 7235 and 5431

0 75 150 225 300 m
1:6,500 (at original document size of 11x17)

Stantec

Project Location: Pearse Island, BC
Project Number 123221820
Prepared by TQUILICHINI on 20220415
Requested by EFLORY on 20220415
Checked by SMOSS on 20220415

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Detailed Project Description

Figure No.
2.3

Title
Conceptual Project Layout - Alt Case 3

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2.3 Activities and Components

2.3.1 Introduction

The Project will consist of two floating LNG production, storage and off-loading barges (FLNGs) with a total nominal capacity of 12 mtpa. The main refrigerant compressor drives are electric motors.

At full build-out, the Project will receive between 1.7 and 2 Bcf/d (i.e., 48.1 and 56.6 million m^3 per day) of pipeline grade natural gas and produce up to 12 mtpa of LNG.

The Project's FLNGs and onshore components, their configuration, and certain technology selections will be developed during FEED, informed by the Project's engagement with regulatory authorities and Indigenous Nations.

2.3.2 FLNGs

Liquefaction processing units will be installed on two FLNGs located at the Site. The FLNGs, including hull, mooring, process facilities, safety systems, LNG storage and off-loading systems, etc., will be designed and constructed in compliance with applicable codes and standards as well as standards of the American Bureau of Shipping (**ABS**) Classification Society (where applicable). Final confirmation of the Classification Society for the Project's FLNGs will occur during FEED.

Each FLNG will include the following:

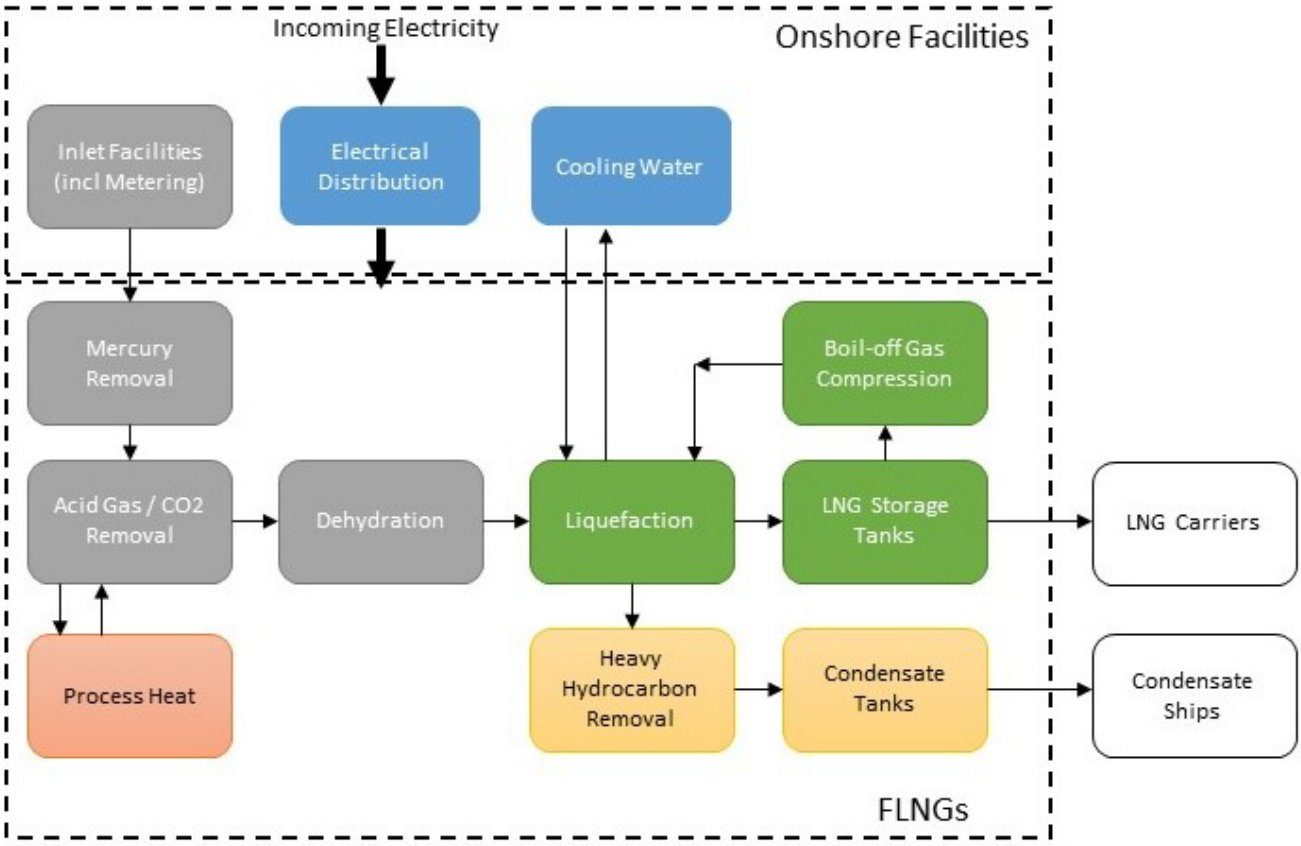
- Feed gas pre-treatment systems that include:
  - Acid Gas Removal Unit (**AGRU**)
  - Dehydration unit
  - Mercury removal unit
- Multiple single mixed refrigerant liquefaction trains with:
  - Natural gas liquefaction system
  - Heavy hydrocarbon removal system
  - Condensate stabilization and storage
  - Refrigerant storage
- LNG Storage for a total of 450,000 m^3, divided between the two FLNGs, with the associated LNG transfer pumps
- Mooring systems (e.g., sub-tidal anchors and chains and inter-tidal or onshore piles) for FLNGs
- LNG ship-to-ship (**STS**) off-loading equipment incorporating loading arms with a total capacity of 12,000 m^3/h per FLNG
- Boil off gas (**BOG)** Management – BOG from LNG storage and LNG loading system will be recompressed and sent back for reliquefication

- Emergency flaring systems
- All utilities (except for the onshore refrigeration cooling medium loop and potable water) required for the FLNG operation

The FLNGs will include several other facilities, including natural gas and LNG transfer piping and interconnection, electric power distribution, fire and gas detection equipment, firewater booster pumps, and emergency egress facilities.

The processing steps on the FLNGs and their interfaces with the onshore components are depicted in Figure 2.4.

Figure 2.4 – Project Block Flow Diagram



2.3.3 Other Project Components

The other Project components include:

- Feed gas receiving facility including:
  - Fiscal metering
  - Pig receiver
- Site natural gas distribution piping

- Electrical substations and Site electricity distribution systems
- Water and wastewater treatment plants and associated interconnecting piping
- Potential surface water stream diversion structure and/or groundwater well, pump and pipeline to the water treatment plant
- Backup diesel power generation equipment
- Diesel fuel storage tank(s)
- Treated effluent pipeline, outfall and diffuser in Portland Canal
- Refrigeration closed loop cooling system (using water as the cooling medium)
- Potential temporary power barges and their required onshore cooling water system
- Buildings:
    - Control Building
    - Administrative building (including medical clinic)
    - Maintenance workshop and warehouse
    - Permanent workforce personnel accommodations
    - Security office
- MOF, potential tug berths and supply/personnel jetty
- Monitoring equipment
- Two jetties and platforms, one connecting each FLNG to the shore
- Connecting roads and security fencing
- Solid waste management facilities
- Helipad

Electrical power from the BC Hydro and Power Authority electrical transmission system (**BC Hydro grid**) will be supplied to the Project under a commercial arrangement with WindRiver, third party. WindRiver will secure transmission capacity from BC Hydro, design and seek the necessary authorizations from the NLG and the province of BC to construct and operate a power line with the necessary transmission capacity for the Project.

If there is a delay in connecting the BC Hydro grid, the temporary gas fired floating power generation barges will be located at the Site to serve as a temporary power source until the BC Hydro grid connection is in place. After connection to the BC Hydro grid, the Project plans to remove the temporary power barges from the Site.

2.3.4 Feed Gas Receiving

The receiving facility will be located onshore at the Site and will connect the Project to the marine segment of the feed gas pipeline selected by the Project. It will include a pig receiver and custody transfer metering equipment to measure the amount of natural gas received at the facility.

2.3.5 Feed Gas Pre-Treatment

Certain impurities (carbon dioxide [**CO_2**], sulfur, hydrogen sulfide [**H_2S**], mercury and water) must be removed from the natural gas before it can be introduced into the LNG production equipment. This is due the potential to harm LNG production equipment, LNGCs and LNG regasification equipment at customer facilities. The equipment to remove impurities will be on the FLNGs. The configuration of that equipment on the FLNGs will be determined during FEED but is expected to consist of:

- **AGRU** – removes CO_2 and H_2S from the feed gas and incorporates an amine storage and handling system. Process heat for this system is provided by natural gas fired heaters supplemented by electric heaters that circulate a heating medium in a closed loop on each of the FLNGs
- **Dehydration** – removes trace water content to prevent freezing in the liquefaction trains
- **Mercury Removal** – reduces trace mercury content in the feed gas to meet LNG delivery specifications and protect aluminum equipment from corrosion

2.3.6 LNG Production

LNG is produced using a liquefaction technology that takes a natural gas stream and cools it to cryogenic temperatures (-160°C) at which point the natural gas converts from a gas to a liquid. Using a mixed refrigerant through a single refrigeration loop, the refrigerant is composed of a proprietary mix of hydrocarbons generally consisting of methane, ethylene, propane, isopentane and nitrogen. The methane used is extracted from the incoming gas stream and nitrogen is produced by a nitrogen generator located on the FLNGs. The remaining refrigerants are purchased and delivered to the Site by barge once or twice per year and then stored in dedicated tanks on the FLNGs. Refrigerants are typically shipped in standard shipping containers. The Proponents expect that these containers will be transferred to the Project via the Port of Prince Rupert.

Large, electrically driven compressors are used to compress the mixed refrigerant that is circulated through the refrigeration loop. Refrigerant exiting the compressors requires cooling before it enters a cryogenic heat exchanger. This cooling of the refrigerant takes place in heat exchangers located on the FLNG. An intermediate liquid, water, is used to cool the refrigerant and is circulated to electrically driven air-cooled exchangers located onshore. Both the refrigerant and cooling water circulation takes place in closed loop systems (i.e., none of the liquid being circulated is exposed to the atmosphere).

Once the refrigerant is cooled onboard the FLNG, it passes through an expansion valve that causes rapid cooling of the refrigerant, to temperatures required to convert natural gas to LNG. The exchange of the cold refrigerant with the natural gas takes place in cryogenic heat exchangers referred to as cold boxes. Within the cold box, heat is transferred from the natural gas to the refrigerant. After a first pass through

the cold box, the natural gas stream reaches a temperature at which heavier hydrocarbons liquefy and can be removed from the gas stream. The heavier hydrocarbons are directed to a condensate stabilizer to remove any lighter hydrocarbons from the stream.

Once the heavier hydrocarbons are removed, the natural gas once again enters the cold box, where it is further cooled to -162°C. At this temperature, the natural gas converts to a liquid and the liquefied natural gas exiting the cold box is pumped to the LNG storage tanks also located on the FLNG.

2.3.7 Condensate Management

The remaining heavy hydrocarbons are called condensate and are a by-product of natural gas liquid (**NGL**) extraction. The condensate from the liquefaction process is directed to storage tanks located on the FLNGs. Condensate production volumes are dependent on the composition of the feed gas received at the facility and will be estimated during the FEED phases.

Condensate will be loaded on a periodic basis (e.g., an early estimate is every 30 to 40 days) onto conventional NGL product vessels. Volumes to be shipped are uncertain at this stage of engineering but a single shipment could be 5,000 m^3 or more. Condensate export will be conducted by third party shippers who will load condensate from the Site and then are anticipated to depart follow the same shipping route as LNGCs. Under the current planning and design, condensate will not be off-loaded through the Port of Prince Rupert and moved inland by rail. The export of condensate will be further addressed during FEED and in the EA-IA.

2.3.8 Cooling

2.3.8.1 LNG Process Cooling

The onshore FLNG process cooling system will be a closed loop system using water to cool the refrigerants used in the LNG production process (see Section 2.3.6). The source of water and volumes required to fill the system will be determined during the FEED (see Section 2.14.1.3) and addressed in the EA-IA, however it is currently estimated that between 15 and 25 cubic meters of water will be required.

The cooling medium (water) which is supplied to the heat exchangers on each FLNG is circulated via onshore pumps to air-cooled exchangers also located onshore. These air-cooled exchangers use electrically driven fans to blow ambient air across the tubes in the exchangers to cool the water prior to returning it to the FLNGs. The water circulates in a continuous, closed loop from each FLNG to dedicated air-cooled exchangers onshore.

2.3.8.2 Temporary Power Barge Cooling

Temporary power generation may be necessary to provide power for the Project if there is a delay in the necessary transmission lines connecting the Project to the BC Hydro grid. It is currently proposed that any temporary power requirements would be provided by a combined cycle natural gas-fired gas turbine power plant that utilizes both gas and steam turbines (in order to decrease GHG emissions). The temporary power production would be located on floating power barge structures.

As the power barges are temporary and only necessary in the event that connection to the BC Hydro grid is delayed, the Project is exploring system cooling options including cooling the equipment with seawater taken from the Portland Canal. However, the final design for the required cooling is still being investigated.

2.3.9 LNG Product Storage and Boil Off Gas Management

LNG will be stored temporarily in tanks located on the FLNGs between LNGC loadings. LNG storage capacity at the Site is currently designed for approximately 450,000 m^3 and will be contained in multiple tanks on the FLNGs. Although the FLNG storage tanks will be insulated, some heat migration into the LNG will occur, producing vapour known as BOG. Each FLNG will include electrically driven BOG compressors, which will recompress low-pressure BOG from the LNG storage tanks and reintroduce it to the high pressure inlet of the liquefaction process.

2.3.10 LNG Carrier and Condensate Loading

LNGCs will berth alongside the FLNGs to load LNG using a system commonly referred to as STS transfer, thereby eliminating separate berths used for the loading of LNG carriers and NGL product carriers. Similarly, NGL product carriers will berth alongside the FLNGs to load condensate.

The Project will be able to accommodate LNGCs with capacities in the range of 140,000 m^3 to 217,000 m^3. Each FLNG will be equipped with LNG loading arms and side-by-side mooring equipment/fenders suitable for the range of LNGCs considered. LNG will be delivered from the FLNG storage tanks to the LNGCs via the STS transfer system incorporating off-loading arms with an aggregate capacity of 12,000 m^3/h per FLNG.

The mooring equipment will limit the movement of LNGCs at berth to acceptable levels as determined by operational requirements.

FLNGs will also be able to offload condensate to product carriers with storage capacity ranges of 5,000 to 30,000 m^3.

The potential difference in freeboard heights of vessels calling on the terminal will be assessed and addressed during FEED. FLNGs will, as a minimum, be equipped with the following for STS operations:

- Quick release hooks with a safe working load suitable for offloading to the LNGCs
- Pneumatic floating fenders, as these fenders have low reaction forces and a large contact area thereby reducing the pressure load in the hull of the LNGC and FLNGs

A dynamic FLNG mooring assessment will be carried out to confirm:

- The suitability of the mooring layout of the FLNGs for LNG offloading to the range of LNGCs that may call on the terminal
- The maximum fender forces and compressions during berthing and offloading to ensure that design hull pressures for the FLNGs and the LNGCs are not exceeded
- Design criteria required to further develop the FLNG mooring system during the FEED phase of the Project

2.3.11 Material Off-loading Facility

A dedicated MOF will be located on DL 5431 and extend within the proposed Water Lot for the offloading of equipment and supplies and potentially to secure the temporary power barge(s). The MOF will accommodate roll-on/ -roll off equipment to enable the transport of heavy equipment to the Site, as well as more traditional shipping vessels. The proposed location of the MOF is in water shallower than approximately 20 m as informed by available bathymetry. Geophysical marine assessments will inform the MOF and potential temporary power barge berth design.

2.3.12 Flares

The emergency flare systems will be located on each FLNG. The following assessments will be completed as part of the flare design:

- Evaluation of the flare radiation with respect to the facility layout
- Estimation of flare sizing considering the process design requirements

Flare sizing and design will be further confirmed during FEED.

2.3.13 Marine Terminal Design Parameters

2.3.13.1 Marine Infrastructure Elevations

The minimum required elevations of the marine structures will consider potential storm effects (e.g., wave heights, storm surges), future estimated sea level rise, tidal height, and design requirements.

2.3.13.2 Environmental Loads

All marine structures will be designed for expected environmental loads due to currents, waves, wind, temperature effects (i.e., shrinkage and expansion of structure elements) as well as extreme weather and geologic hazards (e.g., seismic events and tsunamis).

2.3.13.3 Mooring Requirements

LNGC mooring will be designed such that:

- Mooring equipment will resist a severe combination of operational wind, wave and current acting on the design vessel (see Section 2.3.14.2)
- Transversal loads are resisted by breasting lines
- Longitudinal loads are resisted by spring lines
- Quick-release mooring hooks are used

FLNG permanent mooring will be designed such that:

- The moorings for the FLNGs consist of chains connected directly to the FLNG hulls that cross underneath the hulls and are founded into the seabed with a chain and anchor system in sub-tidal waters and an inter-tidal - onshore pile system to enable adequate and safe FLNG mooring
- Moorings for the FLNGs resist the most severe combination of extreme wind, wave and current acting on the permanently moored vessels
- Moorings limit vessel motions in surge and sway

2.3.13.4 Mooring Analysis

A dynamic mooring analysis will be performed during FEED to confirm LNGC and NGL product carrier vessel motions and berth operability requirements. The mooring system will be designed to:

- Resist the maximum determined mooring loads
- Provide the required water depths along the LNGC berth area
- Meet the requirements of the chain and anchor mooring specification

2.3.13.5 FLNG Connecting Jetties and Platforms

Two pile supported jetties and platforms will be constructed to provide safe access from the shore to the FLNGs.

2.3.14 Temporary Power Production

The Project will connect to the BC Hydro grid for renewable power supply. In the event the interconnection to the BC Hydro grid is delayed, the Project proposes to use temporary floating power barges that use natural gas from the feed gas supplied to the Project. Temporary power generation will allow the Project to produce LNG and meet contractual LNG delivery obligations until the BC Hydro grid connection is complete and operational.

The Project's temporary power barges will incorporate a high efficiency combined cycle power plant design that uses both gas and steam turbine equipment.

The temporary power barges will be designed to the following criteria:

- Capable of achieving CO_2 intensity of 0.32 kg per kilowatt hour (**kWh**) gross
- Natural gas fired (no backup fuel oil)
- The gas pressure from the arriving natural gas pipeline will be in the order of 70-80 bar gauge and on-Site fuel gas compression will not to be required. Fuel gas will be pressure reduced to suit gas turbine fuel gas pressure requirements
- Fuel gas conditioning such as dew point heater and initial and final filtration will be required to meet the gas turbine equipment manufacturer's fuel specification requirements
- Turndown requirements will be approximately 25% of the nominal output

- Water cooling will be used to help increase the efficiency of the power generation. The combined cycle uses both gas-fired turbines and steam turbines to generate power. Hot exhaust gas from the gas turbines is used to boil demineralized water; the resulting steam is used to drive the steam turbines and produce power. The cooling water circulates through a condenser, which is a heat exchanger that returns the steam to a liquid state for recirculation in the closed demineralized water loop. The use of the waste heat from the gas turbines to produce steam and generate additional electricity is more efficient (and results in lower GHG emissions) than power generation solely using gas turbines

The temporary power barges will be designed with operating capabilities so that the facility can start-up and operate if the connection to the BC Hydro grid is delayed. However, parallel operation of the temporary power barges with electricity sourced from the BC Hydro grid is not planned. Upon connection to the BC Hydro grid, the temporary power barges will no longer be required.

The Project's temporary power barge generation facilities will be designed to comply with the Canadian Electrical Code - Part 1, Canadian Standards Association (**CSA**) C22.1-12 with British Columbia Standards Association amendments. In addition, the temporary power barge(s) will be designed to meet Canadian safety standards along with all applicable laws and regulations.

2.4 Third-Party Projects

2.4.1 Pipeline

The Project will be supplied with pipeline grade natural gas from the WCSB to the Site by an approximately 650 to 750 km long natural gas transmission pipeline built, operated, and owned by a third party.

Two natural gas transmission pipeline projects hold EACs that are valid through November 2024: TC Energy's PRGT project and Enbridge's WCGT project. It is anticipated that one of these pipeline projects will enter into a commercial agreement to deliver natural gas transportation services to the Project.

The EAC for either pipeline will require amendment to support an amended marine pipeline route with a delivery point at the Site. For provincial scale route maps of the presently approved routes for WCGT and PRGT, refer to Appendices 1 and 2 respectively.

The feed gas will be required to meet specific requirements; final feed gas specifications will be confirmed during FEED.

2.4.2 Transmission Line

An arrangement between Ksi Lisims LNG, the Nisga'a Nation and WindRiver Power Corporation (WindRiver) has been entered into pursuant to which WindRiver will undertake the design, development, construction, operation and seek regulatory approval of an interconnection transmission line to the Site. Further, the interconnection transmission line is expected to provide additional power supply to enable improve electricity reliability in Nisga'a communities. The preliminary proposed route for the interconnection transmission line is anticipated to begin at or adjacent to the existing BC Hydro New Aiyansh substation and then to travel through the Nass Valley on Nisga'a Lands (as defined in the Nisga'a

Treaty) to ultimately terminate via a sub-sea transmission cable at the Site at Wil Milit. The right-of-way through the Nass Valley is anticipated to follow, relatively closely, the assessment corridors on Nisga'a Lands previously studied in connection with the PRGT and WCGT pipelines.

The length of the interconnection transmission line is approximately 95km and it will be constructed with a voltage rating of 287 kilovolt (kV). Both of these design characteristics (length and voltage) are below the triggers for Electricity Projects in the *Reviewable Projects Regulation* (GoBC 2019) and the *Physical Activities Regulation* (GoCN 2019).

The interconnection transmission line does not currently meet the BC EAO's definition of a reasonably foreseeable project. However, given comments received by Indigenous Nations, the Proponents are committed to including the interconnection transmission line in the cumulative effects assessment section of the EA-IA for the Project. Additionally, the 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. WindRiver 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.

The interconnection transmission line will be constructed by WindRiver to align with the availability of electricity from BC Hydro. WindRiver is engaging with BC Hydro to determine the required system upgrades and timeline to deliver the required power to the New Aiyansh substation and connect to the transmission line. BC Hydro electrical system enhancements are anticipated to be limited to system transmission line upgrades at the New Aiyansh Substation, upgrades along other existing BC Hydro sub-stations and upgrades to existing power line corridors. There is potential that the system upgrades may be more intensive and require additional time to complete; this could delay access to grid power to approximately the 2029 - 2032 timeframe. In the event of a delay in connection to the BC Hydro grid, the Project will be powered by temporary alternative source (i.e., power barges).

Electrification of the Project is not only a requirement to achieve emission targets, but it is also one of the key features of the Project for its investors and customers. The Proponents anticipate that an electricity supply agreement with BC Hydro will be one of the requirements for reaching an affirmative FID and commencing construction on the Project. Further, the requirement for grid electricity supply by BC Hydro is consistent with the FNCI's policy and blueprint for net-zero LNG development on the northwest coast of BC.

The Proponents are of the view that the interconnection transmission line should be considered incidental to, and not a component of the proposed Project for the following reasons:

- The Proponent will have no direct control or influence over WindRiver in carrying out the development, construction and operation of the interconnection transmission line and the related activities in respect of increased reliability of service to Nisga'a Villages
- The interconnection transmission line will not solely be for the benefit of the Project

- The interconnection transmission line is below the applicable triggers for Electricity Projects in the *Reviewable Projects Regulation* (GoBC 2019) and the *Physical Activities Regulation* (GoCN 2019)
- The majority of the interconnection transmission line will be located on Nisga'a Lands within a corridor studied under previous environmental assessments
- The proponent will include the interconnection transmission line in the cumulative effects assessment section of the EA-IA for the Project'

2.5 Construction

2.5.1 Introduction

A FLNG facility is fundamentally different from a land-based LNG facility in that FLNGs are designed and constructed in ship fabrication yards and then towed into position at a project site. As the FLNGs for the Project will be secured in the proposed Water Lot, the necessary onshore supporting infrastructure has a much smaller onshore footprint than a land-based LNG facility.

The total onshore footprint at Wil Milit will fall primarily within DL 5431 with potential for some components in DL 7235 (e.g., overburden storage site, waterline). The marine footprint for the Project will be within the proposed Water Lot.

Most onshore infrastructure will be constructed at an off-site location(s) and then barged to, and installed at, the Site. Construction planning and logistics will be further developed during the FEED stage.

2.5.2 Temporary Project Components and Early Construction Activities

Temporary Project components and early construction activities may consist of the following:

- An initial temporary pioneer dock (e.g., for unloading construction equipment and supplies)
- Site access trails
- Clearing of vegetation from construction, storage and lay-down areas
- Temporary diesel power generation
- Modular construction offices
- An on-Site concrete batching plant
- Temporary fuel storage areas
- Overburden storage areas
- Helipad
- Self-contained floatel
- Personnel dock for floatel
- A weather station

Other temporary facilities may be incorporated at the Site as determined in FEED.

2.5.3 Construction Contractor Workforce

Construction worker access to the Site is likely to be by vessel originating from Gingolx or Prince Rupert. In addition, a small number of workers may travel via helicopter from Terrace, Prince Rupert or Gingolx.

Due to the remoteness of the Site, the construction workers are planned to be housed in a floatel within the proposed Water Lot in Portland Canal. The floatel would provide self-contained electrical power, communications, potable water supply and waste containment systems. Sewage and grey water would be stored in tanks and then barged away for disposal at a suitable sewage treatment facility. The floatel will be connected to shore via a personnel dock. During construction, there will be no on-Site effluent discharge into the marine environment.

The Project's construction workforce will be hired by the Project's construction contractor(s) and will be housed at the Site and not in any nearby communities. The number of on-Site construction workers will vary. It is anticipated that peak numbers may be up to 600-800 workers, however, better estimates will be provided as an outcome of FEED. The origin of the construction workers is not yet known, but efforts will be made for the Project to secure construction contractors who are required to recruit locally from available talent in nearby communities, then recruit regionally, provincially, nationally and internationally, in that order of preference, to the extent possible. It is anticipated that certain specialized trades and expertise may need to be sourced from elsewhere in BC, Canada or internationally. Construction worker details and estimates will be developed during FEED. All construction activities will be conducted by third parties under contract to the Project who will maintain care and control of all construction activities.

2.5.4 Construction Timing

Construction will begin after all applicable regulatory requirements are satisfied and a positive FID is made, which is scheduled to occur in 2024. Detailed engineering and construction of the FLNGs is planned to begin shortly after FID. Construction is expected to take approximately three and a half years and the first FLNG is expected to begin commissioning as early as late 2027. Project construction work is currently proposed to occur approximately ten hours per day, six or seven days per week – safety and weather permitting. Construction activities will occur predominantly during daylight hours, while some limited activities, such as testing, may occur at night.

2.5.5 Construction Materials, Supplies and Equipment Transport

Construction materials, supplies and equipment are anticipated to be transported to the Site from local regional centers (e.g., Terrace or Prince Rupert) either by truck through Gingolx or by barge along marine transportation routes from the Port of Prince Rupert or potentially from other coastal ports (e.g., Vancouver).

The transport of construction materials, supplies, and equipment will be further analyzed during FEED. Additional details and estimates will be developed for the EA-IA.

2.5.6 Construction Activities for Permanent Project Components

Permanent Project component construction activities are currently proposed to include:

- Tree removal, vegetation clearing, soil removal/salvage and general onshore site preparation
- Potential blasting of bedrock outcrops, if necessary
- Upland Site drainage construction and stormwater management systems
- Road and utility right-of-way construction
- MOF in the proposed Water Lot
- FLNG permanent mooring infrastructure (e.g., sea floor anchors, chains, chain weights and piles) in the proposed Water Lot
- Construction of pile supported FLNG access jetties and interconnecting pipe racks to the FLNGs
- Construction of an onshore closed loop FLNG cooling system (including piping, equipment and supporting steel structures) to support FLNG processes
- Building construction (e.g., control building, security building, permanent accommodation, warehouse, etc.)
- Construction of wastewater treatment plant, treated effluent pipeline, outfall and diffuser in Portland Canal to manage domestic and industrial wastewater during a portion of construction and for operation
- Installation of onshore firewater and other safety systems
- Installation of a potable water storage tank and the plant instrument air systems
- Potential installation of a desalination plant and necessary connecting water pipeline infrastructure
- Potential installation of a surface water diversion structure, a pump, water pipeline and access road to the Site water treatment plant for domestic and industrial water use during a portion of construction and for operation
- Potential drilling of a groundwater well and connecting water pump and piping infrastructure to the water treatment plant
- Potential rainwater collection systems connecting to the water treatment plant
- Potential installation of a waste management incinerator for combustible construction or operations non-hazardous wastes
- Installation of electric power substations and the natural gas receiving facilities
- Erecting site security fencing, constructing Site outdoor lighting and access control systems
- Telecommunications tower construction
- Post-construction clean-up and on-Site grounds reclamation

2.6 Operations and Maintenance

The Project is designed to operate 24 hours per day, 365 days per year. Early estimates of the number of permanent operations workers are between 150 and 250 at Site and 50 to 100 at other offices within British Columbia; however, the number of permanent workers at the Site during operations will be further developed during FEED. Personnel working at the Site during operations will be housed in permanent on-Site accommodations. Water taxi will be the primary means of moving the permanent workforce to and from the mainland (e.g., from Gingolx or Prince Rupert) to the Site.

In addition, it is anticipated that the Project will create additional indirect Project-related employment in nearby communities and elsewhere through the supply of goods and services. Indirect Project employment will undergo further analysis in the EA-IA process and inform any other regulatory authorization filings.

Major areas of operations include:

- Feed gas pre-treatment
- LNG production and storage
- Refrigerant and condensate management
- Loading of LNG and NGL product carriers
- Process control systems
- Safety, security, and emergency response systems

Routine inspections and maintenance of the above components and systems would be completed on an ongoing basis. These would include:

- Maintenance of equipment to enable safe and reliable operation
- Meeting facility permit requirements
- Inspection of equipment and facilities to confirm mechanical and safety integrity
- Site maintenance
- Inspection and maintenance of safety, civil structures and environmental monitoring devices

2.7 Marine Shipping

LNGCs and NGL product vessels will be owned, insured, and operated by third parties. LNGCs calling upon the Project's terminal will normally range in size from 140,000 to 180,000 m^3. The typical method of LNG storage utilized by the LNGCs will be LNG Spheres (such as those on Moss LNGCs) and membrane systems. The facility will also be designed to receive larger LNGCs with a nominal capacity up to 217,000 m^3, such as the Q Flex series of LNGCs. The design draft of these LNGCs range from 11.4 metres to 12.5 metres when the LNGCs are fully loaded. NGL product vessels are expected to call on the terminal 8 to 12 times per year and are anticipated to have a nominal capacity range of 5,000 to 30,000 m^3. All vessels are anticipated to follow the same shipping route (see Figure 2.1).

The minimum required water depth at the marine terminal will be determined on the fully laden draft of the Project's marine terminal design vessels. The following criteria will be used to determine the required depth for a moored vessel. This depth should be considered as the minimum required draft under any part of the vessel at the lowest design tidal level.

- Minimum water level - Lowest Low Water, Large Tide
- Minimum Underwater Keel Clearance (**UKC**) 10% Max Draft

Preliminary vessel approach, berthing and departure manoeuvres will be identified during the early stage of the detailed engineering design. Vessel approach, berthing, departure and tug requirements (number, type, bollard pull) will be determined using Full Mission Bridge Navigation Simulations, as needed.

Aids to Navigation (**ATON**) will be used to identify the Project's marine facility, provide warnings and guidance to local and passing marine traffic and assist the BC Coast Pilots in berthing and unberthing the LNGCs and NGL product vessels. ATONs will conform to all local and international requirements, including locations, height, colour and light sequencing. Additional navigational aids to be considered include Laser berthing monitoring system to assist berthing of LNGCs and product vessels.

Environmental limiting conditions (e.g., severe weather) at the marine terminal are anticipated. Marine terminal downtime analysis will be conducted during FEED to determine the number of days per year that the marine terminal will be unavailable due to severe weather and inform the identification of safe anchorages for vessels near the Site.

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. LNGCs will comply with applicable federal and International Maritime Organization requirements and other applicable classification rules, international requirements and guidelines including:

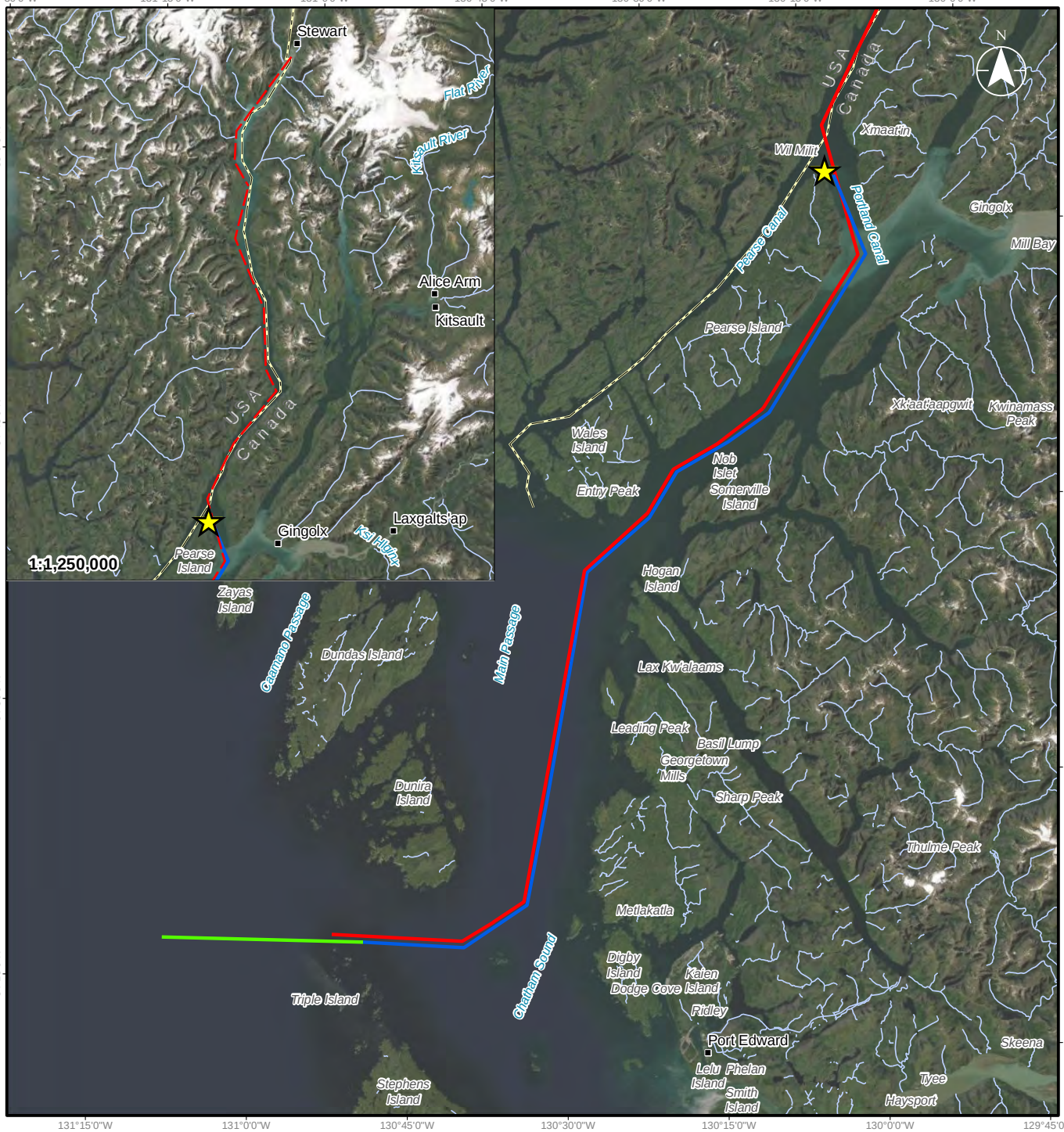
- International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk
- International Convention on Load Lines
- International Convention for the Safety of Life at Sea
- International Convention for the Prevention of Pollution from Ships
- Society of International Gas Tanker and Terminal Operators
- Oil Companies International Marine Forum guidelines
- American Petroleum Institute guidelines

To fully address marine safety and potential marine accidents and malfunctions, a Navigation Safety Assessment will be conducted as part of the EA-IA. See Section 9.2.4 for more information on the Navigation Safety Assessment.

Three suitably equipped tugboats are anticipated to be used to safely assist berthing and unberthing LNGCs. Tugboat moorage at the Site or at a nearby location (e.g., Gingolx harbour) will be determined during Project FEED and informed by the Project's engagement with regulatory authorities and local Indigenous communities.

LNGCs are anticipated to enter Canadian waters from the west through Dixon Entrance north of Haida Gwaii and will pick up a BC Coast Pilot at a designated location west of, but near to, Triple Island. LNGCs will be piloted between Triple Island and the Project's marine terminal by BC Coast Pilots to support the safe inbound and outbound transit of LNGCs, consistent with applicable marine navigation laws and regulations.

With the pilot on board, LNGCs will travel east, south of the Dundas Island group and then travel north through Chatham Sound, Main Passage, through Portland Inlet and then northeast into Portland Canal (Figure 2.5). The Project's actual marine routes and/or procedures for LNGCs may change, informed by future engagements with BC Coast Pilots, analyses and engagements with Indigenous communities, government agencies and stakeholders.



KSI LISIMS LNG

- Project Location
- Expected Marine Transit Route
- Expected Marine Transit Route to Triple Island
- Typical Shipping Route to Stewart, Alaska
- International Boundary
- Watercourse

0 10 20 30 km

1:600,000 (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: 103I, 103J, 103O, 103P

Stantec

Project Location: Pearse Island, BC

Project Number: 123221820
Prepared by TQUILICHINI on 20220104
Requested by EFLORY on 20211121
Checked by SMOSS on 20220104

Client/Project/Report

Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Detailed Project Description

Figure No.

2.5

Title

Potential Marine Transit Routes

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\\CA0183-PBAGF01\Workgroup\1232\projects\123221820\figures\reports\DPD_Detailed_Project_Description\fig_123221820_091_expected_marine_transit_route.mxd Revised: 2022-01-31 By: tquilichini

2.8 Decommissioning

The eventual decommissioning of the Project or extension of operating life (after a minimum of 30 years) is described in general terms at this time. A decommissioning and abandonment plan would be developed in consultation with the Nisg̲a'a Nation, incorporated at least in part into the land lease and proposed Water Lot sublease from the NLG and engagements with applicable regulatory authorities (e.g., BC OGCor FOR).

Decommissioning is expected to require a relatively small workforce and last for approximately one year, depending on actual requirements. Depending on laws and regulations in effect at that time, decommissioning could include:

- Moving the FLNGs to a Canadian or foreign shipyard for re-furbishing or salvage
- Dismantling/recycling ancillary facility equipment and infrastructure
- Re-purposing onshore Project infrastructure to another NLG authorized use (e.g., turn permanent workforce accommodation into a tourism facility)
- Transporting and disposal or recycling of equipment and materials
- Reclamation of the anthropogenically altered portion of the onshore and marine areas to restore ecological values and function as required in the lease with the NLG
- The third party pipeline provider purging their buried sub-sea floor pipelines of residual natural gas and leaving in place
- If no longer needed, discontinuing or downscaling power transmission from the BC mainland

Upon decommissioning of the Project, the area may be restored as required by NLG and/or per the applicable agreements with the Nisga'a Nation and as prescribed in operating permits.

2.9 Emissions, Discharges and Waste

The FLNGs and accompanying upland infrastructure will generate a variety of waste, emissions, and effluents over the life of the Project. Each of these will be managed in compliance with the applicable NLG, provincial and/or federal regulatory requirements and guidelines. A Project Environmental Management Plan (**EMP**) will be developed during FEED that will include monitoring plans to confirm compliance with requirements as identified during the EA-IA process and permitting.

During engagement, Indigenous Nations, regulators, stakeholders, and the public have expressed concerns related to anticipated Project wastes and emissions including:

- Potential effects from emissions related to the Project on freshwater and marine water quality and the life of those animals and plants who depend on water
- Potential negative effects on freshwater quality in streams and water bodies
- Potential negative effects to waterbodies on the BC mainland, south on Pearse Island or in Alaska as a result of acidification and/or eutrophication as a result of the Project's potential air emissions (e.g., nitrogen oxides (**NO_x**) and sulphur dioxide (**SO_2**))

- Management of solid wastes including hazardous waste
- Potential GHG emissions (see Section 2.10)
- Potential discharge of water back into Portland Canal

2.9.1 Construction

2.9.1.1 Solid Wastes

During construction, it is anticipated that some native (e.g., originated at the onshore Site) construction wastes will be managed on-Site. Other construction wastes will be managed, stored, and shipped to approved disposal locations on the BC mainland. Construction waste management will be analyzed and confirmed during FEED and addressed in the EA-IA.

Potential solid wastes generated during construction and the management of theses wastes is provided in Table 2.2.

Table 2.2 – Construction Solid Waste Management

Solid Waste	Management	Disposal Site
Biomass waste (e.g., from land clearing and grubbing)	Storage on-Site	On DL 5431 or 7235 in a designated area
Excavated overburden, organic material (e.g., peat) and large boulders	Storage on-Site for eventual reclamation	On DL 5431 or 7235 in a designated area
Construction wastes (wood, scrap metal, concrete, etc.)	Collection and storage on-Site, barged to mainland and to a suitable, permitted disposal site Potential for incineration in a high temperature incinerator	To be identified on the BC mainland
Solid domestic wastes	Contained and secured from wildlife Barged to mainland and to a suitable, permitted disposal site (landfill) Potential for incineration in a high temperature incinerator	To be identified on the BC mainland
Regulated hazardous materials (e.g., used oil, solvents, etc.)	Hazardous wastes contained, manifested, secured, and barged to the mainland and then moved by truck to permitted hazardous materials disposal sites Hazardous wastes managed as per regulation	To be identified at an approved hazardous waste disposal site(s) on the BC Mainland

2.9.1.2 Liquid Wastes

Potential liquid wastes generated during construction and the management of theses wastes is provided in Table 2.3.

Table 2.3 – Construction Liquid Waste Management

Liquid Waste	Management	Disposal Site
Sanitary wastewater (e.g., from the floatel)	Managed and contained within the floatel, then pumped into suitable storage facilities and barged to the BC mainland and to a suitable, receptive and permitted wastewater treatment facility	A permitted wastewater treatment facility on the mainland BC mainland to be identified
Sanitary wastes from construction site (e.g., portable toilet facilities)	Portable toilet facilities (e.g., port-a-potties) management by pump/transfer onto barges, taken to wastewater treatment facilities on the mainland	A permitted wastewater treatment facility on the mainland BC mainland to be identified
Stormwater	Managed during construction to prevent sediment laden stormwater from entering streams and marine areas Procedures (e.g., silt fencing, temporary stormwater storage ponds, etc.) to be documented in a construction Stormwater Management Plan that will require NLG review and approval	Construction stormwater management plans to be developed during FEED

2.9.1.3 Hazardous Wastes

During construction (as well as in operations), hazardous wastes may be generated. This waste will be managed as required by NLG, provincial and federal regulatory authorities in compliance with BC's comprehensive Hazardous Waste Management framework and *Hazardous Waste Management Regulations* under BC's *Environmental Management Act* (**EMA**) and applicable federal regulatory requirements.

Potentially hazardous wastes generated during construction and the management of theses wastes is provided in Table 2.4.

Table 2.4 – Hazardous Waste Management

Hazardous Waste	Management	Disposal Site
Waste lubricating oils	Contained and shipped to appropriate BC mainland disposal facilities as per BC Hazardous Waste Management framework and Regulations	To be identified on the BC mainland
Spent solvents		
Minor miscellaneous wastes including used cartridge filters, batteries, etc.	Contained and shipped to appropriate BC mainland disposal facilities as per BC Hazardous Waste Management framework and Regulations	To be identified on the BC mainland

2.9.1.4 Air Emissions

The primary sources of air emissions at the Site during construction will be associated with power generation using portable diesel-powered generators and construction equipment such as excavators, backhoe loaders, bulldozers, and trenchers.

Vehicle traffic on Highway 113, such as construction worker buses or supply trucks travelling from Terrace to Gingolx, will generate emissions. Tugboats, barges, and other vessels used to transport construction materials, supplies, personnel, or equipment to (and from) the Site from either Gingolx or Prince Rupert will also be a source of air emissions.

Onshore construction emissions are anticipated to be substantially less than at other large construction sites as most of the Project construction is at an overseas shipyard where the FLNGs will be manufactured. Potential air contaminants generated during construction include NO_X, carbon monoxide (**CO**), SO_2, polycyclic aromatic hydrocarbons (**PAHs**), particulate matter (total suspended particulate (**TSP**), **$PM_{2.5}$**, **PM_{10}**, and diesel PM (**DPM**)) and volatile organic compounds (**VOCs**) from construction equipment and diesel-powered portable electricity generators.

2.9.2 Operations

During operations, solid and liquid wastes and air emissions will be managed as required by NLG, provincial and federal regulatory authorities through different forms of waste management authorizations. Most wastes generated during operations will be regulated by the BC OGC (e.g., air emissions, process liquid effluent emissions) under their delegated waste management authorities under the *Oil and Gas Activities Act* (**OGAA**).

2.9.2.1 Solid Wastes

Potential solid wastes generated during operations and the management of theses wastes is provided in Table 2.5.

Table 2.5 – Operations Solid Waste Management

Solid Waste	Management	Disposal Site
Domestic wastes (e.g., from permanent accommodation, offices, workshop, warehouse)	Contained and secured from wildlife Barged to BC mainland and to a suitable, permitted disposal site (landfill) Potential for incineration in a high temperature incinerator	To be identified on the BC mainland
Paper/cardboard waste (from administration and packaging)	Store and barge to suitable recycling facilities on the BC mainland	To be identified on the BC mainland
Wood and scrap metal originating from maintenance activities	Collection and storage on site, barged to BC mainland and to a suitable, permitted disposal site	To be identified on the BC mainland

2.9.2.2 Liquid Wastes

Liquid waste management, treatment and disposal into the marine environment will be further investigated during FEED and addressed in the EA-IA. The onshore facilities include a wastewater treatment facility and an effluent pipeline, outfall, and diffuser into Portland Canal.

Disposal of liquid effluents into the marine environment is only authorized under permit. The permit application requires comprehensive baseline monitoring of the receiving environment to inform the application along with detailed engineering to support a "registration" under the EMA. A registration is a form of permit issued by the BC Ministry of Environment and Climate Change Strategy (**BC ENV**). In addition, there may be NLG and federal regulatory requirements (e.g., Environment and Climate Change Canada (**ECCC**)) for any Project discharges of treated effluent into the marine environment.

Potential liquid wastes generated during operations and the management of theses wastes is provided in Table 2.6.

Table 2.6 – Operations Liquid Waste Management

Liquid Waste	Management	Disposal Site
Sanitary wastewater (e.g., from permanent accommodations, offices, warehouse, workshop, etc.)	Managed and transferred via Project onshore piping to wastewater treatment facility (at Site)	Discharge, under permit, of wastewater meeting water quality thresholds into the marine environment of Portland Canal
Stormwater from upland areas	Managed as per Stormwater Management Plan and facility stormwater management engineering (e.g., ditches, catchment basins, etc.)	Disposal, under permit of stormwater meeting water quality thresholds into the marine environment of Portland Canal
Potential temporary power barge cooling water (sourced from Portland Canal)	Temporary and only needed when power barge is creating power at the Site and when using a open loop cooling water system	Disposal, under permit, of Power barge cooling water meeting water quality thresholds into the marine environment of Portland Canal
FLNG units deck wash and stormwater discharges	Managed as part of the FLNG wastewater management treatment system	Disposal, under permit, of wastewater meeting water quality thresholds into the marine environment of Portland Canal
Brine from desalination facilities (potential only if desalinization is used as water source)	Discharged through piping to the marine environment, or Contained, stored and transferred to a vessel (e.g., barge) for disposal at sea Desiccated and retained as a material for use at the Site (e.g., salting roads and walkways) or barged to the mainland for use by others (e.g., highway salting)	Discharge, meeting water quality thresholds, into the marine environment of Portland Canal, or Deep ocean location (e.g., Portland Canal)

2.9.2.3 Hazardous Wastes

Hazardous waste generate during operation is expected to be similar to that in construction. See Section 2.9.1.3 with the exception of those listed in Table 2.7.

Table 2.7 – Hazardous Waste Management during Operations

Hazardous Waste	Management	Disposal Site
Mercury removed during the feed gas treatment process (contained in "beds")	Spent mercury beds are typically contained safely and then shipped back to the manufacturer for re-furbishing	Not applicable – returned to manufacturer
Wastewater treatment facility biological sludge	Managed, shipped and disposed of at a suitable, receptive facility on the BC mainland	To be identified on the BC mainland
Waste catalyst and absorbents	Contained and shipped to appropriate BC mainland disposal facilities as per BC Hazardous Waste Management framework and Regulations	To be identified on the BC mainland

2.9.2.4 Air Emissions

During operations, NO_x, CO, SO_x, $PM_{2.5}$ and VOC will be released into the atmosphere from:

- Fugitive emissions from FLNG liquefaction and LNGC loading systems
- Combustion associated with:
  - Acid gas incinerators
  - Direct-fired process heaters
  - Temporary gas-fired facilities to produce power for the LNG facility until the BC Hydro grid connection is made
  - Safety flares (used to manage emergency or maintenance activities)
  - LNGCs, NGL product vessels and support vessels
- Land and water-based vehicles associated with the transport of personnel, materials, supplies and/or equipment

2.9.3 Decommissioning

Emissions, discharges and wastes during decommissioning are expected to be similar to those associated with construction as both Project phases will rely on similar types of equipment.

2.10 Greenhouse Gas Emissions

The Project will generate GHG emissions during construction, operation, and decommissioning. These GHG emissions will be managed in compliance with the applicable NLG, provincial and federal regulatory requirements, and guidelines. An EMP will be developed that will include monitoring to confirm compliance with requirements as identified during the EA-IA and permitting.

During Early Engagement, many comments received by regulators focused on the Project's impact on climate change through GHG emissions and raised concerns around the ability of local, provincial, and federal governments to meet GHG emissions targets. To address these concerns, the Project is targeting to be a net-zero project, which will materially mitigate the impact of the Project. This will be achieved primarily through the purchase of carbon offsets preferentially from projects situated in BC including potential carbon offsets through nature-based solutions. If BC based offsets are unavailable, they will be sourced from other parts of Canada and then Internationally. The target is to be net-zero once sufficient renewable power is available from BC Hydro, resulting in the Project being one of the only net-zero LNG facilities in the world.

A preliminary analysis of annual GHG emissions for the Project and the impact of the Project on the ability of governments to meet GHG emissions targets is provided within this section, including the scope, key inputs and data and methodologies used in the GHG emissions estimates. The estimates include both direct and indirect (acquired) GHG emissions and have been updated and refined since the IPD. Estimates are included for all phases of the proposed Project, including construction, operations, and decommissioning. GHGs are reported in tonnes of carbon dioxide equivalent (**CO_2e**) per year and based on a 100-year global warming potential (**GWP**) using values from the Intergovernmental Panel on Climate Change (**IPCC**) Fourth Assessment Report (IPCC 2021).

The Proponents will be working closely with BC's Climate Action Secretariat and other government agencies to ensure alignment with provincial and federal GHG emission requirements, including those set out in CleanBC and the Roadmap to 2030.

2.10.1 Construction

The primary sources of GHG emissions during construction will be power generation with portable diesel-powered generators; construction equipment such as excavators, backhoe loaders, bulldozers and trenchers; and vehicle traffic such as pickup trucks, dump trucks and barges used to transport personnel and construction materials to and around the Site. There will also be GHG emissions associated with land clearing required for onshore infrastructure.

2.10.2 Operations

During operations, the primary sources of GHG emissions include:

- Fugitive emissions from FLNG liquefaction and LNGC loading systems
- Combustion associated with:
  - Acid gas incinerators
  - Direct fired process heaters
  - Temporary power barges to produce power from Project feed gas for the LNG facility until BC Hydro grid connection is established (a primary Project philosophy is that the project will connect to BC Hydro grid and acquire the necessary electricity)
  - Safety flares (used to manage emergency or maintenance activities)

  - LNGCs, NGL product carriers and support vessels
- Land and water-based vehicles associated with the transport of personnel, materials, supplies and/or equipment

2.10.3 Decommissioning

GHG emissions during decommissioning are expected to be similar to or less than those associated with construction as both Project phases will rely on similar types of equipment.

2.10.4 Consideration of Net-Zero

The GHG emissions produced by the Project will be dependent upon if power from the BC Hydro grid is available at the outset of operation or if there is a delay in connection to the BC Hydro grid. If temporary power produced at the Site is required (i.e., use of power barges), then GHG emissions from the Project will be higher until such time that power is available from the BC Hydro grid. Once the BC Hydro grid connection is in place, the power barges will no longer be required. Net GHG emissions will also be dependent on the quantity of carbon offsets purchased by the Project.

The Project intends to purchase the power necessary from BC Hydro to fully power the Project. Any incremental power (e.g., emergency diesel power) required for the Project that is not supplied by the BC Hydro grid is expected to be self-generated by the Project, which will result in some GHG emissions. Emergency diesel power will only be needed if the BC Hydro connection fails for a time. Emergency power is required for safety reasons.

WindRiver, is engaging with BC Hydro to determine the timing and quantity of power available, along with the system enhancements and costs associated with delivering the required power to the Project at the requested point of interconnect. Once the studies are completed, WindRiver will have a reliable forecast of power availability at the point of interconnect over time. Until the Project is informed by WindRiver that the results from the BC Hydro studies are available, GHG emissions are estimated for a potential BC Hydro grid power supply scenario based on preliminary BC Hydro information.

In addition, the Project intends to purchase carbon offsets sufficient to offset direct and acquired energy emissions equal to what is expected at full BC Hydro grid power from projects situated in BC, or if unavailable from other parts of Canada or Internationally. The quantity of carbon offsets to be purchased is intended to be matched to the amount of GHG emissions associated with acquired energy (i.e., imported power from the BC Hydro grid) and other direct GHG emissions not associated with self-generated power, for both the operations base and alternative cases.

2.10.5 Preliminary Estimates of Project GHG Emissions

This section provides preliminary estimates of the proposed Project-related net GHG emissions, which have been estimated following the approach in Section 2.1 of ECCC's Draft Technical Guide Related to the Strategic Assessment of Climate Change (ECCC 2021a), where:

$$Net\ GHG\ Emissions = Direct\ GHG\ Emissions + Aquired\ Energy\ GHG\ Emissions - Avoided\ Domestic\ GHG\ Emissions - Offset\ Measures$$

Direct emissions refer to emissions under the control of the Project and within the assessment scope. Acquired energy emissions refer to GHG emissions generated to supply electricity to the Project. Offset measures refer to both CO_2 captured and stored and offset credits.

The estimates in this DPD are based on the Project's preliminary front-end engineering and design (**Pre-FEED**) design, current technologies, and emission regulations. Methodologies are outlined in Subsection 2.10.5.1.

This section focuses on the proposed Project-related direct and acquired energy emissions and the purchase of offset credits. At the current stage, avoided domestic GHG emissions have not been quantified.

Table 2.8 provides preliminary estimates of proposed Project-related direct GHG emissions, their sources for each Project phase, and estimated emissions as a percentage of total GHG emissions for BC in 2019.

Table 2.8 – Preliminary Estimates of Annual Direct Energy GHG Emissions per Phase

Project Phase	Duration (years)	Emission Sources	Emissions (tonnes per year)				Percentage of BC Emissions
			CO_2	CH_4	N_2O	CO_2e	
Construction	3 to 5	Land clearing, "construction power generation (e.g., diesel), construction equipment and vehicle traffic Note: emissions associated with land clearing reflect decay of biomass, which is not reflected in CO_2, methane (CH_4), or nitrous oxide (N_2O) estimates but contributes to the total CO_2e	2,250	0.088	0.567	8,020	0.01%
Operations (Base Case)	30	Combustion in acid gas incinerators, direct-fired process heaters as well as vented, flared and fugitive sources.	183,000	516	2.48	197,000	0.3%
Operations (Alternative Cases) power connection is delayed	1 to 5	Combustion in natural gas turbines, acid gas incinerators, direct-fired process heaters as well as vented, flared and fugitive sources	1,830,000 to 1,870,000	516	43.9 to 44.8	1,860,000 to 1,900,000	2.8%-2.9%

Table 2.8 – Preliminary Estimates of Annual Direct Energy GHG Emissions per Phase

Project Phase	Duration (years)	Emission Sources	Emissions (tonnes per year)				Percentage of BC Emissions
			CO_2	CH_4	N_2O	CO_2e	
Decommissioning	2	Construction and demolition equipment and vehicles as well as disposal of materials	n/a	n/a	n/a	n/a	n/a

NOTES:

n/a – insufficient information available for the DPD; however, emissions are expected to be similar to or less than construction.

All values rounded to 3 significant figures; numbers may not add due to rounding.

In the event there is no committed power connection to BC Hydro, then the Project will not proceed.

BC GHG total from 2019 is 65,700,000 t CO_2e from *National Inventory Report 1990-2019* (ECCC 2021b)

The average annualized construction emissions over a three-year construction period are estimated to be approximately 8,020 tCO_2e/year, or a total of approximately 24,060 tCO_2e (e.g., 3 year) when considering all construction activities. The annualized direct construction emissions will depend upon the construction period duration and sequencing of activities, which are yet to be developed in detail.

The direct GHG emissions during operations at full capacity are estimated as:

(1) Operations (Base Case) – BC Hydro Grid Connection

Sufficient BC Hydro grid power is available to meet the maximum electrical power requirement for Project operations. Annual direct emissions are estimated to be approximately **197,000 tCO_2e/year**.

(2) Operations (Alternative Case)

The connection to BC Hydro is delayed and no BC Hydro grid power is yet available, in which case the Project must self-generate 100% of its power. In this scenario, the Project is considering three alternatives that have different energy requirements. Annual direct emissions are estimated to be a range of approximately **1,860,000 to 1,900,000 tCO_2e/year** with all three scenarios.

Additional emissions can occur that are associated with the commencement of operations. At this juncture, these are difficult to forecast and have not been included for the DPD at this early stage.

Emissions during decommissioning are expected to be similar to those associated with construction, as both Project phases will rely on similar types of equipment, however, these have not been estimated at this time

Table 2.9 provides preliminary estimates of proposed Project-related acquired energy GHG emissions and their sources for each Project phase. Acquired energy emissions result from electricity consumption at the proposed Site. These emissions are generated by third parties.

Table 2.9 – Preliminary Estimates of Annual Acquired Energy GHG Emissions per Phase

Project Phase	Duration (years)	Emission Source(s)	Emissions (tCO_2e/year)
Construction	3 to 5	None expected. Electrical power expected to be self-generated by portable diesel-powered generators	0
Operations (Base Case)	30	Acquired energy emissions of CO_2, CH_4, N_2O and SF_6 due to full electrical power acquired from BC Hydro grid	50,000 - 200,000
Operations (Alternative Cases)	1 to 5	Electrical power to be self-generated using natural gas turbines	0
Decommissioning	2	Use of electrical equipment during decommissioning will be determined in FEED and addressed in the EA-IA	0

Acquired energy emissions are estimated based on a 2020 and 2021 Integrated grid GHG emissions intensity factor, as published by the BC Government (GoBC 2021b). These factors can vary widely year to year depending on grid electricity consumption from other users and variations in water supply conditions and reservoir levels and are not under the control of the Project. Using the published 2020 and 2021 Integrated grid GHG emissions intensity factor, annual acquired energy emissions are estimated to be between approximately 50,000 and 200,000 tCO_2e/year when full grid power is available for Project operations.

As the Project has not quantified avoided domestic GHG emissions and does not anticipate CO_2 capture and storage, at this time, the net GHG emissions are the sum of the Project's direct emissions and acquired energy emissions, less carbon offsets. The Project intends to purchase carbon offsets to offset the amount of GHG emissions associated with acquired energy and other direct GHG emissions not associated with self-generated power, for both the operations base and alternative cases.

Table 2.10 provides preliminary estimates of the Project's proposed net GHG emissions and emission intensity for each Project phase based on the 2020 and 2021 integrated grid GHG emissions intensity factor (GoBC 2021b). Emission intensity is calculated following Equation 1 of ECCC's Draft Technical Guide (ECCC 2021a) and is based on the Project's full design capacity of 12 mtpa of LNG.

Table 2.10 – Preliminary Estimates of Annual Net GHG Emissions per Phase

Phase	Duration (years)	Direct Emissions	Acquired Energy Emissions	Offset Credits	Net Emissions	Emission Intensity
		tCO_2e/year				
Construction	3 to 5	8,020	0	0	8,020	N/A
Operations (Base Case)	30	197,000	50,000 - 200,000	250,000-400,000	0	0.00
Operations (Alternative Cases)	1 to 5	1,860,000 to 1,900,000	0	250,000 – 400,000	1,460,000 to 1,650,000	0.12 - 0.14
Decommissioning	2	N/A	N/A	N/A	N/A	N/A

The Project intends to purchase the required offset credits for the Base Case Operations which is estimated to be between 250,000 and 400,000 tCO_2e/year of offset credits, beginning at operations start up. If insufficient credits are available on the BC Registry, credits may be sourced from the federal offset registry, when that source becomes available, or from other sources. This quantity is sufficient to offset the direct and acquired energy emissions during operations powered by electricity from the BC Hydro grid.

The use of electrical power from the BC Hydro grid and the purchase of offsets enables the Project to achieve its target of net-zero emissions well ahead of Canada's 2050 target.

Scope 3 GHG emissions, as defined by the US Environmental Protection Agency, are the result of activities from assets not owned or controlled by the proposed Project but are indirectly impacted by the proposed Project's value chain. Preliminary estimates of indirect Scope 3 GHG emissions and their sources per proposed Project phase include:

- Construction sources:
  - Emissions associated with marine delivery of FLNGs and other construction materials to proposed Site
  - Emissions associated with on-road delivery of workers, equipment, and construction materials to proposed Site
- Operations sources:
  - International marine transport and delivery of LNG and NGL products
  - Upstream gas extraction, processing, and transmission

These estimates are based on the Project's preliminary understanding of activities that are caused by the proposed Project.

Upstream emissions based on the design capacity of 12 mtpa are anticipated to exceed the 500,000 tCO_2e threshold in the draft Technical Guide (ECCC 2021a). This value will be refined through the completion of an upstream GHG emissions assessment to be completed as part of the Application.

2.10.5.1 Methods and Data

At this time, GHG emissions have been based on the preliminary design information for the Project and developed using the methodologies outlined below. Detailed GHG emissions estimates will be prepared and provided in the EA-IA, using information from the Pre-FEED to satisfy the BC EAO, the Impact Assessment Agency of Canada (**Agency**) and the Strategic Assessment of Climate Change (**SACC**) requirements.

Table 2.11 summarizes the methods used to estimate construction GHG emissions by source types and the available data.

Table 2.11 – Summary of Methods used to Estimate GHG Emissions during Construction

Emissions Source	Estimation Methodology	Data Source
Land Clearing	$E_{CO2e} = E_{LC} \times A$ Where: E_{LC} = Land clearing emissions estimated for similar LNG project A = Scaling factor based upon land clearing area	E_{LC} - LNG Canada GHG Management Technical Data Report
Site Preparation & Off-road Equipment	$E_{CO2e} = E_{SP} \times A$ Where: E_{SP} = Site preparation emissions estimated for similar LNG project A = Scaling factor based upon site clearing area	E_{SP} - LNG Canada GHG Management Technical Data Report
Installation	$E_{CO2e} = E_{I} \times R \times F$ Where: E_{I} = Installation emissions estimated for similar LNG project R = Scaling factor based upon liquefaction capacity F = % of Project construction and installation estimated to occur domestically (FLNGs are constructed overseas, resulting in lower anticipated installation emissions).	E_{I} - LNG Canada GHG Management Technical Data Report
Domestic Shipping Activities	$E_{CO2e} = E_{S} \times R$ Where: E_S = Domestic shipping emissions estimated for similar LNG project R_{KLNG} = Scaling factor based upon liquefaction capacity	E_S - LNG Canada GHG Management Technical Data Report
On-road Transportation	$E_{CO2e} = E_{T} \times W$ Where: E_T = Transportation emissions estimated for similar LNG project W = Scaling factor based upon estimated construction workers	E_T = LNG Canada GHG Management Technical Data Report

Table 2.12 summarizes the methods used to estimate operations GHG emissions by source types and the available data.

Table 2.12 – Summary of Methods used to Estimate GHG Emission during Operations

Emissions Source	Estimation Methodology	Data Source
Natural Gas Turbines	$E_{CO2e} = (EF_{CO2} \times GWP_{CO2} + EF_{CH_4} \times GWP_{CH_4} + EF_{N2O} \times GWP_{N2O}) \times F_T$ Where: EF_{GHG} = Emission Factor for respective GHG GWP_{GHG} = Global Warming Potential for respective GHG F_T = Fuel requirement for gas turbines	EF_{CO2} & EF_{CH4} – Calculated stoichiometrically using feed gas composition and estimated combustion efficiency EF_{N2O} – ECCC (2020a) Greenhouse Gas Quantification Requirements GWP_{GHG} – IPCC 4th Assessment Report F_T – Equipment specific fuel consumption rates to meet power demand
Direct-Fired Process Heaters	$E_{CO2e} = (EF_{CO2} \times GWP_{CO2} + EF_{CH_4} \times GWP_{CH_4} + EF_{N2O} \times GWP_{N2O}) \times F_H$ Where: EF_{GHG} = Emission Factor for respective GHG GWP_{GHG} = Global Warming Potential for respective GHG F_H = Fuel requirement for process heaters	EF_{CO2} & EF_{CH4} – Calculated stoichiometrically using feed gas composition and estimated combustion efficiency EF_{N2O} – ECCC (2020a) Greenhouse Gas Quantification Requirements GWP_{GHG} – IPCC 4th Assessment Report F_H – Equipment specific fuel consumption rates
Thermal Oxidizer	$E_{CO2e} = (EF_{CO2} \times GWP_{CO2} + EF_{CH_4} \times GWP_{CH_4} + EF_{N2O} \times GWP_{N2O}) \times F_{TO}$ Where: EF_{GHG} = Emission Factor for respective GHG GWP_{GHG} = Global Warming Potential for respective GHG F_{TO} = Fuel requirement for thermal oxidizer	EF_{CO2} & EF_{CH4} – Calculated stoichiometrically using feed gas composition and estimated combustion efficiency EF_{N2O} – ECCC (2020a) Greenhouse Gas Quantification Requirements GWP_{GHG} – IPCC 4th Assessment Report F_{TO} – Equipment specific fuel consumption rates

Table 2.12 – Summary of Methods used to Estimate GHG Emission during Operations

Emissions Source	Estimation Methodology	Data Source
Acid Gas Removal	$E_{CO2e} = F_{FG} \times X_{CO2} \times M_{CO2} \times GWP_{CO2}$ Where: F_{FG} = Molar flow rate of natural gas feed to FLNGs X_{CO2} = Mol fraction of CO_2 in the feed gas M_{CO2} = Molecular weight of CO_2 GWP_{CO2} = Global Warming Potential for CO_2	F_{FG} = Estimate based on liquefaction rate and gas composition X_{CO2} = Based on feed gas composition as provided by LNG pipeline proponent GWP_{CO2} – Global Warming Potential for CO_2
Flared	$E_{CO2e} = (EF_{CO2} \times GWP_{CO2} + EF_{CH_4} \times GWP_{CH_4} + EF_{N2O} \times GWP_{N2O}) \times F_F$ Where: EF_{GHG} = Emission Factor for respective GHG GWP_{GHG} = Global Warming Potential for respective GHG F_F = Quantity of gas flared annually	EF_{CO2} & EF_{CH4} – Calculated stoichiometrically using feed gas composition and estimated combustion efficiency EF_{N2O} – ECCC (2020a) Greenhouse Gas Quantification Requirements GWP_{GHG} – IPCC 4th Assessment Report F_F = Estimated based on pilot fuel requirement and plant start-up events
Fugitive	$E_{CO2e} = ER_{CO2} \times GWP_{CO2} + ER_{CH4} \times GWP_{CH4}$ Where: ER_{GHG} = Fugitive emissions rate for respective GHG GWP_{GHG} – Global Warming Potential for respective GHG	ER_{GHG} = LNG Canada GHG Management Technical Data Report, scaled based upon Project capacity GWP_{GHG} – IPCC 4th Assessment Report
Domestic Marine (Tugboats)	$E_{Tugs} = ME \times LF \times EF_{GHG} \times \Delta T_{Tugs} \times N$ Where: ME = Main engine capacity of tugboats LF = Engine load factor EF_{GHG} = Energy-based Emission Factor for respective GHG (assuming diesel as fuel) ΔT_{Tugs} = Time spent in relevant mode (shipping, maneuvering) per carrier visit N = Estimated number of carrier visits per year	ME, LF – Estimated engine capacity and load factor based on average Canadian tugboat EF_{GHG} – From Current Methodologies in Preparing Mobile Source Port-Related Emission Inventories (ICF Consulting, 2009) ΔT_{Tugs} = Estimated tugboat shipping and maneuvering time N = Estimate based on liquefaction rate, vessel capacity and port scheduling

Table 2.12 – Summary of Methods used to Estimate GHG Emission during Operations

Emissions Source	Estimation Methodology	Data Source
Domestic Marine (LNGCs in-port)	$E_{Carrier} = EF_{GHG} \times Fuel_{in-port} \times \Delta T_{Carrier} \times N$ Where: EF_{GHG} = Emission Factor for respective GHG Fuel $_{in-port}$ = Fuel energy usage by carrier in-port $\Delta T_{Carrier}$ = Carrier time spent in-port N = Estimated number of carrier visits per year	EF_{CO2} & EF_{CH4} – Calculated stoichiometrically using LNG composition and estimated combustion efficiency EF_{N2O} – ECCC (2020a) Greenhouse Gas Quantification Requirements Fuel $_{in-port}$ – Estimate based on engine specifications of carriers $\Delta T_{Carrier}$, N = Estimates based on liquefaction rate, vessel capacity and port scheduling
Acquired Energy Emissions	$E_{CO2e} = EF_{CO2e} \times D$ Where: EF_{CO2e} = Grid GHG emission intensity factor for CO2e D = Electricity demand by the Project	EF_{CO2e} - BC Government D – Estimate from FLNG pre-FEED

2.10.5.2 Impact on Carbon Sinks

During construction, the Project anticipates some clearing of Forest Land (IPCC 2006) for onshore facilities. As a portion of the land has been previously harvested, the overall clearing (tree and other vegetation) is anticipated to be small. The Project does not currently anticipate a significant direct or indirect effect on carbon sinks. A more detailed analysis will be completed to estimate area and maturity of vegetation clearing required for Project activities as part of the EA-IA.

2.11 Land and Water Use

The Site consists of DLs 7235 and 5431, which comprise approximately 164 ha on Pearse Island, and a proposed Water Lot in Portland Canal. It is currently envisioned that all of the Project's onshore infrastructure will be on DL 5431 however, this may change based on other Site investigations to be undertaken (e.g., water sources). The Project is on Category A Land, as defined in the Nisga'a Treaty, owned in fee simple by the Nisga'a Nation. An application to the BC OGC or FOR for a Water Lot lease is anticipated prior to taking FID for the Project. Based on the current Project layout (see Figure 2.2 and Figure 2.3) the estimated Project footprint, including permanent and temporary workspace, is provided in Table 2.13

Table 2.13 – Estimated Project Area

Project Components	Estimated Area (ha)
Project terrestrial footprint	43
Project marine footprint	19
Total	**62**

NOTES:
Conservative estimates based on current Project components.

Barged water will be used during the early months of the construction phase; however, to accommodate long term construction water needs, the Project will evaluate using one or more of the potential sources identified to support water needs during operations (e.g., surface water, well water, or rainwater).

The Project is considering a number of potential sources of water for LNG processes and potable water use during operations. Sources of water at the Site could come from groundwater wells, precipitation capture and freshwater streams, or a combination thereof or, if none of the alternatives prove suitable, then from a desalination plant. The current estimate for water requirements during operation is 15-25 m^3/hr on average. Estimates for water requirements during construction are still in development; however, it is expected to be less than that for operation.

If water is diverted from freshwater streams it will need to be suitable and available (e.g., quantity and quality) and its withdrawal will need to avoid or limit adverse effects on fish and fish habitat. Storage tanks or ponds may be necessary. Water use for industrial and permanent potable use diverted from surface or ground water requires a water licence. Short-term use of water for construction requires a Section 10 Short-term Use approval (BC OGC). Water source options will be further investigated, discussed with NLG and area Indigenous Nations as part of FEED.

2.12 Schedule

Project phases, including the EA-IA process, permitting, construction, operations, and decommissioning phases, will be scheduled and completed in coordination and consultation with NLG and provincial and federal regulatory authorities and informed by Project engineering (e.g., Pre-FEED and FEED).

The preliminary Project Level 1 Schedule was developed during Pre-FEED and will be updated during FEED along with completion of the Project's Basis of Design. Table 2.14 outlines the approximate duration of key Project activities based on the information available at the time of writing. The goal is for LNG export delivery to begin with first cargo in late 2027.

Table 2.14 – Approximate Project Schedule

Project Phase	Period
Environmental assessment (EA-IA)	Q2 2021 to Q1 2024
Engineering design (FEED and detailed design)	Q2 2021 to Q4 2024
Permitting and environmental management plans	Q3 2022 to Q1 2024
Construction activities	Q2 2024 to Q3 2027
Commissioning	Q3 2027 to Q4 2027
Operations and maintenance	2027 out to a minimum of 30 years (2057)
Decommissioning, abandonment and reclamation	Sometime after 2057 when the Project has reached the end of its operational life

The Project construction schedule related to higher risk or effect activities (e.g., those generating high levels of noise) may be adjusted to accommodate sensitive activity periods related to wildlife (e.g., migratory birds restricted activity periods for nesting zone A2, mid-April through August), freshwater resources (e.g., reduced risk periods for fish-bearing watercourses based on observed species and proposed construction activities) or marine resources (e.g., fish and fish habitat least risk timing window of November 30 to February 15 in the Lower Nass area). These adjustments will be identified during pre-construction planning and based on the results of baseline studies. At this early stage of Project development, these are the only identified seasonal activities that are anticipated to affect the Project schedule.

2.13 Alternatives to the Project

A number of land based LNG export facilities were proposed for the Prince Rupert area, however, the only viable alternative to the Project would be an LNG facility at a different location with a different proponent collaboration structure, or a different Nisga'a led economic opportunity on their treaty lands, that could contribute to the primary objectives of the Project (see Section 1.2).

No alternative to the Project has been identified that is both technically and economically feasible and would fulfil the Project's primary objectives.

2.14 Alternative Means for Carrying Out the Project

An LNG facility at a different location with a different proponent collaboration structure, or a different Nisga'a led economic opportunity on their treaty lands, could contribute towards the purpose, need and objectives of the Project (see Sections 1.2). Iterations of the Project with respect to design and siting have been and continue to be evaluated by the Project team, particularly as FEED progresses. The alternative means identified in the following subsections are some of the preliminary considerations that have been and continue to be evaluated. Evaluation of these alternatives will consider the following criteria when making the final Project design and siting decisions:

- Use of best available technology, where appropriate
- Technical requirements

- Limiting environmental effects including those associated with GHG and other air emissions, water use and other potential biophysical effects (e.g., terrestrial footprint)
- Potential social and economic considerations
- Capital cost

2.14.1 Project Design

The Project Proponents have proceeded from pre-FEED to FEED; design is progressing and is influenced by not only process requirements and efficiency but, also feedback received during engagement. Table 2.1 presents design updates that have been identified since the filing of the IPD in July 2021. Presented in Sections 2.14.1.1 through 2.14.1.3 are the major design considerations that have been made or remain outstanding. Sections 2.14.1.4 and 2.14.1.5 present third party alternatives for Project supporting infrastructure.

2.14.1.1 Floating Design

The Project has been designed as a FLNG rather than as a land-based LNG facility based on:

- Shorter on-Site construction time
- Site-based accommodation avoids the introduction of a large temporary construction workforce in nearby communities that are relatively small and therefore more susceptible to adverse effects resulting from an influx of temporary residents
- More efficient FLNG design and construction in experienced foreign shipyards with established quality control procedures and construction conditions
- Reduced land base needed for Project infrastructure, increasing ease of remediation at the end of the Project's life
- Lower expected construction cost

For these reasons, the Project would not be feasible if the design was changed to an LNG facility situated primarily onshore. A land-based alternative is no longer under consideration.

2.14.1.2 Marine Terminal Design

Marine terminal design considered the use of distinct berths with their own marine infrastructure that would be used to moor and load LNGCs. However, this design requires considerable additional marine footprint when compared to the current design that does not require berths. The berth design is no longer under consideration.

Anchoring mooring structures for the FLNGs that are currently under consideration include, sub-tidal seabed anchors, chains, weights and inter-tidal and/or nearshore piles. Additional consideration of how the FLNGs will be moored (e.g., Mooring Design Analysis) will inform final marine terminal design and be presented in the EA-IA.

2.14.1.3 Water Supply

The Project is currently considering water supply options for domestic and process water. Volume requirements will be refined during FEED and will be a key consideration in the final selection of the source. Current identified water supply options are:

- Local surface water or well
- Municipal water barged to Site
- Rainwater
- Desalination of seawater

The final decision for water supply will depend on hydrometric analysis of local surface water sources, feasibility of barging and feasibility and effects assessment of desalination including for water withdrawal and waste management.

2.14.1.4 Electric Power Supply

The Project is considering alternatives for electrical power supply as presented in Table 2.15. As the base case, the Project relies on a renewable energy source connection via the BC Hydro grid; however, should connection not be available for the commissioning and/or start of operation, then temporary on-Site power generation will be required. This temporary source of power has three alternatives that currently are dependent, primarily, on the system of cooling incorporated into the temporary power barges as presented in Table 2.15.

Final decision for temporary electric power supply and its associated cooling system will depend on the studies undertaken with BC Hydro, to be completed by the third party power supplier (WindRiver), as well as on the factors laid out in Table 2.15 (e.g., results of engagement, availability of water, results of additional baseline information, etc.).

2.14.1.5 Pipeline

The Project requires a natural gas transmission pipeline to convey treated natural gas from the sources of natural gas in northeast BC and Alberta to the Site. As stated in Section 2.4.1, two potential pipeline options exist: PRGT and WCGT. The two pipeline options represent three potential routes. In all cases, amendments to the pipeline EAC's would be required. The final design for the pipeline remains with the third party; however, only one route for WCGT is shown in Figure 2.1 as the expected preferred route.

PRGT is approved to cross the interior of BC and then enters the Nass Valley and terminate on the mainland at the head of Nasoga Gulf. From there, the approved seafloor route is southwestward through Nasoga Gulf into Portland Inlet and then southward through Chatham Sound to Prince Rupert. An EAC amendment would be required to connect the submarine portion of the route to the Site.

The only WCGT route under consideration is very similar to the PRGT route as it too crosses the interior of BC and then enters the Nass Valley and terminates on the mainland at the head of Nasoga Gulf. From there, the approved seafloor route is southwestward through Nasoga Gulf into Portland Inlet and then southward through Chatham Sound to Prince Rupert. An EAC amendment would also be required to connect the submarine portion of the route to the Site.

No existing pipeline or other rights-of-way are incorporated in the approved pipeline routes as documented in the EACs for each pipeline. The EA documentation for both PRGT and WCGT provides an understanding of the sea floor topography in Nasoga Gulf and Portland Inlet. Alternative routes for the Project's pipeline to connect from the approved routes to the Site will be examined by the third party pipeline provider to determine the optimal route and necessary connection to the Site; with minimal input and influence from the Project. The decision on the third-party provided is anticipated to occur in Q2 2022.

Table 2.15 – Project Alternatives Under Consideration

Case	Source of Electricity	GHG and Other Emissions	Water Use	Marine Footprint	Other Environmental Effects	Social and Economic Considerations
Base Case (see Figure 2.2) Electricity provided by BC Hydro at Project start	▪ Electrified at the onset with connection to BC Hydro grid	▪ Lowest GHG emissions ▪ Limited critical air contaminant (CAC) air emissions	▪ No water use associated with electrical power needs ▪ Minimal water use for personnel and small process loads	▪ Smallest marine footprint (no temporary power barges) ▪ Modest MOF	▪ Smallest onshore footprint	▪ Capital cost savings related to power barge (up to $1.5 billion CAN) ▪ Desalination plant, if required, will be smaller as it is not necessary for power needs
Alternative 1 Connection to BC Hydro grid is delayed. Power generation on-Site from temporary power barges that use open loop sea water cooling	▪ Connection to BC Hydro grid delayed to after start of operation; temporary power barges required to supply the electricity necessary for initial operation ▪ Preliminary estimate of 1 to 5 years of temporary power barge use ▪ As soon as BC Hydro grid connection in place, temporary power barges removed ▪ Additional parasitic power requirements	▪ Substantive (approximately 6 times) increase to Project GHG emissions during temporary power barge operations ▪ Increased CAC air emissions during temporary power barge operation	▪ Open loop (e.g., once through) seawater cooling for temporary power barges resulting in potential effects to marine water quality as well as entrainment and impingement effects to plankton and very small fish	▪ Large MOF, ▪ Increased marine footprint from base case ▪ Additional marine infrastructure for seawater cooling	▪ Potential marine effects related to seawater withdrawal and discharge ▪ Additional baseline information required to assess potential effects of seawater cooling discharge ▪ Minimal additional baseline information required for increased CAC air emissions	▪ Modest capital cost recovery following sale/redeployment of temporary power barges ▪ Additional concern related to temporary open loop (e.g., once-through) cooling sea water use identified during engagement ▪ Desalination plant, if required, will be smaller as it is not necessary for power needs
Alternative 2 Connection to BC Hydro grid is delayed, Power generation on-Site from temporary power barges that use water cooling via onshore evaporative cooling towers	▪ Connection to BC Hydro grid delayed to after start of operation; temporary power barge required to supply the electricity necessary for initial operation ▪ Preliminary estimate of 1 to 5 years of temporary power barge use ▪ As soon as BC Hydro grid connection in place, temporary power barges and supporting infrastructure no longer used ▪ Additional parasitic power requirements	▪ Substantive (approximately 6 times) increase to Project GHG emissions during temporary power barge operations ▪ Increased power and therefore increased GHG emissions to desalinate necessary water ▪ Increased CAC air emissions during temporary power barge operation	▪ Onshore evaporative cooling for temporary power barges resulting in high volume water use (approximately 60 times the base case treated water use) ▪ Water sourcing options may be limited to desalination due to the high water demand ▪ Potential water source effects including water quality, fish habitat as well as entrainment and impingement effects from large volume withdrawals of sea water	▪ Large MOF ▪ Increased marine footprint from base case ▪ Additional marine infrastructure for much larger desalination unit ▪ No disposal of seawater into the marine environment ▪ Potentially large increase in brine that would require disposal	▪ Large onshore footprint for evaporative cooling system infrastructure only used until BC Hydro grid connection in place ▪ Additional increased terrestrial footprint due to water treatment ▪ Additional baseline information to assess potential effects of large volume sea water use/withdrawal ▪ Additional baseline information required for increased CAC air emissions	▪ No or limited capital cost recovery ▪ Additional concern related to water usage for cooling identified during engagement ▪ Expensive onshore infrastructure that will be unnecessary after BC Hydro grid connection ▪ Large volume water requirements will require a substantive desalination plant as other sources will likely be unable to supply the demand necessary for evaporative cooling

Table 2.15 – Project Alternatives Under Consideration

Case	Source of Electricity	GHG and Other Emissions	Water Use	Marine Footprint	Other Environmental Effects	Social and Economic Considerations
Alternative 3 (see Figure 2.3) Connection to BC Hydro grid is delayed. Power generation on-Site from temporary power barges that use water cooling via closed loop onshore cooling towers	▪ Connection to BC Hydro grid delayed to after start of operation; temporary power barge required to supply the electricity necessary for initial operation ▪ Preliminary estimate of 1 to 5 years of temporary power barge use ▪ As soon as BC Hydro grid connection in place, temporary power barges and supporting infrastructure no longer used ▪ Additional parasitic power requirements	▪ Substantive (approximately 6 times) increase to Project GHG emissions during temporary power barge operations ▪ Increased CAC air emissions during temporary power barge operation ▪ This Alternative emits the largest quantity of GHG emissions during temporary power barge operations	▪ Onshore closed loop cooling water system to provide requirements for temporary power barges ▪ Water source may be desalinated seawater or freshwater (rainfall catchment, surface or groundwater) ▪ Potential water source effects including water quality, fish habitat as well as entrainment and impingement effects	▪ Large MOF ▪ Increased marine footprint from base case	▪ Largest terrestrial footprint due to cooling infrastructure ▪ Additional baseline information to assess potential effects of water use/withdrawal ▪ Additional baseline information required for increased CAC air emissions	▪ No or limited capital cost recovery ▪ Expensive onshore infrastructure that will be unnecessary after BC Hydro grid connection ▪ Desalination plant, if required, will be similar in size to the base case

2.14.2 Project Siting

2.14.2.1 Preferred Site - Nass Area

The Project considered several NLG supported LNG Site locations in the Nass area. Potential LNG project locations identified by the Nisga'a Nation are described in the publicly distributed document entitled: *Nisga'a Lisims Government – New Available LNG Sites on Canada's West Coast – February 2014* (NLG Presentation).

The sites evaluated by the Nisga'a and its engineering consultants were:

- Sgawban on Nisga'a Treaty Land just north of Gingolx
- Xmaat'in (Dogfish Bay – Category A land) on the southern end of the Ashington peninsula
- Wil Milit (Category A land) site on Pearse Island
- Provincially administrated headland at Nasoga Gulf where the two approved natural gas transmission pipelines (e.g., WCGT, PRGT) terminate on the BC mainland at tidewater

The potential sites were selected by the NLG because each site offers:

- A sufficiently large and generally low relief onshore land base to support an LNG facility
- Land available for supporting Project infrastructure, overburden storage and laydown areas
- Sufficient room at or near the Project's marine terminal for LNGC turning circles
- Suitable navigational attributes at the Project's marine terminal to support the arrival and departure of LNGCs
- Access to deep water with adequate safe keel clearances and supporting metocean conditions for the FLNGs, LNGCs and other Project support vessels
- Compatibility with the approved location of natural gas transmission pipeline routes (e.g., WCGT, PRGT) from northwestern BC to tidewater at Nasoga Gulf due to proximity

The Project recommended to the Nisga'a Nation that Wil Milit was the preferred site for several reasons, including:

- Gentle onshore sloping terrain with second growth forest of sufficient area to support the Project's anticipated onshore infrastructure
- Modest sloping terrain along the shoreline of Portland Canal
- Marine areas adjacent to the boundaries of DL 7235 in the west and DL 5431 in the east provide options for Project marine component siting
- Relatively protected marine areas with respect to the prevailing winter winds
- Favourable deep water in Portland Canal for LNGC access and maneuvering flexibility
- Portland Canal is on an established shipping route

- The NLG own the onshore District Lots in fee simple
- Offshore areas for a proposed Water Lot lease in Portland Canal are riparian to the fee simple land owned by NLG

The NLG approved the recommendation from the Project team and the Wil Milit site has been confirmed by the Nisga'a Nation as the site for the Project.

2.14.2.2 Regional Project Location

The Project team evaluated whether to site the Project in the Nass area or in another BC northwest coast area (e.g., Chatham Sound). Table 2.16 presents the three primary considerations for each of the cases: proximity to the Nasoga Gulf mainland terminus of the approved natural gas transmission pipelines (i.e., PRGT or WCGT Alternative 1 only), the potential length of the connecting pipeline as well as routing for the BC Hydro grid connection.

Table 2.16 – Site Alternatives Considered

Case	Proximity to Pipeline	Pipeline Length	BC Hydro Grid Connection
Base Case (i.e., current Site)	Relatively close to Nasoga Gulf terminus	Requires relatively short underwater pipeline section	Moderate transmission line connection from New Aiyansh
Nass area site	Potentially close to Nasoga Gulf terminus	Moderate to short underwater pipeline section	Potentially closest transmission connection to New Aiyansh depending on location
BC northwest coast area site (e.g., Chatham Sound)	Furthest from Nasoga Gulf terminus	Would require lengthy underwater pipeline from Nasoga Gulf	Would require lengthy transmission line connection from Terrace

2.14.3 Constraints

At this stage of Project development, identified constraints are limited to schedule timing as outlined in Section 2.11, i.e., as related to construction activities during sensitive biophysical life periods such avoiding marine construction during specific times of the year to protect marine fish and fish habitat, especially during critical times (e.g., spawning). These measures may need to be factored into the Project's construction schedule as identified mitigation during the assessment of Project effects.

As Project design and planning progresses, constraints will continue to be evaluated.

3 BIOPHYSICAL SETTING

The following section provides an overview of the biophysical setting in the vicinity of the Project. Details on the human and social setting are provided in Section 4. An image of the proposed Site is shown in Photo 1.



Photo 1 – Wil Milit Site at the Northern End of Pearse Island, View to the South

3.1 Atmospheric Environment

3.1.1 Climate and Air Quality

The Project is located on BC's north coast, a location dominated by temperate rainforest and complex coastal terrain. Air masses flowing across the northern Pacific Ocean encounter the Coast Mountains resulting in high annual precipitation. The climate can be characterised as having mild winters and cool summers. Winds are influenced by the complex terrain.

Data from Canadian Climate Normals Stations are used to describe mean and extreme weather conditions observed over a 30-year period (ECCC 2021a). For this baseline summary, 1981 to 2010 climate normals are the most recent available. Data collection sites closest to the Site are at Green Island (at the mouth of Portland Inlet) and Stewart A, in Stewart, BC. A summary of annual temperature and precipitation at these sites is presented in Table 3.1.

Table 3.1 – Summary of Climate Normals for Green Island and Stewart A Stations, 1981-2010

Station	Temperature (°C)			Precipitation (mm)		
	Monthly Min Avg	Monthly Max Avg	Annual Avg	Min Monthly Total	Max Monthly Total	Annual Total
Green Island	3.2	14.8	8.5	105	253	2,474
Stewart A	-3.0	15.1	6.1	66	278	1,867

The Project is collecting meteorological data from a weather station installed on Site at District Lot 5431 (Photo 2 and Photo 3; see also location marked on Figure 3.2). Parameters measured include, air temperature, relative humidity, wind speed, wind direction, rainfall, barometric pressure and snow depth.

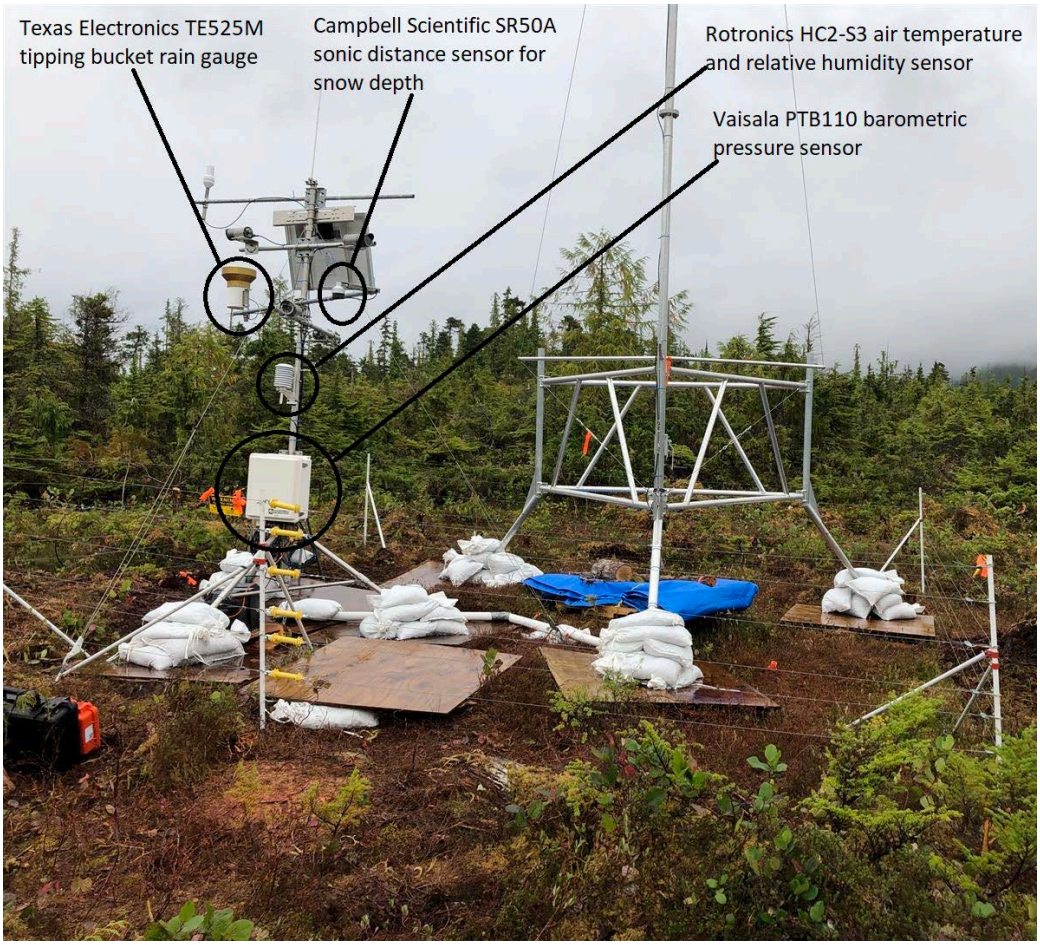


Photo 2 – Weather Station Site on District Lot 5431



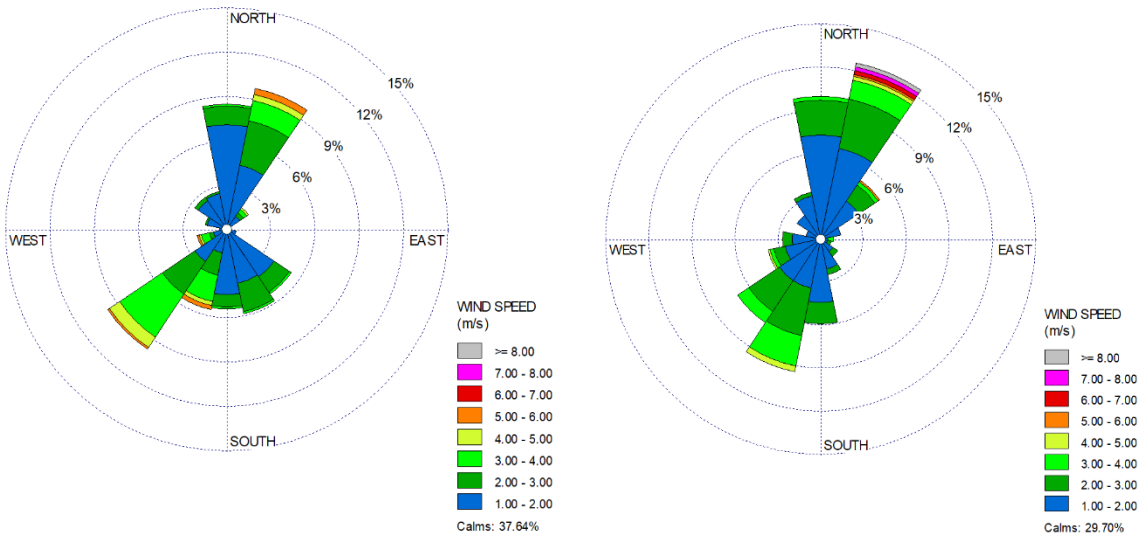
Photo 3 – Weather Station Site on District Lot 5431

A summary of data collected for September and October 2021 is provided in Table 3.2 and Figure 3.1; the monitoring data collected on Site for temperature and precipitation align with the climate normals for Green Island and Stewart A (Table 3.1). In September and October 2021, wind was most frequently from the northeast, north and southwest (Figure 3.1). Wind speeds were most often calm or low (1-2 m/s).

Table 3.2 – Summary of Site Meteorological Measurements Recorded at District Lot 5431

Date	Temperature (°C)			Relative Humidity			Total Precipitation (mm)			Barometric Pressure (kPa)		
	Min	Max	Avg	Min	Max	Avg	Min	Max	Total	Min	Max	Avg
Sep-21	7.0	17.7	11.2	58.8	99.4	93.5	0.0	12.6	603.6	98.6	102.5	101.0
Oct-21	1.6	12.7	6.3	40.6	99.3	87.2	0.0	10.3	477.4	98.4	103.0	100.9
Nov-21	-1.0	11.4	3.5	33.9	99.4	92.1	0.0	15.9	671.1	98.4	102.6	100.7
Dec-21	-13.7	5.7	-4.0	31.0	99.4	81.1	0.0	5.9	82.2	98.1	103.6	101.1
Jan-22	-12.6	6.5	-0.2	39.4	99.7	88.9	0.0	9.1	295.9	98.9	103.0	101.5
Feb-22	-5.0	9.2	2.0	28.0	100.0	89.2	0.0	8.4	389.3	100.0	103.9	102.1
Mar-22	-1.3	11.2	3.7	26.8	99.4	88.3	0.0	9.5	301.3	99.7	103.6	101.6

Figure 3.1 – Site Meteorology Station Wind Rose for September (Left) and October (Right) 2021



Given the remoteness of the Site and its distance from other industrial operations, air quality is considered pristine. Regional or a global background concentration of CACs are representative of the Site. A summary of regional or global background concentrations are provided in Table 3.3. The closest community is Gingolx, which is approximately 15 km east of the Site.

Table 3.3 – Summary of Regional/Global Background Concentrations

Criteria Air Contaminants	Averaging Period	Global/Regional Background Concentration ($\mu g/m^3$)	Air Quality Objectives ($\mu g/m^3$)
NO_2	1-hour	4.5	113 (79)
	Annual	0.8	32 (23)
SO_2	1-hour	1.0	183 (170)
	Annual	0.1	13 (11)
$PM_{2.5}$	24-hour	1.6	25 (27)
	Annual	0.6	8 (8.8)
PM_{10}	24-hour	3.7	50
CO	1-hour	263	14,300
	8-hour	223	5,500

NOTES:

Baseline air quality data were developed from BC ENV 1998-2020 summary spreadsheets (BC ENV 2021a). Conversions from parts per billion to $\mu g/m^3$ assume Standard conditions of 25°C and 101.325 kPa.

Air quality objectives are those applicable in BC, achievement of these are described in BC ENV 2021b. Those criteria listed in brackets refer to the 2025 Canadian Ambient Air Quality Standards achievement of these are described in CCME 2022.

Nitrogen Dioxide (NO_2): The 1-hour baseline NO_2 concentration was determined based on the daily 1-hour maximum concentrations, followed by the calculation of the 50th percentile for the year 2020. Annual NO_2 baseline concentration was determined based on the 10th percentile of all 1-hour values for 2020. Baseline NO_2 was determined using the one and only complete year of data from the nearest representative station: Kitimat Whitesail.

Sulphur dioxide (SO_2): The 1-hour baseline SO_2 concentration was determined based on the daily 1-hour maximum concentrations, followed by the calculation of the 50th percentile and averaged for the years 2019-2020. The annual SO_2 baseline was determined based on the 10th percentile of 1-hour values and averaged for 2019-2020. Baseline SO_2 was determined using the three most recent years of data from the nearest representative station: Prince Rupert Fairview.

Respirable particulate matter ($PM_{2.5}$): The 24-hour $PM_{2.5}$ baseline was determined based on an average of the 25th percentile of the 24-hour averages for 2019-2020. The annual $PM_{2.5}$ baseline was determined based on the average of the 10th percentile of 1-hour values for 2019-2020. Baseline $PM_{2.5}$ was determined using the three most recent years of data from the nearest representative station: Prince Rupert Fairview (SHARP5030 instrument).

Coarse particulate matter (PM_{10}): The 24-hour PM_{10} baseline was determined based on an average of the 25th percentile of the 24-hour averages for 2019-2020. Baseline PM_{10} was determined using the two most recent years of data from the nearest representative station: Prince Rupert Fairview (SHARP5030i instrument).

Carbon monoxide (CO): The 1-hour CO baseline was determined based on the average of the 50th percentile of 1-hour averages. The 8-hour baseline was determined based on the average of the 25th percentile of the daily averages. Baseline was determined using the two most recent complete years (2010-2011) of data from the nearest representative station: Smithers St. Joseph School.

3.1.2 Acoustic Environment

The existing acoustic environment is characterized by various sounds from the natural environment including wind, waves, and marine and terrestrial wildlife. Due to the remoteness of the Site, anthropogenic sounds are largely limited to marine traffic and occasional air traffic.

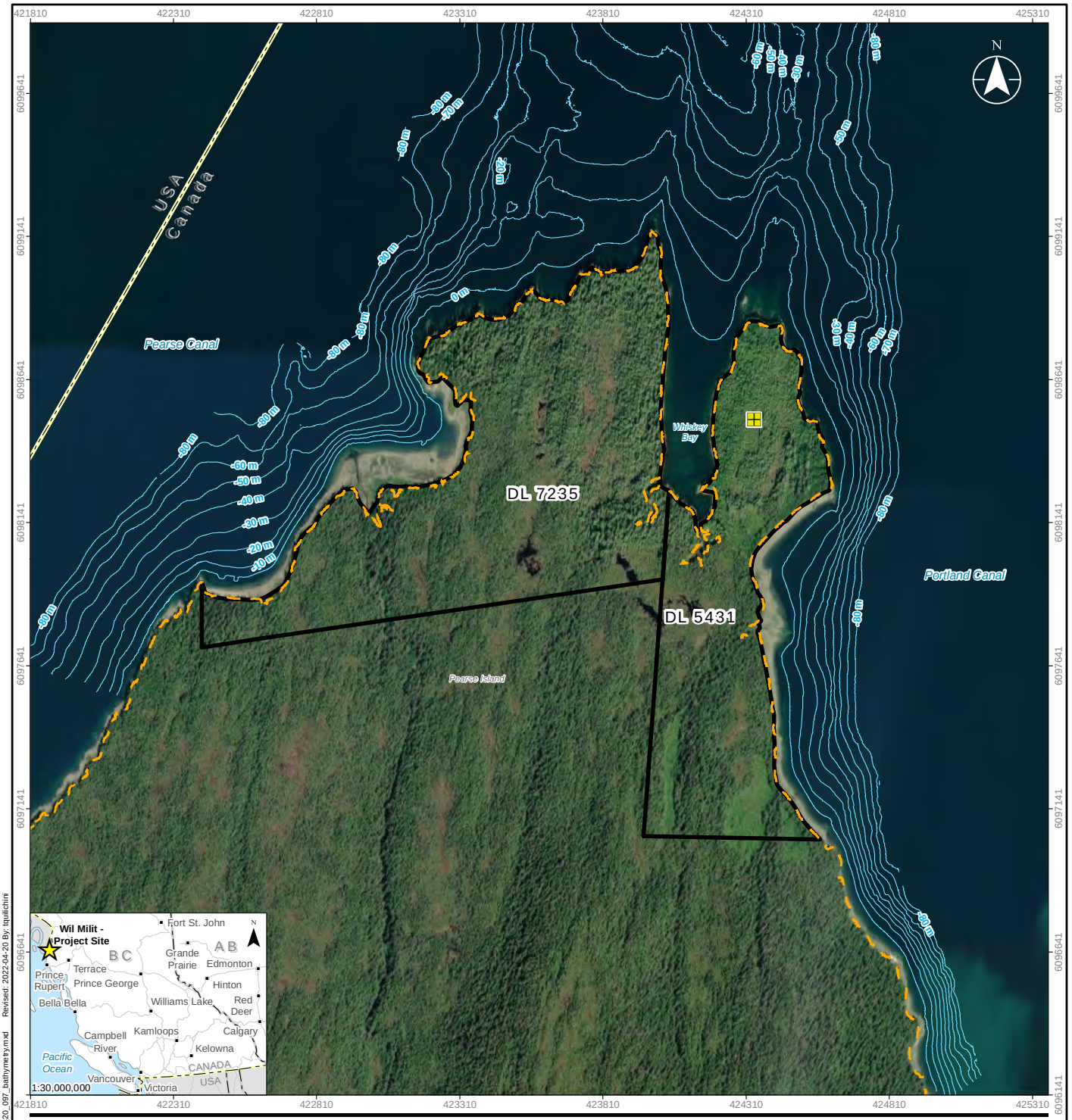
3.2 Physical Environment

3.2.1 Surface Water

The Northern Fjords climate is humid, maritime, or oceanic, with a long growing season, heavy rainfall, and mild, cool, cloudy summers. Strong outflow winds commonly blow down the inlets during winter. The Site and Project shipping routes are within the Coastal Air Zone as delineated by the province.

The marine waters in the vicinity of the Site are within the Inner Pacific Shelf Ecoregion and North Coast Fjords Ecosection. Water levels throughout the area are strongly tidal (range approximately seven metres above chart datum). Marine currents within Portland Inlet, Portland and Pearse Canals are highly variable due to a combination of wind and tidal forcing. Wind forcing is highly episodic and particularly important in the fall and winter under the combined influence of frequent Pacific storms and Arctic outflow winds.

Portland Canal is approximately 320 m deep mid-channel offshore of the Site. Bathymetry has been collected in Pearse Canal and in Portland Canal in the expected development area for the marine terminal (Figure 3.2).



Weather Station Site
Bathymetric Contour
High Water Mark
International Boundary
Boundaries of District Lots 7235 and 5431

0 100 200 300 400 m
1:20,000 (at original document size of 8.5x11)

KSI LISIMS LNG

Notes
1. Coordinate System: NAD 1983 UTM Zone 9N
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Stantec, Rockies LNG, Maxar

Stantec

Project Location:
Pearse Island, BC

Project Number: 123221820
Prepared by TQUILICHINI on 20220420
Requested by EFLORY on 20220420
Checked by SMOSS on 20220420

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Detailed Project Description

Figure No.
3.2

Title
Bathymetry Adjacent to Project Site

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The Project has installed an Acoustic Doppler Current Profiler **(ADCP)** in the proposed Water Lot in June 2021. As of September 2021, three months of data has been collected. The ADCP June to September 2021 data was recovered at the end of September 2021. Early results are provided in Table 3.4. Tidal range measured to date is 6.9 m. Maximum current speeds of 1.34 metres/second were measured near the surface during a large flood tide.

Table 3.4 – Current Speed Statistics

Speed (cm/s)	min	1%	5%	25%	50%	mean	75%	95%	99%	std	max	total #
4.6 m below surface	0.1	1.6	4.1	13.5	25.7	30.5	42.1	75.5	96.7	22.2	133.8	4745
13.2 m below MWL	0.4	1.4	3.3	11.1	23.2	28.2	42.5	67.3	82.7	20.7	101.5	4745
23.2 m below MWL	0.0	0.8	2.1	7.9	16.9	21.6	32.8	53.8	62.6	16.6	72.6	4745

NOTE:
Site information: Wil Milit; Latitude: 55 01.563 North, Longitude: 130 10.683 West;
Dates: June 22-September 29, 2021

Measured wave parameters to date shows that the wave heights were generally small with peak periods of 2-4 seconds. The largest wave recorded during the June 22 to September 29, 2021, measurement period was 0.45 m on July 5, 2021, at 02:00. Large waves are not necessarily expected in Whiskey Bay given the relatively sheltered location and limited fetch. Larger waves may occur during the fall and winter due to southeasterly storm winds as well as winter arctic outflow winds from the northeast.

Marine water quality samples were collected during freshet (June 2021) at four locations in the Project area including two on the east side of Pearse Island, one in Whiskey Bay, and one on the west side of Pearse Island. Samples were collected during both flood and ebb tidal cycles and from the surface (1 m) and midwater (below pycnocline) depths. Water samples were analyzed for physical parameters (hardness, pH, total dissolved solids, total suspended solids, and turbidity), anions, nutrients, total and dissolved metals, as well as hydrocarbons and VOCs. Laboratory analysis determined that parameters of interest including total and dissolved mercury, hydrocarbons and VOCs were below detection limit in all samples.

Nine streams, as well as several tributaries and open water wetlands that flow into these streams, are located within the Site. These streams discharge into Portland Canal, Whiskey Bay, and Pearse Canal and have peak flows in May, October, and November with low flow periods in summer (July and August) and late winter (February and March) (FLNRORD 2021). *In situ* field data indicates that turbidity of these streams is generally low (>5 Nephelometric Turbidity Units) and dissolved oxygen concentrations are typically higher in streams (>7.5 mg/L) than in open water wetlands (<7.5 mg/L). pH ranges from 4.8 to 7.4 in streams and 4.6 to 5.9 in open water wetlands. The Project is currently planning collection of hydrometric information.

Two major river systems discharge into the larger regional area: the Skeena River into southern Chatham Sound and the Nass River into northern Chatham Sound via Nass Bay and into Portland Inlet (see Figure 2.1). The Skeena River water enters southern Chatham Sound with a net seaward flow of the

Skeena River water on the east side of the sound past Prince Rupert and northward into the eastern side of northern Chatham Sound. During freshet, Nass River water moves out past Wales Island, through Dundas Passage north of Dundas Island and finally into Dixon Entrance with some intrusion into Portland Canal and Observatory Inlet.

The majority (98%) of the 908 km of marine shoreline in the Nass Area is undeveloped, with approximately 3 km (~0.3%) classified as man-made (anthropogenic or human-altered). Notable human-altered shorelines occur at Stewart, Anyox, Alice Arm, Kitsault, and Gingolx. However, by regional standards (e.g., Prince Rupert Harbour), the type and scale of foreshore development in the Nass Area is limited and the shoreline environment is generally undisturbed.

3.2.2 Groundwater and Sediment

The Site is comprised of DLs 7235 and 5431 on the northern end of Pearse Island (Figure 2.1). Elevations on both lots increase to the south. The maximum elevation at the southern edge of DL 7235 is about 60 metres above sea level (**masl**) and the maximum elevation at the southern edge of DL 5431 is about 120 masl (GoBC 2021d). Near the Site, elevations are greater along the eastern side of Pearse Island than along the western side. Maximum elevations on Pearse Island are about 780 masl, about 5 km south of the southern edge of the lots (GoBC 2021d).

Unconsolidated sediment deposits mapped across the Site include glaciomarine sediments, colluvium, till, and organics (McCuaig 2003). Deposit landforms are generally veneers; thin, discontinuous horizons of material with numerous areas of exposed bedrock. Each deposit is generally one to two metres thick. Thicker glaciomarine sediments have been mapped about 400 m south of the parcel boundary (McCuaig 2003).

Deposits containing high fractions of clay and silt have characteristically low permeability (Freeze and Cherry 1979). Glaciomarine sediments, till, and potentially colluvium have high enough fractions of these particles that the permeability of these sediments, where they exist, can be inferred to be low, to the extent that they likely reduce hydraulic connection between overlying surface water features and underlying groundwater systems. The available information on sediments at the Site and inferred hydrostratigraphic characteristics are summarized in Table 3.5.

Table 3.5 - Sediment Deposits and Inferred Hydrostratigraphy

Sediment and Landform[1]	Description[1]	Thickness[1] (m)	Qualitative Permeability[2]	Inferred Hydrostratigraphy
Colluvium Veneer	Boulder gravel with clay to sand size matrix, well graded, massive, dominated by subangular to angular clasts of local bedrock; discontinuous cover with numerous areas of exposed bedrock; takes the form of underlying surface.	1 to 2	Low	Confining Layer
Glaciomarine Veneer	Massive silty clay with minor sand, silt, and granule gravel; discontinuous cover with numerous areas of exposed bedrock; takes form of underlying surface.	1 to 2	Very low	Confining Layer
Till Veneer	Granule to boulder size clasts in a silt to silty clay matrix, massive, very compact, well graded, angular to subrounded striated clasts; discontinuous cover with numerous areas of exposed bedrock; takes form of underlying surface.	1 to 2	Low	Confining Layer

NOTES:

[1] From McCuaig (2003).

[2] Permeability assessment based on accepted permeability ranges for each sediment in Freeze and Cherry (1979).

Bedrock underlying the north half of Pearse Island has been mapped as early Tertiary granodiorite (MacIntyre et al. 1994). Fresh, competent granodiorite can be expected to have a very low primary porosity and the bedrock groundwater system will be confined to secondary fractures, joints, and faults to store and transmit groundwater. Information on the frequency and hydrostratigraphic characteristics of these features is not available, but this intrusive rock is young and the weathering profile from surface is likely thin and un-developed. As a result, the volume of water stored and transmitted through bedrock underlying the Site may be limited.

Groundwater levels across the Site can be expected to be a subdued expression of topography (Freeze and Cherry, 1979) and general characteristics of the local groundwater flow system can be inferred on this basis. Some fraction of incident precipitation will infiltrate to the saturated subsurface and recharge the groundwater system. Recharge will occur, to a greater degree, at higher elevations and where weathered outcrop is exposed. Recharge will be reduced in areas covered by low-permeability sediments. Groundwater discharge will occur, to a greater degree, at lower elevations where groundwater gradients have a greater upwards vertical flow component. Groundwater levels will be closest to ground surface at the end of March or April and deepest below ground surface in August, following seasonal precipitation (and recharge) trends.

3.3 Biological Environment

3.3.1 Vegetation and Wetlands

The terrestrial portion of the Site is within the Southern Boundary Ranges Ecosection and the marine portion of the Site is within the North Coast Fjords Ecosection. The Site is within the Coastal Western Hemlock Biogeoclimatic Zone (**CWH**), specifically the Central variant of the Very Wet Hypermaritime subzone (**CWHvh2**). This variant occupies the outer coastal areas, less than 25 km from the ocean, and ranges in elevation from 0 to 600 m. The terrain is mostly subdued and rocky, the climate is extremely wet, and the vegetation is a mosaic of poor forest and wetland, with productive forests restricted to moderate and steep slopes or floodplains (Banner et al. 1993).

The forested areas of the CWHvh2 are dominated by western redcedar (*Thuja plicata*), followed by western hemlock (*Tsuga heterophylla*), and yellow-cedar (*Cupressus nootkatensis*). Typical understory vegetation includes salal (*Gaultheria shallon*), deer fern (*Struthiopteris spicant*), cordilleran bunchberry (*Cornus unalaschkensis*), false lily-of-the-valley (*Maianthemum dilatatum*), fern-leaved goldthread (*Coptis aspleniifolia*), and skunk cabbage (*Lysichiton americanus*) (Banner et al. 1993). Because fires occur rarely in the CWH, early seral forest stands (i.e., in early successional state) are uncommon in areas that have not experienced clearcut logging (Banner et al. 1993).

The British Columbia Conservation Data Centre (2021) reports 27 listed ecological communities that could potentially occur at the Site. This includes 12 red-listed communities and 15 blue-listed communities in the CWHvh2 or the CWH and the Southern Boundary Ranges and North Coast Fjords Ecosection (Table 3.6).

Table 3.6 – Listed Ecological Communities with Potential to Occur at the Site

Common Name	Scientific Name	BEC Unit	BC List
Upland			
western hemlock - Sitka spruce / lanky moss	*Tsuga heterophylla - Picea sitchensis / Rhytidiadelphus loreus*	CWHvh2/04	Blue
Western redcedar - Sitka spruce / sword fern	*Thuja plicata - Picea sitchensis / Polystichum munitum*	CWHvh2/05	Blue
Western redcedar - Sitka spruce / devil's club Very Wet Hypermaritime 2	*Thuja plicata - Picea sitchensis / Oplopanax horridus* Very Wet Hypermaritime 2	CWHvh2/07	Blue
Sitka spruce / false lily-of-the-valley Wet Hypermaritime 1	*Picea sitchensis / Maianthemum dilatatum* Wet Hypermaritime 1	CWHvh2/08	Red
Sitka spruce / tall trisetum	*Picea sitchensis / Trisetum canescens*	CWHvh2/09	Red
Red alder / salmonberry / common horsetail	*Alnus rubra / Rubus spectabilis / Equisetum arvense*	CWHvh2/10 (Fl51)	Blue
Sitka spruce / salal	*Picea sitchensis / Gaultheria shallon*	CWHvh2/14	Blue
Sitka spruce / Oregon beaked-moss	*Picea sitchensis / Eurhynchium oreganum*	CWHvh1/15	Blue

Table 3.6 – Listed Ecological Communities with Potential to Occur at the Site

Common Name	Scientific Name	BEC Unit	BC List
Sitka spruce / Pacific reedgrass	*Picea sitchensis / Calamagrostis nutkaensis*	CWHvh2/16	Blue
Sitka spruce / sword fern	*Picea sitchensis / Polystichum munitum*	CWHvh2/17	Blue
Sitka spruce / slough sedge	*Picea sitchensis / Carex obnupta*	CWHvh2/18	Blue
Sitka spruce / Pacific crab apple	*Picea sitchensis / Malus fusca*	CWHvh1/19	Blue
Dune wildrye - beach pea	*Leymus mollis* ssp. *mollis – Lathyrus japonicus*	CWHvh2/00	Red
Wetland			
Sitka sedge / peat-mosses	*Carex sitchensis / Sphagnum* spp.	CWHvh2/Wf51	Red
Sweet gale / Sitka sedge	*Myrica gale / Carex sitchensis*	CWHvh2/Wf52	Red
Common spike-rush Herbaceous Vegetation	*Eleocharis palustris Herbaceous Vegetation*	CWH/Wm04	Blue
Sitka sedge - Pacific water-parsley	*Carex sitchensis - Oenanthe sarmentosa*	CWHvh2/Wm50	Blue
Sitka willow - Pacific willow / skunk cabbage	*Salix sitchensis - Salix lasiandra var. lasiandra / Lysichiton americanus*	CWH/Ws51	Red
Western redcedar - Sitka spruce / skunk cabbage	*Thuja plicata - Picea sitchensis / Lysichiton americanus*	CWHvh2/13 (Ws54)	Blue
Northern mannagrass Fen	*Glyceria borealis* Fen	CWHvh2 uncorrelated	Blue
Estuarine			
Tufted hairgrass - meadow barley	*Deschampsia cespitosa* ssp. *beringensis - Hordeum brachyantherum*	CWH/Ed01	Red
Tufted hairgrass - Douglas' aster	*Deschampsia cespitosa* ssp. *beringensis - Symphyotrichum subspicatum*	CWH/Ed02	Red
Beaked ditch-grass Herbaceous Vegetation	*Ruppia maritima Herbaceous Vegetation*	CWH/Em01	Red
American glasswort - sea-milkwort	*Sarcocornia pacifica - Lysimachia maritima*	CWH/Em02	Red
Sea plantain - dwarf alkaligrass	*Plantago maritima - Puccinellia pumila*	CWH/Em04	Red
Lyngbye's sedge herbaceous vegetation	*Carex lyngbyei Herbaceous Vegetation*	CWH/Em05	Red
Lyngbye's sedge - Douglas' water-hemlock	*Carex lyngbyei - Cicuta douglasii*	CWH/Em06	Blue

The vegetation of the northern part of Pearse Island is primarily coniferous forest interspersed with low lying wetlands. The Site is characterized by gentle relief with gradual above and below water slopes, with the far southwest corner of the Site sloping up from a stream. A large wetland complex is present in the centre of the Site which drains to the northwest of the Site through an estuary and then into Whiskey Bay, which has large areas of intertidal mudflat. The outer shoreline adjacent to the Site has a thin strip of discontinuous estuarine meadow and marsh vegetation broken by unconsolidated beaches and bedrock shelf. The south end of the Site is drained by streams that discharge into Portland Canal on the east shoreline. Riparian areas around the bog complex and streams are composed of productive moist to wet forest. Tree clearing has occurred in the past throughout most of the Site, which is evident from stumps observed during field studies (see Table 3.9).

The surficial geology of the Site is organic veneer or organic blanket over glaciomarine materials characterized by silty clays with minor sand, silt and granular gravels colluvial materials characterized by diamicton or bedrock. Soils developed on the Site are primarily Folisols composed of upland organic material, with Podzols uncommonly found on sloping sites and Organic soils present in wetlands.

3.3.1.1 Plant Species of Conservation Concern

One federally red listed species, arctic daisy (*Arctanthemum arcticum* ssp*. arcticum*) has been identified in six locations at the Site during baseline field surveys and confirmed by an expert botanist. Other species of conservation concern that may be present at or in the vicinity of the Site are provided in Table 3.7.

3.3.1.2 Botanical and Cultural Forest Products

Botanical and cultural forest products that have been identified for the Nisga'a Nation Treaty Assessment for the Project will include, at a minimum:

- Freshwater aquatic plants (e.g., sedges [*Carex* sp.])
- Western redcedar (*Thuja plicata*)
- Yellow-cedar (*Callitropsis nootkatensis*)
- Labrador tea (*Rhododendron groenlandicum*)
- Devil's club (*Oplopanax horridus*)
- Indian hellebore (*Veratrum viride*)
- Black huckleberry (*Vaccinium membranaceum*)
- Pine mushroom (*Tricholoma murrillianum*)

Freshwater aquatic plants are common in wetlands in the vicinity of the Site. Yellow-cedar, western redcedar, and Labrador tea were commonly found during field studies. Devil's club and Indian hellebore were observed in several locations. Black huckleberry was not observed during field studies (it is typically found at higher elevations than the Site), though several other blueberry and huckleberry (Vaccinium) species were observed. Pine mushrooms were not observed during field studies, and habitat with potential to support pine mushrooms (i.e., well-drained soils, especially Podzols) is present but uncommon within the Site.

3.3.1.3 Non-Native and Invasive Plant Species

Invasive plant species include provincially regulated noxious weeds and species targeted by the Northwest Invasive Plant Council (NWIPC 2020). Noxious weeds species were not observed during 2021 field studies.

3.3.1.4 Ecological Communities of Interest

Field studies suggest the presence of six red- and blue-listed ecological communities in the vicinity of the Site, including estuarine meadow and marsh communities, swamp forest, floodplain forest, and moist-rich forest (Table 3.7).

Table 3.7 – Listed Plant Communities Confirmed in the Site and Vicinity During Field Studies

Type of Community	Site Series / Site Association	BC List
Floodplain forest	Sitka spruce – Lily-of-the-valley (CWHvh2/08)	Red
Estuarine marsh	Lyngbye's sedge (CWHvh2/Em05)	Red
Estuarine meadow	Tufted hairgrass – Meadow barley (CWHvh2/Ed01)	Red
Estuarine meadow	Arctic rush – Alaska plantain (CWHvh2/Ed03)	Red
Moist-rich forest	Red cedar / Western hemlock – Devil's club (CWHvh2/07)	Blue
Swamp forest	Red cedar / Western hemlock / Sitka spruce – Skunk cabbage (CWHvh2/13 [Ws54])	Blue

3.3.1.5 Wetlands

Wetlands and estuarine ecosystems were identified and classified following *Wetlands of British Columbia: A Guide to Identification* (Mackenzie and Moran 2004). Wetland classes documented during field studies include bog (treed and shrubby), swamp (treed), and shallow open water; estuarine classes include meadow and marsh ecosystems. Bogs are the most common wetland class encountered during field studies.

3.3.2 Wildlife

Foreshore habitats and salmon-bearing streams in the general area of the Site provide important foraging habitat for many species of wildlife, including grizzly bear, moose, American marten, fisher, black bear, grey wolf, river otter, mink, wolverine, bald eagle, and gulls. Old forests provide important habitat for birds such as marbled murrelet, sooty grouse and northern goshawk. In addition, numerous other species of birds (migratory and non-migratory), mammals and other wildlife are known or suspected to occur in the vicinity of the Site. The following description is based on desktop and field surveys completed to date; a summary of planned (and completed) field surveys is provided in Section 3.4.1.

A desktop review of wildlife species of concern with the potential to occur in the wildlife and wildlife habitat assessment areas will be completed using information and data available from publicly available datasets (e.g., HabitatWizard, iMap BC, BC Conservation Data Centre (**BC CDC**), Species at Risk Public Registry, eBird). These data will be used in combination with data from Project-specific field surveys to characterize the assessment areas and inform the effects assessment.

3.3.2.1 Mammals

Ungulates and Large Carnivores

Ungulates and large carnivores are known to occur in the vicinity of the Site. From June to September 2021, remote cameras (deployed in June 2021) captured photos of black-tailed deer, black bear and grey wolf. In addition, incidental observations of grizzly bear have been made during 2021 field studies.

Bats

Eight bat species have the potential to occur within the vicinity of the Site: big brown bat (*Eptesicus fuscus*), hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctiva*), long-eared myotis (*Myotis evotis*), little brown myotis (*Myotis lucifugus*), long-legged myotis (*Myotis volans*), Yuma myotis (*Myotis yumanensis*), and California myotis (*Myotis californicus*). Little brown myotis is designated as Endangered on Schedule 1 of the *Species at Risk Act* (**SARA**).

3.3.2.2 Birds

Nocturnal and Diurnal Raptors

Western screech-owl (*Megascops kennicottii kennicottii*) and northern goshawk (*Accipiter gentilis laingi*) are designated under Schedule 1 of SARA. Northern goshawk was detected at one survey location. A nest search was completed in the immediate area, but no northern goshawk nests were detected. The Project will assume that northern goshawk may use the Site and species-specific mitigation will be developed in EA-IA.

Bald eagle has been identified as important to the Nisga'a Nation and their nests are protected under the BC *Wildlife Act* (GoBC 1996). Two bald eagle nests have been identified at the Site, and bald eagle has been observed at multiple sites. One nest was observed as being active during the summer of 2021.

Songbirds

Breeding bird (songbird) point-count surveys were completed in June 2021 within the vicinity of the Site (see also Section 3.5.4). Preliminary data results show thirty species were observed during these surveys and twelve additional bird species were observed incidentally.

Marine Birds

Preliminary data results show twenty-three marine bird species were detected during the Fall 2021 survey, which coincided with marine bird migration. The Spring 2022 survey is planned to coincide with the eulachon run.

Shorebirds

Surveys were completed in 2021 to document the use of shore and nearshore habitats by shorebirds and waterbirds within the Site and vicinity (see Table 3.9). Survey timing was aligned with the post-fledging period for marbled murrelet and fall shorebird migration. Preliminary data results show twenty-seven species were detected during the October 2021 survey.

3.3.2.3 Amphibians

Six amphibian species have the potential to occur within the vicinity of the Site: western toad (*Anaxyrus boreas*), Columbia spotted frog (*Rana luteiventris*), wood frog (*Lithobates sylvaticus*), long-toed salamander (*Ambystoma macrodactylum*), northwestern salamander (*Ambystoma gracile*), and roughskin newt (*Taricha granulosa*). Pond-dwelling amphibian surveys were completed in June 2021 within the Site and vicinity to collect information on species presence and diversity, and to identify amphibian breeding habitat to support planning and mitigation. Two species, western toad (*Anaxyrus boreas*) and northwestern salamander (*Ambystoma gracile*), were observed during amphibian surveys.

3.3.2.4 Terrestrial Invertebrates

A desktop review of peer-reviewed and technical literature, including historical occurrence data from the BC CDC, was completed to identify terrestrial invertebrate species for consideration within the effects assessment. Three terrestrial invertebrate species of conservation concern were identified as having the potential to occur within the vicinity of the Site: western meadow fritillary (*Boloria epithore sigridae*), afranius duskywing (*Erynnis afranius*), northern tightcoil (*Pristiloma arcticum*). Field surveys to date have not confirmed the presence of any terrestrial invertebrate species of concern.

3.3.2.5 Habitat Suitability Assessments

Habitat suitability assessments will be used to help characterize baseline habitat conditions for focal species and will be used as part of the habitat suitability modeling process.

3.3.3 Freshwater Fish

Nine unnamed streams and their tributaries have been confirmed within the Site. Several of these streams have been confirmed fish-bearing. Fish captured or observed within streams at the Site include coho salmon (*Oncorhynchus kisutch*), pink salmon (*Oncorhynchus gorbuscha*), Dolly Varden (*Salvelinus malma*), coastal cutthroat trout (*Oncorhynchus clarkii clarkii*), and prickly sculpin (*Cottus asper*).

Pacific salmon occur in many of the rivers and streams at the Site. Salmon species known to occur at other locations on Pearse Island outside of the Site include coho, chum (*Oncorhynchus keta*), and pink salmon (GoBC 2021c). Dogfish Creek is an important known salmon stream on the north side of Portland Canal and, in addition to the salmonid species listed above, has occurrences of rainbow trout/steelhead (*Oncorhynchus mykiss*) and sculpin species (*Cottus* sp.) (GoBC 2021c).

The largest salmon-producing river in the vicinity of the Site is the Nass River, which supports runs of sockeye (*Oncorhynchus nerka*), chinook (*Oncorhynchus tshawytscha*), coho, pink and chum salmon as well as steelhead and anadromous Dolly Varden and cutthroat trout. The Nass River also supports a migration of eulachon (*Thaleichthys pacificus*) each spring. Other fish species known to inhabit the Nass River include rainbow trout, bull trout (*Salvelinus confluentus*), green sturgeon (*Acipenser medirostris*), mountain whitefish (*Prosopium williamsoni*), lamprey species (*Lampetra* sp.), largescale sucker (*Catostomus macrocheilus*), longnose sucker (*Catostomus Catostomus*), longfin smelt

(*Spirinchus thaleichthys*), peamouth chub (*Mylocheilus caurinus*), redside shiner (*Richardsonius balteatus*), threespine stickleback (*Gasterosteus aculeatus*), slimy sculpin (*Cottus cognatus*) and other sculpin species as well as northern pike minnow (*Esox Lucius*) (GoBC 2021c).

3.3.4 Marine Resources

The waters and shoreline surrounding the Site as well as that along the preliminary identified shipping routes support a diverse marine community and a variety of marine ecosystem types (e.g., estuaries, marshes, rocky coastlines, sandy shores). Intertidal habitats in the proposed Water Lot include rocky shorelines and sand/gravel beaches that vary in slope from steep to shallow across the Site. There are also a number of freshwater outlets around the Site that connect freshwater drainages and watercourses to the marine environment. The subtidal environment includes a range of habitats from unconsolidated substrates (i.e., sand and mud) to boulder/cobble fields and steep bedrock walls. Habitats present within the subtidal, intertidal, and supratidal (only inundated by water with exceptionally large tides) will be mapped and studied in detail during the EA-IA.

Marine vegetation present at the Site is characterized by rockweed (*Fucus* spp.) and sea lettuce (*Ulva* spp.) dominating the intertidal and includes the presence of eelgrass (*Zostera* spp.). Understory and kelp species (e.g., *Laminaria* spp.) and sea lettuce dominate the shallow subtidal environment and a fringing band of kelp can be found in the shallow subtidal environments around much of the Site.

A diverse assemblage of marine invertebrates exists throughout the Site including infaunal bivalves (e.g, butter clams [*Saxidomus gigantea*] and cockles [*Clinocardium* spp.]), sessile invertebrates (e.g., mussels [*Mytilus* spp.] and barnacles [*Balanus* spp.]) and motile invertebrates (periwinkles [*Littorina* spp.], limpets [*Lottia* spp.], small anemones [Class Anthozoa], and hermit crabs [*Pagurus* spp.]). As part of the EA-IA, intertidal surveys will document invertebrate species richness, diversity and abundance and subtidal surveys will document species richness (see Section 3.4.1).

The waters of northern BC support a vast array of marine fish. The Site and surrounding waters, including the identified shipping routes support a variety of species ranging from benthic (e.g., Pacific halibut [*Hippoglossus stenolipus*]) to demersal (e.g., rockfish [*Sebastes* spp.]) to pelagic (e.g., Pacific salmon [*Oncorhynchus* spp.]), species. The Site and shipping route are expected to provide both year-round habitat for some species (e.g., Pacific herring [*Clupea pallasii*]), and temporary habitat for migratory species (e.g., Pacific salmon, eulachon). Marine fish sampling and hydroacoustic surveys will be combined with an extensive literature review to describe the species and timing of use of waters surrounding the Site.

The marine waters in the proposed Water Lot and the marine waters of the marine shipping routes comprise fish habitat for many species of marine organisms (most of which are classified as “fish” under the federal *Fisheries Act*). Of note are species important to the Nisga’a Nation, other Indigenous Nations, commercial, and recreational fishers such as Pacific salmon, eulachon, Dungeness crab (*Metacarcinus magister*), king crab (*Lopholithodes mandtii*), Pacific halibut, numerous rockfish species, and other finfish, invertebrates, and aquatic plants.

The distribution and abundance of marine mammals fluctuates greatly across the northern coastal waters in response to changes in food availability, with runs of species such as eulachon, herring, and salmon drawing large numbers of cetaceans (whales, dolphins, and porpoises) and pinnipeds (seals and sea lions). Sea turtles, while less common, could also occur in the area.

Existing information does not identify the marine waters surrounding the Site as important habitat for marine mammals. Baseline surveys in Portland Inlet and Portland Canal are underway and desktop information for Chatham Sound will be reviewed for the EA-IA. Results of these surveys will be used in combination with marine mammal information collected for other projects to inform Project planning and assessment (see Section 3.4.1).

3.3.5 Preliminary Identified Environmentally Sensitive Areas

Environmentally sensitive areas for the purposes of the DPD are considered areas of high wildlife value due to their role in key life stages (e.g., nesting, rearing) or sensitive ecosystems (e.g., wetlands). As identified during Site surveys completed between May and November 2021, preliminary identified environmentally sensitive areas include:

- There are two bald eagle nests in the eastern portion of the Site. Bald eagle nests are protected year-round under the BC *Wildlife Act* (GoBC 1996), whether active or not. Setbacks around bald eagle nests, particularly active nests, are commonly applied to reduce the risk of mortality.
- Nine amphibian breeding sites have been identified in the vicinity of the Site as a result of amphibian surveys and incidental detections. Confirmed amphibian breeding sites are wetlands where amphibian eggs, larvae, or juveniles have been detected.

3.4 Biophysical Data and Reports

More than a decade ago the North Coast Land and Resource Management Plan (**NC LRMP**) completed a strategic land and resource plan applicable to the Project. The North Coast Marine Plan **(NCMP)** was completed in 2015 by the North Coast-Skeena First Nations Stewardship Society and the Province of British Columbia, with contributions from the Nisga'a Nation for the Nass Area. The NCMP is a reasonably current source of general marine biophysical information applicable to marine waters potentially affected by the Project.

The EAs and the accompanying technical studies completed for PRGT and WCGT natural gas transmission pipeline projects in 2014 both provide specific biophysical information on Portland Inlet and the surrounding lands and waters and will be used to inform this Project. In addition, NLG has amassed a considerable body of literature concerning the biophysical environment and natural resources of the Nass Area and are integrally involved in fisheries management in the Nass Area. Refer to Table 6.1, Section 11 (References) and Appendix 5 for a list of applicable biophysical studies.

3.4.1 Species with Conservation Status

A number of species that could potentially occur at or near the Site have conservation statuses as identified by the SARA, the Committee on the Status of Endangered Wildlife in Canada (**COSEWIC**) and or the BC CDC (Table 3.8).

Table 3.8 – Species with a Conservation Status Potentially Occurring at or Near the Site

Species Common Name	Scientific Name	SARA Status	COSEWIC Status	BC CDC Status
Fish				
Coastal cutthroat trout	*Oncorhynchus clarkii*	-	NR	Blue
Eulachon Nass/Skeena Stocks	*Thaleichthys pacificus*	-	SC	Blue
Bocaccio rockfish	*Sebastes paucispinis*	-	Endangered	NS
Basking shark	*Cetorhinus maximus*	Endangered	Endangered	NS
Bluntnose six gill shark	*Hexanchus griseus*	SC	SC	NS
Bull trout – Pacific populations	*Salvelinus confluentus*	-	NaR	Blue
Tope	*Galeorhinus galeus*	SC	SC	NS
Rougheye rockfish	*Sebastes aleutianus*	SC	SC	NS
Yelloweye rockfish	*Sebastes ruberrimus*	SC	Threatened	NS
Quillback rockfish	*Sebastes maliger*	-	Threatened	NS
Yellowmouth rockfish	*Sebastes reedi*	-	Threatened	NS
Dark blotched rockfish	*Sebastes crameri*	-	SC	NS
Green sturgeon	*Acipenser medirostris*	SC	SC	Blue
Longspine thornyhead	*Sebastolobus altivelis*	SC	SC	NS
Northern abalone	*Haliotis kamtschatkana*	Endangered	Threatened	Red
Amphibians and Reptiles				
Leatherback sea turtle	*Dermochelys coriacea*	Endangered	Endangered	Red
Western toad	*Anaxyrus boreas*	SC	SC	Yellow
Birds				
American golden-plover	*Pluvialis dominica*	-	-	Blue
Ancient murrelet	*Synthliboramphus antiquus*	-	SC	Blue
Band-tailed Pigeon	*Patagioenas fasciata*	SC	SC	Blue
Barn swallow	*Hirundo rustica*	Threatened	Threatened	Blue
Black Scoter	*Melanitta americana*	-	-	Blue
Brant	*Branta bernicla*	-	NR	Blue
California gull	*Larus californicus*	-	NR	Blue
Canada goose	*Branta canadensis occidentalis*	-	NR	Red
Cassin's auklet	*Ptychoramphus aleuticus*	SC	SC	Red
Common murre	*Uria aalge*	-	NR	Red

Table 3.8 – Species with a Conservation Status Potentially Occurring at or Near the Site

Species Common Name	Scientific Name	SARA Status	COSEWIC Status	BC CDC Status
Common nighthawk	*Chordeiles minor*	Threatened	SC	Yellow
Double-crested cormorant	*Phalacrocorax auritus*	-	NaR	Blue
Evening grosbeak	*Coccothraustes vespertinus*	SC	SC	Yellow
Great blue heron *fannini* subspecies	*Ardea herodias fannini*	SC	SC	Blue
Lesser yellowlegs	*Tringa flavipes*	-	Threatened	Yellow
Long-tailed duck	*Clangula hyemalis*	-	NR	Blue
Marbled murrelet	*Brachyramphus marmoratus*	Threatened	Threatened	Blue
Northern goshawk, *laingi* subspecies	*Accipiter gentilis laingi*	Threatened	Threatened	Red
Northern pygmy-owl, *swarthi* subspecies	*Glaucidium gnoma swarthi*	-	-	Blue
Olive-sided flycatcher	*Contopus cooperi*	Threatened	SC	Blue
Peregrine falcon *pealei* subspecies	*Falco peregrinus pealei*	SC	SC	Blue
Pink-footed shearwater	*Puffinus creatopus*	Endangered	Endangered	Blue
Red knot	*Calidris canutus*	Threatened	Threatened	Red
Red-necked Phalarope	*Phalaropus lobatus*	SC	SC	Blue
Short-billed Dowitcher	*Limnodromus griseus*	-	-	Blue
Surf scoter	*Melanitta perspicillata*	-	NR	Blue
Tufted puffin	*Fratercula cirrhata*	-	NR	Blue
Wandering tattler	*Tringa incana*	-	NR	Blue
Western grebe	*Aechmophorus occidentalis*	SC	SC	Red
Western screech-owl *kennicottii* subspecies	*Megascops kennicottii*	Threatened	Threatened	Blue
Yellow-billed Loon	*Gavia adamsii*	-	NaR	Blue
Terrestrial mammals				
American Water Shrew	*Sorex palustris*	-	-	Blue
Grizzly bear	*Ursus arctos*	SC	SC	Blue
Little brown myotis	*Myotis lucifugus*	Endangered	Endangered	Yellow
Wolverine, *luscus* subspecies	*Gulo luscus*	SC	SC	Blue
Marine mammals				
Sea otter	*Enhydra lutris*	SC	SC	Blue
Northern elephant seal	*Mirounga angustirostris*	-	NaR	Red
Steller sea lion	*Eumetopias jubatus*	SC	SC	Blue
Northern fur seal	*Callorhinus ursinus*	-	Threatened	Red

Table 3.8 – Species with a Conservation Status Potentially Occurring at or Near the Site

Species Common Name	Scientific Name	SARA Status	COSEWIC Status	BC CDC Status
Killer whale – Northeast Pacific transient population	*Orcinus orca*	Threatened	Threatened	Red
Killer whale – Northeast Pacific northern resident population	*Orcinus orca*	Threatened	Threatened	Red
Killer whale - Northeast Pacific offshore population	*Orcinus orca*	Threatened	Threatened	Red
Harbour porpoise	*Phocoena*	SC	SC	Blue
Humpback whale	*Megaptera novaeangliae*	SC	SC	Blue
Blue whale	*Balaenoptera musculus*	Endangered	Endangered	Red
Sei whale	*Balaenoptera borealis*	Endangered	Endangered	Red
Fin whale	*Balaenoptera physalus*	Threatened	SC	Red
Grey whale- Pacific coast feeding group population	*Eschrichtius robustus*	-	Endangered	Blue
Grey whale - western Pacific population	*Eschrichtius robustus*	-	Endangered	Blue
North Pacific right whale	*Eubalaena japonica*	Endangered	Endangered	Red
Vascular Plants				
Alaska holly fern	*Polystichum setigerum*	-	-	Blue
American glehnia	*Glehnia littoralis* ssp. *leiocarpa*	-	-	Blue
Arctic daisy	*Arctanthemum arcticum* ssp. *arcticum*	-	-	Red
Eminent bluegrass	*Arctopoa eminens*	-	-	Red
Mackenzie's sedge	*Carex mackenziei*	-	-	Blue
Pygmy waterlily	*Nymphaea tetragona*	-	-	Blue
Silky beach pea	*Lathyrus littoralis*	-	Threatened	Red
White-lip rein orchid	*Platanthera ephemerantha*	-	-	Blue
Non-Vascular Plants and Lichens				
Blue-blue vinyl	*Leptogium cyanescens*	-	-	Red
Corrugated crackers	*Fuscopannaria ahlneri*	-	-	Blue
Cryptic paw	*Nephroma occultum*	SC	Threatened	Blue
Dalton's moss	*Daltonia splachnoides*	-	Endangered	Red
Frosted glass-whiskers	*Sclerophora peronella*	-	DD	Red
Languid horsehair	*Bryoria carlottae*	-	-	Blue
Midlife vinyl	*Leptogium californicum*	-	-	Blue
Mountain crab-eye	*Acroscyphus sphaerophoroides*	SC	SC	Red

Table 3.8 – Species with a Conservation Status Potentially Occurring at or Near the Site

Species Common Name	Scientific Name	SARA Status	COSEWIC Status	BC CDC Status
Octopus' matchstick	*Pilophorus robustus*	-	-	Blue
Oldgrowth specklebelly	*Pseudocyphellaria rainierensis*	SC	SC	Blue
Pacific pretzel	*Bryocaulon pseudosatoanum*	-	-	Blue
Peacock vinyl	*Leptogium polycarpum*	SC	SC	Yellow
Pebbled paw	*Nephroma isidiosum*	-	-	Blue
Spiny horsehair	*Bryoria cervinula*	-	-	Blue
Tundra lemon	*Catolechia wahlenbergii*	-	-	Blue
Vole felt	*Erioderma sorediatum*	-	-	Blue

NOTES:
SC=Special Concern; NaR=Not at Risk; NR=Not Ranked; DD=Data Deficient.

3.5 Baseline Studies

A Baseline Study Plan was developed in May 2021, implemented by the Proponents, and then updated in November 2021 to incorporate field-fitting. Opportunities were provided for Indigenous Nations to participate and/or comment on the Baseline Study Plan and associated field programs. Field work for some of the environmental studies is complete. For other studies, work continues into 2022. Table 3.9 provides a summary of field work completed to date and field work that is planned for 2022.

Table 3.9 – Baseline Field Study Status

Freshwater Field Surveys	Complete (2021)	2022
Stream - Water Quality	June 8 – 15 August 29 - September 4 October 23-27 April 11-16	-
Streams - Fish and Fish Habitat	June 8 – 15 August 29 - September 4 October 23-27 April 11-16	-
Streams – Hydrometric information	-	Q2 2022
Lakes and ponds - Acidification and Eutrophication	-	Q3 2022

Table 3.9 – Baseline Field Study Status

Marine Field Surveys	Complete (2021)	2022
Vessel based marine mammal surveys	July 19-20 September 3-4 November 8-10 February 28-March 9	Timing of remaining studies to be determined
Aerial based marine mammal surveys	July 21 September 2 December 8 February 28-March 9	Timing of remaining studies to be determined
Hydrophones	June 22 (AMAR-N first hydrophone Portland Canal) August 13 (AMAR-S second hydrophone Portland Inlet) December 8-9 (data recovery and battery check)	June - August (unit recovery)
Marine Fish	June 2-6 September 1, 5-6 November 4-7 February 28-March 9	-
Intertidal Surveys	July 22-26	-
Subtidal Surveys (remote operated vehicle)	September 7-10	-
Marine Water Quality	June 7 November 11	-
ADCP	June 22, 2021 (deployed). Sept. 29 (pulled for data- redeployed) December (data)	March (data), June (data), September (demobilization)
Bathymetry	June 2021	-
Geotechnical Investigations	-	Timing of remaining studies to be determined
Wildlife Field Surveys	**Complete**	**2022**
Ungulates and Carnivores	Set up June 2021, maintenance October 2021 and March 2022	June 2022 (retrieval)
Nocturnal Raptors	March 27-19	June 2022 retrieval
Diurnal Raptors	June 2021	-
Breeding Birds	June 2021	-
Amphibians	June 2021	-
Bats	June – August 2021	-
Marine Bird Vessel Surveys	October 2021 February 28-March 9	-
Shorebirds	August 2021	April 2022
Marbled Murrelet shore surveys	July 2021	-
Terrestrial Invertebrates	July 2021	-
Habitat Suitability	July 2021	-

Table 3.9 – Baseline Field Study Status

Soil Field Surveys	Complete	2022
Terrestrial Ecosystem	July 2021	-
Level 1 Critical Load	-	Timing of remaining study to be determined
Geotechnical Investigations	-	Timing of remaining studies to be determined
Vegetation Field Surveys	**Complete**	**2022**
Terrestrial Ecosystem	July 2021	-
Rare Plants	July 2021	-
Wetlands	July 2021	-
LiDAR	June 2021	-

Table 3.10 lists the baseline studies underway as well as the associated baseline study area.

Table 3.10 – Baseline Studies

Baseline Study	Study Area	Informs the EA-IA
Rare Plants	Terrestrial portion of Site plus 120 m buffer	Sensitive terrestrial sites – Project avoidance of sensitive sites
Wetlands	Terrestrial portion of Site plus 120 m buffer	Areas of wetland – Project avoidance of sensitive sites
Terrestrial Ecosystem Mapping	Terrestrial portion of Site plus 1 km buffer	Site ecosystems – Project avoidance of sensitive sites
Terrestrial Invertebrates	Terrestrial portion of Site plus 1 km buffer	Species presence – SARA species
Amphibians	Terrestrial portion of Site plus 1 km buffer	Species presence – SARA species
Bats	Terrestrial portion of Site plus 1 km buffer	Species presence – SARA species
Breeding Songbirds	Terrestrial portion of Site plus 1 km buffer	Species presence – SARA species
Diurnal Raptors	Terrestrial portion of Site plus 1 km buffer	Species presence – SARA species
Nocturnal Raptors	Terrestrial portion of Site plus 1 km buffer	Species presence – SARA species
Ungulates-Carnivores	Terrestrial portion of Site plus 1 km buffer	Species presence – SARA species
Freshwater Water Quality	Terrestrial portion of Site plus 100 m upstream	Baseline water quality in terrestrial watercourses
Freshwater Fish and Habitat	Terrestrial portion of Site plus 100 m upstream	Species presence and habitat values, riparian area mapping
Freshwater Water Quantity	Terrestrial portion of Site plus 100 m upstream	Hydrometric information in the case of surface water use

Table 3.10 – Baseline Studies

Baseline Study	Study Area	Informs the EA-IA
Acidification and Eutrophication	As defined by workplan within a 50 km boundary from the Site	Baseline water and soil quality
Marbled Murrelet	Terrestrial portion of Site plus 1 km buffer as well as Site plus marine shipping route to mouth of Portland Inlet	Species presence – SARA species
Marine Birds	Marine portion of Site plus marine shipping route to mouth of Portland Inlet	Species presence in Site and vicinity
Marine Mammals	Marine portion of Site plus marine shipping route to mouth of Portland Inlet	Species presence in Site and vicinity
Marine Water Quality	Marine portion of Site plus 500 m buffer	Baseline water quality in Pearse and Portland Canal
Intertidal	Marine portion of Site	Species presence and habitat values
Subtidal	Marine portion of Site	Species presence and habitat values
Underwater Acoustics	Portland Canal, Portland Inlet	Baseline underwater noise and cetacean presence
ADCP	Marine portion of Site, Portland Canal	Baseline upland and marine weather, winds, tides, waves and currents in proposed Water Lot to inform marine engineering
Archaeology	Terrestrial portion of Site	Archaeological values on the upland and nearshore environments
Marine Use	Marine portion of Site, Portland Canal, Portland Inlet and marine route to Triple Island	Baseline marine vessel traffic in the vicinity of the Site
Site Bathymetry	Marine portion of Site	Depths to seabed in proposed Water Lot, inform need for dredging
Site Meteorology	Site	Baseline meteorology including, wind speed, wind direction, ambient temperature, relative humidity, barometric pressure, and rainfall

Additional effort with respect to biophysical setting that will be completed for the EA-IA is outlined by discipline in Sections 3.5.1 to 3.5.6.

3.5.1 Air Quality

The air quality effects assessment will require the characterization of baseline climate, meteorological, and air quality conditions. This will be completed using existing databases compiled for projects in the area including the WCGT and PRGT pipelines. These records will be reviewed and updated with data collected by the Project's on-Site weather station.

Dispersion modelling will be completed in accordance with British Columbia Air Quality Dispersion Modelling Guideline (BC ENV 2015). The Project will conduct detailed air emission modelling to predict CAC concentrations, including SO_2, NO_2, $PM_{2.5}$, and CO. Deposition modelling of sulphur and nitrogen will be completed to support the effects assessments for vegetation, surface water, and wetlands for acidification and eutrophication. Dispersion modelling requires a definition of the meteorological environment. This will be completed using meteorological data from the onsite Project weather station, the BC ENV approved prognostic weather forecast and other representative meteorological stations. The meteorological data set will be quality assured by Stantec prior to modelling.

The Proponent is proposing to use the CALPUFF dispersion model with the following model domain specifications: a nominal 50 km by 50 km modelling domain for CAC emissions and the assessment of acid deposition. The acid deposition modelling is expected to be of interest to both provincial agencies (regarding effects of vegetation and water quality) as well as to the State of Alaska.

3.5.2 Acoustic

Due to the remote nature of the Site, the approximately 15 km distance between the Site and the Village of Gingolx, and the presence of a mountain on the Ashington Peninsula in between, the Project will refer to a default rural ambient sound level as prescribed by BC OGC (2021a) to establish the baseline noise level.

Noise modelling will be conducted using the latest version of CadnaA sound propagation software. Calculations executed in this software will be in accordance with internationally recognized standards for noise calculation and prediction methods. Modelling will be based on representative ground terrain and conservative meteorological effects that enhance sound propagation (i.e., downwind and mild temperature inversion conditions).

3.5.3 Vegetation and Wetlands

Field studies have been completed and Terrestrial Ecosystem Mapping (**TEM**) is underway that will inform Project design and confirm and map the presence of the following subcomponents:

- Plant species of conservation concern
- Botanical and cultural forest products
- Non-native and invasive plant species
- Ecological communities of interest
  - Ecological communities of conservation concern
  - Old forest
  - Ecological communities identified as sensitive to air emissions
- Wetland area, occurrence, type, and functions

3.5.4 Wildlife

Remote cameras were deployed throughout the Site in June 2021 to document ungulate and large carnivore use of the terrestrial portion of the Site plus a 1 km buffer. Target species include black-tailed deer (*Odocoileus hemionus*), grizzly bear (*Ursus arctos*), black bear (*U. americanus*), and grey wolf (*Canis lupis*). The program will continue for at least a year (until approximately May/June 2022) depending on observations.

Five autonomous ultrasonic acoustic recording units (**UARU**) were deployed within the vicinity of the terrestrial Site from June 2021 to August 2021 to collect information on the presence and habitat use of bats. Deployment coincided with the breeding and roosting periods of bats potentially occurring in the Site and in expected habitat that supports bat foraging, movement, or roosting.

Acoustic recording units (**ARU**) were deployed in March 2022 within the terrestrial portion of the Site to collect information on the presence and activity of nocturnal raptors. This survey will target western screech-owl, although vocalizations from other nocturnal raptor species that may occur in the vicinity of the Site could be detected. Data from the ARUs will be retrieved in late spring or summer 2022 and will be used to characterize occurrences of western screech-owl and other nocturnal raptors.

Call-playback surveys for northern goshawk were completed in June 2021 to collect information on the presence of northern goshawk within and in the vicinity of the Site. Bald eagle use of the Site is being documented as part of the various bird surveys, wildlife habitat assessments, and incidentally.

Breeding bird (songbird) point-count surveys were completed in June 2021 within the vicinity of the Site to collect information on species presence, relative abundance, and diversity. The surveys included representative sampling of the broad habitat types within the Site including forested, riparian, wetland and open habitats.

A fall marine bird survey was completed in October 2021, and a spring marine bird survey was completed in March 2022. In addition, stationary point-count surveys were completed in July and August 2021 to document the use of shore and nearshore habitats by shorebirds and waterbirds within the Site and vicinity. These surveys will be used to document species diversity and will inform the assessment of potential effects of marine components of the Project on marine birds. A spring 2022 shorebird survey will be undertaken to coincide with spring shorebird migration.

Wildlife habitat suitability assessments were completed in July 2021 within the Site for nine species or species groups: grizzly bear, moose, American martin, western screech-owl, northern goshawk, marbled murrelet, old forest bird community, young forest bird community, and wetland bird community.

3.5.5 Freshwater Fish

The freshwater fish program involves collecting fish and fish habitat information from watercourses within the vicinity of the Site and targeted waterbodies within the Project's predicted air emission airshed.

Due to the potential ephemeral nature of streams within the Site and their potential use by spring, summer, or fall spawning fish species, field surveys have been conducted to date in late June 2021, early September and in late October 2021. A field survey was also conducted in April 2022.

Acidifying air emissions have also been identified as a potential issue for the Project. Project acidifying air emissions may deposit in waterbodies (e.g., lakes and ponds) in the surrounding predicted air emission airshed. The effect of acidifying emissions on biota in these waterbodies will depend on the volume of potential acidifying inputs, the natural buffering capacity of the waterbodies, and the sensitivity of the fish and aquatic biota present. Based on the BC ENV's Guidance for the Assessment of Acidification and Eutrophication of Aquatic Ecosystems (2015), the objectives are to:

- Identify candidate waterbodies
- Characterize water quality parameters
- Determine the trophic status of waterbodies
- If waterbodies are determined to be sensitive to acidification, determine the fish-bearing status of waterbodies that may be affected by potentially acidifying air emissions

The collection of detailed baseline data from reference sites as would be required for future effects monitoring, is not included in this study program; such data would be collected after the Project has received its EAC and prior to construction.

3.5.6 Marine Resources

Data collection to support the assessment of marine resources began with a literature review of the biology and life history of marine valued components (**VC**) (i.e., local and regional) including species occurrence, known distribution and relative abundance. The desktop study included review of information collected from the Nisga'a Fish and Wildlife Department and consulting biologists. Information from other area Indigenous communities will also be assembled for review as it is made available to the Project. Field surveys assist with filling data gaps identified during the literature review and supplement existing data regarding marine resources in the region. The following field surveys have been conducted:

- Marine mammal
- Marine fish
- Intertidal (including marine invertebrates)
- Subtidal (including marine invertebrates)
- Marine water quality

3.5.7 Nisga'a Biophysical Data

The Project is on Nisga'a Category A Treaty Lands and within the Nass Wildlife area as defined by the Nisga'a Treaty (see Section 6.1.1). The Nisga'a Nation has been conducting numerous fish and wildlife studies within this general area for the past 30 years. A summary of NLG biophysical reports and data collected over the past five years is shown in Table 3.11. A bibliography of Nisga'a Fisheries: Nass Technical and Project Reports is included in Appendix 5. The latter set of reports inform knowledge of the fish and wildlife resources in the Nass Wildlife Area.

Table 3.11 – NLG Biophysical Reports and Data – Past Five Years (2016–2020)

Species / VC	Topic/Title	Year(s) of Study	Frequency	Format (Report, Data, Both)	Availability (Public, Confidential)	Note
Salmon	Coastal chum (and pink) escapement	2016-2020	Annual	Both	Public	2017 report 2015-2018 report 2019 report 2020 DRAFT report
	Coastal pink escapement	2020	One year	Both	Public	2020 DRAFT report
	Lower Nass and coastal Chinook escapement	2020	One year	Data	Public	
	Coastal coho escapement	2016-2020	Annual	Both data only in 2020)	Public	2016 report 2017 report 2018 report 2019 report
	Salmon Catch monitoring	2016-2020	Annual	Report	Public	2020 report
	Sport catch monitoring	2016-2017	Annual	Data	Public	2016 report
Marine food resources	Consumption survey	2018	One year	Both	Public	2021 DRAFT report;
	Non-salmon Catch Monitoring		Annual	Both	Public	Inform EA
Eulachon	Fishery monitoring	2016-2020	Annual	Data	Public	There is a multi-year 2012 Report
	Larval biomass	2016-2020	Annual	Data	Public	Inform EA
Halibut	Nass Area distribution and abundance	2017, 2018, 2020	Three years	Data	NLG – Confidential	
Crab	Nass Area distribution and abundance	2017-2019	Three years	Both	NLG – Confidential	
Shrimp and Prawns	Nass Area distribution and abundance	2017-2019	Three years	Both	NLG – Confidential	

Table 3.11 – NLG Biophysical Reports and Data – Past Five Years (2016–2020)

Species / VC	Topic/Title	Year(s) of Study	Frequency	Format (Report, Data, Both)	Availability (Public, Confidential)	Note
Intertidal Bivalves	Biotoxin monitoring	2016-2020	Annual	Data	Public	There are older reports and data available
Grizzly Bear	Habitats in Southwest Nass Area	2017	One year	Both	Public	2017 report
Northern Goshawk	Study on Nisga'a Lands	2017	One year	Both	Public	2017 Report
Birds	Study on Nisga'a Lands	2018	One year	Both	Public	2018 Report

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4 HUMAN, SOCIAL AND ECONOMIC SETTING

4.1 Project Proximity to Communities

The Site is within the boundaries of the Regional District of Kitimat-Stikine. There are no schools, provincial or regional parks, hospitals, houses, water supplies, roads, or railways nearby.

The nearest communities to the Site, as measured using Google Earth and in order of proximity, are as follows:

- The Nisga'a Village of Gingolx, BC, approximately 15 km east (see Photo 3)
- The Nisga'a Village of Laxgalts'ap, BC, approximately 38 km east
- Lax Kw'alaams, BC, approximately 58 km south-southwest
- The Nisga'a Village of Gitwinksihlkw, BC, approximately 63 km east-northeast
- The Nisga'a Capital – Village of Gitlaxt'aamiks, BC, approximately 78 km east-northeast
- Metlakatla, BC, approximately 80 km south
- Prince Rupert, BC, approximately 80 km south
- Metlakatla, AK, approximately 90 km west
- Port Edward, BC, approximately 92 km south
- The City of Ketchikan, AK, approximately 100 km to the west-northwest
- The District of Stewart, BC, and the village of Hyder, AK, approximately 103 km north
- City of Terrace, Kitsumkalum IR 1 (approximately 5 km west of Terrace) and Kitselas IR 1 (12 km northeast of Terrace), approximately 120 km southeast

Four Nisga'a Villages (Gingolx, Laxgalts'ap, Gitwinksihlkw and Gitlaxt'aamiks) could potentially experience effects from the Project. The closest Nisga'a Village to Wil Milit is Gingolx (formerly known as Kincolith). It is connected to the provincial highway system by Highway 113 to Terrace.

The Village of Gingolx may become, at least in part, one of the supply and service centres for the Project. As well, a ferry service may originate in Gingolx harbour or nearby Mill Bay, to transport people, supplies and materials across Portland Inlet into Portland Canal to a berth at the Site.



Photo 3 – Gingolx, BC

The Nisga'a Nation has constitutionally protected treaty rights and interests in the Nass Area, as set out in the Nisga'a Treaty, where the Project is proposed to be located. The potential for large-scale natural resource development projects to potentially impact Nisg̲a'a citizens is well understood by the Nisg̲a'a Nation. The treaty-related considerations and requirements are further detailed in Section 6.1.

The Nisga'a Nation support having workers, supplies and materials coming to the Nass Valley and using their services (e.g., vehicle fuel, sundries, accommodation, food and catering).

The City of Terrace and the City of Prince Rupert are both connected by Highway 113 to Nisga'a settlements in the Nass Valley and are expected to be regional supply and transportation centres for the Project either by land or by water.

Lax Kw'alaams (Port Simpson), Metlakatla (Tsimpsean Peninsula), Port Edward, Prince Rupert and Stewart are also in the general region of the Project. Members of these communities use the marine water ways (e.g., Portland Inlet, Portland Canal, Pearse Canal) near Wil Milit. Community members from communities farther away like the City of Terrace, Kitsumkalum, Kitselas, Kitkatla (Gitxaała), and members of Region 6 Prince Rupert and District Métis Nation of British Columbia (**Métis Nation British Columbia**) use marine waters while undertaking recreational, commercial, and Indigenous fisheries.

Large marine vessels transit past the Site enroute to Kitsault, BC; Stewart, BC; and Hyder, AK. An estimated 35 large marine vessels sail past Wil Milit via Portland Canal each year.

4.1.1 Indigenous Nations Setting

The Site is within the Nass Area on Category A lands as defined as defined in the Nisga'a Treaty, on undeveloped but partially logged land on District Lots 5431 and 7235 on Pearse Island and in a proposed adjacent Water Lot (Figure 4.12). The traditional territories for the following First Nations are intersected or are in proximity to components of the Project:

- Lax Kw'alaams Band
- Metlakatla First Nation
- Kitsumkalum First Nation
- Kitselas First Nation
- Gitxaala Nation
- Gitga'at First Nation
- Haida Nation
- Métis Nation of British Columbia

Region 6 Prince Rupert and District Métis Nation British Columbia also have the potential to experience effects from the Project or have an interest in the Project. A summary of the Nisga'a Nation is provided in Section 6.1. Overviews of the remaining Indigenous Nations are provided in the following sections and engagement with each is provided in Section 7.

4.1.1.1 Lax Kw'alaams Band

Lax Kw'alaams Band is based in Lax Kw'alaams IR1 (formally Port Simpson) near the north end of the Tsimpsean Peninsula, approximately 30 km northwest of Prince Rupert. Lax Kw'alaams Band has 4,001 members, of which 17% live on reserve land (INAC 2021a). Lax Kw'alaams Band have 81 reserves throughout their traditional territory, covering approximately 16,497 ha (INAC 2021a). Lax Kw'alaams Band traditional territory encompasses the lands and waters between tributaries of the Skeena River, the height of land east of the Zymoetz River, and the Kitsumkalum River (Figure 4.1). It includes Nass Bay and Nass River to the west, and Wales and Pearse Islands, the Dundas and Stephens Islands groups as well as lands and waters at the mouth of the Skeena River, stretching south along Grenville Channel to the north.

4.1.1.2 Metlakatla First Nation

Metlakatla First Nation is based in the south 1/2 Tsimpsean 2 reserve near Prince Rupert. Metlakatla First Nation has approximately 1,026 members; 9% of which live on reserve land in Metlakatla (INAC 2021b). Metlakatla First Nation has 21 reserves, covering approximately 7,742 ha (INAC 2021b). Metlakatla First Nation traditional territory extends from west of the coastal islands in eastern Hecate Strait to east of Lakelse Lake near Terrace (Figure 4.2). Portland Canal and Observatory Inlet mark the northern extent of the boundary, and the headwaters of the Ecstall River mark the southern borders. Metlakatla First Nation territory includes the lower portions and the mouth of the Skeena River and its tributaries.

4.1.1.3 Kitsumkalum First Nation

Kitsumkalum First Nation is based 5 km west of Terrace in the main community at Kitsumkalum IR1. Kitsumkalum has a population of approximately 802 members, with 30% of Kitsumkalum members living at Kitsumkalum IR1, where the Skeena and Kitsumkalum Rivers meet (INAC 2021c). The remainder of the population reside in Terrace, Port Edward, Prince Rupert or elsewhere. Many of the traditional Kitsumkalum villages, such as Casey Point and Barret Rock were destroyed through the development and construction of the rail line from Terrace along the Skeena River to Prince Rupert. Kitsumkalum currently has four reserves totalling 597 ha; one of the Nation's reserves in Port Essington (Spookshuut) is jointly administered with Kitselas First Nation (INAC 2021c). Kitsumkalum also holds shared ownership in several other reserves that had been created for the common good of the Tsimshian Nation. Kitsumkalum First Nation traditional territory encompasses the areas around the Kalum River and Lakelse Lake watersheds, westward along the Skeena River, to the headwaters of Ecstall River, and out to the coast and marine waters including south down Grenville Channel, west past Arthur Island and north into Portland Canal (Figure 4.3).

4.1.1.4 Kitselas First Nation

Kitselas First Nation has a population of 714 members, of which approximately 43% live on two reserves: Kitselas IR 1 and Kulspai IR 6 (INAC 2021d). These reserves are located along the Skeena River; Kitselas IR 1 is in the Kitselas Canyon , and Kulspai IR 6 is just outside of Terrace is in the Kitselas Canyon to the east of Terrace. Kitselas First Nation has 10 reserves covering 1069.10 ha; one of the Kitselas First Nation's reserves in Port Essington (Spookshuut) is jointly administered with Kitsumkalum First Nation (INAC 2021d). Kitselas First Nation traditional territory includes the watersheds of the Skeena and Kitimat rivers from Lorne Creek to the Skeena and Kitimat estuaries as well as the coastal waters from the southern tip of Banks Island to the norther tip of Pearse Island (Figure 4.4).

4.1.1.5 Gitxaała Nation

Gitxaała Nation is based in the Village of Kitkatla on Dolphin Island in Kitkatla Channel, located approximately 120 km west of Kitimat and 55 km south of Prince Rupert. The Gitxaała Nation has approximately 2,064 members, 21% of which live at the village of Lach Klan on Dolphin Island (also referred to as Kitkatla or "the Village") (Dolphin Island IR 1) (INAC 2021e). Gitxaała Nation has 21 reserves covering 1,885.2 ha; most of the area is captured by the Dolphin Island 1 reserve where the Village of Kitkatla is located (INAC 2021e). Gitxaała Nation territory covers just over 3,000 ha stretching south to the coastal islands just north of Kitasu Bay (Figure 4.5). The western edge of its territory extends seaward abutting against the marine territories of the Haida Nation. To the east, the territory extends to the mainland shore of Grenville Channel, where it meets Haisla and Gitga'at territories. Gitxaała Nation territory also includes an eulachon fishing station on the Nass River (Figure 4.5).

4.1.1.6 Gitga'at First Nation

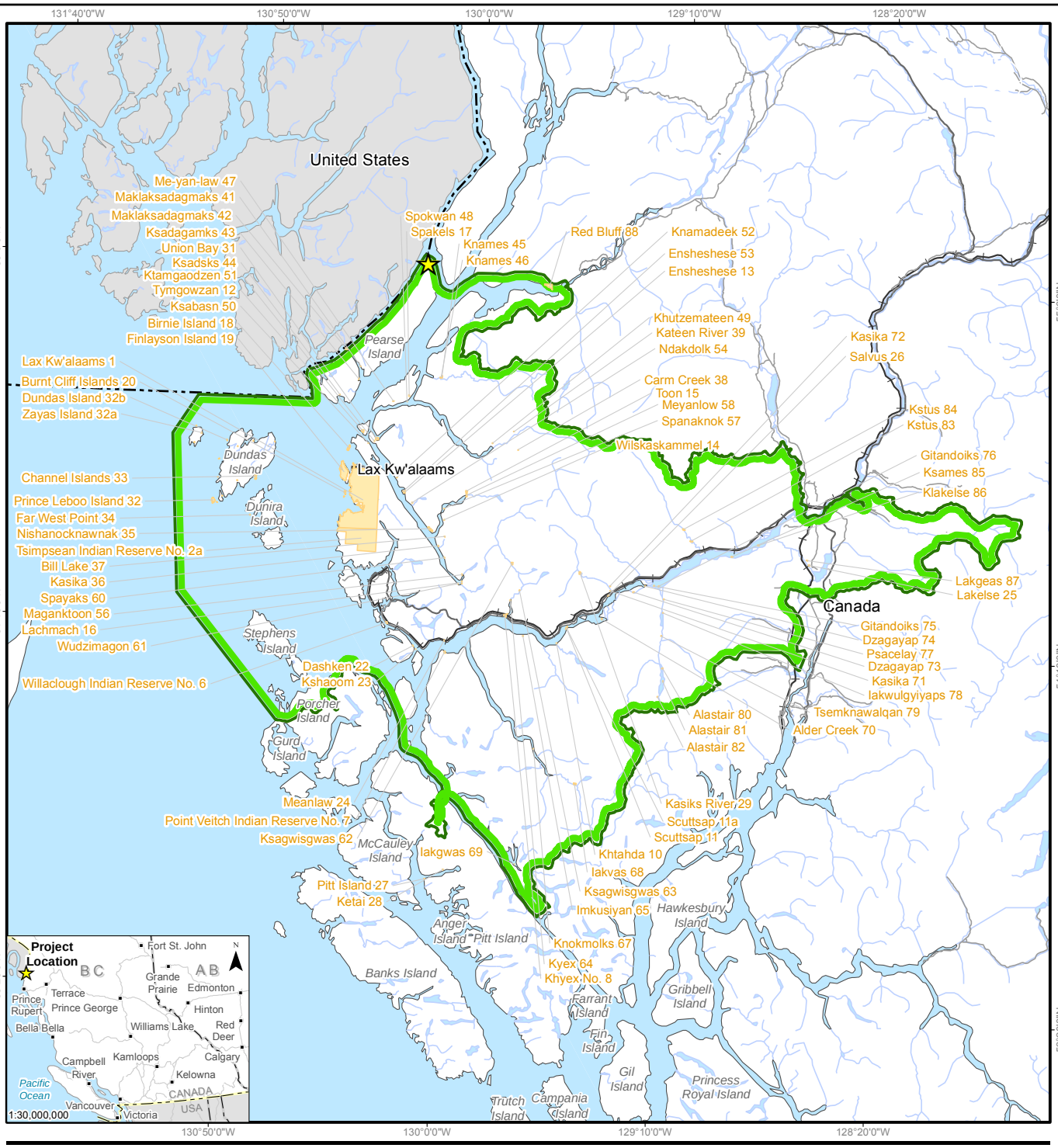
Gitga'at First Nation is based in Hartley Bay (IR 4 and 4A) approximately 50 km southwest of Kitimat and 125 km south of Prince Rupert and has a registered population of 814 (INAC 2021f). Gitga'at First Nation has 15 reserves; reserve land area totals 641.7 ha (INAC 2021f). Hartley Bay (IR 4) is recognized as the home community with approximately 140 residents, and most of the remaining population live in Prince Rupert, Terrace, Kitimat, Vancouver, Vancouver Island, and beyond (INAC 2021f). Gitga'at First Nation's asserted territory encompasses roughly 7,500 square kilometres (**km^2**) and includes the lower Douglas Channel, Whale Channel, Wright Sound, and Lewis Pass to Caamano Sound on British Columbia's North and Central Coast (Figure 4.6).

4.1.1.7 Haida Nation

Haida Nation are comprised of two bands: Old Masset Village Council or Haida Village, located 5 km northwest of Masset, and the Skidegate Mission, located on the southeast corner of Graham Island on Haida Gwaii. Haida Gwaii consist of two main islands, the more northerly Graham Island and Moresby Island in the south, and approximately 150 smaller islands; Haida Gwaii is located approximately 85 km west of Prince Rupert. Old Masset Village Council has 27 reserves covering 970 ha, and Skidegate Mission has 11 reserves covering 842 ha. Haida Nation has approximately 4,848 members, 28% of which live on two reserves: Masset IR 1 and Skidegate IR 1. Haida Nation traditional territory includes all of Haida Gwaii, the surrounding waters of Dixon Entrance and the western half of the Hecate Strait, and the Kaigani Archipelago (Figure 4.7).

4.1.1.8 Métis Nation British Columbia

Métis in BC are represented by Métis Nation British Columbia which represents thirty-eight Métis Chartered Communities. Métis Nation British Columbia is recognized as the official governing organization for Métis in BC, and its aim is to support and develop opportunities for its communities. Region 6 Prince Rupert and District Métis Nation British Columbia members may access marine areas in the vicinity of the Project in pursuit of recreational, commercial, and Indigenous fisheries.



KSI LISIMS LNG

International Boundary
Railway
Watercourse
Waterbody
Reserve Land
Wil Milit – Project Location
Lax Kw'alaams Band Territory

0 75 km
1:1,500,000 (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
3. NTS Sheets: 103J, 103O

Project Location: Pearse Island, BC
Project Number: 123221820
Prepared by TQUILICHINI on 20220104
Requested by EFLORY on 20211121
Checked by SMOSS on 20220104

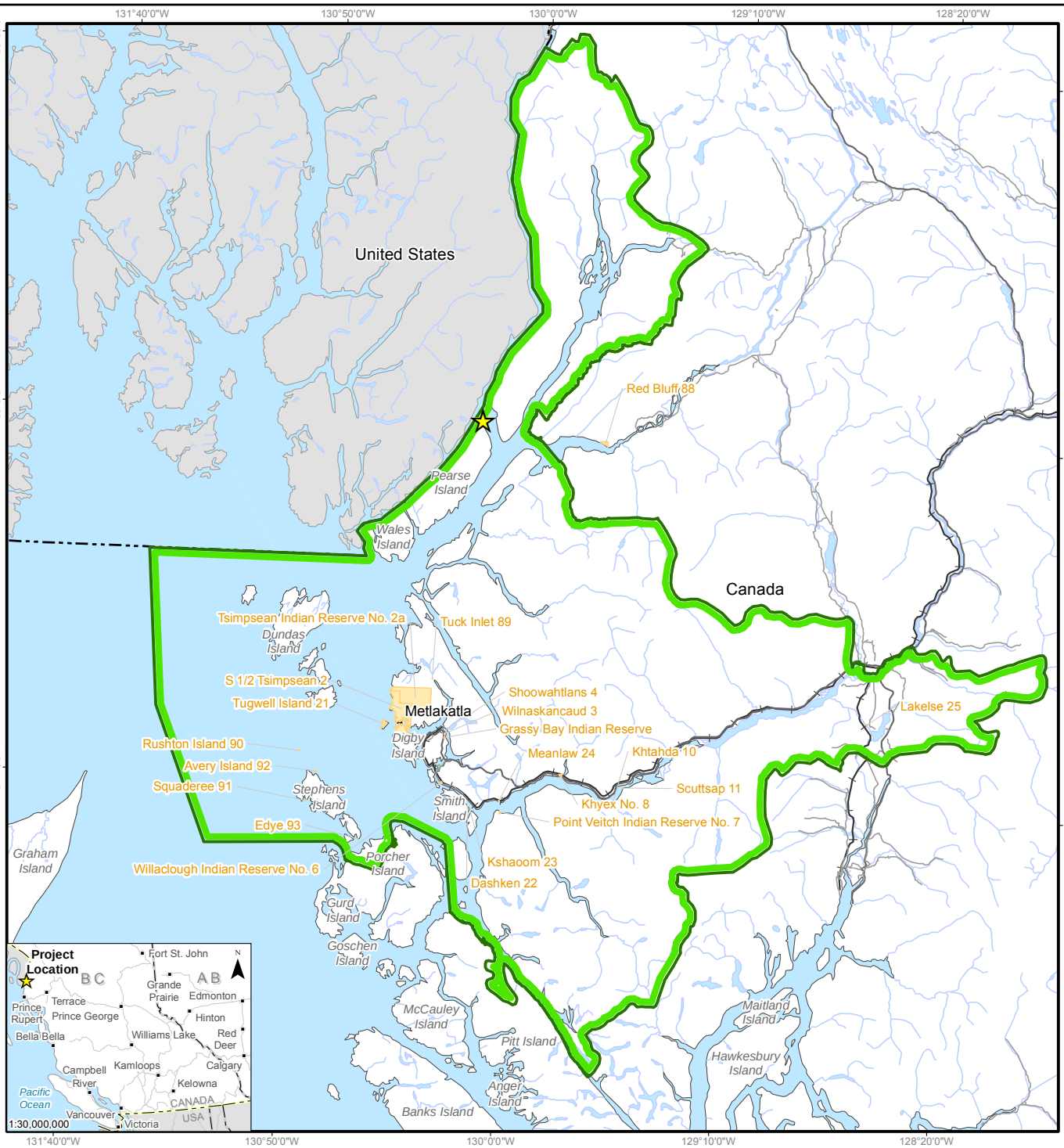
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Natural Gas Liquefaction and Marine Terminal
Detailed Project Description

Figure No.
4.1

Title
Lax Kw'alaams Band Indigenous Territory in Northwest British Columbia

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International Boundary
Railway
Watercourse
Waterbody
Reserve Land
Wil Milit – Project Location
Metlakatla Band Council Territory

0 75 km
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KSI LISIMS LNG

Stantec

Notes
1. Coordinate System: NAD 1983 BC Environment Albers
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3. NTS Sheets: 103J, 103O

Project Location: Pearse Island, BC
Project Number: 123221820
Prepared by TQUILICHINI on 20220104
Requested by EFLORY on 20211121
Checked by SMOSS on 20220104

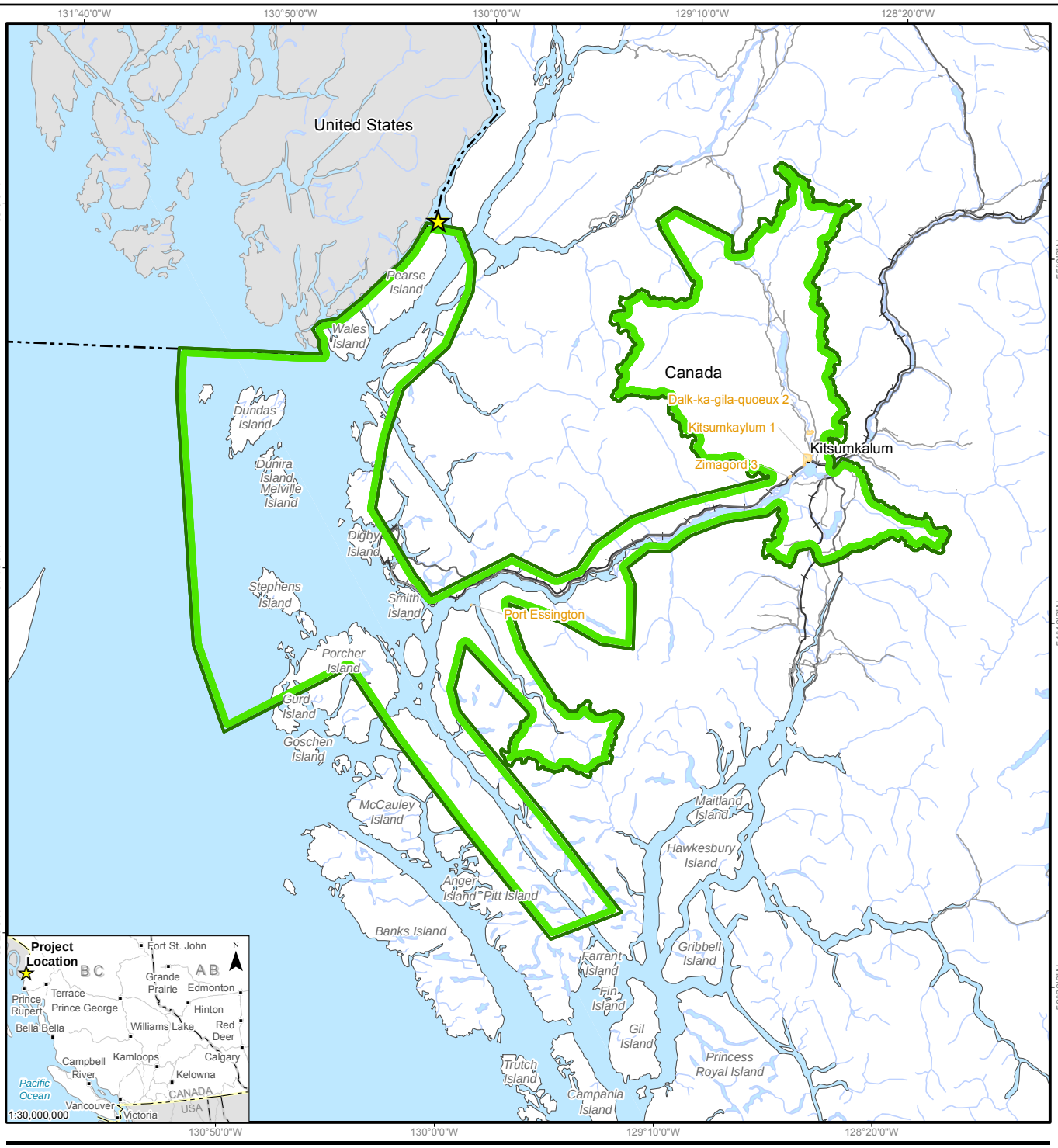
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Natural Gas Liquefaction and Marine Terminal
Detailed Project Description

Figure No.
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Title
Metlakatla Band Council Territory in Northwest British Columbia

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KSI LISIMS LNG

- International Boundary
- Railway
- Watercourse
- Waterbody
- Reserve Land
- Wil Milit – Project Location
- Kitsumkalum Band Council Territory

0 75 km

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

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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

Project Location: Pearse Island, BC

Project Number: 123221820
Prepared by TQUILICHINI on 20220127
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Checked by SMOSS on 20220127

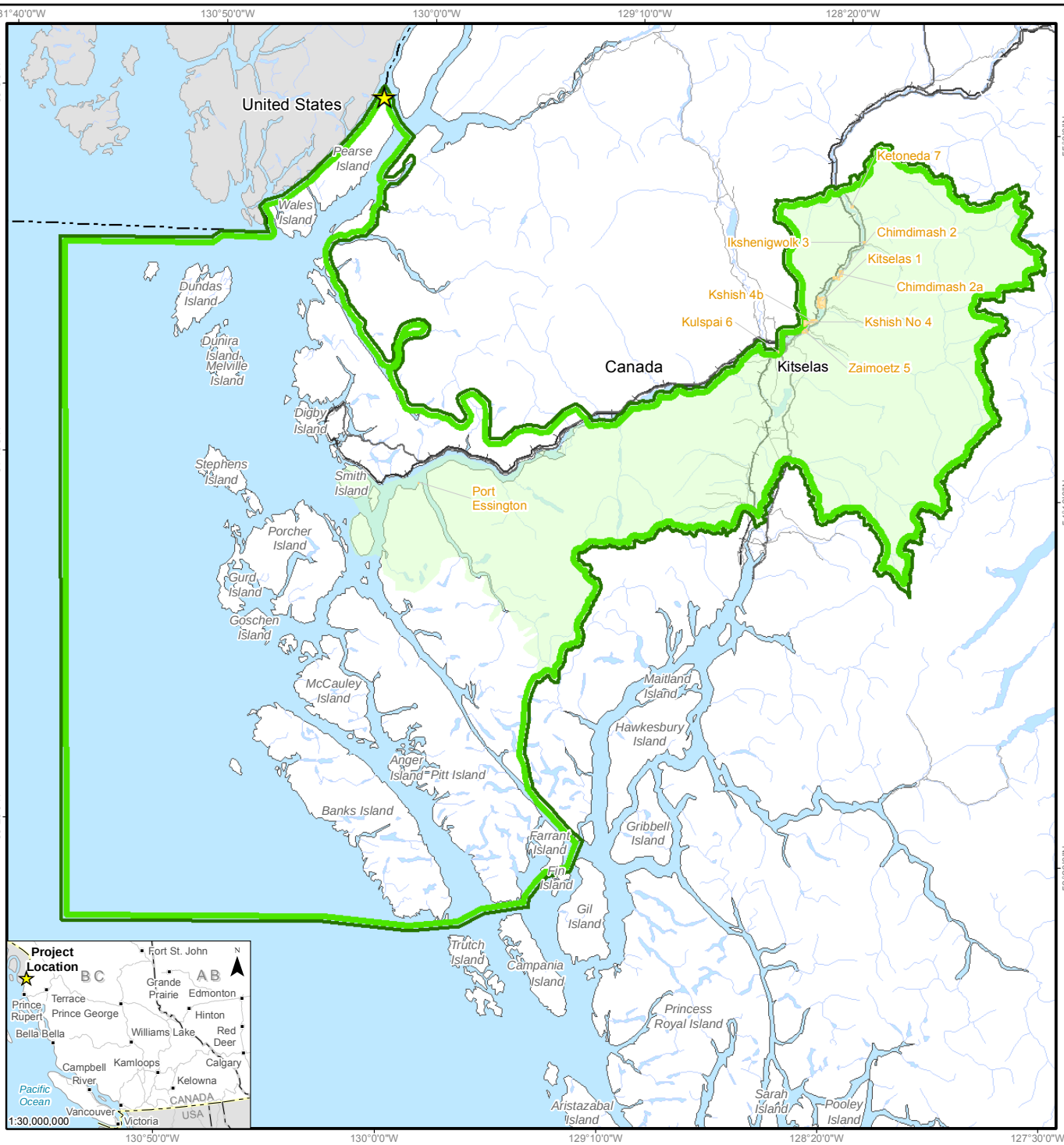
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Natural Gas Liquefaction and Marine Terminal
Detailed Project Description

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4.3

Title
Kitsumkalum Band Council Territory in Northwest British Columbia

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KSI LISIMS LNG

- International Boundary
- Railway
- Watercourse
- Waterbody
- Reserve Land
- Wil Milit – Project Location
- Kitselas First Nation Combined Harvest Area and Territory
- Kitselas First Nation Territory

0 75 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

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Project Location: Pearse Island, BC

Project Number: 123221820
Prepared by TQUILICHINI on 20220127
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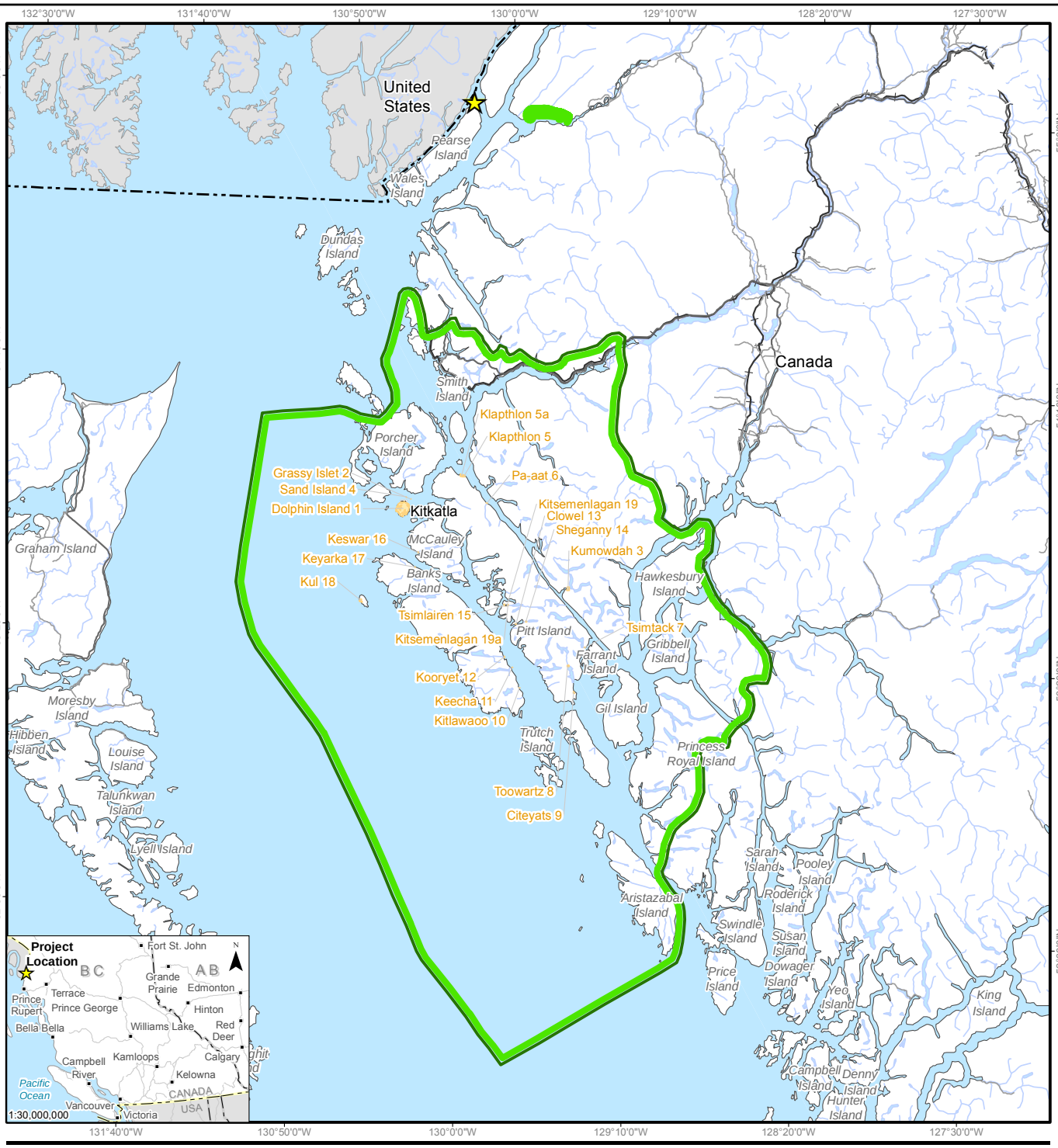
Client/Project/Report
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Natural Gas Liquefaction and Marine Terminal
Detailed Project Description

Figure No.
4.4

Title
Kitselas First Nation Territory in Northwest British Columbia

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KSI LISIMS LNG

- International Boundary
- Railway
- Watercourse
- Waterbody
- Reserve Land
- Wil Milit – Project Location
- Gitxaala Nation Territory

0 75 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
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Project Location: Pearse Island, BC

Project Number: 123221820
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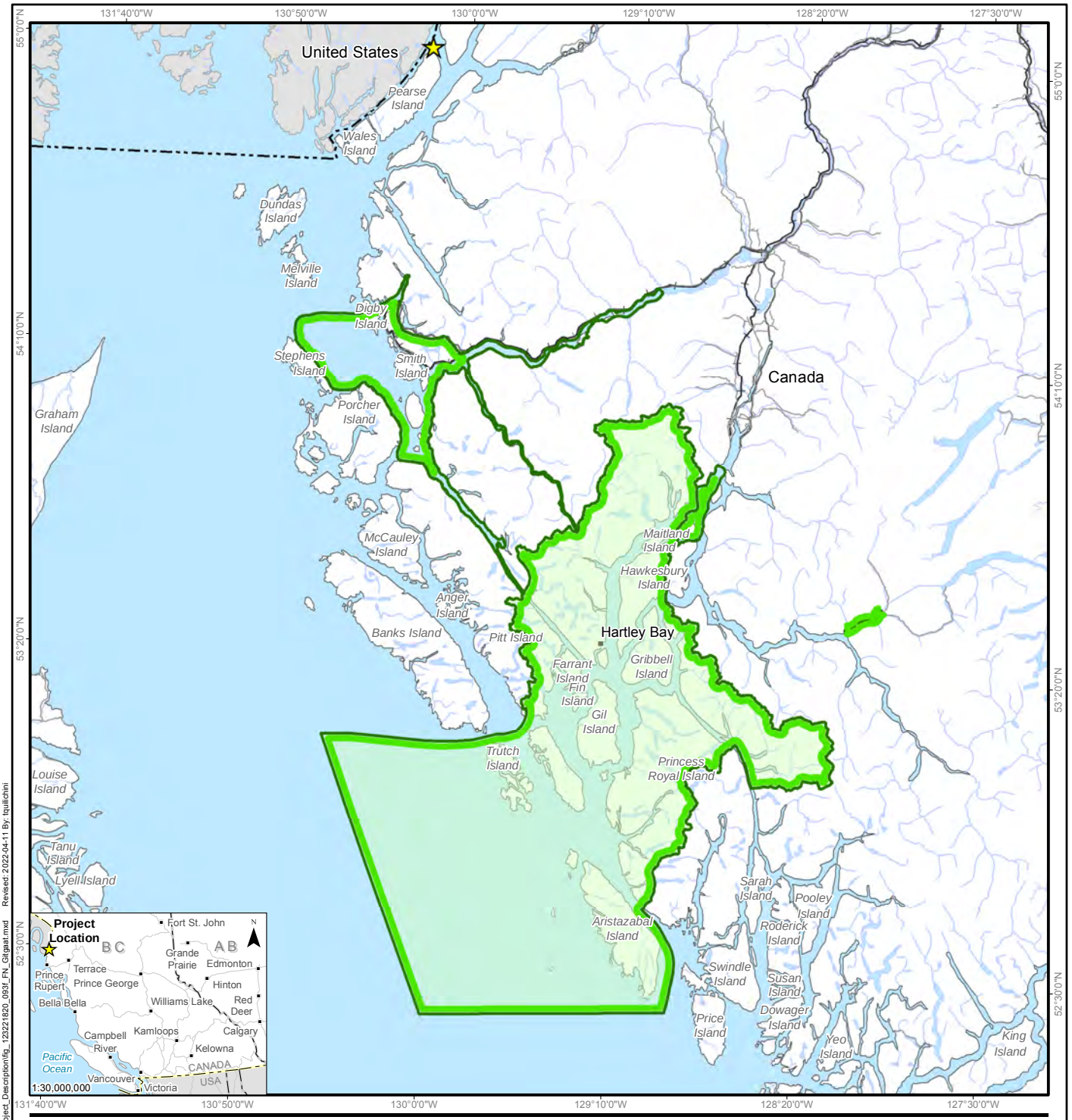
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Detailed Project Description

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Title
Gitxaala Nation Territory in Northwest British Columbia

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KSI LISIMS LNG

International Boundary
Railway
Watercourse
Waterbody
Wil Milit – Project Location
Gitga'at First Nation Combined Harvesting Area and Territory
Gitga'at First Nation Territory

0 75 km
1:1,750,000 (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

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Project Location:
Pearse Island, BC

Project Number: 123221820
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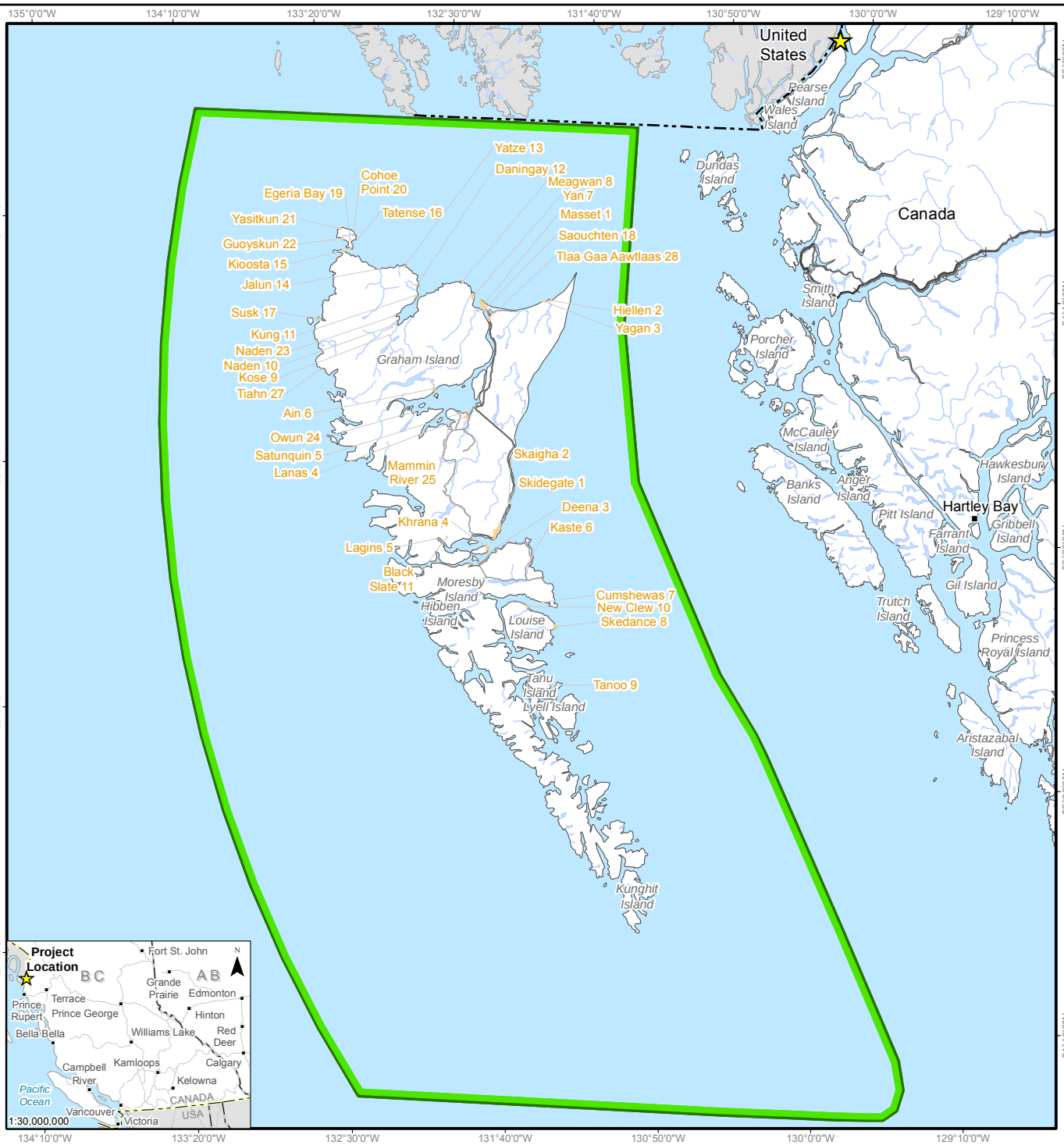
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4.6

Title
Gitga'at First Nation Territory in Northwest British Columbia

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\\CA0183-PBAGF01\Workgroup\1232\projects\123221820\figures\reports\DPD_Detailed_Project_Description\fig_123221820_093f_FN_Gitgaat.mxd Revised: 2022-04-11 By: tquilichini



KSI LISIMS LNG

- International Boundary
- Railway
- Watercourse
- Waterbody
- Reserve Land
- Wil Milit – Project Location
- Haida Nation Territory

0 75 km

1:2,250,000 (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
3. NTS Sheets: 103J, 103O

Project Location: Pearse Island, BC

Project Number: 123221820
Prepared by TQUILICHINI on 20220420
Requested by EFLORY on 20220420
Checked by SMOSS on 20220420

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Detailed Project Description

Figure No.
4.7

Title
Haida First Nation Territory in Northwest British Columbia

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4.2 Land and Marine Use Planning

The Site is within the Regional District of Kitimat-Stikine but is not subject to an Official Community Plan or Zoning By-law as might be administered by a regional district or municipality.

The onshore portion of the Project is located on Nisg̲a'a Nation's Category A Lands, which describes land owned by the Nisg̲a'a Nation in fee simple and is located within the Nass Area. The Project proposes to lease a Water Lot adjacent to District Lot 5431 to accommodate marine infrastructure.

A Land Use Plan for Nisg̲a'a Lands (2002; **Nisg̲a'a LUP**) sets out important considerations for uses of Nisg̲a'a Lands (as defined therein). The Nisga'a LUP guides how the Nisg̲a'a Nation governs Nisg̲a'a Lands in accordance with a set of principles:

- Adherence to the principle of the common bowl
- Sustainable use of resources on Nisg̲a'a Lands for the benefit of Nisg̲a'a citizens
- Protection of the environment from ecological degradation
- Equitable access to Nisg̲a'a Lands and Nisg̲a'a resources for Nisg̲a'a citizens

Although the Nisga'a LUP does not apply to Category A Lands, these principles guide the Nisg̲a'a Nation in land use decisions with respect to all lands owned by the Nisg̲a'a Nation.

The Site is also within the provincial NC LRMP area and designated therein as "interests of the Nisg̲a'a Lisims Government".

The Marine Plan Partnership for the North Pacific Coast (**MaPP**) is an initiative between the Province of BC and 16 Indigenous Nations that developed and are implementing marine use plans for BC's North Pacific Coast. The MaPP region is divided into four sub-regions: North Coast, Haida Gwaii, Central Coast, and North Vancouver Island. The marine plan area includes the territories of six participating First Nations: Gitga'at, Gitxaala, Kitsumkalum, Kitselas, Haisla, and Metlakatla First Nation. Although the North Pacific Coast sub-region of MaPP includes the marine waters of the Nass Area, only two spatial areas within the Nass Area are identified by the NCMP (North Coast-Skeena First Nations Stewardship Society and GoBC 2015): "Stewart" – a portion of the Bear River Estuary and "Kitsault" – at the head of Alice Arm. Both are identified in the NCMP as "Areas for future planning consideration" in need of finer-scale planning information, subject to participation by the Nisg̲a'a Nation.

There are also a number of confidential marine use plans that have been developed for areas that will be transected by the shipping routes to and from the Project. These include:

- Interim Land and Marine Resource Plan of the Allied Tsimpshian Tribes of Lax Kw'alaams Band
- Metlakatla Draft Marine Use Plan
- Kitsumkalum Marine Use Plan
- Gitxaala Marine Use Plan

4.3 Proximity of the Site to Protected Areas and Federal Lands

The proximity of protected areas, such as parks and Wildlife Habitat Areas, and federal lands from the Site (out to 55 km) are listed in Table 4.1. The Site does not overlap with any lands outside of BC or Canada.

Table 4.1 – Proximity of Site to Treaty Lands, Protected Areas, and Federal Lands

Protected Areas, Federal Lands and Treaty Areas and Lands	Proximity to Site (km)
Treaty Area	
Nisga'a Nation Nass Wildlife Area	n/a within area
Treaty Lands	
Nisga'a Lands	11
Treaty Related Lands	
Nisga'a Category A (12)	0–52
Nisga'a Category B (6)	17–48
First Nation Reserve Lands	
Maklaksadagmaks 42, Knames 45, Knames 46, Red bluff 88	20–30
Maklaksadagmaks 41, Ksadagmks 43, Ksadsks 44, Me-yan-law 47, Spokwan 48, Spakels 17, Birnie Island 18	31–40
Finlayson Island 19, Union Bay 31, Carm Creek 38, Kateen River 39, Ksabasn 50, Ktamgaodzen 51, Knamadeek 52, Lax Kw'alaams 1, Tymgowzan 12	41–55
Conservancy Area	
Khutzeymateen Inlet, Winter Inlet, Ksi X'Anmaas	20–30
Ksi Xts'at'kw/Stagoo, Kts'Mkta'Ani/Union Lake, Manzanita Cove, Wales Harbour, Khutzeymateen Inlet West	31–40
Larcom Lagoon, Zumtela Bay	41–50
Fisheries and Ocean Canada	
Kincolith CEDP Hatchery	~15

4.4 Social and Economic Setting

4.4.1 Regional Settings

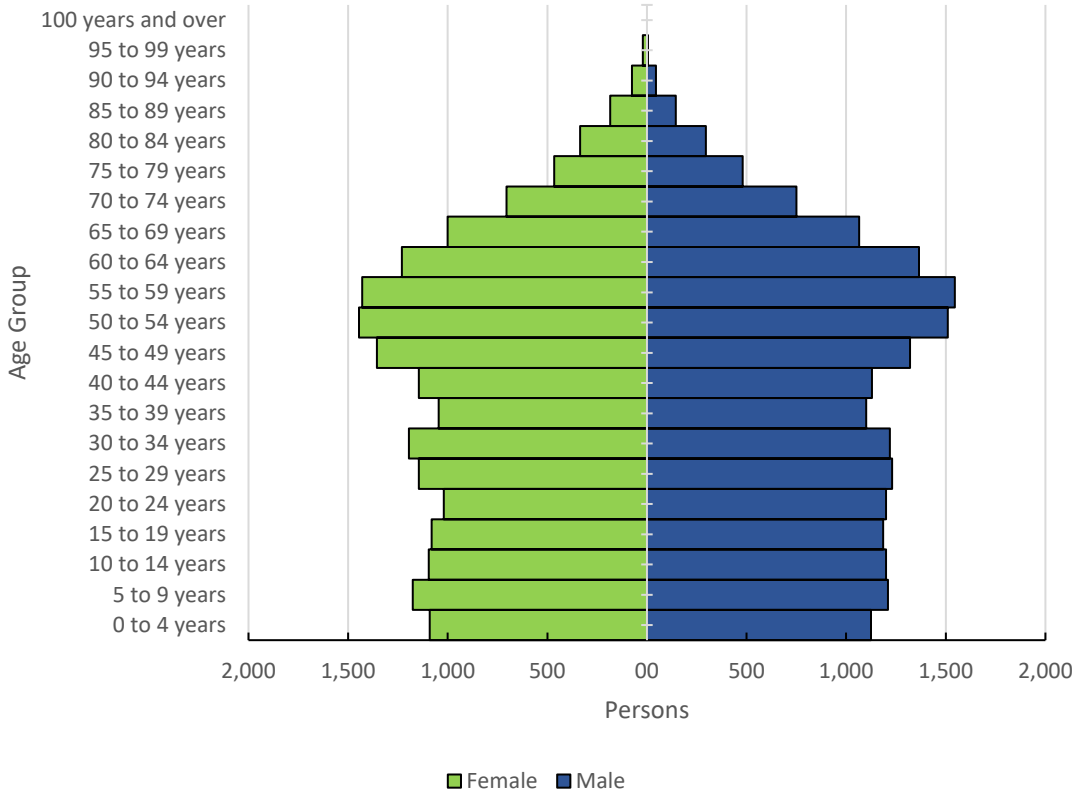
4.4.1.1 Regional District of Kitimat-Stikine

The proposed Project is located in the Regional District of Kitimat-Stikine (**RDKS**). The RDKS provides local government services to an area of 100,000 km^2 in northwestern BC and includes the City of Terrace, Village of Hazelton, Nisg̲a'a (Nisg̲a'a Land), District Municipalities of Kitimat, New Hazelton, and Stewart, RDKS Electoral Areas A, B, C (Part 1 and 2), D, E, and F, and the following First Nations reserves: Babine 17, Bulkley River 19, Coryatsaqua (Moricetown) 2, Dease Lake 9, Gitanmaax 1, Gitanyow 1, Gitsegukla 1, Gitwangak 1, Guhthe Tah 12, Hagwilget 1, Iskut 6, Kispiox 1, Kitamaat 2, Kitasoo 1, Kitselas 1, Kitsumkaylum 1, Kshish 4, Kulspai 6, Moricetown 1, Sik-e-dakh 2, Tahltan 1, and Telegraph Creek.

In 2021, the population of RDKS was 37,790 persons. This is a 1.1% increase from 2016 (Statistics Canada 2022a). In 2016, roughly 36% of the population of RDKS identified themselves as Indigenous (Statistics Canada 2017b). Population counts by age group within RDKS are presented in SOURCE: Statistics Canada 2017b.

In 2016, approximately 18% of the population of the RDKS were between 0 to 14 years of age, 67% between 15 to 64 years of age, and 15% were 65 years of age or older (Statistics Canada 2017b). The mean age of the population was 39.9 years, and the median was 40.8 years.

Figure 4.8 – Population Pyramid for RDKS in 2016



SOURCE: Statistics Canada 2017b

In 2021, there were 15,306 private dwellings occupied in RKDS, a 3.3% increase from 2016 (Statistics Canada 2022a). In 2016, 72% of the housing stock of the RDKS was detached dwellings, 22% was attached dwellings (e.g., semi-detached houses, town houses, apartments in duplexes and low-rise[4] buildings, and other single-attached houses) and 6% was movable dwellings (Statistics Canada 2017b). The average household size in 2016 was 2.5 persons (Statistics Canada 2017b). Approximately 96% of households occupied housing that was considered by the Canadian Mortgage and Housing Corporation

[4] Apartment with fewer than five storeys

(CMHC) as 'suitable'[5]. The number of owner-occupied housing outnumbered tenant-occupied housing by a ratio of 3:1 (Statistics Canada 2017b). In 2016, 91% of owner households and 85% of tenant households occupied dwellings considered to be 'affordable'[6] by the CMHC. Median monthly shelter costs for owned dwellings ($794/month) were lower than tenant occupied dwellings ($883/month) in 2016 (Statistics Canada 2017b).

In 2016, the labour participation rate in the RDKS was 64.4%. The employment rate was 55.5% and the unemployment rate was 13.8%. The economic base of the RDKS in 2016 was primarily non-basic industries[7], accounting for 51% of the labour force (Statistics Canada 2017b). Basic industries[8] accounted for 45.7% of the labour force in 2016, while 3.3% of the labour force was unclassified. Industries with the highest employment were health care and social assistance (11.3% of total labour force), retail trade (11.2%), accommodation and food services (10.9%), and construction (10.9%; Statistics Canada 2017b).

For the year ending December 31, 2020, the RDKS posted an annual net surplus of just over $4 million with revenues of $21 million and expenditures of $17 million (RDKS 2020). Approximately 48% of 2020 revenue was generated through taxation, 29% through own sources, and 16% from grants (RDKS 2020). The RDKS's five largest expenditure items in 2020 were: Terrace Area Solid Waste Management (18% of total expenditures), general government expenditures (12%), amortization/loss on disposal of assets (12%), Hazelton & Steward area solid waste (11%), and Upper Skeena Recreation (5%; RDKS 2020).

Published by Crown-Indigenous and Northern Affairs Canada (**CIRNAC**), the Community Well-Being (**CWB**) index measures the social and economic well-being of communities across Canada using four component criteria (education, labour force activity, income, and housing) as informed by the results of Statistics Canada's Census of the Population. The CWB index has a maximum score of 100 (CIRNAC 2019). CWB scores within the RDKS range from 48 to 80. Well-being scores for communities that have published data[9] are shown in Figure 4.9. Component scores for RDKS Electoral Area D, Hazelton, and Guhthe Tah 12 are suppressed; however, total CWB scores are available and are therefore included. For comparison, the highest CWB score in BC is 90, scored by only three communities (two in the Lower Mainland [the City of West Vancouver and the Village of Belcarra] and one on Vancouver Island [the District Municipality of Oak Bay]). The City of Vancouver and the City of Victoria each have a CWB score of 85 (CIRNAC 2019).

5 Dwelling has enough bedrooms for the size and composition of the household (CMHC 2018)

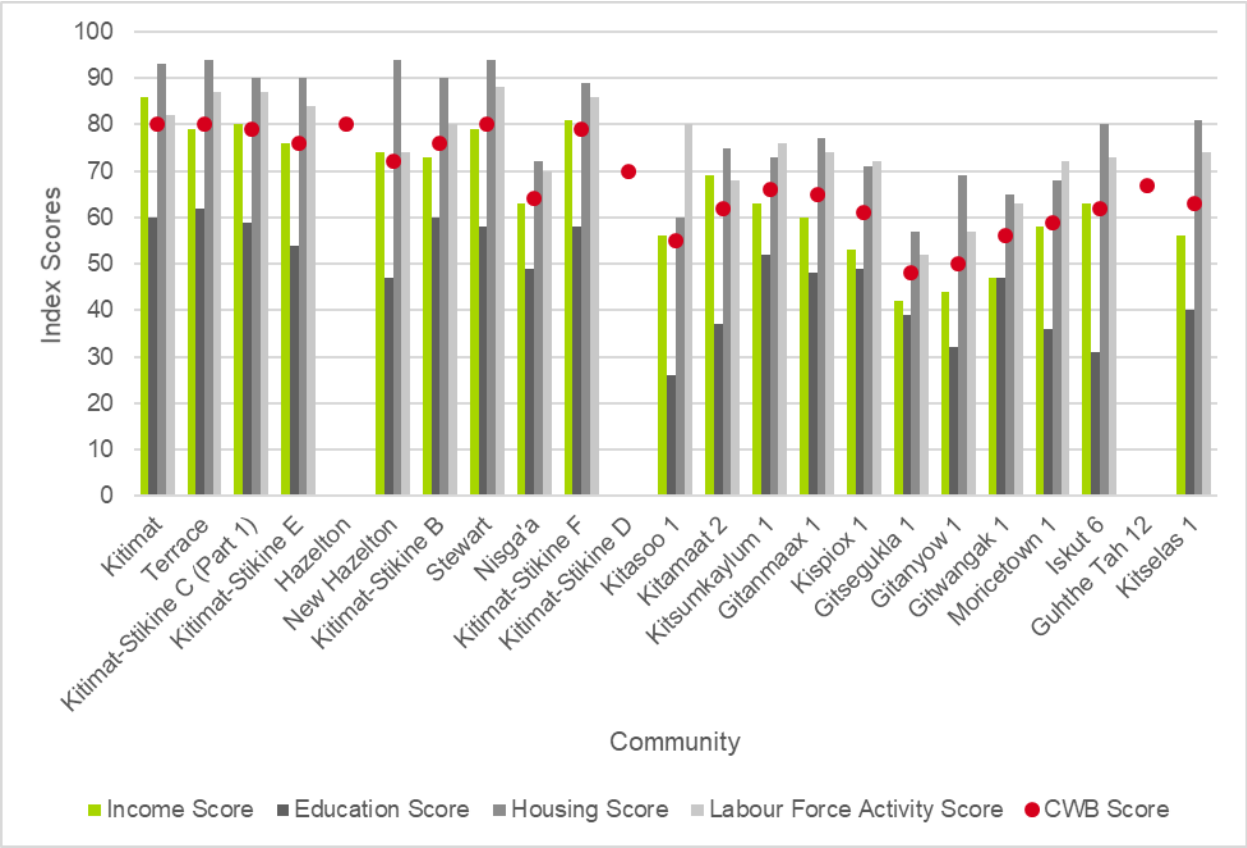
6 The CMHC considered housing to be affordable if shelter costs represent less than 30% of a households before-tax income (CMHC 2018)

7 Non-basic industries are broadly characterized as the "service" sector as they generally sell services within a region. Non-basic industries are therefore not considered primary economic generators.

8 Basic industries generate much of their revenue from sales to customers located outside of the region and are therefore the primary economic generators (because they bring in income from outside of the region). Components of the public sector funded from provincial and federal sources also have some characteristics of basic sectors because they involve currency inflow from outside the region.

9 Information is not available for RDKS Electoral Area A, C (Part 2), Kshish 4, Kulspai 6, Coryatsaqua (Moricetown) 2, Hagwilget 1, Sik-e-dakh 2, Babine 17, Bulkley River 19, Dease Lake 9, Tahltan 1, and Telegraph Creek.

Figure 4.9 – Community Well-Being Scores for RDKS Communities in 2016



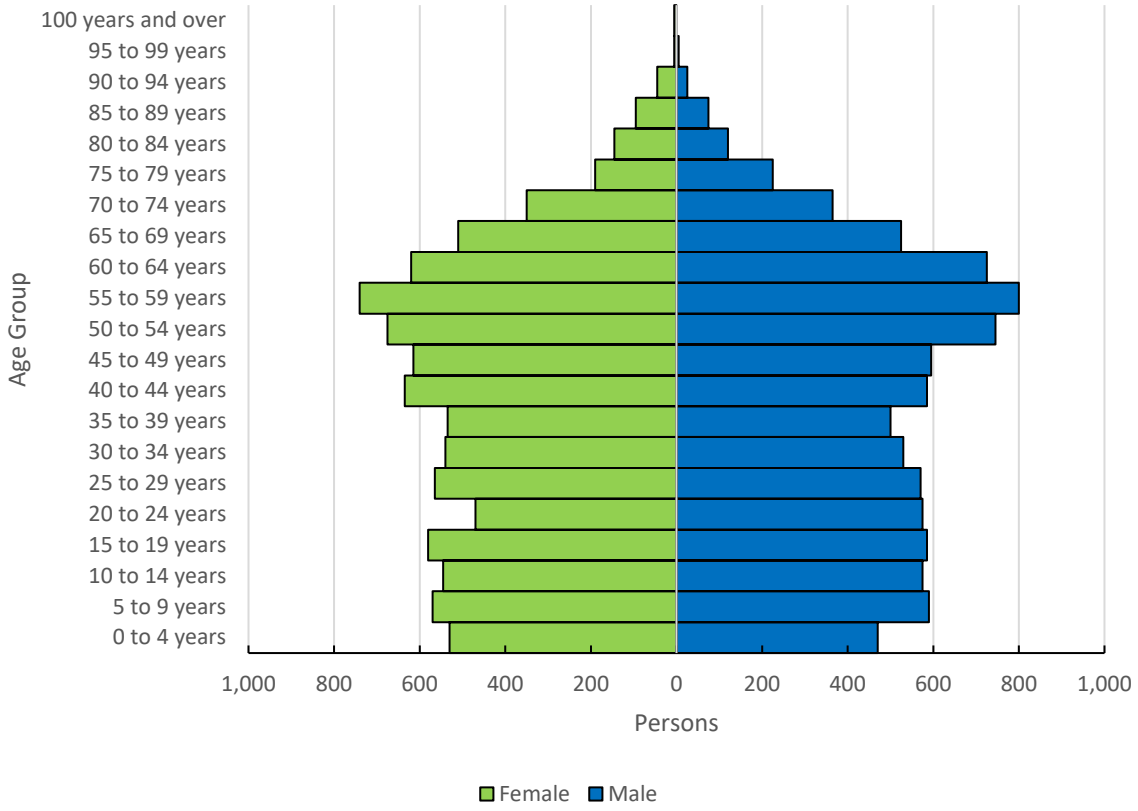
SOURCE: CIRNAC 2019

4.4.1.2 North Coast Regional District

The North Coast Regional District (**NCRD**), previously the Skeena-Queen Charlotte Regional District, has a land area of 19,710 km^2 and includes the City of Prince Rupert, villages of Masset, Queen Charlotte, and Port Clements, the District Municipality of Port Edward, NCRD Electoral Areas A, C, D, and E, and the following First Nation reserves: Kulkayu (Hartley Bay) 4A, Masset 1, Skidegate 1, Kulkayu (Hartley Bay) 4, Dolphin Island 1, Law Kw'alaams 1, S1/2 Tsimpsean 2, and Tlaa Gaa Aawtlaas 28 (Statistics Canada 2017d).

In 2021, the population of NCRD was 18,181 persons, a 0.3% increase from 2016 (Statistics Canada 2022c). In 2016, approximately 50% of the population identified themselves as Indigenous (Statistics Canada 2017d). Population counts by age group in NCRD are presented in Figure 4.10. In 2016, approximately 18% of the population was between the ages of 0 and 14, 67% were between the ages of 15 and 64, and 15% were 65 or older. The mean age of the population was 40.1 years and median age was 41.4 years (Statistics Canada 2017d).

Figure 4.10 – Population Pyramid for NCRD in 2016



SOURCE: Statistics Canada 2017d

In 2021, there were 7661 private dwellings occupied in NCRD, a 3.3% increase from 2016 (Statistics Canada 2022c). In 2016, 67% of the housing stock was detached dwellings, 31% was attached dwellings (e.g., semi-detached houses, town houses, apartments in duplexes and low-rise buildings, and other single-attached houses), and 2% was movable dwellings (Statistics Canada 2017d). In 2016, the average household size was 2.4 persons (Statistics Canada 2017d). Approximately 94% of households occupied housing that was considered by CMHC as 'suitable'. The number of owner-occupied housing outnumbered tenant-occupied housing by a ratio of 2:1 (Statistics Canada 2017d). In 2016, 87% of owner households and 70% of tenant households occupied dwellings that were considered 'affordable' by the CMHC. Median monthly shelter costs for owned dwellings ($902/month) were higher than tenant occupied dwellings ($804/month) in 2016 (Statistics Canada 2017d).

In 2016, the labour participation rate in the NCRD was 66.7%. The employment rate was 58.5% and the unemployment rate was 12.3%. The economic base of the NCRD in 2016 was primarily non-basic industries, accounting for 59% of the labour force. Basic industries accounted for 39% of the labour force, while 2.5% of the labour force was unclassified (Statistics Canada 2017d). Industries with the highest employment were transportation and warehousing (13.9% of total labour force), retail trade (10.7%), health care and social services (10.4%), and educational services (7.1%; Statistics Canada 2017d).

For the year ending December 31, 2020, the NCRD posted an annual net surplus of just over $650,000, with revenues of $5.9 million and expenditures of $5.2 million. Of this, 31% of revenue was obtained through taxation; 30% from sales, fees, and other; 21% from municipal debt payments; and 18% from grants (NCRD 2021). In 2020, the NCRD's three largest expenditure items were environmental services (37% of total expenses), municipal debt payments (24%), and general government expenses (21%; NCRD 2021).

Communities within the NCRD had CWB index scores ranging from 49 to 81, with an average score of 69 (CIRNAC 2019). Well-being scores for communities that have published data[10] are shown in Figure 4.11. Component scores for NCRD Electoral Area C and S1/2 Tsimpsean 2 are suppressed; however, total CWB scores are available and are therefore included.

Figure 4.11 – Community Well-Being Scores for NCRD Communities in 2016



SOURCE: CIRNAC 2019

[10] Information is not available for NCRD Electoral Area A, Kulkayu (Hartley Bay) 4, Kulkayu (Hartley Bay) 4A, and Tlaa Gaa Aawtlaas 28.

4.4.2 Local Setting

4.4.2.1 Nisga'a Nation

The Nisga'a Nation includes the villages of Gingolx, Gitwinksihlkw, Laxgalts'ap, and Gitlaxt'aamiks. In 2016, the total combined population of these four villages was 1,690 (CIRNAC 2017a).

4.4.2.2 Village of Gingolx

The Village of Gingolx is in the RDKS and is located approximately 15 km east of the proposed Project. In 2016, the Village of Gingolx had a population of 370 persons. Approximately 27% of the population were between the ages of 0 and 19, 61% between the ages of 20 and 64, and 12% were 65 and over. The median age was 40 (CIRNAC 2017b).

In 2016, there were 130 private households in the Village of Gingolx. Almost 60% of the 130 dwellings in Gingolx required major repairs.[11]

The labour participation rate in Gingolx in 2016 was 61.7%. The employment rate was 38.3% and the unemployment rate was 35.1%. In 2016, the economic base of Gingolx consisted primarily of non-basic industries, accounting for 56% of the labour force, while basic industries accounted for 44% of the labour force (CIRNAC 2017b). Industries with the highest employment were 'other services' (44% of the total labour force), health or education (25%), agriculture (9%), and manufacturing or construction (9%). Occupations with the highest employment were management (24% of total labour force), sales and service (24%), social sciences or government (21%), and primary industry (14%; CIRNAC 2017b). The median household income was $34,688 and the average total income for all persons with income was $21,187. On average, total income was comprised of 60% earnings, 38% government transfer, and 1% other income (CIRNAC 2017b).

4.4.2.3 City of Prince Rupert

The City of Prince Rupert is a port town in the NCRD of BC. It lies approximately 80 km south of the proposed Project. The total land area of the City of Prince Rupert is 66 km^2. In 2021, the population of Prince Rupert was 12,300, a 0.7% increase from 2016 (Statistics Canada 2022b). In 2016, approximately 39% of the population self-identified as Indigenous. Of the total population of Prince Rupert in 2016, 18% were between the ages of 0 and 14, 68% were between the ages of 15 and 64, and 14% were aged 65 and over. The mean age of the population was 39.6 years, and the median age was 40.5 years (Statistics Canada 2017c).

In 2021, there were 5,072 private dwellings occupied in Prince Rupert, a 2.9% increase from 2016 (Statistics Canada 2022b). In 2016, 56.9% of the housing stock of Prince Rupert was detached dwellings, 40% was attached dwellings (e.g., semi-detached houses, town houses, apartments in duplexes and low-rise buildings, and other single-attached houses), and 2% was movable dwellings (Statistics Canada 2017c). In 2016, the average household size was 2.4 persons (Statistics Canada 2017c). The number of

[11] Major repairs are considered an indicator of inadequate dwellings. Examples of 'major repairs' given in the 2016 Census were: "defective plumbing or electrical wiring, structural repairs to walls, floors or ceilings, etc." (Statistics Canada 2017a).

owner-occupied housing outnumbered tenant-occupied housing by a ratio of 3:2. Approximately 94% of households in Prince Rupert occupied housing that was considered by CMHC as 'suitable'. In 2016, 87% of owner-occupied households and 68% of tenant-occupied households were considered 'affordable' by the CMHC. Median monthly shelter costs were higher for owned dwellings ($1,055/month) than rented dwellings ($815/month; Statistics Canada 2017c).

In 2016, the labour participation rate in Prince Rupert was 67.9%. The employment rate was 59.3% and the unemployment rate was 12.6%. In 2016, the economic base of Prince Rupert was primarily non-basic industries, accounting for 61% of the labour force. Basic industries accounted for 36% of the labour force in 2016, while 2.6% of the labour force was unclassified. Industries with the highest employment were transportation and warehousing (17% of total labour force), retail trade (11.4%), health care and social services (10.4%), and construction (7.1%; Statistics Canada 2017c).

In 2020, the City of Prince Rupert posted a net surplus of approximately $42 million, with net revenues of $78 million and expenditures of $36 million (City of Prince Rupert and Carlyle Shepherd & Co. 2021). In 2020, 32% of revenues were from taxes while government transfers accounted for 35% of revenues. In 2020, Prince Rupert's two largest expenditure items were protection to persons and property (30% of total expenditures) and water, sewage, and solid waste (20%; City of Prince Rupert and Carlyle Shepherd & Co. 2021).

4.4.2.4 City of Terrace

The City of Terrace is in the RDKS and lies approximately 120 km southeast of the proposed Project. The City of Terrace covers an area of approximately 57 km^2. In 2021, the population of Terrace was 12,017 persons, up 3.2% from 2016 (Statistics Canada 2022d). In 2016, 24% of the population self-identified as Indigenous (Statistics Canada 2017e). Terrace is the most populated municipality in the RDKS. In 2016, approximately 19% of the population of Terrace were between 0 to 14 years of age, 66% between 15 to 64 years of age, and 15% were 65 years of age or older (Statistics Canada 2017e). The mean age of the population was 39.2 years, and the median was 38.8 years.

In 2021, there were 5,200 private dwellings in Terrace, a 6% increase from 2016 (Statistics Canada 2022d). In 2016, 62% of the housing stock in the City of Terrace was detached dwellings, 34% was attached dwellings (e.g., semi-detached houses, town houses, apartments in duplexes and low-rise buildings, and other single-attached houses), and 4% was movable dwellings (Statistics Canada 2017e). The average household size was 2.5 persons (Statistics Canada 2017e). Approximately 97% of households occupied housing that was considered by the CMHC as 'suitable'. The number of owner-occupied housing outnumbered tenant-occupied housing by a ratio of almost 4:1 (Statistics Canada 2017e). In 2016, 91% of owner households and 83% of tenant households occupied dwellings considered 'affordable' by the CMHC. Median monthly shelter costs for owned dwellings ($743/month) were lower than tenant occupied dwellings ($1,001/month; Statistics Canada 2017e).

In 2016, the labour participation rate in Terrace was 67.9%. The employment rate was 61.9% and the unemployment rate was 8.8%. In 2016, the economic base of Terrace was primarily non-basic industries, accounting for 58.1% of the labour force (Statistics Canada 2017e). Basic industries accounted for 40.4% of the labour force in 2016, while 1.4% of the labour force was unclassified. Industries with the highest employment were retail trade (14.8% of the total labour force), health care and social assistance (13.4%), accommodation and food services (11.8%), and educational services (9.7%; Statistics Canada 2017e).

For the year ended December 31, 2020, Terrace posted an annual net surplus of $7.9 million with revenues of $35.3 million and expenditures of $27.3 million (City of Terrace and Carlyle Shepherd & Co. 2021). In 2020, 55% of revenue was generated through taxes, and 19% from user fees and charges. In 2020 Terrace's five largest expenditure items were: protective services (24% of total expenditures), transportation and transit (16%), amortization of tangible capital assets (15%), leisure services (13%), and development services (9%; City of Terrace and Carlyle Shepherd & Co. 2021).

4.5 Land and Water Use

The Project's location at Wil Milit is in a remote wilderness area and, other than some logging several decades ago, it has been primarily used by the Nisga'a for traditional purposes. In the broader region, coastal logging and associated log storage and transport, regional mines and associated shipping of minerals out of the port facilities at Stewart, BC and commercial fish processing are the only industrial uses currently operating in this part of coastal BC.

The land and water use of the Project area can be described as generally natural, sparsely populated, with some history of commercial fishing, tourism, and forest harvesting (particularly in decades past). Coastal forest harvesting in the general area has diminished in recent years.

Significant economic, cultural, and social value near the Site and marine waters of the region are derived from the harvest of aquatic resources. For example, within the Nass Area, harvest by Nisg̲a'a citizens occurs in the general commercial fisheries, Nisg̲a'a commercial fisheries for salmon, and Nisg̲a'a domestic fisheries for food, social and cultural purposes. While domestic fisheries do not generate income, they do serve, in additional to food and cultural values, an important economic role in that harvests for domestic purposes offset the cost of food that would otherwise have to be purchased. Commercial fishing in Portland Inlet and at the mouth of the Nass River includes salmon as well as crab.

The marine waters of the region serve as marine navigation routes for Indigenous, commercial, industrial, and recreational users connecting Stewart, Hyder, AK, Kitsault, Ging̲olx, and Laxg̲alts'ap to communities and ports to the south, as well as to international destinations. For centuries, the Nass River was the primary means of connecting Ging̲olx to Nisg̲a'a Villages upriver. The completion of Highway 113 connecting the Nass Valley to Terrace changed that approximately 20 years ago.

4.5.1 Existing Industrial and Commercial Operations

The only historical industrial and commercial transportation into and out of the Portland Canal area has been via commercial vessels going past Wil Milit to the port facilities in Stewart, BC or Hyder, AK or to supply historic fishing lodges, camps, marine log transport (e.g., barged logs from commercial forest harvesting) and potentially whaling stations of years past. Recreational, commercial, and Indigenous fishing vessels also routinely transit this maritime region.

4.5.2 Past and Present Water Use

There is no known surface or groundwater use at Wil Milit except by Indigenous people who used the Wil Milit area in past years. Infrequent use by other marine users of Whiskey Bay, e.g., as a safe anchorage site, may also be possible.

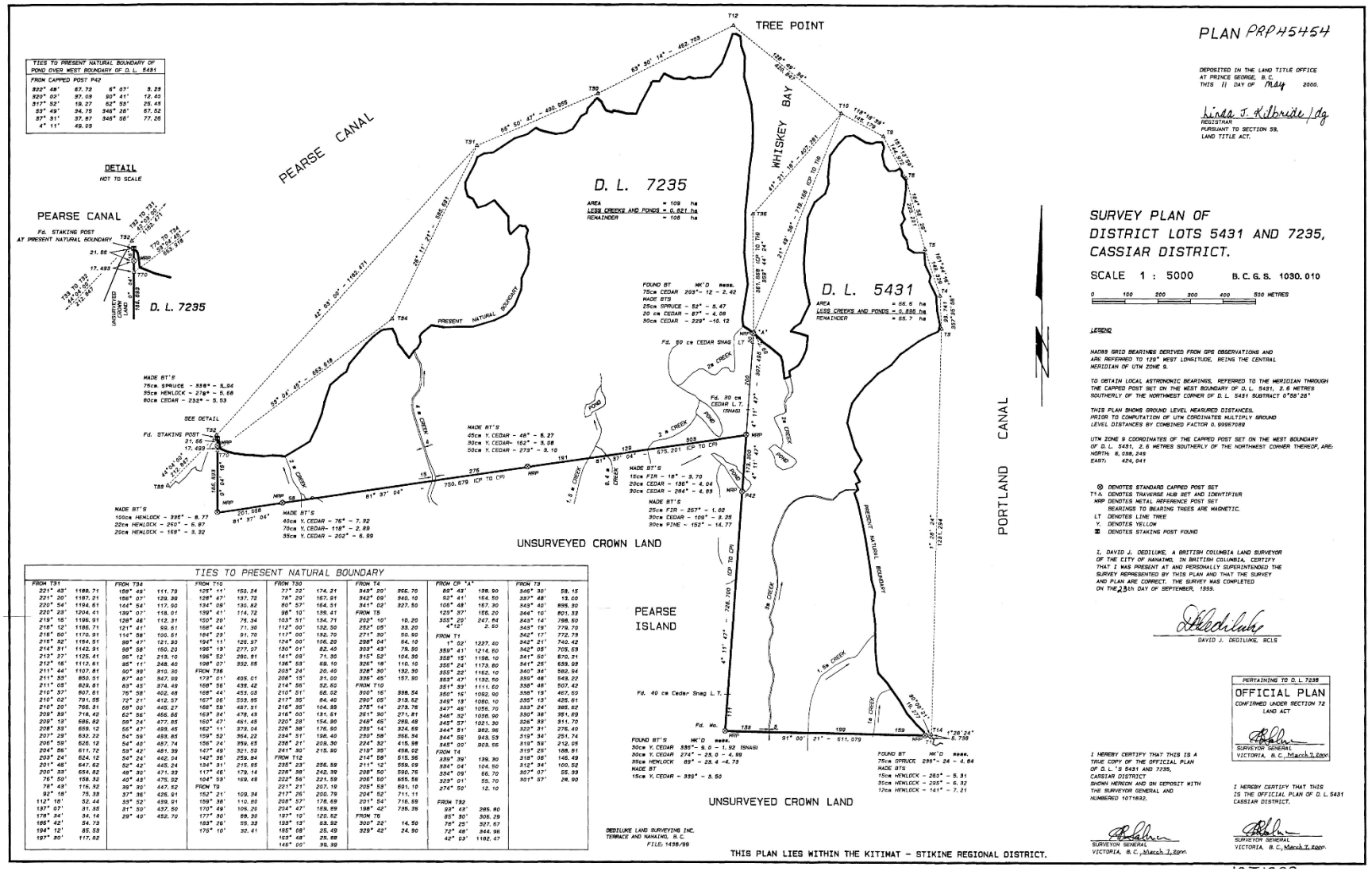
4.5.3 Past and Present Land Use

The Site is a former reserve (IR. No. 43) and can be considered undeveloped. Figure 4.12 illustrates the DL boundaries. The Site was logged in areas near the shore several decades ago (estimated to be in the 1980s) and does not have a history of any other developments aside from the past use by Indigenous people. The Site DLs, legal description, area in ha and Parcel Identifier Numbers are listed in Table 4.2.

Table 4.2 – Wil Milit Legal Land Descriptions (Category A Nisga'a Lands)

District Lot	General Land Description	Parcel Identification Number	Legal Description	Area (ha)
DL 7235	Western Lot – on Pearse Canal	024-768-685	District Lot 7235, Cassiar District Plan PRP45454	108
DL 5431	Eastern Lot – on Portland Canal	024-768-693	District Lot 5431, Cassiar District Plan PRP45454	56

Figure 4.12 – Site Lot Plan



Other non-provincially administrated lands in the area surrounding the Site are summarized in Table 4.3. Figure 4.13 illustrates how these parcels are situated relative to Wil Milit. Two traplines intersect with the Site as illustrated in Figure 4.14.

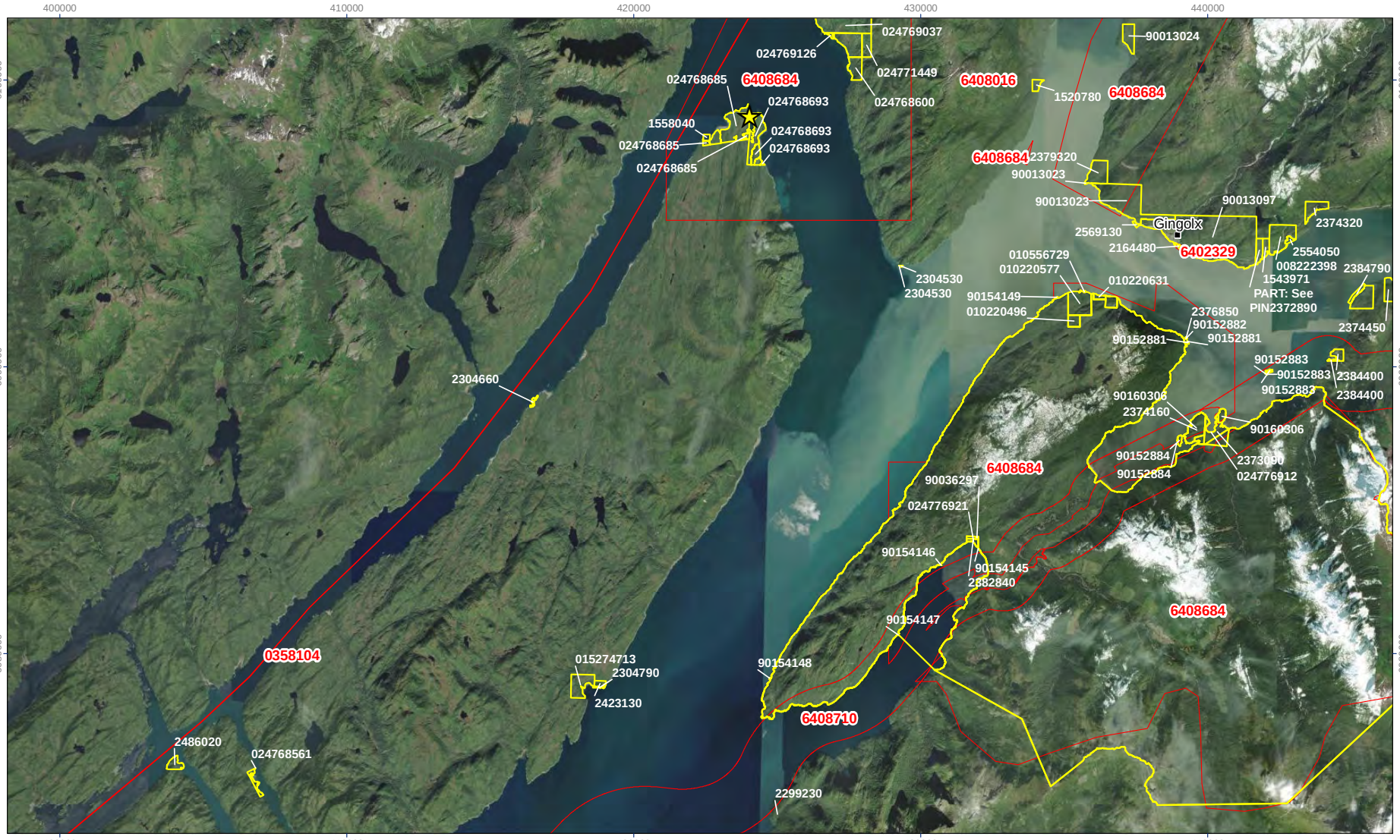
Table 4.3 – Private Land Interests

	General Area	Parcel ID	Applicable Survey Plans	Land Title Information
1	Pearse Island	15274713	CG DL 5463 G03506208001 – L 5463 and CG Sketch DL 5463 G03506208099 – L 5463	PS22270 PID 015-274-713
2	Pearse Island	2423130	PCOR02Tr09 – L538	
3	Pearse Island	2304790	PCOR02Tr09 – L6540	
4	Pearse Island	24768685	PP15521 – L 7235	PP15521 PID 024-768-685
5	Pearse Island	24768693	PP15522 – L 5431	PP15522 PID 024-768-693
6	Pearse Island	24768561	P03Tu1834 – DL 8069 and PRP45456 – DL 8069	PP15524 PID 024-768-561
7	Pearse Island	1558040	District Lot 791	Section 17 Land Reserve
8	Pearse Island	2304660	PCOR44Tr14 – L 6539	
9	Pearse Island	2485950	PCOR43Tr15 – L3955	
10	Arrandale	10220577	EPC001515.1481153757 – DL 5 and EPC001903.1546039197 – DL 5	TITLE-9143I PID 010-556-729 CA5905553 PID 010-220-577
11	Arrandale	10556729	EPC001515.1481153757 – Plan DD 9143-1 and EPC001903. 1546039197 – Plan DD 9143-1	
12	Arrandale	No ID	EPC001515.1481153757 – DL 198 and EPC001903. 1546039197 – DL 198	
13	Arrandale	No ID	EPC001515.1481153757 – DL 689 and EPC001903.1546039197 – DL 689	
14	Arrandale	90154149	EPC001515.1481153757 – DL 8146 and EPC001903.1546039197 – DL 8146	
15	Arrandale	90154148	EPC001515.1481153757 – DL 8145 and EPC001903.1546039197 – DL 8145	

Table 4.3 – Private Land Interests

	General Area	Parcel ID	Applicable Survey Plans	Land Title Information
16	Arrandale	10220496	EPC001515.1481153757 – DL 688 and EPC001903.1546039197 – DL 688	CA5905555 PID 010-220- 496
17	Xmaat'in	24928763	P07Tu1867 – DL 7234	PS1111 PID 024-928-763
18	Xmaat'in	24769037	P13Tu1835 – DL 5432	PP15518 PID 024-769-037
19	Xmaat'in	24769126	P14Tu1835 – DL 628	PP15516 PID 024-769-126
20	Xmaat'in	24771449	P15Tu1835 – DL 628A	PP15517 PID 024-771-449
21	Xmaat'in	24768600	P01Tu1836 – DL 627	PP15515 PID 024-768-600
22	Wales Island	7743483	CG DL1387 G02882136001 – L 1387 and CG Sketch DL 1387 G02882136099 – DL 1387	BB1058137 PID 007-743- 483
23	Wales Island	2245480	PCOR28Tr15 – L 6922	
24	Wales Island	2557780	PCOR28Tr15 – L 7311	
25	Wales Island	2552490	PCOR28Tr15 – L 7195	
26	Wales Island	2552360	PCOR28Tr15 – L 7194	
27	Wales Island	2486150	PCOR43Tr15 – L 3957	
28	Wales Island	2486280	PCOR43Tr15 – L 3958	
29	Wales Island	2486020	PCOR43Tr15 – L 3956	
30	Somerville Bay	2299230	District Lot 5439	Expired inactive reserve
31	Somerville Island	2389400	District Lot 173A	Crown Grant

NOTE:
PID is Parcel Identifier number.



KSI LISIMS LNG

Wil Milit - Project Site

Land Parcel

Crown Land Reserves and Notation

N

0 2,500 5,000 metres

(At original document size of 8.5x11)

1:200,000

Notes

1. Coordinate System: NAD 1983 UTM Zone 9N
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Rockies LNG, Canadian Hydrographic Service

Stantec

Project Location

Pearse Island
British Columbia

Prepared by TQUILICHINI on 20220104
Requested by EFLORY on 20211209
Checked by SMOSS on 20220104

123221820

Client/Project

Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Detailed Project Description

Figure No.

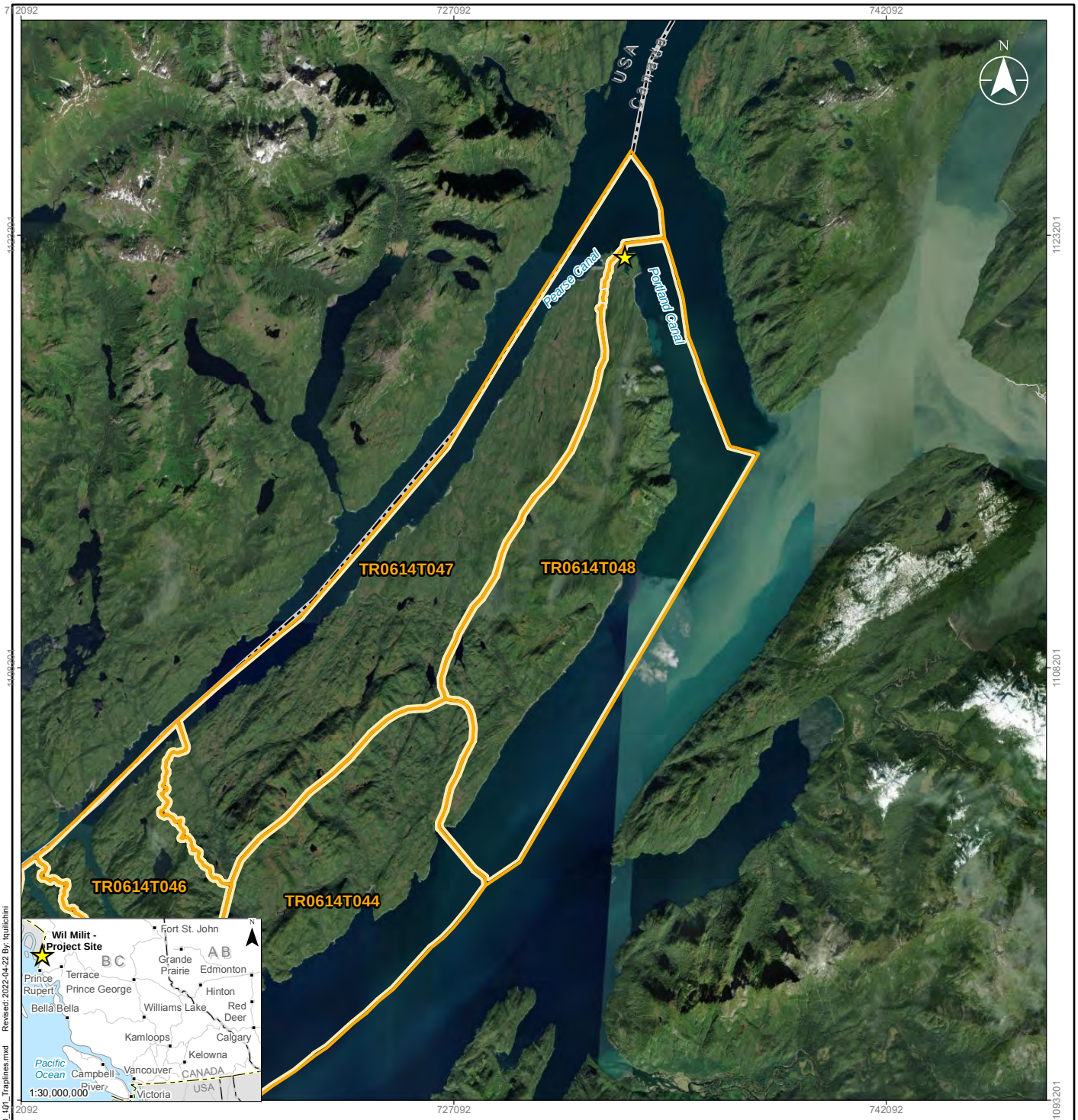
4.13

Title

Land Titles in the Vicinity of the Site

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Wil Milit – Project Location

Trapline Boundary

International Boundary

0 2 4 6 8 km

1:200,000 (at original document size of 8.5x11)

KSI LISIMS LNG

Stantec

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

Project Location: Pearse Island, BC

Project Number: 123221820
Prepared by TQUILICHINI on 20211202
Requested by EFLORY on 20211201
Checked by NFORRESTERon 20211202

Client/Project/Report

Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Detailed Project Description

Figure No.

4.14

Title

Traplines Intersecting with the Project Site

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4.5.4 Past and Present Marine Use

4.5.4.1 Tourism and Recreation

Maritime-based commercial tourism (e.g., whale watching, bear viewing, pocket cruises, kayak adventures as well as a known fishing lodge on Pearse Canal) and non-commercial recreational users use the Portland Canal, Pearse Canal and Portland Inlet area, primarily in the summer season. These tourism and recreation activities have historically had nearly unhindered and unrestricted access within Portland and Pearse Canals.

The Hidden Inlet LLC fishing lodge, located on the west side of Pearse Canal, approximately 14 km southwest of Wil Milit, is the nearest commercial recreation property to the Site, see Figure 4.15. Operating out of Gingolx, approximately 15 km east of Wil Milit, Northern Sunrise Charters, is a commercial recreation fishing and sight-seeing business. Within 25 km of the Site, no other commercial recreation enterprises have yet been identified.

4.5.4.2 Marine Fishing

Marine fisheries in the area generally target all species of salmon, herring, eulachon, halibut, shrimp, bivalves and crab. Marine plants (algae) are also harvested.

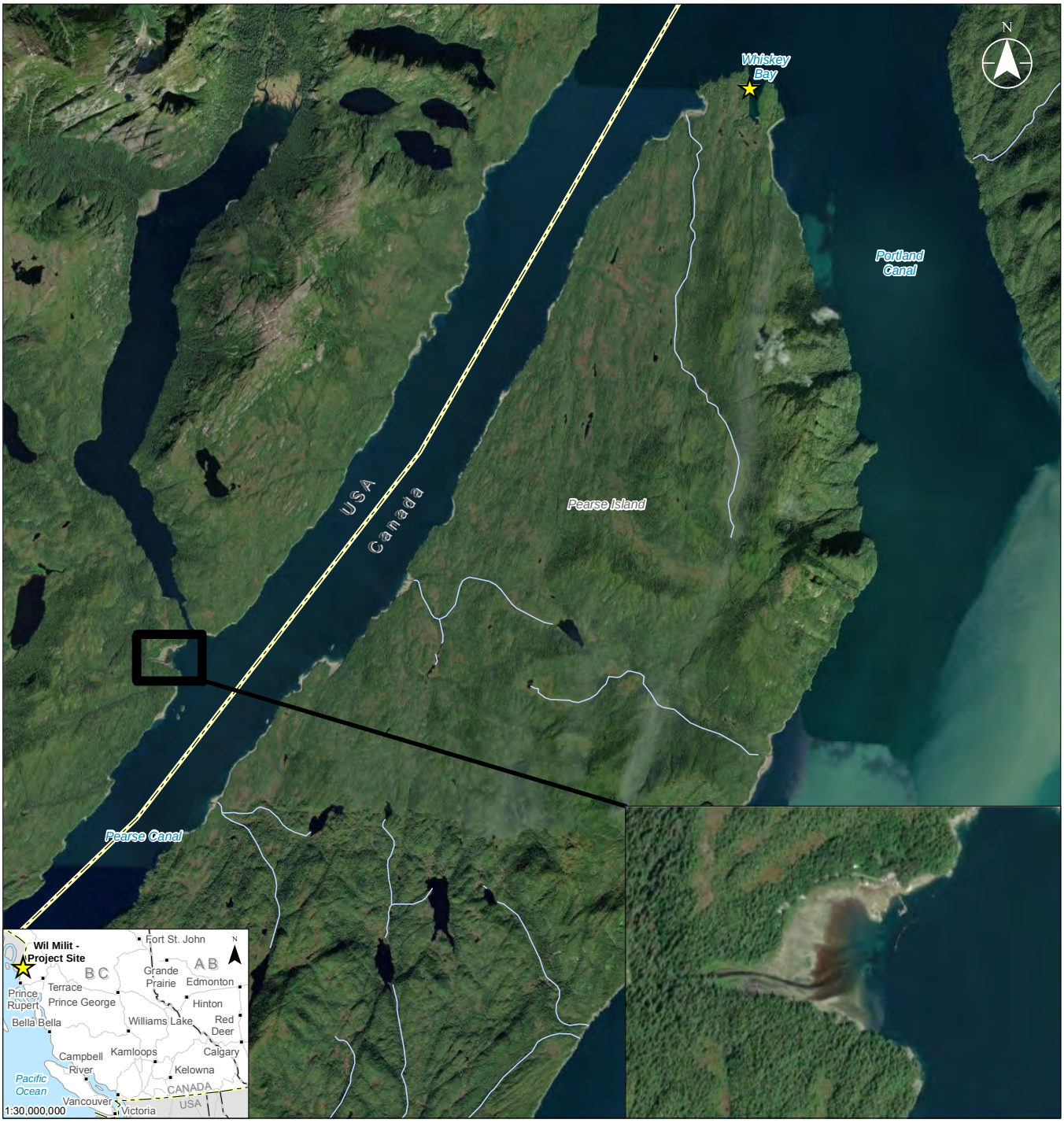
Commercial fishing by the Nisg̱a’a Nation, area Indigenous Nations and non-Indigenous groups is an economic staple in the local regional economy. Indigenous Nations conduct commercial, recreational, and Indigenous fisheries in Portland Inlet, Portland Canal, Pearse Canal and Nasoga Gulf.

Indigenous Nations and non-Indigenous fishers will be engaged by the Project with respect to their use of Portland Inlet, Portland Canal, Pearse Canal and Nasoga Gulf for their commercial, recreational and/or Indigenous fisheries.

4.6 Cultural Setting

The Project is on northern Pearse Island, specifically within DLs 5431 and 7235 and the adjacent intertidal marine areas. District Lots 5431 and 7235 are subject to “Chapter 17 – Cultural Artifacts and Heritage” of the Nisga’a Treaty. The northern Pearse Island land and marine area has been inhabited by the Nisga’a people and other area Indigenous Nations people for millennia. There are numerous recorded archaeological sites in this region on the Province’s Remote Access to Archaeological Data application and many areas are modeled as having high potential for archaeological sites.

There are 12 recorded archaeological sites within DLs 7235 and 5431: 11 pre-1846 culturally modified tree sites, and one shell midden site. Eighteen Traditional Use (i.e., post-1846) culturally modified tree sites were identified within the Study Area. All the sites were recorded during the preliminary field reconnaissance (**PFR**) conducted for portions of the Site in 2021 which focused on areas within 100 m of the shoreline along Whiskey Bay and the east coast of DL 5431. During the PFR, 11 landforms within the surveyed area were confirmed as having high archaeological potential.



KSI LISIMS LNG

Wil Milit – Project Location
International Boundary
Watercourse

0 1,000 2,000 3,000 4,000 m
1:100,000 (at original document size of 8.5x11)

Stantec

Notes
1. Coordinate System: NAD 1983 UTM Zone 9N
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Stantec, Rockies LNG, Maxar

Project Location:
Pearse Island, BC

Project Number: 123221820
Prepared by TQUILICHINI on 20220104
Requested by EFLORY on 20211121
Checked by SMOSS on 20220104

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Detailed Project Description

Figure No.
4.15

Title
Hidden Inlet Fishing Lodge on Pearse Canal, Alaska

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4.7 Baseline Studies

The Baseline Study Plan for the Project outlined the human, social and economic studies that will be completed to support preparation of the EA-IA. Sections 4.7.1through 4.7.5 outline the baseline studies and information for each of employment and economy, marine use, socio-community, cultural and human health. In addition, Table 3.10 provides baseline studies underway as well as the associated baseline study area for marine use and heritage (archaeology).

4.7.1 Employment and Economy

Baseline data collection will focus on the compilation of information required to describe current and anticipated economic conditions within communities near the Project, focusing on the four Nisga'a villages located within the Nass Valley on Nisga'a lands, Nisga'a citizens living in Terrace, Prince Rupert, and elsewhere, as well as non-Nisga'a Indigenous and non-Indigenous communities most likely to experience social and economic effects related to the Project including Metlakatla, Prince Rupert, Terrace and Port Edward, BC.

Baseline data collection will include the collection of statistical data, information on regional economic development, review of secondary literature, telephone interviews with key informants and survey of Nisga'a households. Information on economic conditions that will be collected will include, but not be limited to:

- Labour force indicators and trends, including employment/unemployment, current employers, available labour supply, and level of education/skills/training of the labour force
- Economic sectors and major employers
- Current economic conditions in the region, including dependencies and diversity
- Economic development (major projects)
- Information on vulnerable sub-populations (e.g., low-income groups)

Information sources that will be considered for acquiring data in support of the assessment of effects on employment and community include:

- IPD and Engagement Plan (**EP**)
- This DPD and supporting cost estimates developed by the Project (e.g., Pre-FEED engineering, FEED)
- Social and economic studies undertaken on behalf of the Nisga'a Nation and other communities
- Social and economic and traditional knowledge studies prepared for the Project by other Indigenous Nations (as available)
- Regulatory environmental assessment applications filed for other major development projects in proximity to the Project, including but not limited to: PRGT, WCGT, Pacific NorthWest LNG, and Aurora LNG

- Secondary studies, plans, and documentation relevant to one or more of the social and economic values under study
- Most recent statistical information from Statistics Canada's Census of the Population and National Household Survey
- Information obtained through discussions with the Nisga'a Nation and potentially other key informants

The Project is planning two surveys to support the assessment of employment and economy. The first, the Nisga'a, social, economic, resource use, and cultural survey, will seek information on Nisga'a households. Information related to employment and economy may include, but is not limited to demographics, employment status, personal and household income, marine resource harvesting, skills and experience, and employment interests. Surveys may involve a combination of telephone/virtual and door-to-door enumeration (with the feasibility of the latter dependent on the status of the COVID-19 pandemic) and will involve both Stantec researchers and Nisga'a community researchers. The scope of the Nisga'a social, economic, resource use, and cultural survey will be refined through discussion with the NLG.

The second survey will be a business survey, which will be designed to develop information on the types, nature (i.e., business sectors), and size of businesses operated by Nisga'a citizens; their awareness of and interest in business opportunities associated with the Project, as well as issues and concerns with respect to potential business impacts. Depending on the status of COVID-19, the survey may involve a combination of written questionnaire, follow up by in-person, or telephone/virtual meeting, and will involve both Project researchers and Nisga'a community researchers. The scope of the Nisga'a business survey will be refined through discussion with the Nisga'a Lisims Government.

4.7.2 Marine Use

Baseline data collection will focus on the compilation of information required to describe current marine and resource uses, including marine navigation, from areas potentially affected by Project construction, operation, and decommissioning and abandonment.

Information will be collected on the following topics:

- Nisga'a marine use
- Other Indigenous Nations marine use
- Marine area planning
- Commercial and recreational marine vessel traffic
- Commercial fishing
- Other marine use (e.g., recreational boating, commercial recreation, and fishing)

To augment the marine use baseline data collection, the following additional sources of information will be used to quantify marine use in proximity to Wil Milit on Portland Canal and along the marine shipping routes:

- Automatic identification system (**AIS**) satellite-detected vessel data. It is assumed that this data will be made available to the Project by the Canadian Coast Guard (**CCG**) or Prince Rupert Port Authority
- Sentinel-2 satellite imagery (10 m by 10 m resolution) to document vessel locations seasonally
- Publicly accessible fisheries data from Fisheries and Oceans Canada (**DFO**), the U.S. National Oceanic and Atmospheric Administration and the State of Alaska
- Available studies of small vessel traffic

In addition, there are five major sources that will be considered for acquiring data and information for the marine use assessment:

- IPD and EP,
- This DPD and supporting cost estimates developed by the Project (e.g., Pre-FEED engineering, FEED)
- Marine and resource-use studies undertaken on behalf of the Nisga'a Nation and other communities
- Social and economic and traditional knowledge studies prepared for the Project by other Indigenous Nations (as available)
- Regulatory environmental assessment applications filed for other major development projects in proximity to the project, including but not limited to the PRGT and WCGT pipelines
- Secondary studies, plans, and documentation relevant to one or more of the marine and resource values under study
- Information obtained through discussions with Nisga'a Lisims Government and key informants

These additional data sources will be analyzed and compiled into summaries and spatial mapping marine use. The Project is also planning the collection and continued update of anecdotal information logs regarding observed marine use from all on- water and nearshore survey and activity programs. This includes all observed marine use activities during marine resources surveys, marine bird surveys, and water taxi transits.

In addition to the economic data, as outlined above (Section 4.7.1), the Nisga'a and other Indigenous Nation social, economic, resource use, and cultural survey will collect information related to marine use such as commercial, food, social and ceremonial harvesting and use of marine resources, and marine based tourism.

4.7.3 Socio-Community

Socio-community baseline data will inform the assessment of the Infrastructure and Services valued component, the assessment of Human and Community Wellbeing, and the assessment of Nisga'a Future Economic, Social, and Cultural Well-being.

Baseline data collection will focus on the compilation of information required to describe current and anticipated social conditions within communities near the Project, focusing on four Nisga'a villages located within Nisga'a lands, Nisga'a citizens living in Terrace, Prince Rupert, and elsewhere, as well as non-Nisga'a Indigenous and non-Indigenous communities most likely to experience socio-community effects related to the Project.

Baseline data collection will include the collection of statistical data, review of information obtained from community infrastructure and services providers, telephone interviews with key informants and a socio-community survey of Nisga'a households. Information on socio-community conditions that will be collected will include, but not limited to:

- Transportation infrastructure and services
- Municipal infrastructure and services, such as:
  - Solid waste, water, and sewer
  - Emergency response infrastructure (e.g., fire halls, police detachments, and hospitals, and services provided (e.g., fire rescue, police, ambulance, and health care)
- Commercial and industrial infrastructure and services, such as electrical power and telecommunications
- Housing and temporary accommodations
- Relevant information on vulnerable sub-populations
- Indicators of community health (e.g., income and social status, social support networks, education and literacy, employment and working conditions, social environments, physical environments, personal health practices and coping skills, health child development, health services and gender)

Information sources that will be considered for acquiring socio-community related data are the same as those presented in Section 4.7.1 for Employment and Economy.

The Nisga'a social, economic, resource use, and cultural survey will inform the assessment of potential economic, social, and cultural impacts. Information related to socio-community may include, but is not limited to demographics, harvesting and consumption of traditional foods, community infrastructure and services (e.g., housing), and community health and safety.

4.7.4 Heritage

The heritage effects assessment will include an inventory and evaluation of archaeological, heritage and paleontological sites within the Site and vicinity. The inventory will incorporate an evaluation of the historical, cultural, aesthetic, scientific and/or educational value of these sites and an evaluation of their susceptibly to impacts from Project activities.

Baseline data collection to date has included a desktop review and PFR of portions of the Site, and future investigations will include completing an Archaeological Impact Assessment (**AIA**) under the authority of a *Heritage Conservation Act* (**HCA**) Section 12.2 inspection permit issued by the provincial Archaeology Branch. The objectives of the AIA will be to determine the extent, nature, and significance of archaeological sites within the Site, if present, and provide management recommendations to avoid or mitigate potential Project effects.

The AIA will be supported by a Nisga'a Land and Resource Department representative and will involve surface and subsurface inspection focusing on areas of archaeological potential identified during the desktop review and the PFRs. All work will be conducted in accordance with the inspection permit and provincial archaeological guidelines outlined by the Archaeology Branch (GoBC 1998).

4.7.5 Human Health

Human health risk is characterized by exposure to chemicals in the air, soil, water, and biota. Therefore, data pertaining to human health risk includes information from the physical and biological environment. These data will be acquired from other disciplines including air quality, marine resources, freshwater fish, water quality, vegetation and wetlands, and wildlife. Traditional ecological knowledge and published literature may also apply as it relates to identifying traditional country foods that are important for nutritional, medicinal, cultural, and spiritual purposes to the Nisga'a Nation and/or potentially other area Indigenous Nations.

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5 PROJECT INTERACTIONS WITH THE ENVIRONMENT AND POTENTIAL EFFECTS

The following subsections provide an overview of the preliminary potential environmental, social, economic, cultural, and health effects that may result from the current identified Project works and activities. An overview of potential mitigation measures that have been identified to mitigate the identified potential effects is also provided.

Within the EA-IA, the Project will assess effects on identified VCs. The Project has completed preliminary identification of VCs; determination of the final VCs is subject to final acceptance of the Application Information Requirements. This section presents potential effects within disciplines that intentionally align with those VCs.

5.1 Potential Project Interactions

A description of potential interactions between the Project and the biophysical (ecological) and human (economic, community wellbeing, heritage, health) environments will be provided and discussed in the EA-IA. The methodology and rationale used to examine the Project's potential interactions and adverse effects will be presented in the BC EAO Process Order and the Agency Notice of Commencement, as applicable.

5.2 Assessment Boundaries

Spatial assessment areas are identified in the EA-IA on a VC-specific basis. For the Project, three assessment areas are envisioned for the Project EA-IA:

1. The Project Footprint will include the physical footprint for all terrestrial and marine Project components
2. The Local Assessment Area includes the Project Footprint and extends to include an area within which impacts from the Project are anticipated to occur.
3. The Regional Assessment Area is an extension of the Local Assessment Area and includes the area within which the residual effects (i.e., those remaining after implementation of mitigation) of the Project may result in a potential cumulative effect with effects of past, present and reasonably foreseeable future projects

Assessment areas for each identified VC will be presented in the EA-IA following engagement with BC EAO, the Agency, other regulatory agencies, the Nisga'a Nation and other Indigenous Nations.

Temporal assessment boundaries identified for the EA-IA will include:

- Construction – approximately 3 years
- Operation – identified as a minimum of 30 years
- Decommissioning – estimated as approximately 12 months following end of operation

5.3 Potential Positive and Negative Project Effects and Mitigation

The Project EA-IA will present an examination of direct, indirect (i.e., via effects pathway), and cumulative effects. The cumulative effects assessment will examine residual environmental, social and economic, cultural and health effects arising from the Project together with the residual effects from past, existing, and reasonably foreseeable projects and activities in each of the VC Project RAA(s). These may include but, not necessarily be limited to, marine port developments, oil and gas projects and activities and forestry. The EA-IA will provide additional information regarding the identification of past, present and reasonably foreseeable projects and activities that have been identified. Potential trans-boundary (i.e., BC-AK) effects will be examined (e.g., marine shipping, air quality, and GHG emissions). No existing regional cumulative effects have been identified; however, the Proponent acknowledges that the Site is subject to existing shipping traffic.

The methodology and rationale used to examine the Project's potential direct, indirect and cumulative effects will be presented in the draft Process Order and the draft Application Information Requirements (**dAIR**) and then confirmed by the BC EAO in the final Process Order and in the federal Notice of Commencement, and Tailored Impact Assessment Guidelines if applicable.

The following sections provide a preliminary overview of potential effects of the Project on environmental, social, economic, cultural and health conditions. Given the proximity of the Project to the United States of America (**USA**) border between BC and AK the potential exists for some effects, such as air emissions, to result in a trans-boundary effect. The potential for this effect will be evaluated once meteorological conditions and potential air emissions are better understood. Other potential transboundary effects include under and above water noise.

Despite the Project being located on private fee simple land, the remote possibility exists for some of the environmental effects to extend to federal land (see Table 4.1 for information on proximity of the Site to federal lands). The EA-IA will assess potential effects on federal lands and characterize such effects. Effects to provincial lands other than BC are not anticipated given that the closest provincial border is the BC--Yukon border approximately 525 km north from the Site.

As the Project advances through the EA-IA process, revised or additional mitigation measures to those presented in the following subsections will be incorporated into the Project design. Mitigation measures will meet applicable provincial and federal regulations and permit requirements, best management practices, and specific measures identified through the environmental assessment process, including engagement.

For a preliminary assessment of potential effects on Indigenous Nations refer to Section 5.3.5.

5.3.1 Potential Atmospheric Environmental Effects

5.3.1.1 Potential Air Quality Effects and Mitigation

As a result of Project construction and operation CAC emission sources, the Project has the potential to increase the concentrations of ambient air pollutants. An increase in the concentrations of ambient air pollutants may affect human health, may result in acidification of waterbodies, vegetation, and soils, and may have transboundary effects into Alaska. Construction emission sources include the operation of construction equipment and vehicles, vessel movements, and land clearing activities. Construction emissions are expected to be less than Project operations lifetime emissions. Project operational air emissions resulting from the FLNGs and associated infrastructure include the following:

- Temporary natural gas electrical generation turbines
- Backup power generator (intermittent)
- Process heater
- Flare (intermittent)
- Acid Gas Incinerators
- Emergency fire water pumps (intermittent)
- LNGC, NGL product carriers and supporting tug boat (intermittent)
- Fugitive emissions

As described in Section 3.5.1, the Project will conduct detailed air emission modelling to predict CAC concentrations, including SO_2, NO_2, $PM_{2.5}$, and CO. Given the remoteness of the Site, it is anticipated that direct Project emissions will be below provincial or national standards and will have limited potential to interact with Indigenous interests, the biophysical environment and/or the human environment.

Preliminary Identified Mitigation Measures

Mitigation measures to limit the potential effects of the Project on air quality include:

- Complying with the provisions of the applicable emission criteria
- For the natural gas turbines, emissions will meet the requirements of the national *Guideline for the Reduction of Nitrogen Oxide Emissions from Natural Gas-fuelled Stationary Combustion Turbine* (ECCC 2017)
- Designing the Project to be 100% electrified by acquiring adequate electricity from the BC Hydro grid, which will provide a substantial reduction in CAC emissions
- Following the *Flaring and Venting Reduction Guideline* (BC OGC 2021b), aimed at reducing and mitigating air emissions from LNG facilities
- Re-liquefaction of boil-off gas from the LNG tanks instead of venting or flaring
- Implementing best management practices for construction and operation such as regular maintenance of machinery and equipment

5.3.1.2 Potential GHG Emissions Effects and Mitigation

The processing of LNG and the use of natural gas to produce electric power generates GHG emissions. The Project is designed to run on renewable electricity provided via the BC Hydro grid. It will only be necessary for the Project to use feed gas to supply the gas turbines to produce the electrical power necessary for the Project if the BC Hydro connection is not available at start-up. In addition, the purchase of offset credits enables the Project to offset the remainder of its direct and acquired energy emissions. This allows the Project to comply with the federal target of being net-zero by 2050 and align with the federal and provincial GHG emission reduction targets and CleanBC Plan (GoBC 2018a).

Preliminary Identified Mitigation Measures

Section 2.10 provides an overview of GHG estimates for the Project and how these estimated Project emissions will be mitigated.

5.3.1.3 Potential Acoustic Effects and Mitigation

The Project has the potential to result in increased noise levels. Increased noise levels may cause annoyance and sleep disturbance to people, as well as displacement and sensory disturbance to wildlife (which will be addressed in wildlife effects). Noise will be generated during construction, after the facility is in operation and eventually when the Project is decommissioned. Some noise effects will be intermittent and short-term (e.g., construction activities) while others will be continuous (e.g., FLNG operation). Table 5.1 shows the major sources of noise created by the Project for construction and operations. Decommissioning activities typically require less noise emitting equipment than the construction phase; therefore, the construction noise effect will provide a conservative representation for the decommissioning phase.

Table 5.1 – Project Noise Sources

Source	Construction	Operations
Upland		
Construction machinery movements	X	
Site clearing and earthworks	X	
Portable cement plant	X	
Power production (potential)		X
Marine		
Construction of FLNG mooring infrastructure, MOF construction and potential dredging	X	
Supply vessels/barges (for import of machinery, materials, supplies, workers)	X	X
Power generation – personnel accommodation and administration	X	
Power generation – temporary power barge		X
FLNG Flare system		X
FLNG LNG Processes		X
LNGCs and supporting tugboats		X

Commercial acoustic software or prediction model will be used to predict the noise level at noise sensitive receptors (e.g., onsite worker accommodation) due to Project related construction and operation activities. The noise model will be conducted in accordance with internationally recognized standards for noise prediction.

Preliminary Identified Mitigation Measures

Noise mitigation measures will be included such that the Project will meet provincial and federal noise guidelines and regulatory requirements (e.g., BC OGC LNG Facility permit).

Potential noise mitigations may include:

- Stipulating a noise management plan for construction and operation activities
- Provide administrative or engineering noise control for activities with high noise emission levels
- Incorporating noise mitigation into the engineering design of the FLNGs.

5.3.2 Potential Physical Environment Effects

5.3.2.1 Potential Surface Water Effects and Mitigation

Avoidance of effects to freshwater is a primary Project objective, however, the Project has the potential to result in a change to the chemical and physical composition of surface water and may result in a change in surface water quantity. For example, construction of on-land infrastructure can increase erosion and lead to increase sediment loading in streams and wetlands and air emissions (i.e., NO_X and SO_X) have the potential to cause acidification in lakes within the Project's airshed if the quantity of NO_X and SO_X exceeds the natural buffering capacity of the lakes.

Surface freshwater sources at Wil Milit are being considered as a source of supply for the construction period and for longer term use at the permanent worker accommodation centre and potentially for other Project needs such as to support LNG process cooling requirements. Any water withdrawals from water sources on Pearse Island would reduce the quantity of water available for fish and wildlife. An assessment of water availability, and identification of minimum flow requirements for fish, would be undertaken prior to selection of any watercourse or waterbody for freshwater withdrawals. Rainfall catchment and storage may also be considered (e.g., storage ponds, tanks).

Potential effects associated with accidental spills are identified and considered in Sections 9.4.3 and 9.4.4.

Preliminary Identified Mitigation Measures

Appropriate permits will be obtained for any effects to the surface water environments and will comply with provincial and federal legislation applicable to water quality (e.g., *Fisheries Act*, EMA). In addition, the Project has identified the following mitigation measures that will be considered to avoid or reduce effects to freshwater:

- Avoiding Project effluent discharges into streams, or wetlands or groundwater aquifers
- Sizing and location of onshore Project components that eliminates or limits, to the extent practical, effects on:
  - Permanent, fish-bearing streams
  - Steep slopes
  - Wetlands
  - Riparian areas
  - Bedrock outcrops that require blasting
- Developing and implementing an erosion prevention and sediment control plan that uses industry best management practices and specific measures for conditions at the Site
- Identifying foundation elevations to protect the Project's infrastructure from predicted climate change and tsunami-related sea level rise
- Implementing the measures identified in Section 5.3.1.1 to lower potentially acidifying air emissions (i.e., NO_X and SO_X)
- Developing and implementing a stormwater management plan and associated infrastructure (e.g., run-off ditching, silt fence installation)

5.3.2.2 Potential Groundwater Effects and Mitigation

Potential Project effects on groundwater are associated with the diversion of groundwater for Project water supply, if required, and include the potential for a change in groundwater discharge to wetlands, stream courses, and submarine discharge and/or a change in the chemical and physical composition of groundwater from saltwater intrusion (e.g., contamination of the groundwater resource via inflow of saltwater to the aquifer from the Portland Canal).

Preliminary Identified Mitigation Measures

To reduce the potential for altering groundwater seep discharge, potential water supply wells should be located as far from surface water bodies as practical without reducing the likelihood of siting a productive well.

To reduce the potential for saltwater seawater intrusion at potential water supply wells, the following mitigation measures from *Best Practices for Prevention of Saltwater Intrusion* (GoBC 2016) may be implemented:

- Avoid drilling water supply wells immediately adjacent to the coast, i.e., within 50 m
- Avoid drilling excessively deep, water supply wells immediately adjacent to the coast
- Avoid using permeability-enhancing technologies such as hydro-fracturing in areas less than 100 m from the coast, to reduce the risk of opening fractures connected to the ocean
- Decommission unsuccessful groundwater exploration wells following best practices outlined in the *Groundwater Protection Regulation* to avoid providing artificial flow pathways and reduce the risk of cross-contamination across confining hydrostratigraphic horizons

5.3.3 Potential Biological Environment Effects

5.3.3.1 Potential Vegetation and Wetlands Effects and Mitigation

The potential effects of the Project on vegetation and wetlands consist of changes in the abundance of plant species of interest including those of conservation concern, traditional use plant species as well as invasive plant species. There is also potential for change in the abundance or condition of ecological communities of interest including those of conservation concern and old forest, and potential for effects on wetland areas and functions. The EA-IA will also present potential change in ecological communities and wetland ecosystems as a results of soil acidification or eutrophication.

Direct and indirect effects may result from Project activities and components, primarily site preparation and clearing, but also including construction of temporary and permanent land-based infrastructure, transportation of workforce and construction materials on Site, and onshore Site activities during operations such as maintenance activities. Direct effects include the direct loss and removal of vegetation. Indirect effects include edge effects such as change in light and moisture conditions within 120 m of a new forest opening, change in soil hydrology following site preparation, change resulting from erosion, and change resulting from high atmospheric concentrations of sulphur dioxide, nitrogen dioxide or soil acidification or eutrophication.

An onshore area will be needed at the Site to accommodate Project infrastructure. Vegetation will need to be removed from these lands that will then be cleared and graded. Site drainage and erosion protection will be used to protect the nearshore marine environment and streams and watercourses. Wet areas within the Project's upland footprint (i.e., wetlands or streams and the riparian management zones around those features) will be avoided, where practical. Based on the Project's understanding of the Site's geology and soils, potential effects related to terrain disturbance on the onshore areas are anticipated to be minimal and manageable.

Preliminary Identified Mitigation Measures

Mitigation measures to avoid or limit potential effects on vegetation and wetlands may include:

- Proactive Project component site selection and design to avoid or limit the occurrence of the following within the Project footprint:
  - Wetlands
  - Riparian management zones
  - Year-round streams except at bridge crossings
  - Vegetated areas that may be traditionally used by Nisga'a citizens
- Sediment and erosion control along roads, utility rights-of-way, fence lines, etc. within the Site
- Use of best management practices to reduce the introduction or spread of invasive plants and noxious weeds
- Marking clearing boundaries prior to site preparation to keep clearing activities within the designated footprint and away from plants or ecological communities that require protection

Further Project-specific mitigation will be assessed and considered once the Project layout is confirmed.

5.3.3.2 Potential Wildlife Effects and Mitigation

The Project is expected to have effects on terrestrial wildlife and marine birds by causing a change in habitat, mortality risk, and movement. Effects will result from Project activities and components such as vegetation clearing and alteration, sensory disturbance (e.g., noise), onshore vehicle and vessel traffic, and facility lighting.

Change in habitat will occur directly, through the removal or alteration of vegetation and the removal or alteration of marine and foreshore habitat, and indirectly from sensory disturbance (e.g., noise, vibration).

The upland Project footprint will result in the loss or alteration of terrestrial wildlife habitat. Terrestrial wildlife that may experience Project effects is expected to include species that prefer older conifer forest, such as marbled murrelet or northern goshawk. Wetlands located nearby and within the Site, are known to support breeding amphibians, and may experience Project effects. Sensory disturbance (e.g., noise, vibration) from Project facilities will result in additional indirect loss of wildlife habitat. Raptors (e.g., northern goshawk) are sensitive to noise and other disturbances within their nesting habitat.

The marine facilities and connecting infrastructure will remove or alter shorebird and marine bird habitat. Sensory disturbance from the marine facilities will cause indirect habitat loss for shorebirds and marine birds. Sensory disturbance from the marine facilities may extend into the terrestrial Site and cause indirect habitat loss to terrestrial wildlife. Sensory disturbance from the marine facility is mostly likely to affect wildlife species in the immediate marine and shore environment and nearshore environment.

Marine shipping produces a temporary “bubble” of habitat loss around the vessel as it travels through the shipping route. Change in habitat from marine shipping is not expected to affect terrestrial mammals, terrestrial birds, amphibians, or reptiles. Marine shipping is expected to temporarily reduce habitat for marine birds but is not expected to cause permanent loss or alteration of marine bird or shorebird habitat. Marine vessels may create wave (ship wake) related effects on intertidal shorebird habitat.

Change in mortality risk may occur because of Project activities during construction and operation such as vegetation clearing, machinery and vehicle use, lighting, flaring, and human presence. Ungulates and large carnivores have the potential to be struck on onshore access roads by Project traffic (e.g., vehicles and machinery). Small, less mobile species such as amphibians and reptiles may also be at risk of increased mortality risk from vehicle traffic. Mortality risk from vegetation clearing is most likely to affect nesting birds and small, less mobile species such as small mammals, amphibians, and reptiles.

Artificial night lighting associated with terrestrial and marine facilities vehicles and equipment, and vessels has the potential to attract or disorient nocturnally migrating birds, shorebirds, and marine birds. This may result in an increased risk of injury or mortality from exhaustion, strandings, or collisions with Project infrastructure. Birds attracted to artificial night lighting could also be exposed to secondary effects such as predation.

Human-wildlife conflict is a mortality risk during construction and operations. Poor management of wastes (e.g., garbage, grey water, food wastes) and other attractants (e.g., food, petroleum products, toothpaste) may result in wildlife-human conflict and the destruction of wildlife deemed to be a safety risk.

Change in movement includes the alteration or impediment of wildlife movement due to physical barriers (e.g., buildings, roads, fences), sensory disturbance, or vegetation removal. The onshore components of the Project have the potential to affect terrestrial wildlife movement. Marine facilities and marine shipping are unlikely to affect wildlife movement but may cause local and/or short-term displacement for some individuals. Due to the Site being located on the northern end of Pearse Island, potential effects on wildlife movement are expected to be modest.

Preliminary Identified Mitigation Measures

Mitigation measures to avoid or limit potential effects on wildlife may include:

- Siting onshore Project components to avoid important wildlife areas, where possible
- Avoiding clearing and vegetation disturbance during the primary nesting period (i.e., April 11 to August 8)
    - Where clearing or vegetation disturbance must occur during the primary nesting period a pre-disturbance nesting bird survey will be completed by a qualified professional
    - If an active bird nest is discovered a buffer will be placed around the nest in consultation with a qualified professional

- Conducting amphibian salvage or implementing additional mitigation measures (in consultation with a qualified professional), if work must occur in or within 30 m of wetlands during the amphibian breeding and dispersal period
- Implementing speed limits on Project roads and communicating to Project personnel through signage and during site orientation
- Reducing artificial night lighting if safe and practical. Consideration will be given to installing baffles or shields to reduce the effects of lighting on wildlife
- Developing and implementing a waste management plan to manage wastes and other attractants
- Providing wildlife awareness training for Project personnel

5.3.3.3 Potential Freshwater Fish Effects and Mitigation

The Project has the potential to result in changes in fish habitat as well as potential change in fish health, growth, survival, or reproduction including for fish species of concern or those valued for cultural, social and economic purposes. The Project has the potential to result in the harmful alteration, disruption, or destruction of fish habitat during site clearing activities and the construction of land-based Project components, including roads. The Project also has the potential to result in the death of fish (by means other than fishing) or physical injury to fish and fish eggs during construction activities and/or during operation of the freshwater intake, if required.

Avoidance of effects to freshwater is a primary Project objective when considering the onshore Site. To the extent practical, watercourses or waterbodies (e.g., permanent streams, ephemeral watercourses, or wetlands) and their riparian areas will be avoided by the Project's onshore footprint. Where stream or wetland habitat effects cannot be avoided, the Project will seek a *Fisheries Act* authorization and will offset unavoidable habitat alteration, disruption, or destruction with habitat creation, restoration, or enhancement measures that satisfies DFO mandate to protect fish and fish habitat in Canada under Section 35 of the *Fisheries Act* (Government of Canada 1985). Any offset plan would be guided by DFO's *Fish and Fish Habitat Protection Policy Statement* (DFO 2019a) and DFO's *Policy for Applying Measures to Offset Adverse Effects on Fish and Fish Habitat* (DFO 2019b).

Preliminary Identified Mitigation Measures

The Project has identified the following preliminary avoidance and mitigation measures to protect freshwater fish and fish habitat:

- Avoiding the discharge of Project effluent into watercourse or waterbody
- Limiting the onshore Project footprint to the extent possible and avoid permanent streams, ephemeral watercourses, wetlands, and riparian areas where practical
- Implementing a no-fishing policy in streams on Pearse Island for all Project personnel while on shift
- If instream works are required, maximize these works within provincial and federally identified reduced risk timing windows

- Where practical, using clear span bridges across streams with confirmed fish presence
- Developing and implementing an erosion prevention and sediment control plan that includes industry best practices and specific controls for site-specific conditions
- Developing and implementing a stormwater management plan and associated infrastructure (e.g., run-off ditching, silt fencing, settling ponds, etc.)
- If a freshwater intake is required, installing fish screens that complies with criteria in DFO's *Interim code of practice: End-of-pipe fish protection screens for small water intakes in freshwater*
- If required, limiting water withdrawals from any fish-bearing stream such that the quantity of remaining flow does not impair fish migration or substantially reduce habitat suitability
- Implementing the measures identified in Section 5.4.1 to lower potentially acidifying air emissions (e.g., NO_X and SO_X)

5.3.3.4 Potential Marine Resources Effects and Mitigation

The Project has the potential to result in a change in marine habitat and/or water quality through the harmful alteration, disruption, or destruction of fish habitat during construction of in-water infrastructure, such as the MOF and FLNG jetties. In addition, the Project's in-water construction activities and large vessel movements to and from the marine terminal have the potential to result in a change in marine mammal or fish injury or mortality risk and/or behaviour caused by sensory disturbance.

The marine areas off BC's northwest coast are dynamic productive ecosystems supporting numerous marine fish and marine mammals. The Project will require marine construction in the nearshore, intertidal, and subtidal areas within the proposed Water Lot. Construction activities in the marine environment are required but can be planned and implemented in cooperation with the NLG and regulatory authorities to reduce potential effects to fish and fish habitat (including marine mammals and sea turtles).

The Project will confirm marine resources, including sensitive habitats (e.g., the presence of eelgrass, kelp beds), the presence of fish, invertebrates, cetaceans (whales, dolphins, and porpoises) and pinnipeds (sea lions, seals).

The Project has the potential to affect marine resources through construction of the marine infrastructure, changes to water quality, underwater acoustic effects and through marine shipping activity during both construction and operation. The highest potential risk activities are expected to include impact pile driving to support building the MOF and the FLNG mooring infrastructure in subtidal areas.

In addition to concerns relating to underwater noise, construction of infrastructure in the marine environment also has the potential to cause injury or mortality to invertebrates and/or fish. Intertidal and subtidal habitats will be altered or lost as part of the construction and operation phase. The placement, construction methods, timing and planned mitigation measures will all be considered when evaluating the potential effects of these activities. The areas of the seabed permanently covered by the FLNGs, MOF and barge berth as well as other permanent marine infrastructure will require approval from DFO and a

review of treaty rights effects by NLG. Habitat compensation may be required to offset for habitat losses (see Section 5.3.3.3). It is expected that DFO and NLG will need to approve any fish habitat destruction and any required habitat compensation programs.

Treated effluents discharged into the marine environment (e.g., Portland Canal) may affect marine water quality. These effluents require management including collection, storage, treatment, and discharge into the marine environment under permit. Any effluent discharge must meet or exceed regulatory thresholds for contaminants. Likewise, marine water quality could be affected by the Project through the discharge of treated sanitary wastewater, stormwater, or construction runoff. The Project may also use seawater cooling or desalination units and as such there may be discharge of the associated warm water and/or brine. Appropriate permits will be obtained for discharges to the marine environment, and wastewater discharge will comply with provincial and federal legislation applicable to water quality (e.g., *Fisheries Act*, *Canada Shipping Act*, EMA*)*. Full assessment of potential effects from discharge to the marine environment will be assessed in the EA-IA.

With respect to potential environmental effects that may be a result from increased marine transportation along the marine shipping routes from Wil Milit to Triple Island and to and from Prince Rupert harbour during construction and operation, there is potential for effects related to increased vessel traffic (e.g., vessel strikes, sensory disturbance etc.) on the marine environment and those environmental valued components of marine fish, marine mammals, marine plants, and marine birds.

Preliminary Identified Mitigation Measures

The Project has identified preliminary mitigation measures that will be incorporated to avoid or reduce effects to marine resources. This list may be revised and expanded upon based on information learned through the EA-IA process and advancements in Project engineering. Preliminary mitigation measures include:

- Avoiding, where practical, identified environmentally sensitive marine areas in the proposed Water Lot
- Avoiding disturbance of marine sediment, as possible
- Developing and implementing an erosion prevention and sediment control plan to limit sediment-laden water entering the marine environment that includes industry best practices and specific controls for site conditions
- Working with NLG and DFO to identify windows of least risk based on Project activities and mitigations to be implemented
- Developing a Project-specific EMP that outlines specific monitoring requirements tied to specific activities. The EMP will be incorporated into construction contracts
- If required, harmful alterations, disruption and destruction of fish habitat will be offset through habitat creation, restoration, or enhancement measures. The compensation will be developed in collaboration with NLG and DFO

- Conducting marine fish salvages, as required, prior to specific activities with high potential for crushing and burial.
- Implementing a no-fishing policy in the streams on Pearse Island for all Project employees and contractors while on shift
- Utilizing marine construction methods that account for and aim to reduce the potential adverse effects of underwater noise and vibration on marine life

5.3.4 Potential Human, Social and Economic Effects

5.3.4.1 Potential Employment and Economy Effects and Mitigation

The Project has the potential to result in change in regional employment, change in regional business and/or change in the regional economy.

The nature of the construction approach proposed for the Project will limit its economic impact. Unlike, for example, the LNG Canada project, which is constructed onshore from components manufactured overseas, FLNGs are designed, constructed, and commissioned overseas in foreign shipyards (e.g., China, Korea) to international FLNG "Classification" standards. They may contain components manufactured in North America, however most of the technologies and materials used in FLNGs are not sourced from Canada or North America. All facility components constructed overseas also have to meet all applicable Canadian construction standards and independent audit protocols have to be in place to verify construction standards have been met.

Because the FLNGs will be constructed overseas, Project construction will involve a modest workforce, very early estimates are up to 600 persons, who will be housed on a fully self-contained modular floating camp (floatel) at the Site.

Project construction will create employment opportunities for local residents, including those residing in Nisga'a territory, Prince Rupert, Port Edward, Terrace, and nearby Indigenous communities. Local procurement and supply contracts could also provide indirect employment opportunities to area residents. These could include the provision of potable water, food, diesel fuel, lumber, and building materials and contracts for marine or road-based transportation of personnel, materials, supplies, and equipment.

It is anticipated that the onshore and marine construction would occur over months and potentially be sourced from construction firms operating within Canada. Site preparation, floatel provider, fence, utility line and Site road construction, modular building supply and erection and marine infrastructure construction (e.g., FLNG mooring infrastructure construction, MOF and temporary power barge berth construction, etc.) could all be contracted from Canadian suppliers.

Preliminary Identified Mitigation Measures for Employment and Economy

Mitigation measures to avoid or limit potential effects on employment and economy may include:

- Working with Indigenous communities, assess potential Project effects on Highway 113
- Procurement strategies to facilitate economic participation by regional, BC, Canadian suppliers, contractors, and service providers in that order of priority
- Workforce strategies to use BC or Canadian resident construction workforce in the building of those components of the Project constructed in Canada
- Providing operations supply contract opportunities to regional suppliers with a focus on Indigenous businesses, where practical

5.3.4.2 Potential Marine Use Effects and Mitigation

Potential Project effects could include a change in marine navigation and/or a change in marine fisheries and other uses. These effects have the potential to result from, for example:

- The installation of Project works, including marine jetties, MOF and FLNGs all of which can affect navigation in the vicinity of the Site
- Increased marine vessel traffic related to the construction and operation of the LNG facility and vessel traffic potentially interfering with fishing activities
- Potential direct and indirect accidents or malfunctions related to the FLNG facility (e.g., LNGC or support vessel allision or collision resulting in sinking or running aground)
- Changes in aesthetics and light conditions

The Project's general marine location on Portland Canal is subject to commercial, recreational and or Indigenous fishing. Fishing is integral to the life of the Nisga'a and the area's Indigenous Nations and is an important economic activity in this area. The Project will work with DFO, the NLG, other area Indigenous Nations, and fisheries stakeholders to limit potential effects to fishing.

The construction and operations of this remote LNG facility will generate light. Construction lighting must allow for safe construction activities after sundown and before sunrise and in low light conditions (e.g., 24-hour lighting may be required) and therefore adequate lighting to protect workers is required. WorkSafeBC BC lighting requirements will be met or exceeded. Operations lighting will require adequate lighting for the safe operation of the FLNG including the berthing of LNGCs or NGL product carriers 24 hours a day, 7 days per week. Adequate lighting to maintain worker and shipping safety is integral to a safe workplace (e.g., must meet or exceed WorkSafe BC requirements) and is designed into the FLNGs and associated LNGC and NGL product carrier movements. However, minimizing potentially negative lighting effects on fish, marine mammals, migratory birds and wildlife will be factored into lighting design parameters.

Preliminary Identified Mitigation Measures

The following mitigations are being considered for Project effects on Marine Use:

- Water Lot site selection that has NLG support and that avoids key fishing areas.
- Implementing construction contract provisions with marine construction sub-contractors that incorporate the Project EMP
- Installing appropriate ATON
- Implementing Project marine safety and emergency measures plans
- Undertaking a Navigation Safety Assessment and supporting studies
- Establishing effective communications with local commercial/recreation/tourism operators and non-commercial recreation organizations, in collaboration with the NLG
- LNGC operating at speeds that limit potential for interactions with fishers and other marine users

Potential construction and operation lighting mitigations include:

- Stipulating light management criteria in any third party construction contracts
- Directing lighting into construction areas and shrouded where practical
- Avoiding, where practical directing lighting into the marine environment
- Installing fully shielded and low color temperature light fixtures
- Designing lighting to provide only the required amount of illumination when it is required, to limit unnecessary general area illumination
- Properly positioning narrow-spread light to illuminate operating areas and limit the unwanted light propagation to adjacent environment

5.3.4.3 Potential Infrastructure and Services Effects and Mitigation

Potential effects of the Project on infrastructure and services may include change in infrastructure and services, change in transportation infrastructure, and change in accommodation availability.

Because of its location at a remote location, and not directly connected to a highway system, the Project will have limited potential to interact with infrastructure and service providers of adjacent communities. Construction materials and heavy equipment may be sourced from nearby Prince Rupert or shipped from elsewhere via truck, train, or barge to Prince Rupert and then to the Site. Materials, supplies, and workers could be transported by road to the Nisga'a Village of Gingolx from Terrace via Highway 113 and then transported to the Site by marine vessel originating in Gingolx small craft harbour. Project wastes will be transported by marine vessel and then by road to approved disposal sites on the BC mainland. Because the primary Project component (i.e., the FLNG) will be fabricated overseas, the Project workforce will be considerably smaller than needed for land-based LNG projects, such as the LNG Canada project. It is anticipated that workers will be transported to the Site by water taxi, seaplanes, or helicopters from Prince Rupert or Terrace airports or the Port of Prince Rupert. Increased use of regional transportation

infrastructure (e.g., Highway 113, regional airports), temporary accommodation and meals spending within the region (e.g., Terrace and Prince Rupert) are anticipated and will be assessed as part of the EA-IA.

Since the workforce will be physically isolated from nearby communities the potential for adverse interactions between the workforce and those communities is limited. As well, the construction timeline will be much shorter than what would be required for a land-based LNG facility.

There may be some modest additional demands put on regional emergency infrastructure (e.g., local hospital, Royal Canadian Mounted Police services).

Preliminary Identified Mitigation Measures

Preliminary mitigation measures to avoid or reduce potential effects to infrastructure and services include:

- Housing Project workers on a self-contained modular floatel at the Site
- Developing and implementing traffic and access management plan
- Preparing waste management plans that deal with disposal of hazardous and non-hazardous waste materials, as well as recycling
- Providing appropriate emergency response equipment, such as fire-fighting equipment on site
- Preparing and implementing emergency response plans
- Preparing and implementing worker health and safety plans
- Providing appropriate medical facilities and personnel during construction and operation
- Include cultural orientation as part of general worker on-boarding
- Requiring Project workers to review and sign a worker Code of Conduct

5.3.4.4 Potential Human Health Effects and Mitigation

The Project has the potential to result in a change to human health. Human health risk is characterized by quantifying a person's exposure to chemicals in the air, soil, water, and biota. Therefore, data pertaining to human health includes information from the physical and biological environment. These data will be acquired from other disciplines, as applicable. Traditional ecological knowledge and published literature may also apply as it relates to identifying traditional country foods that are important for nutritional, medicinal, cultural, and spiritual purposes to Nisga'a citizens and/or potentially other area Indigenous Nations.

Human health can be affected by exposure to noise, inhalation of contaminants in the air and ingestion of contaminants in traditional foods (e.g., traditional plants and seafood) and drinking water. Human health could also be affected as a result of a change in access to traditional foods as it relates to food security.

Potential effects of the Project on human health will be evaluated by identifying pathways for people to be exposed to environmental contaminants in a Human Health Risk Assessment. If viable pathways are identified, these pathways will be investigated and assessed. If a pathway is unlikely to affect human health, a rationale will be provided explaining why the pathway has not been included in the assessment.

The Project has the potential to contribute to cumulative effects on human health due to contributions of emissions to the airshed and effects on the quality and quantity of traditional foods. Given the remoteness of the Project, the potential for cumulative effects is anticipated to be relatively small and will be managed through the implementation of mitigation measures, best practices and management plans.

An LNG facility under construction and in operations will generate noise emissions. The Project will analyze Project construction and operations noise emissions. The community of Gingolx is approximately 15 km east of the Site. Project noise is not anticipated to be audible in Gingolx based on preliminary noise modelling.

Preliminary Identified Mitigation Measures

Mitigation measures to reduce Project effects on human health are applied from upstream Project design and planning, as described for other ecological values. For example, the mitigation measures for air quality directly reduce emissions to the air, and indirectly reduces the potential effects to human health. Mitigation measures for acoustics directly reduce noise levels, and indirectly reduces the potential effects to human health. Once mitigation measures for other ecological values have been applied, additional mitigations specific to human health are only recommended if the human health risk is above the applicable risk thresholds (e.g., seafood harvesting bans near the Project, if required).

Preliminary mitigation measures to avoid or reduce potential effects to human health include:

- Developing an EMP that will address Project construction, operations and decommissioning wastes, emissions and treated effluent discharges in collaboration with the NLG and, as appropriate, area Indigenous Nations
- Environmental monitoring to support permit compliance (anticipated to be a regulatory requirement)
- Redirecting solid wastes from the facility to recycle and reuse programs, when feasible
- Hazardous wastes will be recorded, stored, and safely barged off-Site for further transport to appropriate permitted hazardous waste management facilities

5.3.4.5 Potential Cultural Effects and Mitigation

The Project has the potential to result in the loss of information about or alteration to site contents or context. Ground disturbance activities and tree clearing associated with the Project have the potential to cause adverse effects on heritage as a result of the alteration, disturbance, or destruction of archaeological or cultural resources. These potential effects would be managed by completing an AIA in advance of Project construction and developing mitigation measures and management plans, such as the

implementation of measures to avoid or reduce potential impacts on recorded sites and develop chance find procedures for use during activities in areas assessed as having low archaeological potential.

Preliminary Identified Mitigation Measures

The following mitigations have been identified for to avoid or reduce potential effects to cultural resources:

- Confirming known archaeological sites of high potential in areas where the Project expects to develop on the onshore and in inter-tidal areas
- Impacting archaeological and heritage features only if supported by the NLG
- Developing and implementing an NLG approved Chance Find Protocol in the event upland or marine construction uncovers a previously unknown archaeological or heritage artefact
- Implementing construction contract provisions with upland and marine construction sub-contractors that incorporate the Project's protection of archaeological and heritage sites and artefacts

5.3.5 Indigenous Peoples - Potential Effects and Mitigation

Based on publicly available information and information shared by Indigenous Nations engaged on the Project, it is anticipated that the Project has the potential to impact Indigenous Nations as a result of changes to the environment that affect:

- Physical and cultural heritage through changes to the Site as a result of clearing and ground disturbance that could alter archaeological or heritage sites or sites of cultural importance
- Current use of lands and resources for traditional purposes, through a change in access to resources as a result of the removal of resources through Project activities or a change in the ability or desire to access lands and resources due to the presence of Project infrastructure and activities
- Structure, site, or thing that is of historical, archaeological, paleontological or architectural significance through changes to the Site as a result of clearing and ground disturbance

The Project also has the potential to impact the health, social and economic conditions of Indigenous Nations through changes to marine access and marine fisheries, changes in the ability to hunt and forage for traditional foods, changes in the quality and quantity of harvested foods (marine and terrestrial species), change in or interference with economic activities such as guiding, tourism, and marine recreation.

Potential Project Interactions specific to Nisga'a Nation are discussed in Section 5.3.5.1. The potential biophysical, health, social or economic effects to other Indigenous Nations using the marine waters of Portland Canal will be identified and discussed with other Indigenous Nations as part of the EA-IA. Additional information regarding the interests and issues identified the Indigenous Nations engaged on the Project are provided in Section 7.3. These identified interests and issues will form the basis of the assessment of effects of the Project on each respective Indigenous Nation in the EA-IA.

Additional information regarding engagement with Indigenous Nations on the Project is provided in Section 7.

Preliminary Identified Mitigation Measures

Appendices 7 and 10 provide responses, including preliminary mitigation, the Proponents have committed to based on comments and items raised during engagement.

The following mitigations have been identified to avoid or reduce potential effects to Indigenous Nations, in general:

- The Proponent will work with Indigenous Nations to evaluate and assess potential Project effects to their abilities to carry out traditional and cultural practices
- The Proponent will work with the Nisga'a Nation to incorporate culturally important plants into the baseline studies at the Site
- Providing opportunities for Indigenous Nations to participate in baseline studies in 2022
- The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted Aboriginal rights and title. This will include collaborating on the development of mitigation, management, and monitoring plans to address potential negative effects that cannot be avoided

Additional mitigation will be identified during engagement as well as the EA-IA process.

5.3.5.1 Potential Nisga'a Nation Effects

As noted in Section 1, the Nisga'a Nation has been actively pursuing the development of an LNG export facility in the Nass Area since 2014. The Nisga'a Nation outlined this goal in a publicly distributed document entitled: *Nisga'a Lisims Government – New Available LNG Sites on Canada's West Coast* – February 2014.

The Project is on land identified by the Nisga'a Nation as suitable for an LNG Export facility. The Nisga'a Treaty identifies the Nass Area and the Nass Wildlife Area which provide specific rights for Nisga'a to fish and harvest wildlife and plants. Nisga'a rights are defined in the Nisga'a Treaty and the Project will need to undertake a comprehensive assessment of potential effects on the Nisga'a Nation's treaty rights.

As detailed in Section 6.1, the Project recognizes that the Nisga'a Treaty and the constitutionally protected rights and interests set out in the Nisga'a Treaty must be respected. Paragraph 8(e) of Chapter 10 of the Nisga'a Treaty requires an assessment of whether the Project can reasonably be expected to have adverse environmental effects on residents of Nisga'a Lands, Nisga'a lands or Nisga'a interests as set out in the Nisga'a Treaty and, where appropriate, make recommendations to prevent or mitigate those effects. Nisga'a interests, as identified in Paragraph 8(e) and associated VCs are shown in Table 5.2. Paragraph 8(f) of Chapter 10 of the Nisga'a Treaty requires an assessment of the effects of the project on the existing and future economic, social, and cultural well-being of Nisga'a citizens who may be affected by the project.

The onshore Site at Wil Milit (District Lots 7235 and 5431) is on Category A Nisga'a Treaty land owned by the Nisga'a Lisims Government in fee simple. The onshore landowner must provide consent for the lease of a Water Lot adjacent to District Lot 5431. The NLG will apply to the BC OGC or FOR to lease the proposed Water Lot once the final required Water Lot area is better understood with respect to Project components.

The two District Lots were included as part of the Nisga'a Treaty and were primarily created from former Reserve No. 43 "Wil Milit", a Nisga'a Reserve. The Nisga'a Gingolx community and potentially other Nisga'a communities have used and stewarded these lands and nearby marine waters of Portland and Pearse Canals for millennia.

As the Site lands are owned by the Nisga'a, the NLG have established that Wil Milit is an appropriate site for an LNG facility. The Wil Milit site has low natural relief, some sheltered areas in Portland Canal, is on an established shipping route and has lower environmental and metocean risks than some of the other sites considered by the Nisga'a for an LNG facility. The NLG will be the landlords for the Project in addition to their role as a Proponent and a regulatory authority. As owners of that land and proponents in the Project, the Nisga'a Nation will need to approve the Project. The Project aims to provide benefits to health and social and economic conditions of Indigenous peoples through pursuit of this economic opportunity, and to appropriately manage potential effects to physical and cultural heritage and current use of resources for traditional purposes. The Proponent will engage with Nisga'a Nation throughout the assessment process to understand potential for effects and develop suitable mitigation and management approaches. Mitigation measures and appropriate management plans will be developed based on comments received from the Nisga'a Nations through the EA-IA process.

Section 6.1 provides additional detail on the Nisga'a Treaty Assessment.

Table 5.2 – Chapter 10, Paragraph 8(e) and 8(f) and Associated Valued Components

Nisga'a Interests as Related to Residents of Nisga'a Lands, Nisga'a Lands or Nisga'a Rights	Valued Component
Paragraph 8(e)	
Fish, Aquatic Plants, water and sediment (Freshwater)	Salmon (i.e., sockeye, pink, Chinook, coho, and chum)
	Steelhead (i.e., winter run and summer run steelhead)
	Non-salmon Species (i.e., Rainbow Trout, Dolly Varden, Bull trout, Cutthroattrout and Pacific lamprey)
	Eulachon
	Freshwater aquatic plants (e.g., yellow pond lily, common cattail, peat moss)
	Water Quality and Sediment Quality
	Water Quantity and Sediment Quantity

Table 5.2 – Chapter 10, Paragraph 8(e) and 8(f) and Associated Valued Components

Nisga'a Interests as Related to Residents of Nisga'a Lands, Nisga'a Lands or Nisga'a Rights	Valued Component
Fish, Aquatic Plants, water and sediment (Marine)	Salmon (i.e., sockeye, pink, Chinook, coho, and chum)
	Non-Salmon Marine Fish (e.g., halibut, rockfish, eulachon, etc.)
	Steelhead (i.e., winter run and summer run steelhead)
	Invertebrates (e.g., bivalves, prawns, crabs, sea cucumber, urchins etc.)
	Marine Mammals (i.e., Harbour Seal and Steller Sea Lion)
	Marine Plants (Kelp beds, sub-tidal and intertidal seaweeds, sea asparagus, sea(marsh) grasses etc.)
	Water Quality and Sediment Quality
Wildlife	Moose
	Mountain Goat
	Grizzly Bear
	American Marten
	Fisher
	Wolverine
	Black Bear
	Grouse
Migratory Birds	Canada Goose
	Dabbling Ducks
	Diving Ducks (including Mergansers)
Botanical Forest Products	Western Red Cedar
	Yellow Cedar
	Pine Mushroom
	Devil's Club
	Indian Hellebore
	Soopolallie
	Labrador Tea
	Black Huckleberry

Table 5.2 – Chapter 10, Paragraph 8(e) and 8(f) and Associated Valued Components

Nisg̲a'a Interests as Related to Residents of Nisg̲a'a Lands, Nisg̲a'a Lands or Nisg̲a'a Rights	Valued Component
Lands	Visual Quality (from viewpoints on the Nisg̲a'a Memorial Lava Bed Park, Nisg̲a'a Lands, Nisg̲a'a fee simple properties, and the Nisg̲a'a Highway)
	Air quality, aesthetic quality, quality and quantity of potable water and access for Nisg̲a'a Lands and Nisg̲a'a fee simple properties
	Other land related interests in the Nisg̲a'a Treaty (Nisg̲a'a Memorial Lava Bed Park and other provincially protected areas within the Nass Area); commercial recreation areas; guide outfitting territory; angling guide licences; traplines;water reservation for domestic, industrial and agricultural uses; water reservation for potential hydro power; intertidal bivalve harvesting areas
	Nisg̲a'a citizens' access to other lands
Paragraph 8(f)	
Existing and future economic well-being of Nisg̲a'a citizens	Employment opportunities and income for Nisg̲a'a Citizens
	Contracting opportunities and earnings for Nisg̲a'a businesses
	Natural resource activities: economic effects
	Future Nisg̲a'a Nation economic opportunities and economic development
	NLG revenues and expenditures
Existing and future social well-being of Nisg̲a'a citizens	Migration and population [a]
	Infrastructure and services in Nisg̲a'a communities
	Occupational health & accident risks
	Family and community well-being[b]
	Human health and well-being
Existing and future cultural well-being of Nisg̲a'a citizens	Nisg̲a'a cultural sites and artifacts (including Culturally Modified Trees, spiritual sites, current and historical cultural sites, provincial heritage sites etc.)
	Effects of changing work patterns on cultural activities and practices
	Natural resource activities: cultural effects
	Nisg̲a'a language

NOTES:

[a] Migration and population change is considered as an intermediate or pathway effect that in turn has potential implications for other VCs. Migration and population are not assessed as either a beneficial or adverse effect per se; instead, population and migration projections are used as a basis for the assessment of other effects.

[b] e.g., family life, social participation, leisure, security, education, poverty, children at risk, social issues such as crime, addiction, domestic violence, gambling.

5.4 Potential Effects in Relation to Requirements of the Impact Assessment Act

Section 19 of the Information and Management of Time Limits Regulation requires the assessment of potential effects of Project activities on fish and fish habitat, as defined in subsection 2(1) of the *Fisheries Act*, aquatic species, as defined in subsection 2(1) of SARA, and migratory birds, as defined in subsection 2(1) of the *Migratory Birds Convention Act*, 1994. The following describes potential changes as they pertain to these components of the environment:

- Fish and Fish Habitat – the Project has the potential to affect fish and fish habitat as defined by the *Fisheries Act* as a result of (see Sections 5.3.3.3 and 5.3.3.4 for a description of potential changes):
    - The harmful alteration, disruption and destruction of fish habitat under the Project's upland and marine disturbance area from the construction and operation of the Project
    - Potential mortality or physical injury of fish (including marine mammals) and/or fish eggs from the Project's construction activities and large vessel movements to and from the marine terminal
    - Sensory disturbance or hearing injury from underwater construction noise generated during construction of the marine terminal infrastructure
- Aquatic Species – the Project has the potential to affect aquatic species as defined by SARA as a result of (see Sections 5.3.3.3 and 5.3.3.4 for a description of potential changes):
    - Sensory disturbance or hearing injury resulting in behavioural changes from underwater construction noise generated during construction of the marine terminal infrastructure
    - Shading or clearing of intertidal or subtidal vegetation as a result of the construction of the marine terminal infrastructure
    - Mortality or physical injury as a result of physical impact due to construction activities (e.g., by machinery or covering by sediment)
- Migratory Birds – the Project has the potential to affect migratory birds as define by the *Migratory Bird Convention Act*, 1994, as a result of (see Sections 5.3.3.2 for a description of potential changes):
    - Changes to migratory bird movement patterns due to an increase in large vessel marine traffic
    - Loss or alteration of habitat on the upland due to the construction and operation of the Project
    - Increased risk of mortality due to the construction and operation of the Project

Potential effects on and preliminary mitigation for identified effects on fish and fish habitat as well as aquatic species are described in Sections 5.3.3.3 and 5.3.3.4. Potential effects on and preliminary mitigation for identified effects on migratory birds are described in Sections 5.3.3.2 and 5.3.3.4.

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6 LEGISLATIVE AND REGULATORY CONTEXT

6.1 Indigenous Treaties and Agreements

The Project will align with relevant and applicable Indigenous laws, customs and policies. Identification of Indigenous Nation interests is primarily identified through ongoing engagement, according to their preferred means and methods, and reflective of their interests.

6.1.1 Nisg̲a’a Treaty

As described in Section 1.1, the Nisg̲a’a Nation is a self-governing Indigenous Nation. The Nisg̲a’a Nation is a party to the Nisg̲a’a Treaty, along with Her Majesty the Queen in right of Canada and Her Majesty the Queen in right of British Columbia. As recognized in the *Preamble* to the Nisg̲a’a Treaty, the “Nisg̲a’a Nation has lived in the Nass Area since time immemorial”. As set out in the Nisga’a Treaty, the Nisga’a Nation owns and controls parcels of land within the Nass Area. These lands include Nisg̲a’a Lands and Nisg̲a’a Fee Simple Lands, as defined in the Nisg̲a’a Treaty (Figure 6.1).

Nisg̲a’a Lands include approximately 97 km of marine and estuary shoreline at the mouth of the Nass River, including all surface and subsurface resources. NLG holds legislative jurisdiction over certain matters within Nisga’a Lands.

Nisg̲a’a Fee Simple Lands (Category A Lands and Category B Lands, as defined in the Nisg̲a’a Treaty), include approximately 27.5 km^2 of fee simple lands outside of the Nisg̲a’a Lands. The Nisg̲a’a Nation owns the surface and subsurface resources of Category A Lands and the surface resources of Category B Lands. The Site is located within Category A Lands, which include marine and estuary shoreline. There are no Category B Lands abutting the marine waters of the Nass Area.

The Nisg̲a’a Nation has constitutionally protected treaty interests and rights in the Nass Area and the Nass Wildlife Area (as defined in the Nisg̲a’a Treaty), including fisheries management and harvesting rights in an area covering approximately 26,000 km^2 and wildlife management and harvesting rights in an area covering approximately 16,000 km^2.

Chapter 8 of the Nisg̲a’a Treaty addresses Nisg̲a’a citizens’ entitlements to fish and aquatic plants in the Nass Area. NLG has the authority to make laws in respect of the sale of salmon that are harvested under the Nisg̲a’a Harvest Agreement. In addition, Chapter 8 describes fisheries management arrangements between the Nisg̲a’a Nation, BC and Canada. Nisg̲a’a citizen rights to participate in the general commercial fishery were not modified by the Nisga’a Treaty. Nisg̲a’a allocations for Dungeness crab, tanner crabs, king crabs, halibut, prawns, shrimp, herring, and aquatic plants used for roe-on-kelp may be negotiated with BC and Canada at a future date.

Chapter 9 of the Nisg̲a'a Treaty addresses Nisg̲a'a citizens' entitlements to wildlife and migratory birds in the Nass Wildlife Area and Nass Area, respectively, subject only to measures that are necessary for conservation and legislation enacted for the purposes of public health and safety. Nisg̲a'a wildlife allocations are set out for Designated Species only (i.e., moose, mountain goat, grizzly bear) as defined proportions of the total allowable harvest. The Project is located within the Nass Area and Nass Wildlife Area; therefore, the EA-IA of the Project must meet the requirements of Chapter 10 of the Nisg̲a'a Treaty. In accordance with paragraphs 8(e) and 8(f) of Chapter 10 of the Nisg̲a'a Treaty, the EA-IA of a proposed project is required to assess:

- Whether a proposed project can reasonably be expected to have adverse environmental effects on residents of Nisg̲a'a Lands, Nisg̲a'a Lands or Nisg̲a'a interests set out in the Nisg̲a'a Treaty and, where appropriate, make recommendations to prevent or mitigate those effects
- The effects of a proposed project on the existing and future economic, social, and cultural well-being of Nisg̲a'a citizens who may be affected by the Project

The Project will undertake a comprehensive assessment of the Project on Nisg̲a'a treaty rights, including potential social and economic impacts to the Nisg̲a'a people that include sensitive or vulnerable economic, social, cultural, or health values that may be affected by the Project, in accordance with paragraphs 8(e) and 8(f) of Chapter 10 of the Nisg̲a'a Treaty. The Chapter 10 assessment (NLG 2018) will be completed as part of the EA-IA.

6.1.2 Provincial Agreements with Indigenous Nations

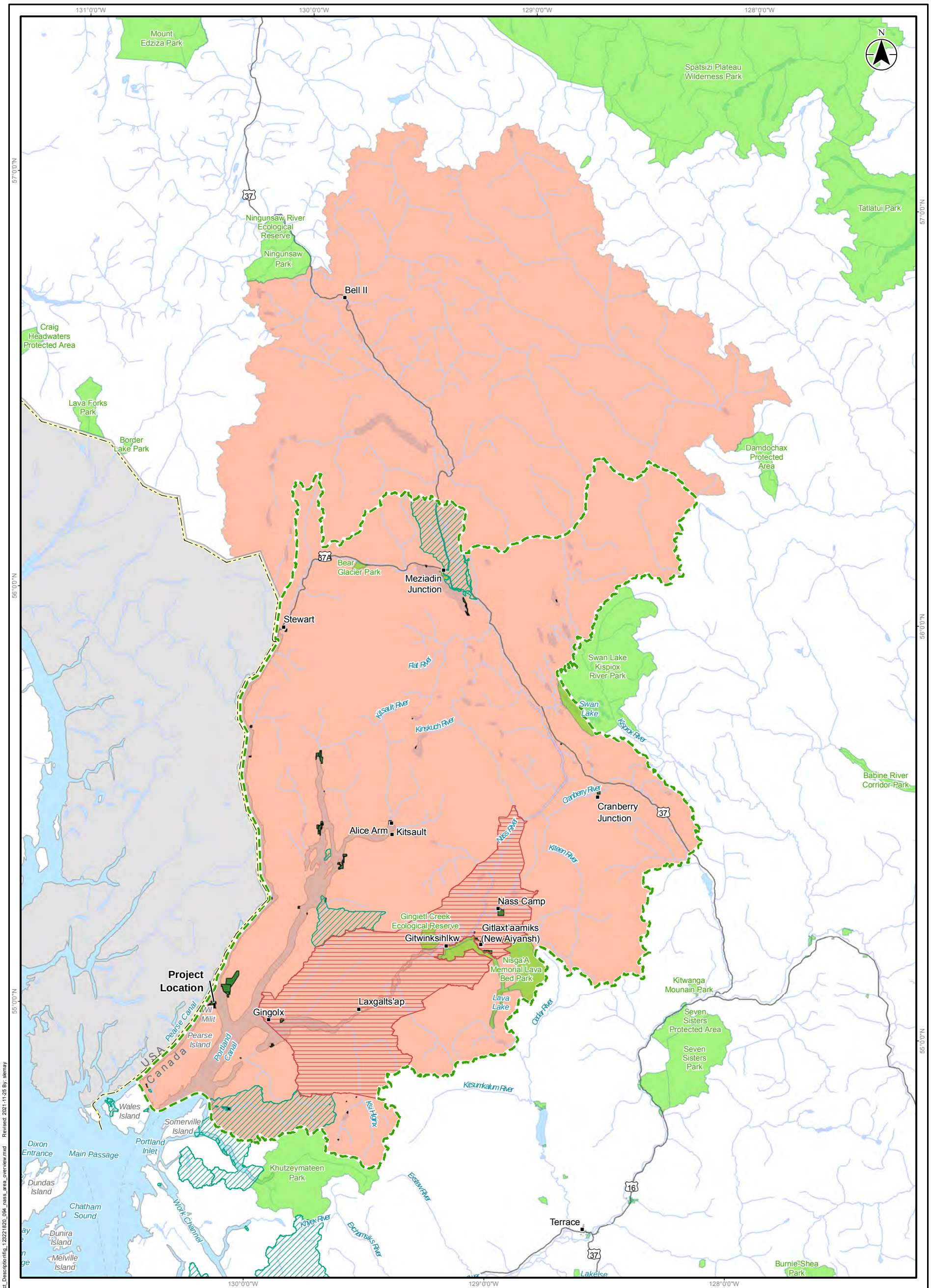
The Government of British Columbia has various agreements in place with several Indigenous Nations; those listed below may be pertinent to the Project. Information was obtained from the Government of BC's publicly available information on First Nations Negotiations (GoBC 2021e).

Reconciliation Agreements

- Reconciliation Protocol between the Wuikinuxv Nation, Metlakatla First Nation, Kitasoo Indian Band, Heiltsuk Nation, Gitga'at First Nation, Nuxalk Nation, Haisla Nation and BC - 2017
- Kunst'aa Guu – Kunst'aayah Reconciliation Protocol Amending Agreement between the Haida Nation and BC - 2016
- GayG̲ahlda "Changing Tide" Framework for Reconciliation Agreement between the Haida Nation and BC - 2021
- Kitselas First Nation Reconciliation Agreement - 2017
- Métis Nation Relationship Accord between the Métis Nation British Columbia and BC - 2021

Memoranda of Understanding

- Memorandum of Understanding (**MOU**) between the Province and the Union of BC Municipalities (**UBCM**) regarding Engagement with UBCM and local governments on Treaty Agreements, Non-treaty Agreements and Indigenous Initiatives



KSI LISIMS LNG

Notes
1. Coordinate System: NAD 1983 BC Environment Albers
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Stantec, Rockies LNG
3. NTS Map Sheets:094E, 093L, 103I, 103J, 103P, 093M, 103O, 104A, 104B, 104G, 104H, 094D

- Nass Area
- Nass Wildlife Area
- Nisga'a Lands
- Nisga'a Nation Category A Land
- Populated Place
- Ferry Route
- Highway
- International Boundary
- Watercourse
- Conservancy Area

Country
- Canada
- United States
- Park
- Waterbody

0 5 10 15 20 km
1:1,000,000 (at original document size of 11x17)

Stantec

Project Location: Pearse Island, BC
Project Number 123221820
Prepared by SLEMAY on 20211125
Requested by EFLORY on 20211121
Checked by TQUILICHINI on 20211126

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Detailed Project Description

Figure No.
6.1

Title
Nass Area Overview

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

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Natural Gas Benefit Agreements

- Kitselas Natural Gas Pipeline Benefits Agreement (PRGT, ECGT) – 2014
- Lax Kw'alaams Natural Gas Pipeline Benefits Agreement (PRGT) – 2017
- Metlakatla First Nation Natural Gas Pipeline Benefits Agreement (PRGT) – 2016
- Metlakatla First Nation Natural Gas Pipeline Benefits Agreement (WCGT) – 2016
- Gitxaala Natural Gas Pipeline Benefits Agreement (PRGT) – 2014
- Gitxaala Natural Gas Pipeline Benefits Agreement (WCGT) – 2014

Other Liquefied Natural Gas Related Agreements

- Gitga'at LNG Benefits Agreement – 2017
- Gitxaala LNG Benefits Agreement – 2019
- Gitxaala LNG Coastal Fund Agreement – 2019
- Kitselas First Nation LNG Benefits Agreement – 2017
- Kitselas First Nation LNG Coastal Fund Agreement – 2017
- Kitsumkalum LNG Benefits Agreement – 2019
- Kitsumkalum LNG Coastal Fund Agreement – 2019
- Lax Kw'alaams LNG Benefits Agreement – 2017
- Lax Kw'alaams LNG Coastal Fund Benefits Agreement – 2016
- Metlakatla LNG Coastal Fund Benefits Agreement – 2016
- Metlakatla Pacific NorthWest LNG Benefits Agreement – 2016
    - Amendment Agreement (1) – 2016
    - Amendment Agreement (2) – 2017
- Agreement on Environmental Monitoring of the Pacific NorthWest LNG Project (Lax Kw'alaams & Metlakatla) – 2017
- Coastal First Nations Great Bear Initiatives Society LNG Benefits Agreement – Amended – 2017
- Coastal First Nations Great Bear Initiatives Society Letter of Understanding on Environmental Quality and LNG Developments on the North Coast, and Skills Training & Employment Coastal First Nations Great Bear Initiatives Society LNG Benefits Agreement (Wuikinuxv, Heiltsuk, Kitasoo/Xaixais, Gitga'at, and Metlakatla) – 2016

Atmospheric Benefit Sharing Agreements

- Metlakatla First Nation – 2015
- Kitselas First Nation – 2018
- Haida Nation – 2019

6.2 Declaration on the Rights of Indigenous Peoples Act

The *Declaration on the Rights of Indigenous Peoples Act* (Government of British Columbia), passed in November 2019, sets the United Nations Declaration on the Rights of Indigenous Peoples as the basis for reconciliation between BC and Indigenous peoples in the Province (GoBC 2019; United Nations 2007). It supports transparent, cooperative, staged approaches through which BC works with Indigenous Nations, businesses, and local governments on decisions affecting Indigenous Peoples and their rights.

The BC EAA (2018) enables reconciliation with Indigenous Nations through meaningful participation in the BC EA process by enabling early awareness of key interests and identification of areas for collaboration and resolution. The BC EAA (2018) anticipates that Indigenous Nations will decide on whether a project should be approved through an expression of consent or by withholding consent. It is noted that the Ministers must take the Indigenous Nations' decisions into consideration, however, final decision-making authority remains with the Government of British Columbia.

Where BC-Indigenous Nation agreements are already developed or are in place under the *Declaration on the Rights of Indigenous Peoples Act* framework (e.g., such as the environmental assessment consent requirement incorporated in the Nisga'a Treaty) Section 7 of the BC EAA (2018) applies. Section 7 of the BC EAA (GoBC 2018b) enables the requirement for Indigenous Nation consent regarding projects in the environmental assessment process.

The *Declaration on the Rights of Indigenous Peoples Act* provides clarity and transparency around the consent process and the requirements for BC and Indigenous Nations entering into agreements. BC EAO will provide advice to BC Ministries negotiating government-to-government agreements, facilitating the development of agreements that are practical and can be effectively implemented.

6.3 Provincial and Federal Approvals and Policies

The following provincial and federal approvals and policies are applicable to the Project. International agreements between Canada/BC and the United States may also be applicable and are discussed.

6.3.1 Provincial Environmental Assessment

The Project is subject to review and Ministerial decision under the BC EAA 2018 as it exceeds the thresholds (triggers) listed in the *Reviewable Projects Regulation*, for:

- ***Energy Projects –*** The Project will incorporate thermal electric power plant(s) that would combust natural gas to create electricity exceeding the 50-megawatt (**MW**) threshold for power plants under Table 7 of the Regulation

- ***Petroleum and Natural Gas Projects –*** The Project's LNG storage capacity in each of the FLNGs is expected to be approximately 225,000 m^3, exceeding the threshold of 136,000 m^3 for energy storage facilities under Table 8 of the Regulation
- ***Water Management Projects –*** Construction of the FLNGs and barge mooring infrastructure is expected to result in direct physical disturbance of more than 2 ha of a combination of foreshore and submerged land, exceeding the $\geq$2 ha threshold for shoreline modification projects under Table 9 of the Regulation

6.3.2 Federal Impact Assessment

The IAA came into force in August 2019. The Project will require an impact assessment decision under the IAA as it meets or exceeds the thresholds for the following three criteria in the *Physical Activities Regulations*:

- ***Oil, Gas and Other Fossil Fuel Projects –*** The Project will incorporate a temporary thermal electric power plant(s) that would combust natural gas to create electricity, exceeding the 200 MW threshold under section 30 of the Schedule to the Regulations
- ***Oil, Gas and Other Fossil Fuel –*** The Project's LNG storage capacity in each of the FLNGs is expected to be approximately 225,000 m^3, exceeding the threshold of 136,000 m^3 under section 37(d) of the Schedule to the Regulations
- ***Transport –*** The Project will require construction and operation of a new marine terminal designed to handle LNGCs exceeding the threshold of 25,000 deadweight tonnes under section 52 of the Schedule to the Regulations

On August 6, 2021, in accordance with the "one-project, one-assessment" principle, the BC EAO requested substitution of the Project under the Impact Assessment Cooperation Agreement Between Canada and British Columbia with the intent to avoid duplication.

On October 25, 2021, the Proponent requested a suspension of the 180-day time limit for the Planning Phase of the federal process. The process will resume once a DPD and response to the Joint Summary of Issues and Engagement (**JSOIE**) are accepted by Agency.

6.3.2.1 Strategic Assessment of Climate Change

The IAA establishes a new process for considering environmental, health, social and economic effects of projects subject to federal impact assessment. One of the factors to be considered in the impact assessment process of a designated project is the extent to which the effects of the designated project hinder or contribute to the Government of Canada's ability to meet its commitments in respect to climate change such as the Paris Agreement, Canada's 2030 target, and the goal of Canada achieving net-zero emissions by 2050.

In 2020, the SACC was published (GoCN 2020b) to enable consistent, predictable, efficient and transparent consideration of climate change throughout the federal impact assessments (ECCC 2020b). The SACC requires that project proponents:

- Submit GHG and climate change information related to their project at each phase of a federal IA
- Provide a credible plan that describes how their project will achieve net-zero emissions by 2050 (for projects with operations planned beyond 2050)

The Agency or lifecycle regulator(s), with support from expert federal authorities, reviews and comments on the climate change information provided by proponents.

The *Guidance on Quantification of Net GHG Emissions, Impact on Carbon Sinks, Mitigation Measures, Net-Zero Plan and Upstream GHG Assessment* complements the SACC and provides proponents with a consistent and coherent approach to assessing a designated project's GHG emissions and impact on carbon sinks and encourages optimized project design and implementation (ECCC 2021a). Specifically, the guidance provides:

- A description of how a project's GHG emissions are to be estimated throughout the Impact Assessment process, including upstream emissions and impact on carbon sinks, where applicable
- A description of the Best Available Technologies / Best Environmental Practices Determination process that all projects are required to complete in the Impact Assessment process
- A description of the information required in the net-zero plan for projects with a lifetime beyond 2050

6.3.3 Other Provincial and Federal Approvals

Provincial and federal permits, approvals or authorizations will be required in support of LNG export from Canada. If the Project is approved, additional permits, authorizations and approvals will be required for marine and upland construction and operations. The Project will also be subject to the terms and conditions of the lease for the Site from the NLG. The BC OGC is the regulatory authority that authorizes commissioning and operations of LNG facilities in BC.

The Project has assembled an initial comprehensive Project permitting plan to address the permits, authorizations, and approvals necessary for the Project based on information known to date. It is expected that this plan will be routinely updated based on more mature Project engineering and engagement with regulatory authorities.

A preliminary list of anticipated EA-IA decisions, permits, authorizations and approvals for the three major Project phases is included in Table 6.1. An estimated timeline for the EA-IA regulatory process is presented in Section 6.5.

The Project has applied for and received investigative permits for the completion of ongoing baseline field studies. Table 6.2 provides the Project's currently held approvals.

Table 6.1 – Anticipated Authorization by Project Phase

PHASE I. Authorizations potentially required in the Pre-EA-IA, up to and including the EA-IA decision period	PHASE II. Authorizations potentially required to commence activities after positive EA-IA decisions	PHASE III. Construction authorizations potentially required (Post FID + 2~4 years)
Site-specific upland clearing, upland and marine geotechnical drilling, animal and fish sampling – collection, archaeological surveys and artefact identification collection, EA-IA decisions	**Site preparation and ground improvement, Site roads bridges- culverts, tree clearing, initial marine works (e.g., barge dock-wharf, floatel)**	**Construction of upland permanent facilities, offsite utilities, lateral feed gas pipeline, marine terminal works**
▪ BC OGC and NLG natural resource authorizations – Investigative use permits ▪ Archaeology Branch – Archeological Impact Assessment ▪ DFO – *Fisheries Act* – Licences to Fish and Collect Fish – marine and freshwater ▪ FOR – *Wildlife Act* Authorizations – Permit to sample for fish and amphibians ▪ BC EAO – EA Certificate ▪ Agency – Impact Decision Statement	▪ BC OGC – LNG Facility Permit ▪ FOR or BC OGC – Water Lot lease at Wil Milit ▪ BC OGC – *Water Sustainability Act* Section 10 – Short-term Use Approval and/or Section 11 Approval Changes in and About a Stream ▪ Northern Health Authority (**NHA**) approval for the floatel – temporary construction workforce accommodation ▪ NGL – Private Timber Mark ▪ NLG – Burning Permit ▪ FOR – Water or groundwater use licence – *Water Sustainability Act* – [potential] ▪ BC OGC and BC ENV Waste Discharge Authorizations (for temporary works, including stormwater discharge, if necessary) ▪ DFO *Fisheries Act* Authorization ▪ DFO Habitat Compensation Plan Concept – approval ▪ Transport Canada NPP – Notice of Works ▪ BC ENV – Concrete Batch Plant	▪ Transport Canada NPP – Order and/or Approval ▪ NHA – Waterworks Construction Permit – permanent ▪ FOR – Water or groundwater use licence – *Water Sustainability Act* – [potential] ▪ FOR – *Wildlife Act* Authorizations – Permit to sample for fish and amphibians - [potential] ▪ NHA – Waterworks Operation Permit – permanent ▪ BC ENV – Municipal Wastewater Registration ▪ BC OGC – Leave to Construct ▪ TSBC – Equipment Safety Plan Approval ▪ Transport Canada Obstacle Clearance Permit ▪ BC OGC – Air and Water Waste Discharge Authorization(s) **Post FID after approximately 4 years:** ▪ FLNG federal inspections and classifications ▪ BC OGC – Leave to Operate

ABBREVIATIONS:
Agency TSBC – Technical Safety BC
Transport Canada NAV CAN – Transport Canada's Navigation Canada
Transport Canada NPP – Navigation Protection Program
NHA – Northern Health Authority

Table 6.2 – Current Project Authorizations

Issuing Agency	Type of Permit	Permit Number	Valid Dates
Freshwater Fish			
DFO	License to Fish for Scientific Purposes	XR 161 2021	May 25, 2021 –May 25, 2022
DFO	License to Fish for Scientific Purposes	XR 161 2021 – Amendment 1	June 01, 2021 –June 01, 2022
FLNRORD[12]	Fish Collection Permit	SM21-623303	May 25, 2021 – May 25 2022
FLNRORD	Fish Collection Permit - Amendment	SM21-627129	August 15, 2021 –August 15, 2022
Marine Resources			
DFO	License to Fish for Scientific Purposes	XR 146 2021	May 30, 2021 –May 30, 2022
DFO	License to Fish for Shellfish in a Contaminated Area	XMCFR 27 2021	July 12, 2021 –15 Sept, 2021
Wildlife			
FLNRORD	General Wildlife Permit	SM21-623342	June 1, 2021 –Dec. 31, 2021
Archaeology			
Archaeological Branch	Section 12.2 Heritage Inspection Permit	TBD	TBD (December 31, 2023 requested)
Meteorology			
NLG	NLG Investigative use permit	n/a	May 2021 – removal

[12] BC Ministry of Forests, Lands, Resource Operations and Rural Development (**FLNRORD**) is now the Ministry of Forests; however, these permits were issued by FLNRORD.

6.3.4 Applicable International Agreements

The Site is within 2 km of the BC – Alaska border. The Proponent has engaged with the United States Environmental Protection Agency and Alaska Department of Natural Resources Alaska and will continue to engage with any relevant agency of the United States government as advised by the BC EAO and Agency. A MOU and Cooperation Agreement between the State of Alaska and the Province of British Columbia was signed by the Alaskan Governor and the Premier of BC in 2015. Parts of this agreement that may be applicable to the Project include:

- Protection of transboundary waters
- Sharing best practices on workforce development and training
- Advancing marine transportation reliability and safety
- Reinforcing emergency management mutual aid and response
- Fostering continued growth of existing and increased transportation links
- Exploring other areas for cooperative action

Appendix 1 of the MOU includes *a Statement of Cooperation on Protection of Transboundary Waters* between the State of Alaska departments of Environmental Conservation, Fish and Game, and Natural Resources and the BC Ministries of Environment and Energy and Mines. The *Statement of Cooperation* makes specific reference to the Nisga'a Nation, environmental assessment and permitting processes and other matters.

6.3.4.1 Canada-United States Air Quality Agreement

The Project will follow Article V of the Canada-United States Air Quality Agreement (**the Agreement**; Government of Canada and Government of the United States 1991). The Project will model air emissions from the Agreement and if transboundary migration of Project emissions is anticipated, the Project will engage appropriate United States federal government and State of Alaska regulators and will work to mitigate transboundary migration through engineering solutions where possible.

The Agreement was signed by Canada and the United States in 1991, to address transboundary air pollution leading to acid rain. Both countries agreed to reduce emissions of SO_2 and NO_x, the primary precursors to acid rain, and to work collaboratively on acid rain-related scientific and technical initiatives.

The Ozone Annex was added to the Agreement in December 2000 to address the transboundary air pollution leading to high air quality levels of ground-level ozone, a major component of smog. The long-term goal of the Ozone Annex is the attainment of the ozone air quality standards in both countries. Where there are transboundary flows of the pollution that creates ozone, the Ozone Annex commits both countries to reducing their emissions of NO_x and VOCs, the precursor pollutants to ground-level ozone.

Article V of the Agreement (Assessment, Notification, and Mitigation) states that:

- Each Party, as appropriate and as required by its laws, regulations, and policies, assess those proposed actions, activities, and projects within the area under its jurisdiction that, if carried out, would be likely to cause significant transboundary air pollution, including consideration of appropriate mitigation measures.
- Each Party shall notify the other Party concerning a proposed action, activity, or project subject to assessment under paragraph 1 as early as practicable in advance of a decision concerning such action, activity or project and shall consult with the other Party at its request in accordance with Article XI.
- In addition, each Party shall, at the request of the other Party, consult in accordance with Article XI concerning any continuing actions, activities or projects that may be causing significant transboundary air pollution, as well as concerning changes to its laws, regulations, or policies that, if carried out, would be likely to affect significantly transboundary air pollution.
- Consultations pursuant to paragraphs 2 and 3 concerning actions, activities or projects that would be likely to cause or may be causing significant transboundary air pollution shall include consideration of appropriate mitigation measures.
- Each Party shall, as appropriate, take measures to avoid or mitigate the potential risk posed by actions, activities or projects that would be likely to cause or may be causing significant transboundary air pollution.
- If either Party becomes aware of an air pollution problem that is of joint concern and requires an immediate response, it shall notify and consult the other Party forthwith.

6.3.5 Provincial and Federal Policies

6.3.5.1 GHG Management Legislation and Policies

GHG emissions from industry are federally and provincially monitored in Canada. At a federal level, GHG emissions are reported via the GHG Reporting Program under section 46 of the *Canadian Environmental Protection Act*, 1999 (Government of Canada 1999). GHG emissions within BC are also reported under the *Greenhouse Gas Industrial Reporting and Control Act* (**GGIRCA**; GoBC 2014) and its associated regulations. Both laws require industrial facilities to report their annual GHG emissions if they emit more than 10,000 t CO_2e per year or meet specific other criteria. Those annual reports are then included in the provincial and national GHG inventories.

Currently, BC's GGIRCA sets an emissions intensity limit for LNG operations of 0.16 t CO_2e/t LNG. Operations with GHG emissions intensities above this limit must purchase compliance units, in the form of offset units, funded units, or earned credits, to meet their compliance obligations.

In addition, there are federal and provincial climate commitments and GHG reduction targets. Federally, the *Pan-Canadian Framework on Clean Growth and Climate Change* makes commitments to reduce national GHG emissions by 30% below 2005 levels by 2030. The *Canadian Net-Zero Emissions Accountability Act*, which was passed into law on June 30, 2021, formalizes Canada's target of net-zero emissions by 2050 and establishes a series of interim emissions reduction targets at 5-year milestones towards the goal (Government of Canada 2021a). The IAA reviews the extent to which each proposed project hinders or contributes to Canada's ability to meet its environmental obligations and climate change commitments. As described above (Section 6.3.2.1) the IAA requires that projects with a proposed lifespan beyond 2050 provide a credible plan to achieve net-zero emissions by 2050. The Project's consideration towards a net-zero plan is outlined in Subsection 2.10.4.

GHG reduction targets within BC are legislated under the *Climate Change Accountability Act* (formerly *Greenhouse Gas Reduction Targets Act*) (GoBC 2007). Greenhouse gas targets are set as 40%, 60% and 80% below the 2007 GHG emission levels by 2030, 2040 and 2050, respectively. There is also an interim target of 16% by 2025. Additionally, the Minister established sectoral targets for transportation, industry, oil and gas, and buildings and communities. Currently, BC's GHG inventory does not include a specific category for LNG facilities; however, such emissions would likely be considered under the oil and gas sector. For the oil and gas sector, the target range is 33-38% reduction from 2007 levels by 2030. The CleanBC Plan, released in 2018 by the Government of BC, was developed as a pathway to achieve the province's legislated GHG emissions reduction target by 2030. The Plan addresses emissions from LNG development, stating that "one of the conditions for LNG development in B.C. is that it fits within the Province's climate commitments" (GoBC 2018a).

6.3.5.2 Meeting Provincial and Federal GHG Reduction targets

The preliminary GHG estimates provided in Section 2.10.5 are applied in Table 6.3 to estimate the Project's expected contribution to federal and provincial GHG emission targets. These estimates are preliminary, and the Project anticipates that additional GHG emission analyses will be required to satisfy the BC EAO and Agency requirements for the EA-IA.

Table 6.3 – Estimates of Project Contributions to Canadian and BC Emission Targets

	Reduction Target (%)	Federal / Provincial Annual Emissions ($ktCO_2e/yr$)	Project Emissions, Before Offsets		Project Net Emissions, After Offsets	
			Annual Emissions[1] ($ktCO_2e/yr$)	Contribution (%)	Annual Emissions[1] ($ktCO_2e/yr$)	Contribution (%)
Federal 2005 Baseline[2]	n/a	730,000	-	-	-	-
Federal 2030 Target	30	511,000	400	0.08%	0	0.0%
Federal 2050 Target	100	0	400	-	0	-
BC 2007 Baseline[3]	n/a	60,800	-	-	-	-
BC 2030 Target	40	36,500	400	1.1%	0	0.0%
BC 2040 Target	60	24,300	400	1.6%	0	0.0%

Table 6.3 – Estimates of Project Contributions to Canadian and BC Emission Targets

	Reduction Target (%)	Federal / Provincial Annual Emissions ($ktCO_2e/yr$)	Project Emissions, Before Offsets		Project Net Emissions, After Offsets	
			Annual Emissions[1] ($ktCO_2e/yr$)	Contribution (%)	Annual Emissions[1] ($ktCO_2e/yr$)	Contribution (%)
BC 2050 Target	80	12,200	400	3.3%	0	0.0%
BC Oil and Gas 2007 Baseline[4]	n/a	12,800	-	-	-	-
BC Oil and Gas 2030 Target	33 - 38	7,900 - 8,600	400	4.6 – 5.0%	0	0.0%

NOTES:

[1] The Project's annual emissions assume that in 2030, the Project has access to full electrical power from the BC Hydro grid onwards.

[2] Source: UN Climate Change 2020

[3] Source: Government of B.C. 2007

[4] Source: Government of B.C. 2007; sum of upstream and downstream oil and gas emissions.

The Project's contribution to federal and provincial GHG targets can be offset as it will be 100% powered from the BC Hydro grid. Furthermore, the purchase of offset credits enables the Project to offset the remainder of its direct and acquired energy emissions. This allows the Project to comply with the federal target of being net-zero by 2050 and align with the provincial GHG emission reduction targets and *CleanBC Plan*.

While the Project would result in some net GHG emissions within BC and Canada, global emissions can be reduced on a lifecycle basis. Canadian LNG exports are positioned to displace higher carbon intensive fuels used for power generation overseas, such as coal and oil, which currently supply over 75% of primary energy demand in Asia. Based on independent, peer reviewed studies[1] and preliminary estimates, using LNG from the Project to displace coal in Asia could reduce global GHG emissions by over 45 million tonnes of CO_2e per year.

6.4 Federal Funding and Federal Lands

The Project is not anticipated to require the use of federal funding, federal lands or reserves for the purpose of carrying out the Project.

6.5 Environmental Assessment Timing

The preliminary schedule for the EA-IA and permitting phase is shown in Table 6.4.

Table 6.4 – Preliminary Schedule for the EA-IA and Permitting Phases

Ksi Lisims LNG Workplan* (Updated December 1, 2021)			2021				2022				2023				2024	
Regulatory Phases[1]	**Activity**	**Dates**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**
	Engagement	On-going														
Early Engagement	Initial Project Description & Engagement Plan accepted by BC EAO	**July 16, 2021**														
	Federal planning phase starts	**July 21, 2021**														
	BC EAO Requests Substitution to Agency	**August 6, 2021**														
	Draft Detailed Project Description submission	**Feb. 1, 2022**														
	File Detailed Project Description[2]	**April 29, 2022**														
EA Readiness	Notice of Decision (BC EAO, discretionary)	**July 5, 2022**														
	Agency makes Impact Assessment Determination	**July 5, 2022**														
Process Planning	Federal Minister makes Section 31 substitution decision	**July 16, 2022**														
	Process Order (BC EAO)	**Nov. 3, 2022**														
Application Development	Indigenous Nation review of draft EA-IA Chapters and Data Reports	**June-Dec 2022**														
	Draft EA-IA Application Submission	**Jan. 9, 2023**														
	EA-IA Application Review and Revision	**Jan-July., 2023**														
	Revised EA-IA Accepted	**Aug. 28 2023**														
Recommendation	EA and Recommendation review	**Aug. 29, 2023 – Jan. 25, 2024**														
	Final Assessment Report	**Jan. 29, 2024**														
Decision	BC EAA, EAC, and IAA Decision Statement	**Feb. 28, 2024**														
Permitting	Key Permits: BC OGC, DFO, Transport Canada	**2023/Q1 2024**														
FID		**Q2 2024**														

NOTES:

* Workplan assumes that substitution is granted

[1] Based on BC EAA regulatory phases. May differ from IAA phases

[2] Request to suspend the federal process likely required to align federal and provincial planning phases. This would result in a delay in submission of the DPD to Agency.

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7 INDIGENOUS NATION ENGAGEMENT

The Proponent recognizes the importance of early and meaningful engagement with Indigenous Nations and strives to establish and maintain mutually respectful relationships with Indigenous Nations engaged with the Project. First and foremost, the Project includes a collaboration with the Nisga'a Nation. The NLG has openly supported the Project and has taken a lead role in informing Nisga'a citizens about the Project. The Proponent values the concerns and feedback provided by regional Indigenous Nations and recognizes that shared information will contribute to development of the DPD and development of the EA-IA, and ultimately development of a more successful Project, by helping in the identification of such items as sensitive habitats and areas of cultural importance that should be avoided, seasonal events such as species migration patterns, and environmental conditions such as weather systems and currents that should be considered.

This section provides a summary of engagement activities completed to date and key issues identified through this engagement. For additional detail see the accompanying EP for the Project. Where appropriate, results of engagement have been carried through the DPD and will influence the EA-IA (e.g., as a result of comments related to shipping concerns, the Proponent has committed to a Navigation Safety Assessment, see Section 9.2.4).

7.1 Engagement with Indigenous Nations/Groups

The Project is being developed in collaboration with the Nisga'a Nation. The Site is located within lands that are owned and controlled by the Nisga'a Nation and within the Nass Area, where the Nisga'a Nation has constitutionally protected treaty rights and interests as set out in the Nisga'a Treaty.

To date, the Project has endeavoured to engage regional Indigenous Nations/Groups through:

1. Nation-to-Nation engagement led by Nisga'a leadership
2. Technical engagements led by the Proponent team focused on early engagement at the technical level with designates of each of the Indigenous Nations/Groups listed below in Table 7.1.

Table 7.1 – Indigenous Nations/Groups and Points of Contact

Indigenous Nation	Contact
Nisga'a Lisims Government	President, CEO, Secretary Treasurer
Lax Kw'alaams Band	Mayor
Metlakatla First Nation	Chief Councilor
Kitsumkalum First Nation	Chief Councilor
Kitselas First Nation	Director, Lands and Resources
Gitxaała Nation	Regulatory Affairs Manager
Gitga'at First Nation	Science Director
Haida Nation	President and Vice President
Métis Nation British Columbia	Designated Contact

On October 14, 2021, the BC EAO identified five Participating Indigenous Nations for the Project EA-IA: Lax Kw'alaams Band, Metlakatla First Nation, Kitsumkalum First Nation, Kitselas First Nation and Gitxaała Nation. In addition to these five, Gitga'at First Nation were added as a sixth Participating Indigenous Nation on February 4, 2022. Haida Nation and Métis Nation British Columbia were not identified as Participating Indigenous Nations; however, the Proponent will continue engagement efforts with both, as described in Section 7.3.

The Indigenous Nations engaged on the Project assert Aboriginal rights and title near and at the Site and in the marine areas of Portland Inlet and Portland Canal. Maps of the Traditional Territories of the Indigenous Nations engaged on the Project are shown in Figure 4.1 through Figure 4.6.[13]

7.2 Indigenous Nation Engagement Activities to Date

The Proponent continues to engage with the Indigenous Nations identified in Table 7.1. The approach to engagement with these Indigenous Nations is provided in detail in the EP.

The Nisga'a Nation, as a proponent in the Project and supported by its Project collaboration, will continue to lead the engagement efforts with Nisga'a Villages, Nisga'a urban locals and Nisga'a citizens. The Nisga'a Nation will collaborate closely with BC and Canada to meet the requirements of the Nisga'a Treaty in respect of the development, permitting, construction, operation, and decommissioning of the Project.

Appendix 6 provides a summative table record of the ongoing engagement activities undertaken to date with the Indigenous Nations. A detailed description of comments received from the Indigenous Nations as well as Proponent responses are provided in Appendix 7. Section 7.3 provides a summary of engagement completed in 2021 and early 2022 for each Indigenous Nation. Engagement has focused on information sharing about the Project, development of early regulatory components, responding to questions and issues raised by Indigenous Nations, gaining a better understanding as to how the Project may impact each Indigenous Nation's interests, and recording concerns expressed.

7.2.1 Indigenous Nations Comments and Issues

Along with comments and issues received during early engagement Project introductions, the Proponent has routinely sought input from the Indigenous Nations on key Project documents:

- IPD and EP – following submission of the IPD and EP, each Indigenous Nation/Group had the opportunity to submit a formal review and comments on the Project as presented in the IPD as well as the EP
- Baseline Studies – status and proposed baseline studies to support identification of existing conditions

[13] Territory boundaries for Métis Nation British Columbia are not available, however the Proponent understands that Métis Nation British Columbia may have interests near and at the Site and in the marine areas of Portland Inlet and Portland Canal.

- Proponent's proposed dAIR components – each of the Participating Indigenous Nations initially identified by the EAO was provided a preliminary draft of the Proponent's proposed:
  - VC selection table and VC assessment area figures
  - Project Works and Activities Interaction Table
  - Project Inclusion List for cumulative effects assessment

In addition to the comments received from each of the Participating Indigenous Nations, comments from Indigenous Nations were incorporated by the Agency and the BC EAO into the Project JSOIE provided to the Proponent on October 14, 2021 (Agency and BC EAO 2021).

Appendix 7 provides a complete [to March 31, 2022] record of all comments (e.g., issues, concerns, questions and recommendations) that have been raised by the Participating Indigenous Nations. Within that record is the Proponent's preliminary draft response and, as appropriate, a cross reference to the section of the DPD and the Proponent's proposed dAIR where additional information may be found.

In early 2022, Ksi Lisims LNG reached out to each of the Indigenous Nations to discuss Ksi Lisims LNG's preliminary response to the issue/concerns/questions and the Indigenous Nations' recommendations, as applicable, to provide support for review of the draft DPD and the dAIR, and to progress agreements for the conduct of Project-specific studies, as applicable.

7.3 Indigenous Nations Engagement Summary

7.3.1 Lax Kw'alaams Band

7.3.1.1 Summary of Interests and Issues

The Proponent has engaged directly with Lax Kw'alaams Band since March 2021. Lax Kw'alaams Band has provided comments regarding their issues and interests through:

- Written correspondence
- Comments on the IPD
- Comments on dAIR components (i.e., drafts of VCs, Project Interaction Table, VC assessment areas, and Project Inclusion List)
- Comments on a draft version of this DPD

In addition, the Proponent was provided with a summary of Lax Kw'alaams Band interests, impacts and requests as provided to the BC EAO and the Agency during the IPD comment period.

7.3.1.2 Key Issues Summary

Based on initial correspondence and discussions with Lax Kw'alaams Band to date, the Proponent's understanding of key issues and interests identified by Lax Kw'alaams Band is summarized below.

- EA process and Project design:
  - Collaboration on the Project regulatory process, with a focus on ongoing engagement.

- A regulatory process funding agreement.
- Project assessment areas for valued components (e.g., perceived limitations of local and regional assessment areas).
- Project scope, plans, baseline studies, components, works, and activities, with a focus on:
    - Products and by-products.
    - The marine shipping route and increased marine vessel traffic.
    - Air emissions including GHGs.
    - Impurities removal.
    - Management and supply of refrigerants.
    - Floating facilities.
    - Source of water (including potable).
    - Natural disaster assessments.
    - Wind engineering evaluation.
    - Management of waste.
    - Inclusion of third-party plans for transmission line and pipeline.

- Potential impacts from accidents and malfunctions, with a focus on:
    - The stability of the floating LNG facility at the marine terminal site (e.g., due to atmospheric and oceanic conditions).
    - Development of emergency response plans.
- Indigenous rights, governance, land and marine use:
    - Incorporation of Lax Kw'alaams Band's Land and Marine Use Plan and consideration of the described management direction.
    - Collaboration on VC selection and identification of potential effects on Lax Kw'alaams Band's rights and interests.
    - Potential impacts on ability to practice traditional rights with a focus on marine resources.
    - Potential impacts of environmental pressures and changing economy on Lax Kw'alaams Band's cultural identity and way of life.
    - Potential impacts on harvested species.
    - Potential impacts on Lax Kw'alaams culture and heritage sites.
    - Potential impacts on Lax Kw'alaams Band rights, ecology, and people.
- Environmental impacts:
    - Potential impacts to air quality with a focus on GHG emissions and the marine shipping route.

- Potential impacts to acoustic with a focus on the marine shipping route.
- Potential impacts to water with a focus on impacts to biological functions changes in water flow.
- Potential impacts to soils with a focus on contamination.
- Potential impacts to terrestrial resources with a focus on effects to old growth forest, wetland ecosystems, wildlife and valued species (e.g., deer and wolves), and changes in wildlife habitat.
- Potential impacts to freshwater fish with a focus on foreshore habitats, salmon-bearing streams, benthic invertebrates and subcomponents of freshwater fish.
- Potential impacts on land and resource use with a focus on the marine terminal area.
- Potential impacts to marine use with a focus on:
    - Changes to marine navigation due to increased marine vessel traffic along the marine shipping route.
    - Potential impacts from low level hydrocarbon outputs.
    - Disproportionately distributed effects.
- Potential impacts to marine resources with a focus on:
    - Marine sediment quality.
    - Changes in baseline aquatic noise levels with effects to marine fish, invertebrates, and mammals.
    - Effects from equipment and other Project-related vibrations.
    - Introduction of invasive species from marine shipping.
    - Increased marine vessel traffic.
    - Inorganic carbon impacts to invertebrate shell.

- Socio-economic impacts:
    - Potential impacts of the Project workforce with a focus on workforce accommodations and access to site.
    - Potential impacts to Lax Kw’alaams Band member’s physical and mental health.
    - Potential impacts to Lax Kw’alaams Band economies and economic interests.
- Cumulative Effects:
    - Potential cumulative effects on the environment, regional flora and fauna, and the health of the ocean and its resources.

Based on feedback provided to date and review of the key issues and interests for Lax Kw'alaams Band and based on legislated requirements, the Proponent has developed a preliminary list of potential effects on Lax Kw'alaams Band Interests to be considered as a starting point for discussion on the structure of the assessment and subject to being refined through development of the Application. It is expected that this list will be further developed through ongoing consultation with Lax Kw'alaams Band both prior to and during the assessment process. The preliminary list of potential effects on Lax Kw'alaams Band Interests are as follows:

- Changes to Lax Kw'alaams Band consumption and harvest (marine)
- Changes to Lax Kw'alaams Band consumption and harvest (terrestrial)
- Changes to Lax Kw'alaams Band governance and socio-economic conditions
- Changes to Lax Kw'alaams Band sacred and heritage sites
- Changes to Lax Kw'alaams Band health and wellbeing
- Changes to Lax Kw'alaams Band Culture
- Changes to Lax Kw'alaams Band access and travel

7.3.1.3 Summary of Engagement

Since March 2021, the Proponent has engaged directly with Lax Kw'alaams Band on the Project. On March 10, 2021, an oral announcement of the Project was made by a designated representative of the NLG at the FNCI Technical Group meeting to the FNCI technical representatives of Lax Kw'alaams, Metlakatla First Nation and Haisla Nation. On March 11, 2021, the Nisga'a Nation senior leadership, on behalf of the Proponent, introduced the Project through written correspondence, offering an opportunity for senior leadership of Nisga'a Nation, Lax Kw'alaams Band and Metlakatla First Nation to meet.

On March 31, 2021, the Proponent again, through written correspondence, introduced the Project and its location, including the Project ownership group. The letter appended a short Fact Sheet and the letters from Nisga'a leadership to Project identified potentially interested regional Indigenous Nations. The letter requested collaboration in arranging a date for an initial virtual meeting to discuss optimal ways the Project can engage with Lax Kw'alaams.

On April 5, 2021, the Proponent received email correspondence from Lax Kw'alaams legal counsel confirming a preferred Lax Kw'alaams contact, and that the Proponent write Lax Kw'alaams providing a rationale as to why a meeting is requested; a meeting date was subsequently set for May 3, 2021.

On May 3, 2021, the Proponent met with a representative of Lax Kw'alaams to introduce the Project. The Proponent offered to share a draft of the Early Engagement Plan, Project introduction presentation slides, and draft May 3 meeting notes for Lax Kw'alaams review. On May 4, 2021, the Proponent sent draft meeting notes and a draft Early Engagement Capacity Funding Agreement (**CFA**) to Lax Kw'alaams legal counsel. On May 6, 2021, the Proponent shared electronic access (e.g., an FTP site link) to documents with the Lax Kw'alaams Band designated representative to facilitate their review of the Project's Baseline Study Plan and associated draft Federal and Provincial baseline study investigative permit applications. On May 18, 2021, Lax Kw'alaams Band legal counsel contacted the Proponent to confirm their opposition to the Project and that they had little interest, at this time, in a follow up meeting.

On June 7, 2021, the Proponent contacted the Lax Kw'alaams Band representative confirming plans to share the draft IPD and EP with Lax Kw'alaams Band. the Proponent requested review comments by June 25, 2021, and offered to hold a virtual meeting to present the draft IPD and EP between June 8 and June 24, 2021. On June 12, 2021, the Proponent sent an email correspondence to the Lax Kw'alaams Band representative confirming a June 16, 2021, meeting between the senior Project leadership and the Lax Kw'alaams Band Mayor and associated Lax Kw'alaams Band representatives and offered a time to meet virtually to review the draft IPD and EP. On June 15, 2021, a Lax Kw'alaams Band representative confirmed the receipt of the draft IPD and EP and Baseline Study Plan. On June 16, 2021, a meeting to discuss the Project was held between senior Project leadership (i.e., executives of the three Proponents) and Lax Kw'alaams Band leadership.

On June 23, 2021, the Nisga'a Nation received two letters co-signed by Lax Kw'alaams Band and Metlakatla First Nation leadership outlining their concerns regarding Aboriginal rights and title in the Project area. The first letter made reference to the June 16, 2021, meeting, re-asserted that "the Project cannot proceed without our full and informed consent" and confirmed agreement to continue Nation-to-Nation discussions. The letter also stated that the Nisga'a Nation agreed to suspend permitting or further work on the Project while the parties engaged in Nation-to-Nation discussions.

The second June 23, 2021, letter from Lax Kw'alaams Band and Metlakatla First Nation leadership to the Nisga'a Nation leadership acknowledged a letter from Nisga'a leadership to Lax Kw'alaams Band and Metlakatla First Nation leadership dated April 9, 2021. The second June 23, 2021, letter takes issue with NLG viewpoints presented in the April 19, 2021, letter and re-asserts that Coast Tsimshian rights and title apply to the Project and its ancillary components: the Water Lot in Portland Canal, the feed gas pipeline, and the power transmission line from the BC mainland.

On June 24, 2021, the Proponent contacted the Lax Kw'alaams Band representative via email requesting comments on the draft IPD and EP.

In early July 2021, the Proponent contacted the Lax Kw'alaams Band representative to advise that the Project received confirmation that the BC EAO (July 5, 2021) and the Agency (July 6, 2021) had acknowledged receipt of the Proponent's submission of the IPD and supporting documents (e.g., Engagement Plan for BC EAO and IPD Project Summary in both official languages for the Agency).

On July 19, 2021, the Nisga'a Nation wrote to the Lax Kw'alaams Band and Metlakatla First Nation leadership to acknowledge receipt of the Lax Kw'alaams Band and Metlakatla First Nation leadership letters dated June 23, 2021, and to confirm their willingness to continue Nation-to-Nation discussions regarding territorial issues and their concerns about Aboriginal rights and title in the Project area. The Nisga'a Nation letter noted that they disagree with the statement that the Nisga'a Nation agreed to suspend permitting or further work on the Project while Nation-to-Nation discussions were undertaken. The Nisga'a Nation letter communicated that they would like to schedule a meeting to continue dialogue on these important matters.

On August 13, 2021, the Proponent informed the Lax Kw'alaams Band representatives that the Agency and BC EAO were working cooperatively on the initial phase of the Proponent Project review and would

host virtual information sessions on September 8 and September 9, 2021. The Proponent also informed Lax Kw'alaams Band that the BC EAO and the Agency were convening a meeting of TAs with representatives from federal, provincial, regional government and potential "participating" Indigenous Nation representatives and that the first meeting was to be held virtually on September 8, 2021, hosted by BC EAO. The Proponent attended the initial TAs meeting to present Project information and answer questions. Lax Kw'alaams Band representatives did not attend this meeting.

On August 27, 2021, the Proponent provided Lax Kw'alaams Band representatives with a brief Baseline Study Update and revised Environmental Impact Assessment schedule describing the estimated key dates when the Proponent would:

1. Respond to the BC EAO-Agency prepared JSOIE
2. Develop drafts of the DPD
3. File the DPD, as well as forecasting additional key steps in completing the Environmental Impact Assessment into 2024

On September 8, 2021, Lax Kw'alaams Band legal counsel wrote to BC EAO confirming their participation as a Participating Indigenous Nation. On September 20, 2021, a Lax Kw'alaams Band representative provided BC EAO with their comments on the Project's IPD and EP. The Proponent received this information from BC EAO.

On October 13, 2021, the Proponent contacted a Lax Kw'alaams Band representative to respond to their letter to BC EAO dated September 20, 2021. The Proponent responded to several aspects of the letter as they relate to the Project including: Participation in Environmental Assessment Process, Areas of Concern and Valued Components and Economic Interests.

On October 13, 2021, several communiques (e.g., phone conversation and email) occurred between the Proponent and Lax Kw'alaams Band representatives. Lax Kw'alaams Band representatives confirmed that they were meeting with the BC EAO and the Agency on a regular basis and that they will continue to oppose the Project, until some agreement can be made. Lax Kw'alaams Band confirmed that they are currently reviewing the Proponent's draft *EA and Regulatory Process Funding Agreement* and would like to discuss potential Indigenous-led studies to help support their review of the Project.

On October 14, 2021, the BC EAO and the Agency sent out the JSOIE to the Proponent. Lax Kw'alaams Band interests, impacts and requests are summarized in the JSOIE document. Lax Kw'alaams Band were also confirmed as a Participating Indigenous Nation on that date.

The Lax Kw'alaams Band representative also confirmed they would like to review the Project's baseline study methods and current results. the Proponent indicated they would be sending the Proponent's proposed draft dAIR components to Lax Kw'alaams Band representatives for their review and consideration in early November 2021. The Lax Kw'alaams Band representative expressed concern that the dAIR was being developed before the baseline work was completed. the Proponent indicated that the Project's Baseline Study Program had been sent to the designated Lax Kw'alaams Band contact for review

in May 2021 and no response was received. The Proponent stated it is continuing Baseline field studies into 2022.

On October 21, 2021, the Proponent contacted a Lax Kw'alaams Band representative to inquire if Lax Kw'alaams Band had a Marine and Land Use Plan that they could share with the Proponent. The Lax Kw'alaams Band representative indicated that they had a Land Use Plan but that they would not share that plan at this time. On October 27, 2021 and November 1, 2021, an invitation was sent to a Lax Kw'alaams Band representative for the November 8, 2021 joint meeting with other Participating Indigenous Nations in which the Proponent would present an engineering update, start a conversation on key Proponent-proposed draft dAIR components (e.g. drafts of VCs, Project Interaction Table, VC assessment areas, and Project Inclusion List) and take questions on the Project and the Project's Baseline Study Update (November 7, 2021) distributed on November 8, 2021. Lax Kw'alaams Band representatives attended the meeting.

The Proponent communicated that they expect to share the draft DPD with Participating Indigenous Nations in early January 2022. On November 10, 2021, the Proponent provided draft meeting notes and a copy of the November 8, 2021, presentation and noted that comments on the Proponent's proposed draft dAIR components and the Baseline Study Update report were requested by December 3, 2021.

On November 19, 2021, the Proponent met with Lax Kw'alaams Band legal counsel to discuss the draft EA and Regulatory Process funding agreement including Proponent revisions to the draft agreement for Lax Kw'alaams Band's review. On November 30, 2021, a Lax Kw'alaams Band representative contacted the Proponent to communicate that they anticipate submission of their comments on the dAIR components by December 18, 2021.

Lax Kw'alaams Band technical representatives attended the BC EAO-hosted TA virtual meetings on November 18, 2021, and December 15, 2021. the Proponent's proposed draft dAIR components were presented and discussed at both meetings and included suggested revisions from the TAs.

On December 15, 2021, Lax Kw'alaams Band representative wrote to the BC EAO requesting a meeting between Lax Kw'alaams Band leadership, the BC EAO and the Proponent to discuss adequate timelines for consultation, engagement and review of documentation from the Proponent. Lax Kw'alaams Band advised that comments on the Proponent's proposed draft dAIR components and Baseline Study Update would be provided no later than January 17, 2022.

On December 17, 2021, the Proponent provided Lax Kw'alaams Band with a final *EA and Regulatory Process Funding Agreement* for their review.

On January 4, 2022, the Proponent forwarded preliminary responses to comments (e.g., issues, concerns, recommendations) raised by Lax Kw'alaams Band with respect to the Project in 2021. On January 7, 2022, the Proponent received an email from a technical representative of Lax Kw'alaams Band that included Lax Kw'alaams Band comments (e.g., issues, concerns, questions and recommendations) on the Proponent's IPD, EP, proposed dAIR components, VC Selection and baseline program information made

available to date. The email asked that the Proponent "advise how these comments are to be addressed in the assessment and whether they are to be included in the DPD".

In early January, the Project followed up and acknowledged the January 7, 2022, submission and extended an invitation to Participating Indigenous Nations (including Lax Kw'alaams Band representatives) inviting them to participate in a late January 2022 marine mammal survey.

On January 12, 2022, the Proponent provided a preliminary Project response to all of the Lax Kw'alaams Band issues, concerns, questions and recommendations raised in the Lax Kw'alaams Band January 7, 2022 document along with outlines of the Proponent's draft DPD and proposed dAIR.

Engagement on an EA capacity agreement continued through December 2021 into January 2022; Lax Kw'alaams Band corresponded by email with the Proponent team attaching a cover letter and an executed *EA and Regulatory Process Funding Agreement*. Negotiations continued on the agreement until it was executed by both parties on January 21, 2022.

The Proponent emailed Participating Indigenous Nations (including Lax Kw'alaams Band representatives) on February 10, 2022, to notify them that the boundaries of the aerial marine mammal survey had been revised to include Chatham Sound and extending out past Triple Island.

On February 17, 2022, the Proponent emailed Lax Kw'alaams Band to offer assistance to the Nation in their review of the draft DPD. The Proponent virtually met with Lax Kw'alaams Band on February 17, 2022, to discuss capacity funding, TUS scope and timing, and concerns or questions that Lax Kw'alaams had.

On February 17, 2022, the Proponent also emailed Lax Kw'alaams regarding the Observer positions on upcoming vessel based marine mammal surveys, detailing the surveys and the Observer opportunity.

On February 18, 2022, the Proponent emailed Lax Kw'alaams to provide water and district lot shapefiles. On February 18, 2022, the Proponent received an email from Lax Kw'alaams thanking them for the meeting on February 17, 2022.

The Proponent sent an email to Lax Kw'alaams on February 18, 2022, to follow up on the Traditional Use Study scope, timeframe, and budget.

On February 28, 2022, the Proponent emailed Lax Kw'alaams to provide water and district lot shapefiles.

On March 18, 2022 - the Proponent emailed Lax Kw'alaams Band to confirm the Traditional Use Study.

A detailed record of the Proponent's engagement with Lax Kw'alaams Band representatives to date is provided in Appendix 6. Appendix 7 captures the entire exchange of information between the Proponent and Lax Kw'alaams Band in Early Engagement (to March 31, 2022) and includes the list of the potential Project effects Lax Kw'alaams Band has raised for analysis and evaluation in the EA-IA. A summary of potential Project effects raised by Lax Kw'alaams Band and captured in the JSOIE is provided in Appendix 10. Comments received from Lax Kw'alaams Band on a draft version of this DPD as well as Proponent response to these comments is provided in Appendix 11.

7.3.2 Metlakatla First Nation

7.3.2.1 Summary of Interests and Issues

The Proponent has engaged directly with Metlakatla First Nation since March 2021. Metlakatla First Nation has provided comments regarding their issues and interests through:

- Written correspondence
- Comments on the IPD
- Comments on dAIR components (i.e., drafts of VCs, Project Interaction Table, VC assessment areas, and Project Inclusion List)
- Comments on a draft version of this DPD

In addition, the Proponent was provided with a summary of Metlakatla First Nation interests, impacts and requests as provided to the BC EAO and the Agency during the IPD comment period.

7.3.2.2 Key Issues Summary

Based on initial correspondence and discussions with Metlakatla First Nation to date, the Proponent's understanding of key issues and interests identified by Metlakatla First Nation is summarized below.

- EA process and Project design:
  - Project scope, components, plans, works and activities with a focus on project assessment areas, the marine shipping route and marine shipping activities, waste production and management, Project water supply, and the transmission line
- Indigenous rights, governance, land, and marine use:
  - 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 impacts on access and travel, governance and decision making, industrialization of the land, increased marine traffic
- Heritage and Culture:
  - Potential disturbance to heritage, cultural and spiritual sites within and around the Project footprint
  - Consideration of Metlakatla Stewardship Society cultural heritage policies
- Environmental impacts:
  - Potential impacts on air quality with a focus on GHG emissions
  - Potential impacts on the terrestrial environment and terrestrial harvesting with a focus on:

        - Permanent removal of vegetation, wetlands, timber, and wildlife habitat
        - Decreases in quality and quantity of valued vegetation and wildlife
        - Sensory disturbances and potential to effect wildlife abundance
    - Potential impacts on marine resources with a focus on marine harvesting and:
        - Changes to fish quality and abundance
        - Changes to marine bird and marine mammal abundance and distribution
        - Changes in fish behaviour due to marine shipping activities and marine infrastructure
        - Loss of marine and intertidal harvesting sites
- Socio-economic impacts:
    - Potential impacts on Metlakatla economic development with a focus on:
        - Restricted access and reduced availability of commercially harvested resources and trade items
        - Loss of economic development opportunities (e.g., alienation from lands, loss of income/livelihood including trade)
    - Potential social and economic impacts from the Project workforce (e.g., size and duration of workforce)
    - Potential impacts on Metlakatla health, safety, and well-being, and sensory disturbance from marine shipping activities
- Accidents and Malfunctions:
    - Potential impacts on vegetation, wildlife, and marine resources due to accidents or malfunctions
- Cumulative Effects:
    - Potential for cumulative effects on marine, terrestrial, socioeconomic, and heritage values from the Ksi Lisims Project and other past, present, and future developments.

Based on feedback provided to date and review of the key issues and interests for Metlakatla First Nation, and based on legislated requirements, the Proponent has developed a preliminary list of potential effects on Metlakatla First Nation Interests to be considered as a starting point for discussion on the structure of the assessment and subject to being refined through development of the Application. It is expected that this list will be further developed through ongoing consultation with Metlakatla First Nation both prior to and during the assessment process. The preliminary list of potential effects on Metlakatla First Nation Interests are as follows:

- Changes to Metlakatla First Nation consumption and harvest (marine)
- Changes to Metlakatla First Nation consumption and harvest (terrestrial)

- 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, wellbeing, 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

7.3.2.3 Summary of Engagement

Since March 2021, the Proponent has engaged directly with Metlakatla First Nation on the Project. On March 10, 2021, an oral announcement of the Project was made by a designated representative of the NGL at the FNCI Technical Group meeting to the FNCI technical representatives of Metlakatla First Nation, Lax Kw'alaams Band and Haisla Nation. On March 11, 2021, the Nisga'a Nation senior leadership, on behalf of the Proponent, introduced the Project through written correspondence, offering an opportunity for senior leadership of Nisga'a Nation, Metlakatla First Nation to meet.

On March 31, 2021, the Proponent again, through written correspondence, introduced the Project and its location, including the Project ownership group. The letter appended a short Fact Sheet and the letters from Nisga'a leadership to Project identified potentially interested regional Indigenous Nations. The letter requested collaboration in arranging a date for an initial virtual meeting to discuss optimal ways the Project can engage with Metlakatla First Nation.

On April 7, 2021, the Proponent received an email from Metlakatla First Nation confirming Metlakatla First Nation recommended contacts for a Project introductory meeting. On April 16, 2021, a Metlakatla First Nation FNCI Technical Group representative requested that the letter provided on March 31, 2021, be redirected to Metlakatla First Nation Stewardship and Treaty Staff **(MSS)**. the Proponent contacted MSS to arrange a Project Introductory Meeting.

On April 30, 2021, the Proponent hosted a virtual meeting with Metlakatla Development Corporation (**MDC**) and MSS to introduce the Project. At the meeting MSS requested involvement in the archaeological investigations conducted for the Project and a long lead time for review of the *Heritage Conservation Act* Heritage Inspection Permit application. MSS requested a copy of the Project introduction presentation slides, draft meeting notes for review, shapefiles of the Site and the potential upland and marine Project footprint. MSS and MDC requested that Project agreement discussions go through the MDC. the Proponent sent draft meeting notes and a draft Early Engagement Capacity Funding Agreement to the requested Metlakatla First Nation contacts.

In May 2021, MSS and MDC were provided with an electronic access link (e.g., an FTP site) to download documents to facilitate review of the Project's Baseline Study Plan and associated draft Federal and Provincial investigative permit applications. the Proponent requested to meet with MSS to discuss the documents and MDC to discuss a draft Early Engagement Capacity Funding Agreement. On May 11, 2021, MSS confirmed they were able to download the Project's draft investigative permit applications but not

the Baseline Study Plan. the Proponent provided a new electronic link to the Baseline Study Plan the same day.

In June 2021, the Proponent contacted MSS confirming a plan to share the draft IPD and EP with them by June 7, 2021. the Proponent requested review comments by June 25, 2021, and offered a virtual meeting to present the IPD and EP between June 8 and June 24, 2021. On June 16, 2021, a meeting to discuss the Project was held between senior executives of the three Proponents and Metlakatla First Nation and Lax Kw'alaams Band leadership to discuss the Project.

On June 23, 2021, the Nisga'a Nation received two letters co-signed by Metlakatla First Nation and Lax Kw'alaams Band leadership outlining their concerns regarding Aboriginal rights and title in the Project area. The first letter made reference to the June 16, 2021, meeting, reasserted that "the Project cannot proceed without our full and informed consent", and confirmed agreement to continue Nation-to-Nation discussions. The letter also stated that the Nisga'a Nation agreed to suspend permitting or further work on the Project while the parties engaged in Nation-to-Nation discussions.

The second June 23, 2021, letter from Metlakatla First Nation and Lax Kw'alaams Band leadership to the Nisga'a Nation leadership acknowledged a letter from Nisga'a leadership to Metlakatla First Nation and Lax Kw'alaams Band leadership dated April 9, 2021. The second June 23, 2021, letter takes issue with NLG viewpoints presented in the April 19 letter and reasserts that Coast Tsimshian rights and title apply to the Project and its ancillary components: the Water Lot in Portland Canal, the feed gas pipeline and the power transmission line from the mainland.

On June 24, 2021, the Proponent contacted MSS via email requesting comments on the draft IPD and EP. In early July 2021, the Proponent contacted MSS to advise that the Project received confirmation that the BC EAO (July 5, 2021) and the Agency (July 6, 2021) had acknowledged receipt of Proponent's submission of the IPD and supporting documents (e.g., Engagement Plan for BC EAO and IPD Project Summary in both official languages for the Agency).

On July 16, 2021, MSS sent an email to the Proponent stating "the MSS also understands that until the Nation to Nation process is underway, that commitments were made to not advance permitting or other work in relation to the project. The MSS will re-engage in project review when it is appropriate following the commencement of the Nation-to-Nation process".

On July 19, 2021, the Nisga'a Nation wrote to the Metlakatla First Nation and Lax Kw'alaams Band leadership to acknowledge the receipt of the two Metlakatla First Nation and Lax Kw'alaams Band leadership letters dated June 23, 2021, and to confirm their willingness to continue Nation-to-Nation discussions regarding territorial issues and their concerns about Aboriginal rights and title in the Project area. The Nisga'a Nation letter noted that they disagree with the statement that the Nisga'a Nation agreed to suspend permitting or further work on the Project while Nation-to-Nation discussions were undertaken. The Nisga'a Nation letter communicated that they would like to schedule a meeting to continue dialogue on these important matters.

On August 13, 2021, the Proponent informed MSS that the Agency and the BC EAO were working cooperatively on the initial phase of the Project review and would host virtual information sessions on September 8 and September 9, 2021. the Proponent also informed MSS that the BC EAO and the Agency were convening a TA meeting with representatives from federal, provincial, regional government and potential Participating Indigenous Nation representatives and that this first meeting was to be held virtually on September 8, 2021, hosted by BC EAO. The Proponent attended the initial TA meeting to present Project information and answer questions. MSS attended this meeting and a subsequent BC EAO-led workshop for potential Participating Indigenous Nations on September 9, 2021.

On August 27, 2021, the Proponent provided MSS with a brief Baseline Study Update and a revised Environmental Impact Assessment schedule describing the estimated key dates when the Proponent would:

1. Respond to the BC EAO-Agency prepared JSOIE
2. Develop drafts of the DPD
3. File the DPD, as well as forecasting additional key steps in completing the Environmental Impact Assessment into 2024

On September 9, 2021, a meeting was held between senior leadership of the three Proponents and Metlakatla First Nation leadership, during which, Metlakatla First Nation leadership agreed to engage on a commercial basis. The parties agreed that any grievances or land issues belong in a separate Nation-to-Nation discussion. Metlakatla First Nation leadership requested a presentation for Metlakatla First Nation Council.

On September 17, 2021, a meeting was held between the Proponent and MSS. During this meeting, it was discussed that no direction had been received from Metlakatla First Nation leadership with respect to Metlakatla First Nation participation in the Early Engagement part of the EA-IA process. MSS confirmed receipt of all EA-IA related information from the Project including the draft *EA and Regulatory Process Funding Agreement* and follow-up letters/emails. the Proponent provided information on the EA-IA process and meeting timelines for comments on the IPD and EP.

On October 4, 2021, the MSS confirmed in writing with the BC EAO that Metlakatla First Nation wished to participate in the Project's EA-IA process as a Participating Indigenous Nation.

In October 2021, the Proponent provided Metlakatla First Nation with an updated version of a draft *EA and Regulatory Process Funding Agreement*. On October 12, 2021, a telephone call occurred between the Proponent and MSS, where Metlakatla First Nation confirmed that they would like to participate in the EA-IA process by reviewing documents and reports. MSS advised that they will confirm at a later date if they will undertake any Metlakatla First Nation led studies. MSS indicated that they are comfortable with the prospect of attending meetings with the technical representatives of other Participating Indigenous Nation representatives to discuss the Proponent's proposed draft dAIR component information packages.

On October 14, 2021, the BC EAO and the Agency sent the JSOIE to the Proponent. Metlakatla First Nation interests, impacts and requests are summarized in the JSOIE document. Metlakatla First Nation were also confirmed as a Participating Indigenous Nation on that date.

On October 15, 2021, email correspondence occurred between the Proponent and MSS; The Proponent requested a virtual meeting with MSS in November 2021 to review draft Proponent-proposed dAIR components including the VCs, Interaction Table, VC assessment areas, and the Project Inclusion List. The Baseline Study update would also be discussed. On October 15, 2021, Metlakatla First Nation requested clarification regarding the Proponent's intent to respond to MSS's comments on the IPD and EP and those captured in the JSOIE.

On October 18, 2021, MSS provided a culturally modified tree policy and a Chance Find Procedure to the Proponent. Email correspondence also occurred between the Proponent and MSS regarding a publicly available Metlakatla First Nation Land and Marine Use Plan. MSS indicated that they cannot provide such a document but directed the Proponent to an alternate Land Use Plan that was written with Metlakatla First Nation's input.

On October 27, 2021 and again on November 1, 2021, an invitation was sent to MSS for the November 8, 2021 joint meeting with other Participating Indigenous Nations in which the Proponent would present an engineering update, start a conversation on the Proponent's key proposed dAIR components (e.g., drafts of VCs, Project Interaction Table, VC assessment areas, and Project Inclusion List) and take questions on the Project and the Baseline Study Update (November 7, 2021) distributed on November 8, 2021. Metlakatla First Nation representatives attended the meeting.

Between October 26 and 28, 2021, Metlakatla First Nation returned the draft *EA and Regulatory Process Funding Agreement* with comments and a meeting occurred between the Proponent and Metlakatla First Nation that discussed the updated draft of the agreement.

On November 10, 2021, the Proponent sent an email to MSS and provided draft November 8 meeting notes and a copy of the presentation and noted that comments to the dAIR components (e.g., VCs, VC boundary rationale, study area boundaries, Project Interaction Table, and Project Inclusion List) and Updated Baseline Study Program report are requested by December 3, 2021.

On November 30, 2021, a phone call occurred between the Proponent and Metlakatla First Nation where the Proponent provided clarification on the *EA and Regulatory Funding Agreement* process. Metlakatla First Nation indicated they will provide their workplan-budget between December 3 and December 7, 2021.

Initial comments were received from MSS on the Proponent's proposed draft dAIR components on December 3, 2021. MSS advised that more detailed comments will follow on the next draft.

On December 13, 2021, a virtual meeting was held between the Proponent and Metlakatla First Nation to discuss the draft *EA and Regulatory Process Funding Agreement*, including revised workplan-budget, descriptions of Metlakatla First Nation-led studies and a proposed payment structure. It was jointly agreed at the meeting that the agreement was near final and that the Project team would forward a revised

EA and Regulatory Process Funding Agreement to the Metlakatla First Nation team by December 17, 2021. The Metlakatla First Nation team agreed to provide more detailed descriptions of the Metlakatla First Nation-led studies to be included in the workplan-budget. The Metlakatla First Nation team informed the Proponent that the next Metlakatla First Nation Council meeting was scheduled for January 19, 2022.

MSS representatives attended the TA virtual meetings hosted by BC EAO on November 18, 2021, and December 15, 2021. the Proponent's proposed draft dAIR components were presented and discussed at both meetings and included suggested revisions from TAs. the Proponent committed to responding to all Metlakatla First Nation comments received to date by early 2022.

On January 4, 2022, the Proponent forwarded preliminary responses to comments (e.g., issues, concerns, recommendations) raised by Metlakatla First Nation with respect to the Project in 2021. On January 11, 2022, the Proponent provided a preliminary response to the issues, concerns, questions, and recommendations raised by Metlakatla First Nation with respect to the Proponent's proposed draft dAIR components document along with outlines of the Proponent's draft DPD and proposed dAIR.

The Proponent received an email on January 26, 2022, from Metlakatla First Nation requesting Project shapefiles that would assist in scoping their TUS.

The Proponent and Metlakatla First Nation met virtually on January 27, 2022, to review the draft DPD and dAIR. Key issues discussed included physical activities of the Project; zones of influence; sensory disturbance; shipping; infrastructure and services; and wildlife.

On February 9, 2022, the Proponent emailed Metlakatla First Nation to confirm that the draft DPD package included shapefiles per Metlakatla's January 26, 2022, request, and to confirm if Metlakatla First Nation had everything they needed for their study. Metlakatla First Nation asked the Proponent provide a shapefile for the shipping route. On February 10, 2022, the Proponent emailed Metlakatla First Nation to provide the requested shapefiles for the Project footprint and shipping route.

The Proponent emailed Participating Indigenous Nations (including Metlakatla First Nation representatives) on February 10, 2022, to notify them that the boundaries of the aerial marine mammal survey had been revised to include Chatham Sound and extending out past Triple Island.

On February 17, 2022, the Proponent emailed Metlakatla First Nation to offer assistance to the Nation in their review of the draft DPD.On February 17, 2022, the Proponent also emailed Metlakatla First Nation regarding the Observer positions on upcoming vessel based marine mammal surveys, detailing the surveys and the Observer opportunity. the Proponent received an email from MSS on February 22, 2022, expressing Metlakatla First Nation's interest in the Observer Opportunity.

The Proponent received an email from Metlakatla First Nation requesting water and district lot shapefiles on February 23, 2022. the Proponent provided the requested shapefiles on February 25, 2022.

On February 24, 2022, the Proponent received an email from Metlakatla First Nation with initial comments to the draft DPD and an update to when council may sign the EA agreement. The Proponent also received an email on February 24, 2022, from Metlakatla First Nation to follow up on two comments from the IPD

tracking table. Metlakatla inquired if the Proponent could provide the public reports referenced in the TAC. The Proponent thanked Metakatla First Nation and committed to following up on the questions.

On March 1, 2022, Ksi Lisims received an email from Metlakatla First Nation to ask if the notice contact for the Proponent needed to be updated prior to signing the EA funding agreement. Ksi Lisims replied the same day and provided an updated EA funding agreement with the new Proponent notice contact. The Proponent received an email from Metlakatla First Nation on March 2, 2022, to confirm they received the updated agreement. In the same correspondence, Ksi Lisims inquired if Metlakatla First Nation could send the signed funding agreement after signing.

The Proponent sent an email to Metlakatla First Nation on March 2, 2022, to inquire whether an update was to be provided following the meeting with Council regarding the EA funding agreement.

On March 3, 2022, the Proponent and Metlakatla First Nation exchanged emails to confirm that both the EA funding agreement and supporting BCR were signed. Metlakatla First Nation confirmed signature on the supporting BCR and noted they were still awaiting the funding agreement which would be sent separately. Metlakatla First Nation requested next steps to the funding process, and the Proponent provided next steps as per the Agreement,

On March 3, 2022, the Proponent provided Metlakatla First Nation the EFT Payment form to be filled and returned.

On March 8, 2022, the Proponent received an email from Metlakatla First Nation requesting a clean copy of the dAIR.

On March 18, 2022, the Proponent and Metlakatla First Nation exchanged emails regarding actions for the Nation-led studies, including funding, and to schedule a meeting in April. On March 21, 2022, Ksi Lisims received an email from Metlakatla First Nation confirming actions for the Nation-led studies.

On March 23, 2022, the Proponent received an email from Metlakatla First Nation regarding the Metlakatla Census. On March 24, 2022, the Proponent received an email from Metlakatla First Nation providing Metlakatla First Nation's 2020 Census Questionnaire, indicating the questionnaire was confidential and not to be shared externally.

A summative table record of the Proponent’s engagement with Metlakatla First Nation is provided in Appendix 6. Appendix 7 captures the entire exchange of information between the Proponent and Metlakatla First Nation in Early Engagement (to March 31, 2022) and includes the list of the potential Project effects Metlakatla First Nation has raised for analysis and evaluation in the EA-IA. A summary of potential Project effects raised by Metlakatla First Nation and captured in the JSOIE is provided in Appendix 10. Comments received from Metlakatla First Nation on a draft version of this DPD as well as Proponent response to these comments is provided in Appendix 11.

7.3.3 Kitsumkalum First Nation

7.3.3.1 Summary of Interests and Issues

The Proponent has engaged directly with Kitsumkalum First Nation since March 2021. Kitsumkalum First Nation has provided comments regarding their issues and interests through:

- Written correspondence
- Comments on the IPD
- Comments on dAIR components (i.e., drafts of VCs, Project Interaction Table, VC assessment areas, and Project Inclusion List)
- Comments on a draft version of this DPD

In addition, the Proponent was provided with a summary of Kitsumkalum First Nation interests, impacts and requests as provided to the BC EAO and the Agency during the IPD comment period.

7.3.3.2 Key Issues Summary

Based on initial correspondence and discussions with Kitsumkalum First Nation to date, the Proponent's understanding of key issues and interests identified by Kitsumkalum First Nation is summarized below.

- EA process and Project design:
  - Collaboration on the Project regulatory process
  - Project scope (e.g., inclusion of third-party plans for the transmission line, the pipeline, and upgrades to existing transmission infrastructure)
  - Project plans (e.g., plans for solid and liquid waste generation and management)
  - Identifying linkages between the First Nations Climate Initiative (FNCI) and the Project
  - Marine shipping route:
    - Exclusion of the northern option around (north of) Dundas Island to/from Triple Islands
    - Potential to shift the shipping route for the Project to North of Dundas Island to reduce risks in Chatham Sound
    - Increase of shipping due to current project proposals and developments that require shipping of goods
- Risk assessment and potential impacts from accidents and malfunctions:
  - Impacts of accidents and malfunctions along the shipping route and terminal site (e.g., due to atmospheric and oceanic conditions)

- Impacts of accidents and malfunctions along the road transportation route, with a focus on increased traffic and associated risk for community safety, access, and wildlife (e.g., due to extreme weather)
- Impacts to marine resources if an LNG Carrier ran aground and there was a spill into the marine environment (i.e., LNG vessel oil capacities and fuel used by LNG carriers)

- Indigenous rights, governance, land, and marine use:
  - Recognition of and potential impacts to specific UNDRIP articles, including but not limited to, the right to self-governance and self-determination, the right to practice traditional activities, the right to transmit traditional knowledge
  - Potential impacts on Kitsumkalum stewardship of lands
  - Potential impacts on Kitsumkalum sense of place
  - Potential impacts on Kitsumkalum commercial and FSC resource harvesting
  - Potential impacts to traditional rights related to cultural and spiritual practices and knowledge transmission
  - Potential impacts on the land base and impacts to access due to increased recreational users
  - Potential impacts to access and travel routes, including marine and terrestrial routes:
    - For marine routes, a particular focus on increased shipping along the North Coast on marine users and potential impacts from the third-party underwater transmission line and underwater pipeline
    - For terrestrial routes, a particular focus on the highway corridor within the Kitsumkalum Valley between the Project area and Terrace
- Environmental impacts and cumulative effects:
  - Potential impacts on wildlife, fish, and bird that extend beyond the Project's assessment areas
  - Potential impacts to air quality, with a focus on air emissions and GHGs
  - Potential impacts to water quality
  - Potential impacts to wildlife from increased marine and vehicle traffic
  - Potential impacts to salmon habitat from increased shipping along the North Coast
  - Potential impacts to marine resources from increased shipping, with a particular focus on the Chatham Sound/Triple Islands area, seaweed harvesting sites, fishing sites, bivalve collection sites, whale strikes, and fish migration

- Socio-economic impacts and cumulative effects:
  - Potential impacts to infrastructure and services with focus on housing, police and social services, road use, and health care system access
  - Potential socio-economic impacts, including financial disparity
  - Potential impacts to employment opportunities, and the identification of training and employment for community members
  - Potential impacts from the construction temporary workforce
  - Potential impacts to community wellbeing (social determinants of health)

Based on feedback provided to date and review of the key issues and interests for Kitsumkalum First Nation and based on legislated requirements, the Proponent has developed a preliminary list of potential effects on Kitsumkalum First Nation Interests to be considered as a starting point for discussion on the structure of the assessment and subject to being refined through development of the Application. It is expected that this list will be further developed through ongoing consultation with Kitsumkalum First Nation both prior to and during the assessment process. The preliminary list of potential effects on Kitsumkalum First Nation Interests are as follows:

- Changes to Kitsumkalum First Nation consumption and harvest (marine)
- Changes to Kitsumkalum First Nation consumption and harvest (terrestrial)
- Changes to Kitsumkalum First Nation governance and socio-economic conditions
- Changes to Kitsumkalum First Nation sacred and heritage sites
- Changes to Kitsumkalum First Nation health and wellbeing
- Changes to Kitsumkalum First Nation access and travel
- Changes to Kitsumkalum First Nation transmission of knowledge

7.3.3.3 Summary of Engagement

Since March 2021, the Proponent has engaged directly with Kitsumkalum First Nation on the Project. On March 23, 2021, the Proponent introduced the Project to Kitsumkalum First Nation through written correspondence, highlighting the shared interest in marine waters stewardship. On March 31, 2021, the Proponent again, through written correspondence, introduced the Project and its location, including the Project ownership group. The letter appended a short Fact Sheet and the letters from Nisga'a leadership to Proponent identified potentially interested regional Indigenous Nations. The letter requested collaboration in arranging a date for an initial virtual meeting to discuss optimal ways the Project can engage with Kitsumkalum First Nation.

On April 12, 2021, the Proponent hosted a virtual meeting with the Kitsumkalum First Nation Chief Councilor and his technical staff for an introduction to the Project during which time, Kitsumkalum First Nation technical staff **(KTS)** were provided with a future opportunity to review the Project Baseline Study Plan. On April 22, 2021, written correspondence between the Proponent and KTS

confirmed they had received a list of draft Baseline Field Survey Federal and Provincial investigative permit applications proposed for the Project's baseline studies and a preliminary draft of the Baseline Study Plan. the Proponent agreed to follow up with KTS to establish early engagement and other Project agreements. On April 27, 2021, the Proponent provided Kitsumkalum First Nation with a draft *Early Engagement Capacity Funding Agreement*.

In May 2021, KTS was provided with an electronic link (e.g., an FTP site) to facilitate electronic access for KTS to download the Project's final draft of the Baseline Study Plan and associated draft Federal and Provincial investigative permit applications. Discussions occurred via email and telephone between the Proponent and KTS regarding the draft Early Engagement Capacity Funding Agreement.

On June 7, 2021, KTS was provided with an electronic link to facilitate the download of early engagement drafts of both IPD and EP to KTS. The Proponent requested comments by June 25, 2021. The Proponent requested review comments by June 25, 2021, and offered to hold a virtual meeting to present the IPD and EP between June 8 and June 24, 2021.

On June 22, 2021, the Proponent contacted KTS with respect to the deployment of an underwater microphone off the west coast of Somerville Island in Portland Inlet. The instrument was deployed, but at the request of the Kitsumkalum First Nation Chief Councillor, due to potential conflict with fishing gear, the gear was removed on June 23, 2021, and not re-deployed. On behalf of the Proponent, NLG leadership made plans to reach out to the Chief Councillor to explore alternatives for redeployment of the hydrophone in Portland Inlet. On June 30, 2021, KTS provided two specific comments on the draft IPD and EP. The Proponent made edits, as requested.

On July 1, 2021, the Proponent received a letter from KTS summarizing KTS' comments on the draft IPD and EP. On July 7, 2021, the Proponent contacted KTS to advise that the Project has received confirmation that the BC EAO (July 5, 2021) and the Agency (July 6, 2021) have acknowledged receipt of Proponent's submission of the IPD and supporting documents (e.g., EP and IPD Project Summary in both official languages).

The Proponent acknowledged the receipt of detailed comments on the IPD and EP from KTS on July 1, 2021, and incorporated the input into the final versions of the IPD and EP filed with the regulatory agencies.

On July 13, 2021, the Proponent provided KTS with a draft of the *EA and Regulatory Process Funding Agreement* for their review and consideration. The Proponent indicated that they would like to schedule a meeting to discuss the Agreement and next steps. Discussions between the Proponent and KTS regarding revisions to the draft agreement occurred via email and telephone the Proponent.

On July 14, 2021, KTS contacted the Proponent regarding redeployment of the microphone in Portland Inlet. KTS provided a suggested depth for the microphone and requested a call with the Proponent to discuss further. After that conversation, the underwater microphone was redeployed at a suitable depth off Sommerville Island in Portland Inlet.

On August 13, 2021, the Proponent informed KTS that the Agency and the BC EAO were working cooperatively on the initial phase of the Project review and will host virtual information sessions on September 8 and September 9, 2021. the Proponent also informed KTS that the BC EAO and the Agency were convening TAs consisting of federal, provincial, regional government and potential Participating Indigenous Nation representatives and that the first meeting was to be held virtually on September 8, 2021 hosted by BC EAO. The Proponent attended the initial TAs meeting to present Project information and answer questions. KTS attended this meeting and a subsequent BC EAO-led workshop for potential Participating Indigenous Nations on September 9, 2021.

On August 25, 2021, KTS advised BC EAO of their intent to participate in the EA process.

On August 27, 2021, the Proponent provided MSS with the Project's brief Baseline Study Update and a revised Environmental Impact Assessment schedule describing the estimated key dates when the Proponent would:

1. Respond to the BC EAO-Agency prepared JSOIE
2. Develop drafts of the DPD
3. File the DPD, as well as forecasting additional key steps in completing the Environmental Impact Assessment into 2024

In September 2021, email correspondence occurred between the Proponent and KTS with respect to IPD technical matters and the scope of KTS-led studies. KTS noted that they may not be able to deliver on the March 2022 milestone deadline for study outputs that has been suggested. the Proponent indicated that they could continue and collaborate with respect to study deadlines. Also, in September, the Proponent concluded discussions and executed the *EA and Regulatory Process Funding Agreement*.

On October 14, 2021, the BC EAO and the Agency sent out the JSOIE to the Proponent. Kitsumkalum First Nation interests, impacts and requests are summarized in the JSOIE document. Kitsumkalum First Nation were also confirmed as a Participating Indigenous Nation on that date.

On October 15, 2021, email correspondence occurred between the Proponent and KTS. the Proponent requested a virtual meeting in November 2021 with KTS to review Proponent-proposed dAIR components including the VCs, VC assessment areas, Project Interaction Table, and Project Inclusion List. The Baseline Study Update would also be discussed.

On October 27, 2021 and November 1, 2021, an invitation was sent to KTS for the November 8, 2021 joint meeting with other Participating Indigenous Nations in which the Proponent would present an engineering update, start a conversation on the Proponent's key proposed dAIR components (e.g., drafts of VCs, Project Interaction Table, VC assessment areas, and Project Inclusion List) and take questions on the Project and the Project's Baseline Study Update (November 7, 2021) distributed on November 8, 2021. KTS representatives attended the meeting.

On November 10, 2021, the Proponent sent an email to KTS and provided draft November 8, 2021, meeting notes and a copy of the presentation and requested that comments to the Proponent's proposed

dAIR components (e.g., VCs, VC boundary rationale, study area boundaries, Project Interaction Table, and Project Inclusion List) and Updated Baseline Study Program report be provided by December 3, 2021. KTS filed their comments with the Proponent on December 3, 2021.

KTS representatives attended the TA virtual meetings hosted by BC EAO on November 18, 2021, and December 15, 2021. The Proponent's proposed dAIR components were presented and discussed at both of these meetings and included suggested revisions from TAs. The Proponent committed to responding to all Kitsumkalum First Nation comments received to date by early 2022.

On January 4, 2022, the Proponent forwarded preliminary responses to comments (e.g., issues, concerns, recommendations) raised by Kitsumkalum First Nation with respect to the Project in 2021. On January 11, 2022, the Proponent provided a preliminary Project response to all of the issues, concerns, questions and recommendations raised by Kitsumkalum First Nation with respect to the Proponent's proposed dAIR components document along with outlines of the Proponent's draft DPD and proposed dAIR.

The Proponent team met with the Kitsumkalum First Nation team on January 21, 2022, to discuss preliminary Project responses to issues, concerns, questions and recommendations raised by Kitsumkalum First Nation in 2021 and on the Proponent's proposed dAIR components.

The Proponent emailed Participating Indigenous Nations (including Kitsumkalum First Nation representatives) on February 10, 2022, to notify them that the boundaries of the aerial marine mammal survey had been revised to include Chatham Sound and extending out past Triple Island.

On February 15, 2022, the Proponent emailed Kitsumkalum First Nation to inquire about the progress of the TUS and provided a suggested payment structure for the Nation-led studies.

On February 17, 2022, the Proponent emailed Kitsumkalum First Nation to offer assistance to the Nation in their review of the draft DPD.On February 17, 2022, the Proponent also emailed Kitsumkalum First Nation regarding the Observer positions on upcoming vessel based marine mammal surveys, detailing the surveys and the Observer opportunity.

On February 18, 2022, the Proponent emailed Kitsumkalum First Nation to provide water and district lot shapefiles. On March 16, 2022, the Proponent emailed Kitsumkalum First Nation to request a call to review funding for Nation-led studies. On March 17, 2022, the Proponent emailed Kitsumkalum First Nation regarding the planning details of the Kitsumkalum-led studies, asking about the scope and timelines.

A detailed record of the Proponent's engagement with Kitsumkalum First Nation is provided in Appendix 6. Appendix 7 captures the entire exchange of information between the Proponent and Kitsumkalum First Nation in Early Engagement (to March 31, 2022) and includes the list of the potential Project effects Kitsumkalum First Nation has raised for analysis and evaluation in the EA-IA. A summary of potential Project effects raised by Kitsumkalum First Nation and captured in the JSOIE is provided in

Appendix 10. Comments received from Kitsumkalum First Nation on a draft version of this DPD as well as Proponent response to these comments is provided in Appendix 11.

7.3.4 Kitselas First Nation

7.3.4.1 Summary of Interests and Issues

The Proponent has engaged directly with Kitselas First Nation since March 2021. Kitselas First Nation has provided comments regarding their issues and interests through:

- Written correspondence
- Comments on the IPD
- Comments on dAIR components (i.e., drafts of VCs, Project Interaction Table, VC assessment areas, and Project Inclusion List)
- Comments on a draft version of this DPD

In addition, the Proponent was provided with a summary of Kitselas First Nation interests, impacts and requests as provided to the BC EAO and the Agency during the IPD comment period.

7.3.4.2 Key Issues Summary

Based on initial correspondence and discussions with Kitselas First Nation to date, the Proponent's understanding of key issues and interests identified by Kitselas First Nation is summarized below.

- EA process and Project design:
  - Kitselas First Nation right to participate in decision-making and to be engaged in a meaningful way including through consensus seeking and incorporating feedback
  - Project scope and plans (e.g., electric or gas power supply, third-party plans, GHG emissions and net-zero plan, condensate and hazardous waste)
  - Project components, with a focus on the marine shipping route
- Indigenous rights, governance, land and marine use:
  - Project effects on Kitselas First Nation rights including:
    - Implementation of Kitselas First Nation laws, customs and protocols
    - Kitselas stewardship rights and responsibilities
    - Right to clean air, water, lands and resources within Kitselas territory, and the right to peacefully enjoy them
    - Development of Kitselas First Nation territory including water, land and resources
    - Access to traditional resources and to peacefully enjoy them including for harvesting and cultural and spiritual practice
    - Impacts to harvesting areas
    - Rights to revitalize, develop, and transmit to future generations Kitselas' traditional knowledge, histories, oral traditions, and place names relating to the Project area

- Environmental impacts:
  - Potential impacts to the acoustic environment
  - Potential impacts to wetlands and surface water, with a focus on changes in air quality and related interactions with the environment
  - Potential impacts to water, with a focus on acidification and eutrophication
  - Potential impacts to wildlife and other biophysical elements, including effects of noise on wildlife
  - Potential impacts to marine resources
  - Potential impacts resulting from GHG emission
  - Potential impacts from Accidents and Malfunctions
- Socio-economic impacts:
  - Potential impacts to infrastructure and services with focus on housing, police and social services, road use, and health care system access
  - Potential social and economic impacts from the construction temporary workforce
  - Potential effects to marine use, including access to cultural and traditional use areas at preferred time and by preferred method
- Cumulative Effects:
  - Terrestrial and human health cumulative effects (specifically related to wetlands and air quality) along the coast (i.e., the Port of Prince Rupert to Pearse Island)
  - Marine resources and marine use cumulative effects
  - Socio-economic cumulative effects
  - Cumulative effects resulting from GHG emissions

Based on feedback provided to date and review of the key issues and interests for Kitselas First Nation, and based on legislated requirements, the Proponent has developed a preliminary list of potential effects on Kitselas First Nation Interests to be considered as a starting point for discussion on the structure of the assessment and subject to being refined through development of the Application. It is expected that this list will be further developed through ongoing consultation with Kitselas First Nation both prior to and during the assessment process. The preliminary list of potential effects on Kitselas First Nation Interests are as follows:

- Changes to Kitselas First Nation consumption and harvest (marine)
- Changes to Kitselas First Nation consumption and harvest (terrestrial)
- Changes to Kitselas First Nation governance and socio-economic conditions
- Changes to Kitselas First Nation sacred places and heritage sites

- Changes to Kitselas First Nation health and wellbeing
- Changes to Kitselas First Nation access and travel

7.3.4.3 Summary of Engagement

Since March 2021, the Proponent has engaged directly with Kitselas First Nation on the Project. On March 23, 2021, the Proponent introduced the Project through written correspondence, highlighting the shared interest in marine waters stewardship. On March 31, 2021, the Proponent again, through written correspondence, introduced the Project and its location, including the Project ownership group. The letter appended a short Fact Sheet and the letters from Nisga'a leadership to Proponent identified potentially interested regional Indigenous Nations. The letter requested collaboration in arranging a date for an initial virtual meeting to discuss optimal ways the Project can engage with Kitselas First Nation.

On April 19, 2021, the Proponent hosted a virtual meeting with Kitselas First Nation technical staff (**KITS**) to introduce the Project, during which time, Kitselas First Nation confirmed they are open to initiating early engagement and Project agreements with the Proponent. On April 21, 2021, Kitselas First Nation was provided with a copy of the Project introduction meeting presentation slides and meeting notes for their review, edit and comment. KITS also received a preliminary list of Baseline Field Surveys proposed for the Project. KITS acknowledged receipt of the list of proposed draft Baseline Field Survey Federal and Provincial baseline investigative permit applications and indicated their desire to finalize an *Early Engagement Capacity Funding Agreement* and engage on the baseline field study plans. On April 27, 2021, Kitselas First Nation was provided with a draft *Early Engagement Capacity Funding Agreement*.

On May 6, 2021, the Proponent hosted a virtual meeting with KITS to discuss Project agreements with Kitselas First Nation. KITS was provided with an electronic link (e.g., an FTP site) to facilitate the download of documents (e.g., the Project's Baseline Study Plan and drafts of the associated Federal and Provincial permit applications) for KITS review and comment. On May 12, 2021, Kitselas First Nation signed an *Early Engagement Capacity Funding Agreement* with the Proponent. On May 26, 2021, the Proponent hosted a virtual meeting with KITS to discuss comments on the draft Baseline Study Plan.

In June 2021, KITS was provided with an electronic link to facilitate the downloading of early drafts of the IPD and EP. The Proponent requested that KITS provide comments on the documents by June 25, 2021. On June 22, 2021, the Proponent met with KITS to discuss the draft IPD and EP. KITS provided written comments on drafts of the IPD and EP to the Proponent. Several edits were made to the Project's draft IPD and EP in response to KITS' input.

In July 2021, the Proponent contacted KITS to advise that the Project received confirmation that the BC EAO (July 5, 2021) and the Agency (July 6, 2021) have acknowledged receipt of Proponent's submission of the IPD and supporting documents (e.g., EP and IPD Project Summary in both official languages). The Proponent acknowledged the receipt of KITS' comments on the IPD and EP on June 23, 2021, and informed KITS that the comments have been incorporated into the final versions of the IPD and EP filed with the regulators. KITS requested the Proponent's written responses for KITS' comments on the draft IPD and

EP; these were provided The Proponent. On July 21, 2021, the Proponent met with KITS to discuss their revisions to the draft *Environmental Assessment and Regulatory Process Funding Agreement* and to review KITS's proposed workplan and budget.

On August 13, 2021, the Proponent informed KITS that the Agency and BC EAO were working cooperatively on the initial phase of the Project review and would host virtual information sessions on September 8 and September 9, 2021. The Proponent also informed KITS that the BC EAO and the Agency were convening an initial TA meeting consisting of federal, provincial, regional government and potential Participating Indigenous Nation representatives and that the first meeting was to be held virtually on September 8, 2021, hosted by BC EAO. The Proponent attended the initial TA meeting to present Project information and answer questions. KITS attended this meeting and a subsequent BC EAO-led workshop for potential Participating Indigenous Nations on September 9, 2021.

On August 18, 2021, KITS advised BC EAO of their intent to participate in the EA process.

On August 27, 2021, the Proponent provided KITS with a brief Baseline Study Update and a revised Environmental Impact Assessment schedule describing the estimated key dates when the Proponent would:

1. Respond to the BC EAO-Agency prepared JSOIE
2. Develop drafts of the DPD
3. File the DPD, as well as forecasting additional key steps in completing the Environmental Impact Assessment into 2024

In September 2021, the Proponent and KITS met virtually to provide a Project update, discuss the draft IPD and Project timelines. Later in September Kitselas First Nation approved an EA and Regulatory Process funding agreement and on October 5, 2021, executed the agreement.

On October 14, 2021, the BC EAO and the Agency sent the JSOIE to the Proponent. Kitselas First Nation interests, impacts and requests are summarized in the JSOIE document. Kitselas First Nation were also confirmed as a Participating Indigenous Nation on that date.

On October 15, 2021, email correspondence occurred between the Proponent and KITS. The Proponent requested a virtual meeting in November 2021 with KITS to review the Proponent's proposed dAIR components including the VCs, VC assessment areas, Project Interaction Table and Project Inclusion List. The Baseline Study Update would also be discussed.

On October 27, 2021 and November 1, 2021, an invitation was sent to KITS for the November 8, 2021 joint meeting with other Participating Indigenous Nations in which the Proponent would present an engineering update, start a conversation on the Proponent's key proposed dAIR components (e.g., drafts of VCs, Project Interaction Table, VC assessment areas, and Project Inclusion List), and take questions on the Project and the Baseline Study Update (November 7, 2021) distributed on November 8, 2021. KITS representatives attended the meeting.

On November 10, 2021, the Proponent sent an email to KITS and provided draft November 8 meeting notes and a copy of the presentation and requested that comments on the Proponent's proposed dAIR components (e.g., VCs, VC boundary rationale, study area boundaries, Project Interaction Table, and Project Inclusion List) and the Baseline Study Update be provided by December 3, 2021. KITS filed their comments with the Proponent on December 6, 2021.

KITS representatives attended the TA virtual meetings hosted by BC EAO on November 18, 2021 and December 15, 2021. The Proponent's proposed dAIR components were presented and discussed at both of these meetings and included suggested revisions from TAs. The Proponent committed to responding to all KITS comments received to date by early 2022.

On January 4, 2022, the Proponent forwarded preliminary responses to comments (e.g., issues, concerns, recommendations) raised by Kitselas First Nation with respect to the Project in 2021. On January 11, 2022, the Proponent provided a preliminary Project response to all of the issues, concerns, questions and recommendations raised by Kitselas First Nation with respect to the Proponent's proposed draft dAIR components document along with outlines of the Proponent's draft DPD and proposed dAIR. On January 20, 2022, Kitselas First Nation provided the Proponent with their comments on the Project's preliminary response to Kitselas First Nation' comments on the proposed dAIR components shared on January 11, 2022.

On February 4, 2022, the Proponent emailed Kitselas First Nation to follow up on previous discussion regarding Kitselas First Nation-led studies. The Proponent asked Kitselas to determine payment dates and structure to assist in completing the studies. On February 7, 2022, Kitselas First Nation responded with budget corrections and suggested a payment structure. The Proponent and Kitselas First Nation continued to email on February 8, 2022, to establish a payment structure. On February 14, 2022, the Proponent emailed Kitselas First Nation to summarize the discussed payment structure and ask for Kitselas First Nation confirmation that information was correct. Kitselas First Nation replied to confirm the payment structure was correct on February 15, 2022.

The Proponent emailed Participating Indigenous Nations (including Kitselas First Nation representatives) on February 10, 2022, to notify them that the boundaries of the aerial marine mammal survey had been revised to include Chatham Sound and extending out past Triple Island.

On February 17, 2022, the Proponent emailed Kitselas First Nation to offer assistance to the Nation in their review of the draft DPD.On February 17, 2022, the Proponent also emailed Kitselas First Nation regarding the Observer positions on upcoming vessel based marine mammal surveys, detailing the surveys and the Observer opportunity.

On February 28, 2022, the Proponent emailed Kitselas First Nation to provide water and district lot shapefiles.

On March 1, 2022, and March 10, 2022 the Proponent and Kitselas First Nation exchanged emails regarding the receipt of the funds for the Nation-led studies.

On March 22, 2022, and March 23, 2022, the Proponent and Kitselas First Nation exchanged emails regarding a meeting to discuss the incorporation of results of the Nation-led studies to the EA-IA. On March 23, 2022, the Proponent and Kitselas First Nation exchanged emails to clarify the meeting length and incorporation of results. the Proponent and Kitselas First Nation exchanged emails on March 24, 2022, to continue discussions regarding the results and incorporation of the Nation-led studies and a revised meeting invite.

A summative table record of the Proponent's engagement with Kitselas First Nation is provided in Appendix 6. Appendix 7 captures the detailed exchange of information between the Proponent and Kitselas First Nation in Early Engagement (to March 31, 2022) and includes the list of the potential Project effects Kitselas First Nation has raised for analysis and evaluation in the EA-IA. A summary of potential Project effects raised by Kitselas First Nation and captured in the JSOIE is provided in Appendix 10. Comments received from Kitselas First Nation on a draft version of this DPD as well as Proponent response to these comments is provided in Appendix 11.

7.3.5 Gitxaała Nation

7.3.5.1 Summary of Interests and Issues

The Proponent has engaged directly with Gitxaała Nation since March 2021. Gitxaała Nation has provided comments regarding their issues and interests through:

- General correspondence
- Comments on the IPD and EP
- Comments on the proposed baseline studies
- Comments on dAIR components (i.e., drafts of VCs, Project Interaction Table, VC assessment areas, and Project Inclusion List)
- Comments on a draft version of this DPD

In addition, the Proponent was provided with a summary of Gitxaała Nation interests, impacts and requests as provided to the BC EAO and the Agency during the IPD comment period.

7.3.5.2 Key Issues Summary

Based on initial correspondence and discussions with Gitxaała Nation to date, the Proponent's understanding of key issues and interests identified by Gitxaała Nation is summarized below.

- EA process and Project design:
    - The Project regulatory process, with a focus on collaboration and a consideration of Gitxaała Nation concerns
    - Information sources, with a focus on the age and appropriateness of secondary sources (e.g., data collected for other projects) and consideration of regulatory environmental assessment reports

- Project scope, with a focus on:
    - Inclusion of third-party plans for transmission line and pipeline
    - Inclusion of diversity and GBA Plus
- Project plans and components, with a focus on:
    - The extent of the marine shipping route and the potential for LNG and NGL transport south of the pilot boarding station at Triple Island to ports in the United States
    - The Projects Net-Zero Plan
    - Marine components
    - Back-up power considerations including the temporary power barges
    - Waste management including effluent discharge
    - Workforce accommodation
    - Water supply options
    - Mooring and piling for marine components
    - Net zero target emissions

- Potential impacts from accidents and malfunctions, with a focus on:
    - The Project's emergency response plans
    - Management of liquid or other discharges into the marine environment
- Indigenous rights, governance, land and marine use:
    - Potential impacts to heritage sites along the marine shipping route
    - Unceded section 35 rights in the vicinity of the Project
    - Potential impacts on traditional harvesting due to marine shipping, including noise effects on marine mammals
    - Potential impacts on the sensory environment
- Environmental impacts:
    - Potential impacts to air quality, with a focus on GHG emissions, modelling, and assessment subcomponents
    - Potential impacts to the acoustic environment along the marine shipping route
    - Potential impacts to the marine environment from marine shipping, with a focus on:
        - LNG vessel desalination
        - Changes in marine mammal and marine fish behaviour

    - Potential impacts to freshwater fish, with a focus on oolichan and salmon spawning routes and habitats
    - Potential impacts to the marine environment at the marine terminal, with a focus on dredging and construction
- Socio-economic impacts:
    - Potential impacts to employment opportunities and the identification of training and employment opportunities for community members, with a focus on local direct and indirect benefits
    - Potential impacts on human health, with a focus on potential effects from marine shipping, including change in air quality and acoustic
- Cumulative Effects:
    - Potential cumulative effects from increased marine vessel traffic within the portion of the marine shipping route overlapping Gitxaała Nation territorial waters

Based on feedback provided to date and review of the key issues and interests for Gitxaała Nation, and based on legislated requirements, the Proponent has developed a preliminary list of potential effects on Gitxaała Nation Interests to be considered as a starting point for discussion on the structure of the assessment and subject to being refined through development of the Application. It is expected that this list will be further developed through ongoing consultation with Gitxaała Nation both prior to and during the assessment process. The preliminary list of potential effects on Gitxaała Nation Interests are as follows:

- Changes to Gitxaała Nation consumption and harvest (marine)
- Changes to Gitxaała Nation consumption and harvest (terrestrial)
- Changes to Gitxaała Nation governance and socio-economic conditions
- Changes to Gitxaała Nation sacred places and heritage sites
- Changes to Gitxaała Nation health and wellbeing
- Changes Gitxaała Nation access and travel

7.3.5.3 Summary of Engagement

Since March 2021, the Proponent has engaged directly with Gitxaała Nation on the Project. On March 23, 2021, the Proponent introduced the Project through written correspondence, highlighting the shared interest in marine waters stewardship and requesting collaboration in arranging a date for an initial virtual meeting to discuss ways the Project can engage with Gitxaała Nation. On April 15, 2021, the Proponent hosted a virtual meeting with Gitxaała representatives to introduce the Project during which time, Gitxaała Nation confirmed interest in establishing Project agreements.

In April 2021, Gitxaała Nation technical staff (**GTS**) was provided with an electronic link (e.g., an FTP site) to facilitate the download of documents (e.g., the Project's preliminary draft of the Project's Baseline Study Plan and drafts of the associated Federal and Provincial permit applications) for GTS review and comment. The Proponent also sent GTS a draft of an *Early Engagement Capacity Funding Agreement*.

In May 2021, GTS was provided with an electronic link to facilitate access to the Project's Baseline Study Plan and final drafts of associated Federal and Provincial baseline investigative permit applications. Discussions occurred (via email and telephone) between the Proponent and GTS regarding revisions to the draft *Early Engagement Capacity Funding Agreement*.

In June 2021, GTS was provided with an electronic link to facilitate access to the Project's early engagement drafts of both the IPD and EP. The Proponent requested that GTS provide comments on the documents by June 25, 2021. The Early Engagement Capacity Funding Agreement was finalized and a fully executed copy of the *Early Engagement Capacity Funding Agreement* was sent to Gitxaała for their files. On June 30, 2021, GTS met with the Proponent to discuss and provide preliminary comments on the draft IPD and EP. Several edits were made to final IPD and EP based on verbal feedback.

In July 2021, the Proponent contacted GTS to advise that the Project received confirmation that the BC EAO (July 5, 2021) and the Agency (July 6, 2021) have acknowledged receipt of Proponent's submission of the IPD and supporting documents (e.g., EP and IPD Project Summary in both official languages). The Proponent acknowledged the receipt of GTS preliminary comments on the IPD and EP on June 30, 2021, and informed GTS that the comments have been considered and, where appropriate, incorporated into the final versions of the IPD and EP filed with the regulators.

On August 13, 2021, the Proponent informed GTS that the Agency and the BC EAO were working cooperatively on the initial phase of the Project review and will host virtual information sessions on September 8 and September 9, 2021. The Proponent also informed GTS that the BC EAO and the Agency were convening TAs consisting of federal, provincial, regional government and potential Participating Indigenous Nation representatives and that the first meeting was to be held virtually on September 8, 2021, hosted by BC EAO. The Proponent attended the initial TA meeting to present Project information and answer questions. GTS attended this meeting and a subsequent BC EAO-led workshop for potential Participating Indigenous Nations on September 9, 2021.

On August 27, 2021, the Proponent provided GTS with a brief Baseline Study Update and a revised Environmental Impact Assessment schedule describing the estimated key dates when the Proponent would:

1. Respond to the BC EAO-Agency prepared JSOIE
2. Develop drafts of the DPD
3. File the DPD, as well as forecasting additional key steps in completing the Environmental Impact Assessment into 2024

On September 21, 2021, GTS advised BC EAO of their intent to participate in the EA process.

In September 2021, the Proponent and GTS met virtually to provide a Project update, discuss the draft IPD and Project timelines, and discuss a draft of an *EA and Regulatory Process Funding Agreement*.

On October 14, 2021, the BC EAO and the Agency sent out the JSOIE to the Proponent. Gitxaała Nation interests, impacts and requests are summarized in the JSOIE document. Gitxaała Nation were also confirmed as a Participating Indigenous Nation on that date.

On October 15, 2021, email correspondence occurred between the Proponent and GTS. The Proponent requested a virtual meeting in November 2021 with GTS to review the Proponent's proposed dAIR components including the VCs, VC assessment areas, Project Interaction Table, and Project Inclusion List. The Baseline Study update would also be discussed.

On October 27, 2021 and November 1, 2021, an invitation was sent to GTS for the November 8, 2021 joint meeting with other Participating Indigenous Nations in which the Proponent would present an engineering update, start a conversation on the Proponent's key proposed dAIR components (e.g., drafts of VCs, Project Interaction Table, VC assessment areas, and Project Inclusion List) and take questions on the Project and the Baseline Study Update (November 7, 2021) distributed on November 8, 2021. GTS representatives attended the meeting.

On November 10, 2021, the Proponent sent an email to GTS and provided draft November 8 meeting notes and a copy of the presentation and requested that comments to the Proponent's proposed dAIR components (e.g., VCs, VC boundary rationale, study area boundaries, Project Interaction Table, and Project Inclusion List) and Updated Baseline Study Program report be provided by December 3, 2021. GTS advised the Proponent that comments would be provided by December 8, 2021. GTS comments on all of the materials were provided to the Proponent on December 8, 2021.

GTS representatives attended the TA virtual meetings hosted by BC EAO on November 18, 2021, and December 15, 2021. The Proponent's proposed dAIR components were presented and discussed at both meetings and included suggested revisions from TAs. The Proponent team committed to responding to all GTS comments received to date by early 2022.

On January 4, 2022, the Proponent forwarded preliminary responses to comments (e.g., issues, concerns, recommendations) raised by Gitxaała Nation with respect to the Project in 2021. On January 11, 2022, the Proponent provided a preliminary Project response to all of the issues, concerns, questions and recommendations raised by Gitxaała Nation with respect to the Proponent's proposed dAIR components document along with outlines of the Proponent's draft DPD and proposed dAIR. Gitxaała Nation provided the Proponent with a response to the preliminary the Proponent response table shared by the Proponenton January 14, 2022.

The Proponent emailed Participating Indigenous Nations (including Gitxaala Nation representatives) on February 10, 2022 to notify them that the boundaries of the aerial marine mammal survey had been revised to include Chatham Sound and extending out past Triple Island.

On February 10, 2022, the Proponent received an email from Gitxaala Nation regarding Gitxaala Nation's draft EA funding agreement workplan and budget. Gitxaaka Nation asked the Proponent to review their proposed workplan and budget and plan a meeting to discuss. The Proponent replied that they would review and provided dates for a meeting to discuss the budget. The Proponent received Gitxaala Nation EA funding agreement on February 14, 2022, and provided a date for a potential meeting. The Proponent replied same day and noted they were unavailable on the requested date, and suggested alternative dates for a meeting. On February 15, 2022, Ksi Lisims and Gitxaala Nation confirmed a new meeting time for February 18, 2022.

On February 17, 2022, the Proponent emailed Gitxaala Nation to offer assistance to the Nation in their review of the draft DPD. On February 17, 2022, the Proponent also emailed Gitxaala Nation regarding the Observer positions on upcoming vessel based marine mammal surveys, detailing the surveys and the Observer opportunity.

The Proponent and Gitxaala Nation met virtually on February 18, 2022, to discuss the EA funding agreement. Gitxaala indicated that their risk and assessment report was meant to ensure the Nation has a voice per their own story and experience in EAs. A follow-up meeting was scheduled for March 3, 2022.

The Proponent emailed Gitxaala Nation on February 24, 2022, with a revised budget to reflect costs for the EA process participation.

On February 28, 2022, the Proponent emailed Gitxaala Nation to provide water and district lot shapefiles.

Ksi Lisims held a virtual meeting March 3, 2022, with Gitxaala Nation to discuss the adjustments to the EA funding agreement workplan and budget proposed to the Proponent. Gitxaala expressed that the adjustments were reasonable and would discuss internally.

The Proponent and Gitxaala Nation exchanged emails on March 11, 2022, regarding the revised draft EA funding agreement for Gitxaala First Nation's review.

On March 22, 2022, the Proponent and Gitxaala Nation exchanged telephone and email correspondence regarding the EA Funding agreement. On March 23, 2022, the Proponent and Gitxaala Nation exchanged emails regarding a meeting to discuss how best to incorporate the Gitxaala-led studies into the Application.

A summative table record of the Proponent's engagement with Gitxaała Nation is provided in Appendix 6. Appendix 7 captures the entire exchange of information between the Proponent and Gitxaała Nation in Early Engagement (to March 31, 2022) and includes the list of the potential Project effects Gitxaała Nation has raised for analysis and evaluation in the EA-IA. A summary of potential Project effects raised by Gitxaała Nation and captured in the JSOIE is provided in Appendix 10. Comments received from Gitxaała Nation on a draft version of this DPD as well as Proponent response to these comments is provided in Appendix 11.

7.3.6 Gitga'at First Nation

7.3.6.1 Summary of Interests and Issues

The Proponent has engaged directly with Gitga'at First Nation since November 2021. Gitga'at First Nation has provided comments regarding their issues and interests through:

- General correspondence
- Comments on a draft version of this DPD

7.3.6.2 Key Issues Summary

Based on initial correspondence and discussions with Gitga'at First Nation to date, the Proponent's understanding of key issues and interests identified by Gitga'at First Nation is summarized below.

- EA process and Project design:
  - Project mitigation measures
  - Management plans for liquid, solid, and hazardous waste
- Indigenous rights, governance, land and marine use:
  - Cumulative effects on Gitga'at First Nation Interests from changes in marine shipping and air quality, with a particular focus on Prince Rupert and Kitimat
- Environmental impacts:
  - Potential impacts to air quality, with a particular focus on GHGs
  - Potential impacts to marine resources from increased shipping, with a particular focus on marine mammals and marine fisheries

Based on feedback provided to date and review of the key issues and interests for Gitga'at First Nation, and based on legislated requirements, the Proponent has developed a preliminary list of potential effects on Gitga'at First Nation Interests to be considered as a starting point for discussion on the structure of the assessment and subject to being refined through development of the Application. It is expected that this list will be further developed through ongoing consultation with Gitga'at First Nation both prior to and during the assessment process. The preliminary list of potential effects on Gitga'at First Nation Interests are as follows:

- Changes to Gitga'at First Nation consumption and harvest (marine)
- Changes to Gitga'at First Nation consumption and harvest (terrestrial)
- Changes to Gitga'at First Nation governance and socio-economic conditions
- Changes to Gitga'at First Nation sacred places and heritage sites
- Changes to Gitga'at First Nation health and wellbeing
- Changes to Gitga'at First Nation access and travel

7.3.6.3 Summary of Engagement

On November 19, 2021, BC EAO responded to letters from Gitga'at First Nation with respect to the EA for Project. On November 22, 2021, the Agency wrote to the Gitga'at First Nation Chief and advised them of the Project. On November 23, 2021, email correspondence from the Project team to the Chief and key Gitga'at First Nation contacts requested a meeting to introduce the Project. On December 8, 2021, the Project team met with the Gitga'at First Nation team and introduced the Project virtually.

On December 13, 2021, email correspondence from the Project team to Gitga'at First Nation contacts included the December 8 meeting notes and a copy of the Proponent's introductory presentation. On December 20, 2021, email correspondence from the Proponent team to Gitga'at First Nation contacts provided a copy of a draft EA and Regulatory Process Funding Agreement for review.

In early January 2022, the Proponent renewed discussions on the *EA and Regulatory Process Funding Agreement*.

On February 4, 2022, the Proponent emailed to Gitga'at First Nation and asked if Gitga'at First Nation could indicate when the comments on the EA funding agreement workplan and budget would be sent. Gitga'at First Nation replied via email on the same day to note they were meeting internally to discuss the EA funding agreement and that the Proponent could expect a draft agreement early the next week.

The Proponent emailed Participating Indigenous Nations (including Gitga'at First Nation representatives) on February 10, 2022 to notify them that the boundaries of the aerial marine mammal survey had been revised to include Chatham Sound and extending out past Triple Island.

On February 17, 2022, the Proponent emailed Gitga'at First Nation to offer assistance to the Nation in their review of the draft DPD. On February 17, 2022, the Proponent also emailed Gitga'at First Nation regarding the Observer positions on upcoming vessel based marine mammal surveys, detailing the surveys and the Observer opportunity.

On February 22, 2022, the Proponent followed up with Gitga'at First Nation to inquire when comments and a budget should be expected for the EA funding agreement. Gitga'at First Nation replied the same day to resubmit the document, noting they had previously sent the document to the Proponent on February 9, 2022, and received a reply. The Proponent replied the same day indicating they would begin reviewing the agreement.

The Proponent emailed Gitga'at First Nation on February 23, 2022, to recommend hosting a meeting to review the proposed EA funding agreement workplan and budget, and suggested March 1, 2022, or March 2, 2022, as potential dates. On February 24, 2022, the Proponent emailed Gitga'at to note that they were no longer available March 2, 2022, but would be available March 1, 2022, or potentially other times as proposed by Gitga'at First Nation. Gitga'at First Nation replied the same day and indicated they were determining alternative dates and would send to the Proponent once determined.

On February 28, 2022, the Proponent emailed Gitga'at First Nation to provide water and district lot shapefiles.

The Proponent and Gitga'at First Nation met virtually on March 1, 2022, to discuss the EA funding agreement workplan and budget. The Proponent noted that they were unable to provide funding for a potential benefit agreement through an EA funding agreement. Gitga'at First Nation responded that they wished to negotiate a benefit agreement as soon as possible and indicated that the Proponent should commit to engaging in these negotiations. The Proponent committed to providing a response to Gitga'at First Nation's revisions to the funding agreement and the associated proposed workplan and budget.

On March 14, 2022, the Proponent and Gitga'at First Nation exchanged emails regarding the revised draft EA funding agreement for Gitga'at First Nation's review. On March 23, 2022, the Proponent followed up via email with Gitga'at First Nation to confirm their receipt of the revised draft EA funding agreement for Gitga'at First Nation's review. Gitga'at First Nation replied the same day to confirm it had been received.

A detailed record of Ksi Lisims LNG's engagement with Gitga'at First Nation is provided in Appendix 6. A summary of potential Project effects raised by Gitga'at First Nation and captured in the JSOIE is provided in Appendix 10. Comments received from Gitga'at First Nation on a draft version of this DPD as well as Proponent response to these comments is provided in Appendix 11.

7.3.7 Haida Nation

7.3.7.1 Summary of Interests and Issues

Ksi Lisims LNG has engaged Haida Nation through written correspondence since March 2021. Ksi Lisims LNG has received limited feedback to date from Haida Nation. Based on review of public information, the Proponent understands that Haida Nation consider the waters north of Graham Island as very important to many facets of their culture. The Proponent has developed a preliminary list of potential effects on Haida Nation Interests to be considered as a starting point for discussion on the structure of the assessment and subject to being refined through development of the Application. It is expected that this list will be further developed through ongoing consultation with Haida Nation both prior to and during the assessment process. The preliminary list of potential effects on Haida Nation Interests are as follows:

- Changes to Haida Nation consumption and harvest (marine)
- Changes to Haida Nation governance and socio-economic conditions
- Changes to Haida Nation sacred places and heritage sites
- Changes to Haida Nation access and travel

7.3.7.2 Summary of Engagement

Ksi Lisims LNG has engaged with Haida Nation on the Project since March 2021. On March 23, 2021, Ksi Lisims LNG introduced the Project to Haida Nation through written correspondence, highlighting the shared interest in marine waters stewardship. On March 31, 2021, Ksi Lisims LNG again, through written correspondence, introduced the Project and its location, including the Project ownership group. The letter appended a short Fact Sheet and the letters from Nisga'a leadership to Proponent identified potentially interested regional Indigenous Nations. The letter requested collaboration in arranging a date for an initial virtual meeting to discuss optimal ways the Project can engage with Haida Nation.

On June 1, 2021, Ksi Lisims LNG emailed Haida Nation to advised that the draft IPD would be shared for early review. On June 7, 2021, Ksi Lisims LNG sent an email to Haida Nation providing access to early engagement drafts of both IPD and EP and included an offer of a virtual meeting to present the IPD and EP between June 8 – 24, 2021.

Ksi Lisims LNG emailed Haida Nation on June 12, 2021, to follow up on the June 7, 2021, email and offering a time to meet virtually to review the IPD and EP. On June 24, 2021, Ksi Lisims LNG again emailed Haida Nation to request a virtual meeting to discuss draft IPD and EP and potential engagement funding for the next steps in the EA-IA process.

On July 7, 2021, Ksi Lisims LNG emailed Haida Nation to advise them that the EAO and Agency had received the IPD, IPD Summary and EP.

On July 21, 2021, Ksi Lisims LNG was included in letter correspondence from Agency to Haida Nation regarding opportunity to comment on the potential impact assessment of the proposed Project

On August 13, 2021, Ksi Lisims LNG emailed Haida Nation to notify of the upcoming Project virtual information sessions scheduled for September 8 and 9, 2021 and that initial TA and Participating Indigenous Nations workshop are being hosted on those same two days by EAO. Haida Nation did not attend either of these workshops.

Ksi Lisims LNG emailed Haida Nation to provide a brief Baseline Study Update and a revised EA-IA schedule outlining key tasks to be undertaken until the Readiness Decision on August 27, 2021.

October 29, 2021, Haida Nation received an email from Agency to notify that the 180-day IA Planning Phase has been suspended, at the written request of the proponent, at Day 96. Ksi Lisims LNG copied on the email.

Technical Advisor Meetings occurred on November 18, 2021, and December 15, 2021. To Ksi Lisims LNG's knowledge, BC EAO did not notify Haida of these meetings.

On February 16, 2022, Haida Nation received an email from IAAC, with Ksi Lisims LNG copied on the email, regarding the draft DPD. IAAC provided a copy of the draft DPD to Haida Nation and requested Haida Nation to review and comment on the document. IAAC summarized the next steps for impact assessment determination. IAAC noted they would follow up with Haida Nation to convey the outcome and how comments from Haida Nation were taken into account.

On February 23, 2022, Ksi Lisims LNG emailed Haida Nation to inform them that the DPD, including the proposed dAIR had been provided to IAAC, the BC EAO, and the Participating Indigenous Nations for review and comment. Ksi Lisims LNG noted that they were aware IAAC had sent a copy of the DPD to the Haida Nation for review and indicated that they would send a copy of the dAIR, should Haida Nation wish to review it.

Ksi Lisims LNG emailed Haida Nation of March 10, 2022, informing them that Ksi Lisims LNG would like to share the dAIR for Haida Nation's review and comment by March 25, 2022. The Proponent noted that the document could be found on the link provided, which would expire in two weeks. Ksi Lisims LNG said that

two versions of the document could be found on the website, a clean version as well as a blackline version with rational. Ksi Lisims LNG stated that they would like to reaffirm their commitment to engaging with the Haida Nation and to contact the Proponent if they would like any more information about the Project.

A detailed record of Ksi Lisims LNG's engagement with Haida Nation is provided in Appendix 6.

7.3.8 Métis Nation British Columbia

7.3.8.1 Summary of Interests and Issues

Ksi Lisims LNG has engaged Métis Nation British Columbia through written correspondence since May 2021. Ksi Lisims LNG has received limited feedback from Métis Nation British Columbia.

Based on review of public information, the Proponent understands that Métis Nation British Columbia may have harvesters in the area of the marine shipping route with an interest in the Project. The Proponent has developed a preliminary list of potential effects on Métis Nation British Columbia Interests to be considered as a starting point for discussion on the structure of the assessment and subject to being refined through development of the Application. It is expected that this list will be further developed through ongoing consultation with Métis Nation British Columbia both prior to and during the assessment process. The preliminary list of potential effects on Métis Nation British Columbia Interests are as follows:

- Changes to Métis Nation British Columbia consumption and harvest (marine)
- Changes to Métis Nation British Columbia consumption and harvest (terrestrial)
- Changes to Métis Nation British Columbia governance and socio-economic conditions
- Changes to Métis Nation British Columbia sacred places
- Changes to Métis Nation British Columbia access and travel

7.3.8.2 Summary of Engagement

Ksi Lisims LNG has engaged Métis Nation British Columbia through written correspondence since May 2021. On May 14, 2021. Ksi Lisims LNG introduced the Project to the Northwest BC Métis Association through written correspondence and offered an opportunity for a Project introduction presentation and meeting.

On July 21, 2021, the Agency provided written correspondence to Métis Nation British Columbia providing opportunity to comment on the potential impact assessment of the proposed Ksi Lisims LNG Natural Gas Liquefaction and Marine Terminal Project and Ksi Lisims LNG was copied on the correspondence.

Ksi Lisims LNG emailed Métis Nation British Columbia on September 24, 2021, to request comments on the Project IPD and EP.

On October 14, 2021, BC EAO-Agency wrote Ksi Lisims LNG and provided a JSOIE. In Section 3.0 of the document, BC EAO and Agency advised that they had notified and requested input from Métis Nation British Columbia.

On October 29, 2021, Métis Nation British Columbia received an email from Agency to notify that the 180-day IA Planning Phase has been suspended, at the written request of the proponent, at Day 96. Ksi Lisims LNG copied on the email.

On February 16, 2022, Métis Nation British Columbia received an email from IAAC, with Ksi Lisims LNG copied on the email, regarding the draft DPD. IAAC provided a copy of the draft DPD to Métis Nation British Columbia and requested Métis Nation British Columbia to review and comment on the document. IAAC summarized the next steps for impact assessment determination. IAAC noted they would follow up with Métis Nation British Columbia to convey the outcome and how comments from Métis Nation British Columbia were taken into account.

On February 23, 2022, Ksi Lisims LNG emailed Métis Nation British Columbia to inform them that the DPD, including the proposed dAIR had been provided to IAAC, the BC EAO, and the Participating Indigenous Nations for review and comment. Ksi Lisims LNG noted that they were aware IAAC had sent a copy of the DPD to the Métis Nation British Columbia for review and indicated that they would send a copy of the dAIR, should Métis Nation British Columbia wish to review it.

Ksi Lisims LNG emailed Métis Nation British Columbia of March 10, 2022, informing them that Ksi Lisims LNG would like to share the dAIR for Métis Nation British Columbia's review and comment by March 25, 2022. They noted that the document could be found on the link provided, which would expire in two weeks. Ksi Lisims LNG said that two versions of the document could be found on the website, a clean version as well as a blackline version with rational. Ksi Lisims LNG stated that they would like to reaffirm their commitment to engaging with the Métis Nation British Columbia and to contact the Proponent if they would like any more information about the Project. Métis Nation British Columbia replied in thanks and indicated they would appreciate being engaged.

A detailed record of Ksi Lisims LNG's engagement with Métis Nation British Columbia is provided in Appendix 6.

7.4 DPD Alignment with Other Indigenous Nation Interests

The Nisga'a Nation partnered with Lax Kw'alaams Band, Metlakatla First Nation and Haisla Nation to develop policies that address global climate change while facilitating sustainable economic development, including responsible LNG export facility developments on BC's Northwest coast. Nations leading the FNCI believe that coordinated policy development and public and private sector investment are needed to build electrical generation and transmission infrastructure in northern BC, to restore damaged ecosystems to be carbon sinks, and to support net-zero natural gas export projects on the North Coast. In March 2021, Lax Kw'alaams Band withdrew from FNCI.

Kitsumkalum First Nation, Kitselas First Nation, Haida Nation, Gitxaała Nation, Gitga'at Nation and Métis Nation British Columbia have not yet engaged on the draft FNCI draft policy framework. However, the Project anticipates fulsome discussions on net-zero GHG and potentially other FNCI policies should the Indigenous Nations raise those issues during the development of the DPD.

The Project complies with many of the FNCI policy goals (FNCI 2020) and provides Indigenous Nations the opportunity to:

- Provide leadership on achieving the policies and objectives in a manner that is consistent with BC and Canada's commitments on climate change, Indigenous Nations poverty alleviation, and natural gas infrastructure development and ownership that will benefit their communities, BC and Canada
- Support and participate in new LNG and other gas product development projects to achieve net-zero GHG on the basis of approved plans, approvals and within time frames that align with limiting global warming to 1.5–2.0 degrees Celsius
- Support the establishment of cost competitive LNG and other natural gas products in the international marketplace
- Work with governments to enable public and private sector investment in renewable energy generation and transmission infrastructure
- Promote nature-based solutions to reduce GHG emissions from new and existing developments including ecosystem restoration in BC's Northwest coast and in conservation zones identified by Indigenous Nations whose communities overlap with the Montney Play
- Promote technological innovation along the LNG supply chain that can be exported to the rest of the world to burn cleaner gas and reduce CO2e emissions
- Participate in establishing protocols for domestic carbon offsets and enable these offsets to count against carbon tax liabilities and the net-zero objectives provided that proponents have an approved plan to achieve net-zero as soon as possible while maintaining project viability
- Promote net-zero LNG and other natural gas product development as a transition step that finances construction of the infrastructure including Indigenous led Independent Power Projects that will electrify the low carbon economy of the future while supporting Indigenous Nations economic self-determination and restoration of traditional territories
- To proactively position Indigenous Nations who are interested in taking an equity position in project infrastructure, including through loan guarantees and direct grants from Canada, BC and Alberta

The Project is an example of the kind of project that FNCI described in its "Draft Scenario Outlining Potential for Net Zero LNG" for the stated purpose of achieving local and global climate change targets that make poverty a thing of the past in Indigenous Nations communities and builds the infrastructure and innovation for a low carbon economy by 2050.

7.5 Summary of Planned Engagement Activities with Indigenous Nations

The NLG will coordinate all Project engagement activities related to the Project with Nisga'a citizens. Nisga'a Nation representatives were involved in developing the DPD and directly involved with the implementation of it with Nisga'a citizens.

Ksi Lisims LNG is committed to engaging with potentially affected Indigenous Nations regarding established or asserted Aboriginal rights, title, and other interests (including current use for traditional purposes) that may be affected by the Project. Ksi Lisims LNG understands that identifying and recommending measures to address potential adverse effects to Indigenous Nation interests from the Project, or from its cumulative interaction with other past, present, or reasonably foreseeable projects, will be an important element of the EA-IA and the fulfillment of the Crown's common law duty to consult and accommodate.

Ksi Lisims LNG will coordinate with the BC EAO and the Agency to provide Indigenous Nations with the most up-to-date information with respect to the EA-IA processes under the BC EAA 2018 and the IAA 2019. The following sets out a brief list of specific engagement with Participating Indigenous Nations that are currently planned:

- Regularly scheduled Project updates, conference calls and meetings with Indigenous Nation administrative staff, consultants, elders and other members of Indigenous Nations
- Regularly scheduled meetings with all Participating Indigenous Nations to discuss, including collect feedback, for major Project milestones such as development of valued component selection and initial assessment areas
- Conducting community meetings, open houses and workshops as requested
- Facilitating opportunities to participate in collecting baseline information, as well as review and input into the information

7.6 Summary of Agreements and Planned Agreements

The Proponent has progressed capacity funding agreements to enable Participating Indigenous Nations to meaningfully participate in the Environmental Assessment process. The agreements provide capacity funding for both process participation and the completion of Indigenous Led Studies to inform the Environmental Assessment. The status of the capacity funding agreements is as follows:

- Lax Kw'alaams Band:
  - Environmental Assessment and Regulatory Process Funding Agreement –is in place with an effective date of January 21, 2022
- Metlakatla First Nation:
  - Environmental Assessment and Regulatory Process Funding Agreement – the agreement is in place with an effective date of March 8, 2022

- Kitsumkalum Indian Band
  - Environmental Assessment and Regulatory Process Funding Agreement – the agreement is in place with an effective date of September 23, 2021
- Kitselas First Nation
  - Environmental Assessment and Regulatory Process Funding Agreement – the agreement is in place with an effective date of October 5, 2021
- Gitxaała Nation
  - Environmental Assessment and Regulatory Process Funding Agreement – is currently under negotiation
- Gitga'at First Nation
  - Environmental Assessment and Regulatory Process Funding Agreement – is currently under discussion.

7.7 Indigenous Project Opportunities

The Proponent currently contracts with six Nisga'a Nation entities and contractors:

- NLG – provision of field assistants to support baseline studies and their planning and local logistics
- Northern Sunrise Charters – provision of field support including vessel transportation to support baseline studies
- G'Alexcee Safety Services Inc. – provision of wildlife monitoring to support baseline field studies
- Gingolx Village Government Lodge – provision of lodging and personnel support
- Direct contracting – two Nisga'a First Nation members contract directly to the Project to provide support for baseline field studies.

The Project is in early stages of identifying other commercial contracting opportunities for the Nisga'a Nation and other regional Indigenous Nations. Additional information will be developed as part of the EA IA.

8 GOVERNMENT AND PUBLIC ENGAGEMENT

8.1 Engagement with Federal, Provincial, Municipal and Regional Governments and the United States

The Proponents have conducted various engagement activities with federal, provincial, municipal, and regional governments beginning in Q4 of 2020 and continuing through 2021 to present.

The Project has met with BC EAO and Agency several times, including weekly meetings that began August 18, 2021, to facilitate Project discussions. Meeting notes are taken at these meetings between the Proponent, Agency, and BC EAO. A summary record of the engagement with federal, provincial, regional, and municipal governments and USA agencies completed in 2021 is provided in Appendix 8. Where appropriate, results of engagement have been carried through the DPD and will influence the EA-IA.

8.1.1 Technical Advisors

With the initial meeting held September 8, 2021, TAs for the Project were identified by BC EAO and the Agency. The role of the TAs is that of technical advisors to BC EAO and Participating Indigenous Nations including technical review of Project regulatory and technical documents and studies. The TA meetings are organized by BC EAO with members from Participating Indigenous Nations, local governments, BC provincial agencies, federal authorities and, in the case of the Project, United States agencies. Current Project TAs include:

- **Indigenous Nations** – Nisga'a Lisims Government/Nisga’a Nation and the Participating Indigenous Nations: Lax Kw’alaams Band, Metlakatla First Nation, Kitsumkalum First Nation, Kitselas First Nation, Gitxaala Nation and Gitga’at First Nation
- **Regional Government** – Regional District of Kitimat-Stikine, North Coast Regional District, City of Terrace, City of Prince Rupert and District of Stewart
- **Provincial Ministries and Agencies** – Ministry of Energy, Mines and Low Carbon Innovation, BC ENV, FOR, Ministry of Indigenous Relations and Reconciliation, Ministry of Health, Northern Health Authority, Ministry of Transportation and Infrastructure, Ministry of Municipal Affairs, Ministry of Jobs, Economic Recovery and Innovation, BC EAO, and BC OGC
- **Federal Ministries and Authorities** – Crown-Indigenous Relations and Northern Affairs Canada, ECCC, Employment and Social Development Canada, DFO, Health Canada, Human Resources and Skills Development Canada, Agency, Indigenous Services Canada, Natural Resource Canada, Transport Canada, Women and Gender Equality Canada, BC Coast Pilots, Coast Guard, Pacific Pilotage Authority, and the Prince Rupert Port Authority
- **United States Agencies** – United States Environmental Protection Agency, Alaska Department of Natural Resources

At the September 8, 2021, meeting, the Proponent introduced the Project generally, including the location, potential Project interactions with biophysical and social values, provided an overview of the baseline studies underway for the Project, and introduced the Project high-level schedule.

A second TA meeting was held on November 18, 2021. Prior to the meeting, the TAs were provided with the Proponent proposed dAIR components, including a VC selection table, proposed Study Area figures and Rationale, VC and Project components and activities interactions table, and the Project Inclusion List. At the meeting, the Proponent provided an overview of Project engineering updates, a review of the Proponent proposed dAIR components including the draft VCs, Study Area figures, a high-level review of the draft Project Interaction Table, and a brief discussion of the draft Project Inclusion List. TAs were requested to provide comments on the provided information before December 3, 2021. Comments received as well as the Project response to these comments and reference to where additional information can be found in the DPD and/or Proponent proposed dAIR are provided in Appendix 9.

A TA meeting on December 15, 2021, reviewed updated Project engineering with a new conceptual Project plot plan. Agency representatives provided a presentation on the IA process. Project consultant Stantec led a discussion on key feedback received on the Proponent proposed dAIR components. The Project team closed the meeting with a presentation on aspects of marine safety relevant to the Project.

In early February 2022 the TAs were provided an opportunity to review an earlier draft of this DPD. Comments received, Proponent responses to those comments, TA comments on the responses and Proponent responses to this second round of comments are provided, in their entirety, in Appendix 11. In addition, based on the comments received, the Proponent facilitated four themed meetings to provide TAs with focused Project information relating to: Social Effects (April 8, 2022), Water (April 11, 2022), Marine (April 11, 2022) and GHG & Transmission Line (April 12, 2022). As noted in many of the Proponent responses, TA comments have been incorporated into the DPD, and influenced Project design.

A record of all comments received to date from government agencies is provided in Appendix 8. Project responses to government comments received to date for 2021 is provided in Appendix 9.

8.2 Engagement with the Public

Formal opportunities for comment and issue identification on the Project from the public and all stakeholders have been provided as follows:

- Public engagement and comment period on the IPD, which began August 10, 2021, and closed September 24, 2021. The public engagement and comment period invited feedback on the Project as it is presented in the IPD and EP and how the public would like to be engaged in the future. During the public comment period, the Project received 76 comments through the comment portals (13 via Agency's portal and 63 via the BC EAO's portal):
    - The majority of the comments received from the public were not supportive of the Project. The Project will endeavour, during the EA-IA, to provide the information and assessment to show that the Project will not result in unmitigable effects. The negative issues cited by those opposing the Project can be summarized as follows:
        a. The Project contributes to, and does not help prevent or reduce, global warming
        b. The Project will have unacceptable GHG emissions
        c. The Project will contribute to species extinction
        d. The Project will not assist in Canada meeting international climate change commitments
        e. The Project is misguided, and more investment should be made in tourism, training workers, and more sustainable industries
        f. The Project will use too much water for cooling, contributing to unacceptable water quality impacts
        g. The Project will result in more natural gas extraction and therefore more fracking
        h. The Project will have unacceptable impacts to human health and fish and wildlife habitat
        i. The Project will have high accident and malfunction risks and minimal economic benefits
        j. The Project's pipeline will facilitate upstream environmental impacts
        k. The Project's LNG is not necessary or needed
        l. The Project will negatively impact Indigenous ways of life
        m. The Project will result in increased tanker traffic on the coast
        n. The Project has the Nisga'a as a collaborator; they do not represent all Indigenous communities that may be impacted
        o. The Project will have minimal long term employment benefits
        p. The Project will have negative impacts to women and other marginalized communities due to the transient workforce residing in the construction camp and surrounding communities supporting the Project

- The positive effects cited by those supporting the Project can be summarized as follows:
    i. The Project will assist with addressing global GHG emission reduction
        a. The Project will contribute economic benefits, including increasing jobs in the region

- The BC EAO EPIC website and the Agency portal document the public comments made on the Project. They are not included in this DPD but can be provided upon request
- Two Project virtual information sessions (i.e., Open Houses) were held September 8, 2021 and September 9, 2021. At each Open House, both the BC EAO and Agency provided overviews of the legislated Project environmental and impact assessment processes. The Proponent provided a general Project overview including the Project location, potential environmental and social and economic effects and benefits. Neither Virtual Information Session was highly attended. The September 8 Open House had a total of 24 attendees and the September 9 Open House had a total of 20 attendees. Both totals are inclusive of Proponent representatives, BC EAO and Agency
- The Project has developed a website: https://www.ksilisimslng.com/. The Project website provides general Project information as well as offering the opportunity to contact Ksi Lisims LNG with specific requests or comments participants
- Printed copies of the IPD have been provided for public review in the following locations: Prince Rupert Public Library, Terrace Public Library, Member of Legislative Assembly (**MLA**) office in Prince Rupert, Member of Parliament (**MP**) office in Prince Rupert, municipal office in Prince Rupert, MLA office in Terrace, MP office in Terrace, municipal office in Terrace, municipal office in Port Edward

8.2.1 Joint Summary of Issues and Engagement (JSOIE)

On October 14, 2021, BC EAO and Agency jointly prepared the JSOIE based on comments received during the public engagement and comment period on the IPD. The JSOIE provides a summary of the issues raised during the comment period from Indigenous Nations, government agencies and the public. The preliminary understanding of Indigenous interests, impacts, and requests as well as Proponent responses to the same are presented in Sections 7.3.1 through 7.3.6 and in Appendix 7.

The JSOIE prepared by BC EAO-Agency provides 144 issues that need to be addressed by the Proponents. These issues were raised primarily by Indigenous Nations and government agencies with a small number raised by the public. Appendix 10 provides Proponent responses to all 144 issues, including cross references to locations in the DPD where additional information can be found.

8.3 Summary of Planned Engagement Activities

8.3.1 Planned Engagement with Federal, Provincial, Municipal, and Regional Governments and the United States of America

The Early Engagement phase and Planning phase began with federal and provincial government agencies in the first quarter of 2021. Engagement with targeted municipal and regional government began in the second quarter of 2021. Engagement with the USA began in the third quarter of 2021.

Federal, provincial, municipal, and regional government and USA agencies with an interest in the Project have been provided an opportunity to participate as TAs. TA meetings will continue on an appropriate basis. Some TAs may also receive an invitation to any BC EAO-led or Agency-led in-person engagement activities to provide them with an opportunity to learn more about the Project, ask questions, observe community/public interest, and provide feedback on the Project.

As appropriate, the Project team will continue to engage in conversations with the BC EAO and Agency such that the appropriate regulators and agencies have been identified and are engaged. The Proponents will continue to engage with the contacts identified by the applicable federal, provincial, municipal, and regional government agency, Alaska or the US Environmental Protection Agency and any other representatives of those governments, as identified. The Proponents will also continue to engage with municipal and regional government representatives and the provincial MLAs and MPs for the region.

The Proponent will continue to follow all applicable COVID-19 or other Health Orders in communications with these government representatives.

8.3.2 Planned Engagement with the Public

The Project will continue engagement with stakeholders and the public as required by the BC EAO and Agency as follows:

- The Project website will be maintained and updated as the Project reaches new milestones and to support the EA-IA process
- Virtual (or in-person, depending on the COVID-19 protocols) open houses, town halls or community meetings may take place during BC EAO and Agency designated public comment periods as set out in the BC EAA 2018 and the IAA 2019. The Proponents will attend these sessions to provide information about the Project and respond to questions from the public
- Digital and print ads, as well as social media will promote open houses, town halls or community meetings and direct the interested public to an online registration page on the Project's website. The Proponents will make reasonable efforts to reach the public through appropriate community events to connect with those who may be unable to attend these sessions
- Throughout all engagements on the Project, educational materials such as Project website hosted videos will be shared on social media and on the Project websites to help the public understand LNG, LNGC and NGL product carrier vessel safety and learn more about the Project

- Local knowledge and feedback received from the public through the comment period at any BC EAO-led virtual engagement activities, at community events and through the Project email address will be compiled in a Project tracking table, as well as through the BC EAO and Agency websites during the comment period. This information will be considered and may be incorporated into the EA-IA process as appropriate
- Throughout engagement, the Proponents will log all communications with the public for review and any feedback received outside of the BC EAO and Agency's public comment period
- Any feedback received directly from stakeholders by the Proponents will be tracked and, where possible, verified with the appropriate stakeholder to confirm that their concerns or issues were correctly recorded
- Input and feedback from virtual town halls, open houses or community meetings or other input received outside of these sessions will be recorded by the Proponents in an issue tracking table. The Proponents will respond to each issue, and where they have not, they will provide a rationale

The Proponents will continue to engage with stakeholders and the public during early engagement and throughout the EA-IA processes including following submission of the DPD and dAIR and through development of the EA-IA.

8.4 Engagement Approach – Gender Based Analysis Plus

The Project recognizes that certain barriers to under-represented, potentially impacted populations may limit the ability of these groups to participate in engagement activities on the Project. The Project commits to creating an open and safe environment for its engagement activities and further commits to exploring other engagement opportunities or methods such that these groups feel included and safe.

The Project will strive to adapt its engagement methods according to the priorities identified by each of the groups to be engaged, to provide each of these groups with a meaningful opportunity to participate in the EA process and provide comments on the DPD. Engagement will also be informed by the BC EAO's Human and Community Well-Being Guidelines for Assessing Social, Economic, Cultural and Health Effects in Environmental Assessments in B.C. (Version 1.0 April 2020).

The Project will incorporate engagement methods that are inclusive and that incorporate Gender-Based Analysis Plus (**GBA+**). Key Project representatives have a working understanding of GBA+ analytics and assessment methods. The Project will engage Nisga'a Nation and seek their guidance on how best to engage Nisga'a citizens and communities with the objective of identifying and engaging directly with subgroups of the Nisga'a Nation population (specifically vulnerable populations) to understand their perspectives on how Project interactions may affect them differentially and/or disproportionately.

During meetings with government agencies, the Project will seek their guidance and insights in further identifying regional vulnerable populations that may be impacted by systemic barriers to participation and will collaborate and discuss the best means to incorporate approaches in engagement that will allow the Project to seek input from these diverse groups. Key Project representatives will complete a GBA+ introductory course to learn how to incorporate these principles across all engagements with the above-noted groups.

The Project is proposing the following measures to reach under-represented potentially impacted populations throughout the EA-IA as guided by BC EAO and Agency as follows:

- The Project will identify and engage with organizations that may work with and/or represent under-represented potentially impacted populations. Examples may include organizations that provide supportive housing, shelter, and related services; organizations that represent visible minority groups; and organizations that work with or advocate for the homeless, low-income households, and other vulnerable populations. The Project will share information with these organizations, work to identify issues, interests, and concerns with respect to the Project; seek feedback on potential means of limiting adverse effects and enhancing beneficial effects on vulnerable sub-populations; and seek qualitative and quantitative information on vulnerable sub-populations.
- Any news releases may be distributed to in-language media, and in-language ads inviting the public to any BC EAO-led in-person engagement activities to help promote awareness amongst people who speak English as a second language. Furthermore, Project information will include a statement that says ‘Important information, please have translated’ in multiple languages, to encourage readers to have the information translated by someone they know in their language
- Project information materials will be both in digital and print form, allowing for people without access to a computer to learn about the Project. These Project materials will be made readily available at public locations (e.g., public libraries, local government offices) in communities, to be identified by each Indigenous Nation, local and regional governments, and stakeholder groups
- When COVID-19 Health Orders and related precautions allow for public meetings, meeting venues for public information sessions will be, to the extent possible, in accessible locations to public stakeholders and community residents

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9 PUBLIC AND ENVIRONMENTAL SAFETY

Accidents and malfunctions may occur during construction, operation, and decommissioning of the Project.

9.1 Regulatory Context

The Project could produce accidental spills of LNG, NGL products, diesel fuel and potentially other contaminating materials into the marine environment surrounding the Site and have the potential to spread and affect marine and foreshore in a broader area.

Responsibility to protect and manage marine resources is a joint effort between provincial and federal agencies and includes Transport Canada, ECCC, DFO, CCG, the Pacific Pilotage Authority, BC Coast Pilots, the Western Canada Marine Response Corporation and, potentially, the Canada Border Services Agency. The federal government has constitutional authority for shipping and navigation in Canadian waters.

The foreshore, the land between high and low tidal watermarks and submerged land is provincially administrated aquatic Crown land. In the context of this Project, the area of Portland Canal and the seabed necessary for the marine terminal will be regulated by the BC OGC under their delegated responsibilities for the BC Land Act for energy projects regulated under the Oil and Gas Activities Act. FOR or BC OGC will lease the proposed Water Lot to the NLG and subsequently lease the area necessary for the marine terminal to the Project.

Depending on the material and volume, releases may need to be reported as required by the Spill Reporting Regulation. All releases must be removed and remediated per the EMA Hazardous Waste Regulation.

Liability and requirements for releases from ships or into the marine environment are regulated under the federal *Canada Shipping Act* as well as the *Marine Liability Act* and the *Canadian Environmental Protection Act*.

Canada's ship-source oil spill preparedness and response regime is based on the "polluter pays" principle, which requires that responsibility for costs related to cleanup and pollution damage remain with the party responsible for the release. The regime sets the guidelines and regulatory structure for the preparedness and response to marine oil spills and ensures that industry is prepared for and responds to spills in Canadian waters. Transport Canada and the CCG is responsible for ensuring the cleanup of ship sourced spills of oil and other pollutants.

For spills that are identified as recoverable, the CCG takes charge and, if necessary, sets up a response structure to coordinate the cleanup if the polluter fails to do so. The CCG expects any polluter to engage and fund contractors for the management of the response. Transport Canada is currently reviewing the *Marine Liability Act* to consider compensation for non- economic losses, such as cultural losses. In terms of pollution caused by substances other than oil, under the *Marine Liability Act*, the ship owner is strictly liable for costs and expenses associated with preventive measures and response incurred to respond to any release.

Canada has ratified the 2010 Hazardous and Noxious Substances (**HNS**) Protocol that aims to ensure prompt and effective compensation for HNS incidents. Hazardous Noxious Substance refers to any substance other than oil that would have a negative impact if released, including to public health and safety, the environment and marine life, as well as impacts on local economic activity.

Marine emergency response capabilities in the Wil Milit area rely on the CCG with support from the Western Canada Marine Response Corporation as warranted, and, as available, from the NLG Enforcement and Emergency Services department. The NLG have had some CCG sponsored emergency response training including recently participating with the CCG, Transport Canada and the United States Coast Guard in a desktop spill response exercise. The NLG have a small vessel that can assist in spill response. However, this vessel is not adequate to transport all of the equipment that may be required. NLG are working with the CCG to purchase and deploy a more suitable vessel for emergency response. In addition, the NLG maintains a cache of spill response equipment in Gingolx. An overall NLG Marine Emergency Response Plan is planned but not yet started. In the event a spill was substantive, the Western Canada Marine Response Corporation would also respond as directed by CCG.

9.2 Specific FLNG Regulatory Requirements

9.2.1 Canadian Standards

Each FLNG will be designed to meet or exceed the following CSA standards:

- CSA-Z276-18 - Liquefied Natural Gas (LNG) - Production, Storage, and Handling (2022 under review)
- CSA EXP276.2-2019 - Design Requirements for Near Shoreline Floating Liquefied Natural Gas (FLNG) Facilities
- CSA EXP276.1-2015 Design Requirements for Marine Structures Associated with LNG Facilities (DRMS)

In addition, a number of other international engineering standards apply to the Project's onshore and marine infrastructure. The list will be finalized during FEED and be included in the EA-IA.

9.2.2 Classification

The FLNGs, including hull, mooring, process facilities and safety systems will be designed and constructed in compliance with the rules and standards of a Classification Society. Several Classification societies exist and include, but are not limited to, ABS, Det Norske Veritas – Germanischer Lloyd and Lloyd's Register.

The ABS Classification Society has been selected for further investigation in Pre-FEED. Final selection of a Classification Society for the Project's FLNGs will occur during FEED.

9.2.3 BC Oil and Gas Commission LNG Facility Permit

The Project requires an LNG Facility permit administered by the BC OGC. From a facility safety perspective, the permit addresses:

- FLNGs built outside BC
- Flaring, incinerating, venting and relief system design
- Design and safety studies related to siting
- Quantitative risk assessment studies
- Hazard identification studies
- Seismic, geotechnical and tsunami studies
- Quality assurance program validation

While the FEED process is underway, Hazard Planning Zones and Emergency Planning Zones, as defined in the OGAA *Emergency Planning Regulation* will be developed to inform operational safety and emergency response plans at, and within defined distances around, the Project marine terminal.

9.2.4 Technical Review Process of Marine Terminal Systems and Transshipment Sites Review

LNG transportation over Canadian waters is regulated by Transport Canada. To measure navigational risks associated with placing and operating marine terminals for large LNGCs and NGL product carriers Transport Canada requires completion of a Navigation Safety Assessment (**NSA**) as part of the EA-IA. On April 4, 2022, Transport Canada provided the Proponent with a list of studies that they are requesting be assessed as part of the EA-IA to meet the requirements of the NSA. These studies are outlined in Table 9.1.

Table 9.1 –Transport Canada Navigation Safety Assessment Studies

Survey/Study	Brief Description
Origin, Destination and Marine Traffic Volume Survey	A regional marine traffic survey quantifies and describes all identified marine traffic movement that collectively forms the regional marine traffic network. A local marine traffic survey focuses on the immediate geographical area of the proposed marine terminal.
Route Analysis, Approach Characteristics and Navigability Survey	A route analysis, approach characteristics and navigability survey assesses ship and route safety and considers design ship characteristics, physical characteristics and prevailing atmospheric factors of the approach route to the terminal.
Casualty Data Survey	A probability analysis of the relative vulnerability of the design ship, the marine environment, and local communities to a breach of the ship's hull.
Ship Specifications	A study that documents a representative sample of the range of LNG and NGL product carriers expected in order to demonstrate that the navigability assessment and terminal design are appropriate for the intended vessels.
Site Plans and Technical Data	A technical summary of the engineering design information relating to the proposed marine terminal together with relevant background data, design criteria, environmental and other site considerations.

Table 9.1 –Transport Canada Navigation Safety Assessment Studies

Survey/Study	Brief Description
Cargo Transfer and Transshipment Systems	If an automated stability calculation and cargo transfer control system is part of the design ship, then an abstract of the system's capability and limitations will be included in the proponent's submission as well as the relevant details of the design ship's stability characteristics and the approval Authority.
Channel Maneuvering and Anchorage Elements	A survey and analysis of the suitability of waterways, terminal areas and anchorages for the design ships and identifies any areas of concern where navigation of LNG and NGL product carriers will require particular attention.
Berth Procedures and Provisions	A survey that documents the defined range of environmental conditions under which docking maneuvers would be conducted by Project LNG and NGL product carriers.
General Risk Analysis and Intended Methods of Reducing Risks	A risk assessment to examine the probability of credible accident scenarios occurring, the likelihood of those events resulting in a release of LNG or NGL, and the consequences of such a release. It considers dispersion of released LNG or NGL along the sailing route, at the berth and from loading equipment. Amelioration or mitigation of perceived risks will be considered including safe navigational and operational systems and use of optimal tug assistance.
Port Information Book	The Port Information Book provides the ship's personnel and other interested parties with all the relevant details pertaining to the specific route to, and about, the marine terminal system or transshipment site. Items to be covered must meet industry standard for this type of document.
Terminal Operations Manual	The Terminal / Transshipment Site Operations Manual informs and guides the crews of ships calling at the proponent's terminal or transshipment site of important subject matters which affect the safety of the ship, the terminal or transshipment site itself, and the efficiency of the ship's cargo transfer operations.
Contingency Planning	A contingency plan identifies potential emergency response scenarios that could be faced by: Construction vessels during construction of the marine terminal LNG or NGL product carrier while enroute to / from the terminal LNG or NGL product carrier while loading at the terminal The plan will be designed to collate with Coast Guard and Marine Safety Emergency Operations procedures to ensure an integrated response if and when required.
Hazardous and Noxious Liquid Substances	A summary review considers how the facilities will integrate existing regulatory chemical response regimes into their emergency planning. This includes a summary of applicable portions of the HNS by Sea Convention and chemical response regimes at the national, provincial, and municipal level.

9.2.5 Early Engagement Comments on Projects Potential Accidents and Malfunctions

A number of Indigenous Nations and federal and provincial TAs commented on potential accidents and malfunctions in the Early Engagement Phase. Table 9.2 provides the TA comments as well as the Project response to these comments.

Table 9.2 – Technical Advisor Comments to date on Accidents and Malfunctions and Proponent's Response Including Potential Mitigation

Issue Raised by TAs	Project Response and Potential Preliminary Mitigation
Canadian Coast Guard	
The proponent proposes to move the permanent operational workforce to and from the terminal site via water taxi. The numbers and frequency of personnel changes are of concern given the distance and availability of Search and Rescue **(SAR)** resources as well as the lack of reliable VHF coverage with Prince Rupert Marine Communications and Traffic Services **(MCTS)**.	The Proponent has had success moving workers from Gingolx small craft harbour to Wil Milit and using vessels based in Prince Rupert to deploy equipment and workers in the Wil Milit area, Portland Canal and Portland Inlet. Worker transportation to Wil Milit will be further addressed in FEED and in a Project Navigation Safety Assessment (Section 9.3.2).
The proponent has estimated between 140 and 160 LNGCs would call at the terminal per year and be assisted by three or more tugboats for berthing and un-berthing. This could equate to three transits a week to/from the berth which greatly increases local shipping executing complex maneuvers in an area of unreliable/partial VHF, AIS, and radar coverage posing heightened risk for mariners and workers.	LNGCs and NGL product carriers will be piloted into the Project marine terminal with tug escorts. The Project operates a land-based weather station and will consider retaining the ability to collect and communicate meteorological information by satellite in real time. Aids to Navigation and improved telecommunications (e.g., a communications tower plus fibre optic connection to the mainland along the subsea pipeline and powerline) are also under consideration in the design of the Project.
The proponent states that "exclusion zones" will be developed for extra safety around the terminal while the FEED process is underway. Who will be responsible for monitoring these zones and enforcing them? MCTS has no sensors in the area nor the available manpower or legal authority to assist with enforcement of these zones, nor is it within its mandate.	The BC OGC Emergency Planning Regulation will apply to the marine terminal and planning zones will be established to inform facility Emergency Response Plans required by the BC OGC. The Project marine terminal manager will have the authority to resource protection of the facility, marine terminal, and the safety of Project workers and to prevent trespass into the Project's marine terminal Water Lot lease.
Although explosion and fire accidents are a low-probability high-consequence event, response time and resource availability are of specific concern and further complicated by the lack of reliable and complete VHF/AIS, RADAR/MCTS capabilities/coverage and the MCTS staff necessary to monitor the vessel traffic.	The Proponent understands the Wil Milit area's lack of VHF communications and limitations in radar coverage (see Figure 9.1) These two critical marine safety variables will be addressed in a Project Navigation Safety Assessment. See Section 9.2.4

Table 9.2 – Technical Advisor Comments to date on Accidents and Malfunctions and Proponent's Response Including Potential Mitigation

Issue Raised by TAs	Project Response and Potential Preliminary Mitigation
The proponent should be aware of risks of shore-based accident or injury requiring aeronautical or maritime evacuation of casualties and delays due to SAR resource distances and availability.	The Proponent has experience responding adequately to safety incidents at the Site. A marine evacuation from Site back to Gingolx had to occur due to an incident requiring first aid. A permanent helipad is in the Project design and trips from Terrace to Wil Milit to date have taken approximately 30 minutes one way. For some incidents this method of evacuating personnel from the Project to hospital care will be adequate. A functional and well equipped First Aid station staffed with appropriate personnel is planned for the facility.
The proponent describes the main mishap scenarios related to the shipping of LNG as a grounding or vessel allision with the terminal and collision of an LNGC with another vessel. The proponent should be aware of the following safety considerations (gaps/risks): ▪ Should an incident take place in one of the more remote areas along the proposed route, there could be a delay in getting information relayed to the required agencies to provide the appropriate level of assistance. The proposed terminal location is outside the Coast Guard VHF coverage area; this could pose possible constraints in communicating with vessels along the entire route. ▪ Prevention/mitigation of marine incidents could also be impacted due to the possible inability to monitor the complete voyage of a vessel because it provides navigational information derived from sensors such as AIS and radar. ▪ Proximity and response time from the proposed Project location and designated traffic routes to appropriate resources. Risks of a humanitarian or shore-based incident requiring marine response due to the location and structure type of the proposed project, and the effects of a potential response on the marine SAR coverage for other incidents in the area.	The Proponent appreciates the points raised and believe they will be addressed in the Project's Navigation Safety Assessment (see Section 9.2.4)

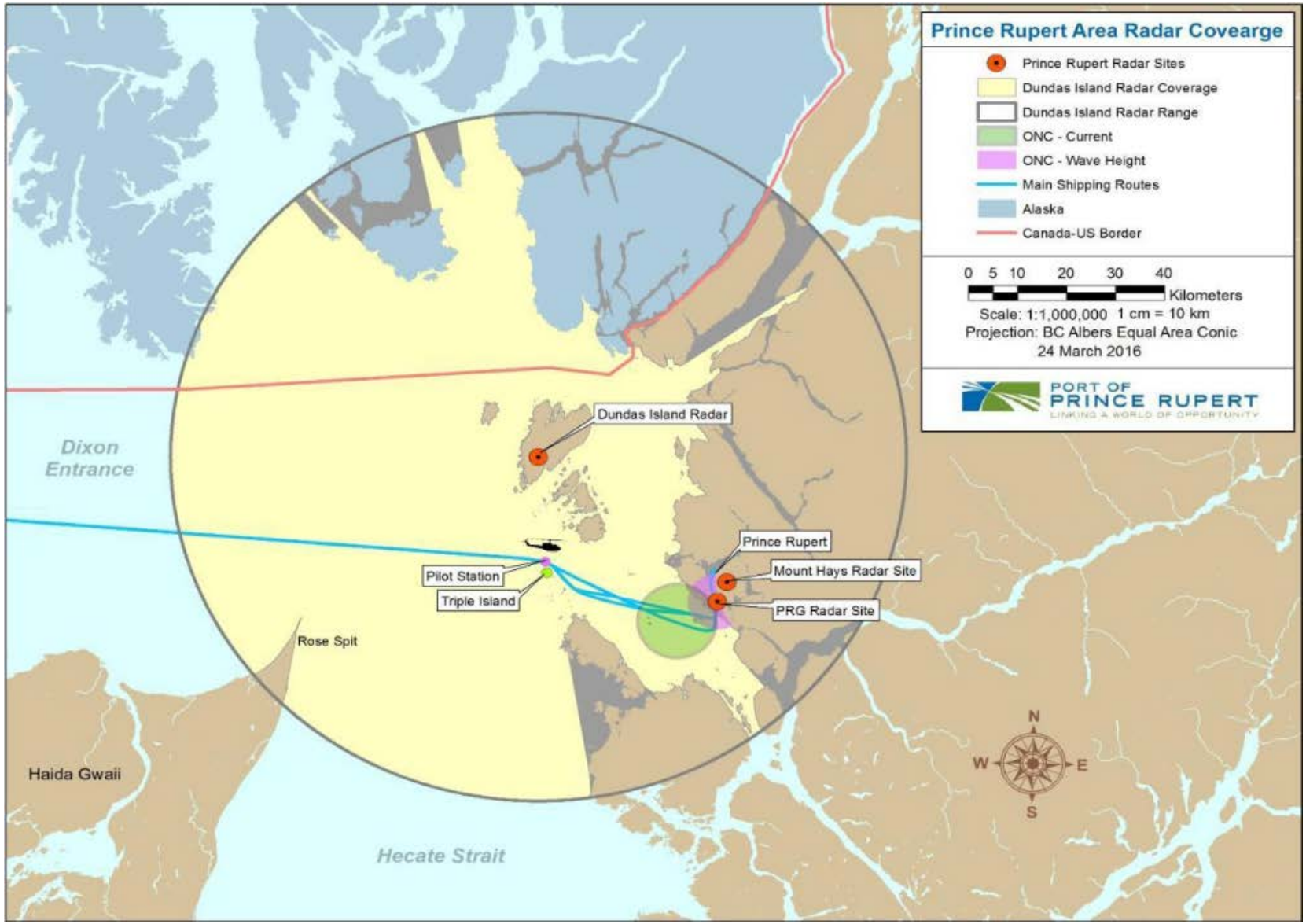
Table 9.2 – Technical Advisor Comments to date on Accidents and Malfunctions and Proponent's Response Including Potential Mitigation

Issue Raised by TAs	Project Response and Potential Preliminary Mitigation
The proponent advises that project engineering will incorporate accident and spill prevention design mitigation measures. The proponent should be aware of the following: ▪ Prince Rupert MCTS capability to support collision prevention and navigation safety aids in the proposed area is limited due to VHF and sensor coverage constraints. The proposed facility currently falls outside of a prescribed Vessel Traffic Services (**VTS**) zone and, therefore, CCG has no regulatory power within a portion of the proposed route. ▪ The proponent has described its Emergency Response Plan and relationships with key partner organizations, but it is unclear whether this is limited to the terminal facility. Although marine shipping is incidental to the project, the proponent should elaborate on existing emergency response mechanisms and arrangements with Response Organizations within the spatial extent of marine shipping associated with the project. ▪ Further, it is recommended that the proponent describe the role it would play in the event of a spill, collision, grounding or other accident or malfunction, at or adjacent to the marine shipping area, their reporting requirements and how they intend to meet them, including any emergency spill response training and exercise regimes. ▪ The proponent identified winter storms in the area of the proposed project can cause extreme sea conditions. Increased vessel traffic in an area with limited/partial radio coverage and tracking capabilities with year-round operations that include helicopter pilot transfers and water taxi staff changes are concerns given SAR response unit transit time and proximity.	The Proponent will prepare an Emergency Response Plan for the entire facility, including the marine terminal, as required under the *Emergency Planning Regulation* under the OGAA and the BC OGC LNG Facility permit. With respect to assisting with emergency response related to the various vessels that will call upon the Project's marine terminal or incidental marine traffic nearby in Portland Canal or Portland Inlet, the Proponent will participate in emergency planning exercises and bring new marine safety and emergency response resources into the Portland Canal region including: ▪ Improved regional communications with subsea fibre optic link to the BC mainland and a communications tower ▪ Improved storage capabilities for regional Emergency Response Supplies ▪ ATONs ▪ A fully equipped First Aid station ▪ Reliable connection to the BC Hydro grid ▪ Emergency planning, emergency response training and exercises related to the facility in collaboration with regional emergency response exercises led by others ▪ Tugboats at a location close to the marine terminal ▪ A helipad ▪ LNGC and NGL product carrier safety requirements ▪ Support for NLG emergency response programs
Lax Kw'alaams	
Impacts of marine shipping, accidents, and malfunctions on water quality, fish, shellfish, marine mammals, aquatic plants, wildlife, birds, Lax Kw'alaams culture and heritage sites, the physical and mental health of Lax Kw'alaams people, Lax Kw'alaams lands, safety in Lax Kw'alaams waters and Lax Kw'alaams economic interests	Addressed in the mitigation identified for the Canada Coast Guard issues

Table 9.2 – Technical Advisor Comments to date on Accidents and Malfunctions and Proponent's Response Including Potential Mitigation

Issue Raised by TAs	Project Response and Potential Preliminary Mitigation
Metlakatla	
Impacts to mental health, wellbeing, and the real and perceived safety of traditional resources should an accident or malfunction occur	Addressed in the mitigation identified for the Canada Coast Guard issues
Gitxaala	
Plans for effluent, liquid, or hazardous discharges into the marine environment	Addressed in the mitigation identified for the Canada Coast Guard issues
Kitsumkalum	
Impacts of changes to transportation, including land transportation, and associated accidents and malfunctions in Kitsumkalum territory	Addressed in the mitigation identified for the Canada Coast Guard issues

Figure 9.1 – Radar Coverage for the Site



9.3 General Project Safety and Security Measures

Safety is a key consideration for the Project. Each FLNG will incorporate accident and malfunction prevention and protection measures including, but not limited to emergency response plans, scheduled safety drills, safe operating policies and procedures, evacuation infrastructure and associated safety equipment such as detection alarms, fire water pumps, hydrants, and fire-extinguishing apparatus.

An instrument system is incorporated into the FLNGs to manage the safety, shutdown, and gas depressurization processes for the Site. The system will include separate components for each FLNG and will include a combination of manual and automatic shutdown processes. Based on current design, each FLNG will be equipped with a flare for the safe disposal of gas during emergency situations, LNG facility upsets or in preparation for maintenance activities. In addition, Emergency Planning Zones and Hazard Planning Zones will be developed for safety around the Project marine terminal.

Additional Project safety considerations include:

- Protection of workers through the design and application of health, safety, and security plans for the construction of the upland and marine infrastructure necessary to support the Project
- Protection of workers aboard FLNGs through the design and incorporation of appropriate worker safety systems
- Quantitative risk assessments, hazard identification, hazard and operability studies and other safety studies that inform the EAC application for the BC OGC LNG facility permit
- Human health assessments as part of the EA-IA
- Emergency response plans, equipment and trained personnel for LNG facility construction and operations in the event there are accidents and malfunctions at the Site
- In the event that country food harvesting will continue in marine areas within the zone of influence of the marine infrastructure, baseline sampling of the country foods (e.g., crabs, shellfish, etc.) would be undertaken and an ongoing monitoring plan implemented when the LNG facility is operating

9.4 Accidents and Malfunction Scenarios

The Project anticipates accident and malfunction scenarios similar to those described below. The Project will continue engaging with Indigenous Nations, governments, and the public to assist these parties with understanding the potential accidents and malfunctions that could be related to the Project. During the early engagement phase a number of potential activities which could lead to an accident or malfunction were identified, these are summarized in Section 9.2.5.

Sections 9.4.1 through 9.4.7 present a brief overview of credible, if unlikely, accident and malfunction scenarios identified as relevant to the Project. Detailed assessment for these scenarios will be completed as part of the EA-IA and/or the Navigation Safety Assessment. For any of the scenarios outlined below,

and in the event of an actual emergency, the Project would rapidly activate emergency response procedures with the objectives, in order, of:

- Protecting and saving people
- Protecting the environment
- Maintaining the long-term operability of assets and reputation

9.4.1 Emergency Flaring and LNG Facility Shutdown

Emergency flaring involves routing the hydrocarbons to one or more flare stacks and is used to prevent the accumulation of gases that could pose a hazard to humans or the environment. This could occur as a result of a fire, loss of containment, gas leak, pressure safety valve release or emergency shutdown.

The location of flare stacks will be determined in FEED. The likelihood of a worst-case scenario is very low and unlikely to occur during the lifetime of the Project.

9.4.2 Explosion and Fire

Major accidents at LNG export facilities are historically very rare. LNG is not explosive except in poorly ventilated, confined conditions when natural gas vapours are present within the range of flammability and exposed to an ignition source. The worst-case scenario is a vapour cloud explosion or fire that would result in human deaths outside the facility.

The risk of this scenario is expected to be very low but will be modelled and estimated as part of Project risk assessment processes.

9.4.3 Fuel or Hazardous Material Spill

Hazardous materials such as motor fuel, hydraulic fluid, spent solvents, hydrocarbon-contaminated wastewater and mercury would be used or generated on-Site. A fuel or hazardous material spill would likely be contained within the Site, but a large spill could result in environmental effects on the surrounding area.

In the unlikely event that a fuel spill is not retained within the facility's marine infrastructure area, or in the event of a release of fuel or oily bilge water directly from a vessel, effects on marine organisms living on the water surface and in the water column from liquid hydrocarbon product would likely be localized. The risk of a large spill, resulting in environmental effects on the surrounding area is expected to be low; however, a full assessment for this scenario will be completed as part of the EA-IA.

9.4.4 LNG or NGL Spill

LNG or NGL could be spilled from leaks in the FLNGs or NGL product carriers, during transfer to an LNGC or NGL product carrier along the loading line or at the loading arm that connects to the berthed vessels. A worst-case scenario event is the full rupture of the supply loading line at the marine terminal. This type of an event is very unlikely and was estimated by the Pacific NorthWest LNG Project that the probability of occurrence is 7.6 times in 10 million years (CEAA 2016). Based on this, the risk of an LNG or NGL Spill is expected to be very low; however, a full assessment will be completed as part of the EA-IA for the Project.

9.4.5 Marine Vessel Grounding, Collision or Allision

Three main scenarios related to the shipping of LNG or NGL in BC coastal waters are considered:

1. grounding or vessel allision with the marine terminal
2. collision of an LNG or NGL product carrier with another vessel
3. collision of a Project supply or personnel vessel

Allision of an LNG or NGL product carrier with the marine terminal is a very low risk worst-case scenario because vessels near the terminal would be moving slowly and would be under the control of tugs and experienced BC Coast Pilots. In the event of a side-on impact with the dock structure, it is unlikely that the allision would have sufficient energy to result in a failure of the LNGC or NGL product carrier containment tanks. An allision between a non-Project vessel and the berth structures or marine terminal berths' loading platform has the potential to result in the rupture of the LNG pipeline.

The worst-case highly unlikely vessel collision scenario would involve the side-on hit of an LNGC or NGL product carrier by another large vessel of sufficient mass (e.g., bulk carrier) anywhere along the shipping route. All large vessels are piloted by BC Coast Pilots with experience navigating vessels from the Triple Island Pilot Station up Portland Inlet and Portland Canal and or Prince Rupert harbour.

The risk of these scenarios occurring is very low, but the scenarios will be modelled and risk estimated during Project risk assessment processes.

9.4.6 Motor Vehicle Collisions on Highway 113

The major road transportation route from Terrace to the mainland community of Gingolx is Highway 113. It is anticipated that Terrace may be a significant supply centre for the Project and that workers, supplies and equipment could be transported on Highway 113, increasing traffic and potentially leading to motor vehicle accidents at a frequency higher than what occurs at present.

An assessment (e.g., a Transportation Study) of potential increases in motor vehicle traffic on Highway 113 will be discussed with NLG, Kitsumkalum, Kitselas, BC Ministry of Transportation and Infrastructure and other interested parties to determine the potential for accidents and what mitigations may be needed. The risk of an increase in motor vehicle collisions due to a Project-related increase in vehicle traffic is expected to be low; however, a risk assessment will be completed as part of the EA-IA.

9.4.7 Preliminary Identified Accident and Malfunction Mitigation Measures

Project engineering will incorporate design measures to reduce the risk of accidents and malfunctions from occurring. The Project will identify, assess and, where appropriate, incorporate a suite of accident and spill prevention design measures, such as:

- Meeting or exceeding required engineering standards and regulations (e.g., OGAA Emergency Management Regulation)
- Conducting all necessary studies to inform the BC OGC LNG facility permit
- Implementing engineering controls in Project design such as, but not limited to:
  - Emergency detection and shut-down systems
  - Spill containment barriers
  - Fire prevention and protection measures
  - Evacuation infrastructure and plans
- Development and implementation, including ongoing updates, of a facility Emergency Response Plan
- Develop a Safety Management Plan for facility operations and maintenance
- Fully considering Project-relevant Transport Canada Navigation Safety Assessment Committee recommendations from previous applicable Navigation Safety Assessment s or a Project-specific Navigation Safety Assessment that are within the care and control of the Proponent
- Conducting a Project-specific Navigation Safety Assessment in collaboration with NLG, area Indigenous Nations and other government agencies as indicated in Section 9.2.4

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10 EFFECTS OF THE ENVIRONMENT ON THE PROJECT

10.1 Effects of Climate Change on the Project

Climate change is the term applied to a global change in average annual weather trends over a long period of time due to a recent increase in worldwide surface temperatures (Cui et al. 2021). There are a variety of factors that cause climate change, but the primary drivers include anthropogenic emissions of methane and carbon dioxide into the atmosphere (Hayhoe et al. 2017). Even if these emissions were reduced in an extreme and immediate way, the emissions that are already in the atmosphere would continue to cause an increase in surface temperature, continuing the effects of climate change (IPCC 2013). Therefore, climate change is considered as an environmental factor that will affect the Project.

The Project is aware of BC's work to better understand and prioritize climate-related risks in BC looking forward to the year 2050. BC has developed a strategic climate risk assessment framework to provide a replicable and scalable approach for climate risk assessment at a provincial scale as documented in:

- Strategic Climate Risk Assessment Framework for British Columbia – Developed in progress toward a Strategic Climate Risk Assessment for British Columbia, July 2019 (BC ENV 2019a)
- Preliminary Strategic Climate Risk Assessment for British Columbia, July 2019 (BC ENV 2019b)
- Preliminary Strategic Climate Risk Assessment for British Columbia – Summary of Results, July 2019 (BC ENV 2019c)

The framework follows the risk assessment processes consistent with ISO 31000 Standard for Risk Management. The framework is flexible and scalable and allows the application of probability and consequence assessment for risks to the Project from climate change in a consistent and defensible manner (BC ENV 2019c).

The Project is located on an isolated island (more than 15 km from the closest community) with a high average annual precipitation (e.g., 2474 mm mean annual precipitation at the Green Island ECCC climate normal data collection site [Section 3.1.1]). The strategic climate risk assessment and framework identify four of the potential BC climate related risks relevant to the Project:

- Increases in extreme precipitation
- Coastal storms and storm surge
- Change in wind patterns and speed
- Sea level rise

Each of these potential risks will be considered for assessment in the EA-IA through assessments of likelihood and consequence of the changes or effects to relevant VCs.

10.2 Extreme Weather

Severe weather events include extreme temperatures, precipitation, and flooding, and associated high wind and waves. As the Earth's surface temperature is expected to increase due to climate change, the higher extremes could be experienced during the lifespan of the Project. Extreme low temperature events are also possible. Elevated temperatures could impact the Project by creating higher energy demand for cooling or making working conditions unsafe due to heat-induced illnesses. Colder temperatures could impact the Project by causing increased ice loads on the marine infrastructure that necessitates additional structural support or by increasing the risk of travel to the Site during construction or operation. Heavy precipitation or flood events can come in the form of rain or snow and could impact the Project by causing damage to infrastructure through erosion during storm events, or from heavy weight snow or rain-on-snow events. Heavy precipitation could also potentially cause unsafe working conditions. High winds and large waves could impact the Project by damaging marine infrastructure (e.g., mooring systems), creating unsafe conditions on the FLNG facility, or through erosion of the shoreline fronting the Site.

The Project EA-IA will include a full assessment of the potential effects of extreme weather on the Project.

10.3 Seismic Events and Tsunamis

The Pacific Coast is the most seismically active area of Canada due to the to the presence of active faults (or breaks) in the earth's crust (NRCAN 2021). Depending on the magnitude of the event and distance to the Site, a seismic event is most likely to impact the Project through shaking and vibration, which could affect the structural integrity of both the marine and terrestrial infrastructure. Although highly unlikely, a seismic event of enough magnitude could potentially damage infrastructure to the point of causing a release of LNG or other hazardous materials into the surrounding environment. In addition, the potential will be assessed whether a seismic event could lead to a local, landslide-induced tsunami and associated flooding event within low-lying lands in proximity to the Site. Tsunamis are long, surface gravity waves caused by either a seismic event or a slope failure.

Tsunami and Seismic Risk Assessments are required for the Project and will be completed during FEED. These assessments are also required by the BC OGC as part of the LNG Facility permit application.

10.4 Geologic Hazards

Geologic hazards are terrain-related risks to infrastructure such as landslides, debris flows, rockfalls, avalanches, and erosion. The geotechnical stability of the Site will be documented during geophysical and geotechnical investigations that will occur during Project design and if deemed a potential environmental concern to the Project, will be included in the effects of the environment assessment in the EA-IA.

10.5 Forest Fires

There is the potential for a forest fire to interrupt construction/decommissioning or operation of the Project. The extent of the effects of fire on the Project depends greatly on the location and size of the event. Northern Pearse Island is forested with a mix of old growth and second growth trees interspersed with boggy wetlands. Forest-fire hazards to the Project are currently believed to be low due to a wet climate; however, the EA-IA will assess the potential for the effects of forest fires on the Project.

10.6 Preliminary Mitigation for Effects of the Environment on the Project

The Project has identified the following potential mitigation to avoid or mitigation potential effects of the environment:

- Facility design for the Project in accordance with all applicable standards and regulations, e.g., CSA Z276 (LNG production, storage, and handling), CSA EXP276.2 (design requirements for near shoreline FLNG facilities), CSA Z246.2 (emergency preparedness and response for petroleum and natural gas industry systems), etc.
- The FLNG facility will be able to adjust to changing water levels including due to sea level rise and storms surges
- Limits of LNGC berthing operation will be established and based on specific weather conditions
- Development and implementation of emergency management program that will be amended as required by CSA and regulatory requirements

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11 REFERENCES

The following documents comprise an initial list of materials that have informed the development of the IPD and EP and also inform the DPD and will inform the EA-IA of the Project.

Advisian. 2016. FLNG Offshore and Nearshore.

Banner, A., W. MacKenzie, S. Haeussler, S. Thompson, J. Pojar, and R. Trowbridge. 1993. A Field Guide to Site Identification and Interpretation for the Prince Rupert Forest Region. Land Management Handbook No. 26. British Columbia Ministry of Forests, Victoria, BC.

British Columbia Environmental Assessment Office (BC EAO). 2019. Early Engagement Policy, Version 1.0.

British Columbia Conservation Data Centre. 2021. BC Species & Ecosystems Explorer. Accessed: November 2021. Accessed at: https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/species-and-ecosystems-explorer

British Columbia Ministry of Environment and Climate Change Strategy (BC ENV). 2015. Air Emissions Impact Assessment for Liquefied Natural Gas Export Terminal Facilities: Guidance for Acidification and Eutrophication of Aquatic Ecosystems.

BC ENV. 2019a. Strategic Climate Risk Assessment Framework for British Columbia.

BC ENV. 2019b. Preliminary Strategic Climate Risk Assessment for British Columbia.

BC ENV. 2019c. Preliminary Strategic Climate Risk Assessment for British Columbia – Summary of Results.

BC ENV. 2021a. British Columbia Ambient Air Quality Objectives. ENV Environmental Standards Branch. October 2021. Available at: https://www2.gov.bc.ca/assets/gov/environment/air-land-water/air/reports-pub/prov_air_qual_objectives_fact_sheet.pdf Accessed: April 2022.

BC ENV. 2021b. 1998-2020 Ambient AQ data from ENV. Data summaries as developed by Julia Qi and provided in Excel format by the ENV in June 2021.

BC Oil and Gas Commission (BC OGC). 2021a. British Columbia Noise Control and Best Practices Guideline. Version: 2.2.

BC OGC. 2021b. Flaring and Venting Reduction Guideline V.5.2.

Canadian Environmental Assessment Agency (CEAA). 2016. Pacific NorthWest LNG Project. Environmental Assessment Report. Accessed at: https://www.iaac-aeic.gc.ca/050/documents/p80032/115668E.pdf.

CIRNAC 2017b. First Nation Detail Nisga'a Village of Gingolx. Accessed on: April 2022. Accessed at: https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNMain.aspx?BAND_NUMBER=671&lang=eng. Accessed.

CIRNAC 2019. Community Well-being Index. CSV File – 2016 (in English). Accessed on: April 2022. Accessed at: https://open.canada.ca/data/en/dataset/56578f58- a775-44ea-9cc5-9bf7c78410e6.

City of Prince Rupert and Carlyle Shepherd & Co. 2021. City of Prince Rupert Audited Financial Statements – December 31, 2020 [Carlyle Shepherd & Co. Independent Auditors Report]. Accessed on: April 2022. Accessed at: https://princerupert.ca/sites/default/files/finance/budget/2020%20Annual%20Report%20-%20final.pdf.

City of Terrace and Carlyle Shepherd & Co. 2021. City of Terrace Consolidated Financial Statements – December 31, 2020 [Carlyle Shepherd & Co. Independent Auditors Report]. Accessed on: April 2022. Accessed at: https://terrace.civicweb.net/document/10480.

Canadian Mortgage and Housing Corporation (CMHC). 2018. About Affordable Housing in Canada. What is Affordable Housing? Accessed on: April 2022. Accessed at: https://www.cmhc-schl.gc.ca/en/developing-andrenovating/develop-new-affordable-housing/programs-and-information/about-affordable-housingin-canada.

Conference Board of Canada. 2020. A Rising Tide: The Economic Impact of B.C.'s Liquefied Natural Gas Industry.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) 2017a. List of First Nations. Accessed on: April 2022. Accessed at: https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNListGrid.aspx?lang=eng..

Cui, D., S. Liang, and D. Wang. 2021. Observed and projected changes in global climate zones based on Köppen climate classification. *WIREs Climate Change 12*(3), e701. Doi: 10.1002/wcc.701.

Environment and Climate Change Canada (ECCC). 2017. Guidelines for the Reduction of Nitrogen Oxide Emissions from Natural Gas–fueled Stationary Combustion Turbines.

ECCC. 2020a. Greenhouse Gas Qualification Requirements.

ECCC. 2020b. Strategic Assessment of Climate Change.

ECCC. 2021a. Draft Technical Guide Related to the Strategic Assessment of Climate Change: Guidance on quantification of net GHG emissions, impact on carbon sinks, mitigation measures, net-zero plan and upstream GHG assessment. August 2021.

Fisheries and Ocean Canada (DFO). 2019a. *Fish and Fish Habitat Protection Policy Statement.*

Fisheries and Ocean Canada (DFO). 2019b. *Policy for Applying Measures to Offset Adverse Effects on Fish and Fish Habitat.*

First Nations Climate Initiative (FNCI). Policy Discussion Framework. June 2020.

First Nations Climate Initiative. 2022. First Nations Climate Initiative. Accessed January 2022. Available at: https://www.fncionline.com

FLNRORD. 2021. Northwest Water Tool. Accessed: November 2021. Accessed at: https://nwwt.bcwatertool.ca/

Freeze, R.A. and J.A. Cherry. 1979. *Groundwater*. Prentice-Hall Inc., Englewood Cliffs, United States.

Government of British Columbia (GoBC). 1996. *Wildlife Act*.

GoBc. 1998. Archaeological Impact Assessment Guidelines. Archaeology Branch. Victoria, BC.

GoBC. 2007. *Climate Change Accountability Act* (formerly Greenhouse Gas Reduction Targets Act).

GoBC. 2012. *Greenhouse Gas Reduction Targets Act*.

GoBC. 2014. *Greenhouse Gas Industrial Reporting and Control Act*.

GoBC. 2016. Best Practices for Prevention of Saltwater Intrusion. Accessed at https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/water-wells/saltwaterintrusion_factsheet_flnro_web.pdf.

GoBC. 2018a. CleanBC. Our Nature. Our Power. Our Future.

GoBC. 2018b. BC *Environmental Assessment Act* (BC EAA).

GoBC. 2019. Reviewable Projects Regulation.

GoBC. 2021a. Climate Reporting: Sectoral emission targets.

GoBC. 2021b. Electricity emission intensity factors for grid-connected entities. Accessed: April 2022. Accessed at: https://www2.gov.bc.ca/gov/content/environment/climate-change/industry/reporting/quantify/electricity

GoBC. 2021c. First Nation Negotiations. Accessed: December 2021. Accessed at: https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations

GoBC. 2021d. Habitat Wizard. Accessed: November 2021. Accessed at: https://maps.gov.bc.ca/ess/hm/habwiz/

GoBC. 2021e. iMapBC. Accessed: October 2021. Accessed at: https://www2.gov.bc.ca/gov/content/data/geographic-data-services/web-based-mapping/imapbc

Government of Canada (**GoCN**). 1985. *Fisheries Act* R.S.C., 1985.

GoCN. 1994. *Migratory Birds Convention Act* [S.C. 1994, c. 22]. Environment Canada. Ottawa, ON.

GoCN. 1999. *Canadian Environmental Protection Act*.

GoCN. 2001. *Canada Shipping Act*.

GoCN. 2019. *Physical Activities Regulations*.

GoCN. 2019. *Impact Assessment Act* [S.C. 2019, c. 28, s. 1].

GoCN. 2020. Strategic Assessment of Climate Change. Cat. No.: En14-417/2020E-PDF.

GoCN. 2021a. *Canadian Net-Zero Emissions Accountability Act*.

Government of Canada and Government of the United States. 1991. Canada-United States Air Quality Agreement. https://ijc.org/en/mission/air-quality-agreement

Hayhoe, K., J. Edmonds, R.E. Kopp, A.N. LeGrande, B.M. Sanderson, M.F. Wehner, and D.J. Wuebbles. 2017. Climate models, scenarios, and projections. *Climate Science Special Report: Fourth National Climate Assessment, Volume I* [Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 133-160. Doi: 10.7930/J0WH2N54

ICF Consulting. 2009. Current Methodologies in Preparing Mobile Source Port-Related Emission Inventories. Prepared for U.S. Environmental Protection Agency.

Agency. 2019. Annex II – Contents of a Detailed Project Description.

Agency and BC EAO. 2021. Joint Summary of Issues and Engagement for the Ksi Lisims LNG – Natural Gas Liquefaction and Marine Terminal Project. Available here: https://www.projects.eao.gov.bc.ca/api/document/6168b7d2cba0790022cf2b2a/fetch/Joint%20Summary%20of%20Issues%20and%20Engagement%20-%20Ksi%20Lisims-FINAL.pdf

Indigenous and Northern Affairs Canada (INAC). 2021a. First Nation Detail: Lax Kw'alaams Band. Available at: https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNReserves.aspx?BAND_NUMBER=674&lang=eng. Accessed: November 2021.

INAC. 2021b. First Nation Detail: Metlakatla First Nation. Available at: https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNReserves.aspx?BAND_NUMBER=673&lang=eng. Accessed: November 2021.

INAC. 2021c. First Nation Detail: Kitsumkalum First Nation. Available at: https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNMain.aspx?BAND_NUMBER=681&lang=eng. Accessed: November 2021.

INAC. 2021d. First Nation Profiles: Kitselas First Nation. Available at: https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNMain.aspx?BAND_NUMBER=680&lang=eng. Accessed: November 2021.

INAC. 2021e. First Nations Profiles: Gitxaała Nation. Available at: https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNMain.aspx?BAND_NUMBER=672&lang=eng. Accessed November 2021.

INAC. 2021f. First Nations Profiles: Gitga'at First Nation. Available at: https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNMain.aspx?BAND_NUMBER=675&lang=eng. Accessed November 2021.

Intergovernmental Panel on Climate Change (IPCC). 2006. IPCC Guidelines for National Greenhouse Gas Inventories. Prepared by the National Greenhouse Gas Inventories Program. Eggelston, H.S., L. Buendia, K. Miwa, T. Ngara and K. Tanabe (eds.). Institute for Global Environmental Strategies, Hayama, Japan.

IPCC. 2013. Climate Change 2013: The Physical Science Basis. *Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp.

IPCC. 2021. Global Warming Potentials (IPCC Fourth Assessment Report). Accessed: December 2021. Accessed at: https://unfccc.int/process-and-meetings/transparency-and-reporting/greenhouse-gas-data/frequently-asked-questions/global-warming-potentials-ipcc-fourth-assessment-report

MacKenzie, W.H. and J.R. Moran. 2004. Wetlands of British Columbia: A Guide to Identification. BC Ministry of Forests Resource Branch, Victoria, B.C.

McCuaig, S. 2003. Surficial Geology, Kitsault Valley, British Columbia; Geological Survey of Canada, Open File 3901, Scale 1:100,000

MacIntyre, D.G., Ash, C. and Britton, J., 1994. Nass-Skeena (93/E, L M: 94/D; 103/G, H, I, J, P; 104/A,B). British Columbia Ministry of Energy, Mines, and Petroleum Resources. British Columbia Geological Survey Open File 1994-14

Natural Resources Canada (NRCAN). 2021. *Seismic Zones in Western Canada*. https://earthquakescanada.nrcan.gc.ca/zones/westcan-en.php. Accessed November 2021.

Nisg̱a'a Lisims Government (NLG). 1999. Nisg̱a'a Final Agreement, 1999.

NLG. 2002. A Land Use Plan for Nisga'a Lands.

NLG. 2014. *New Available LNG Sites on Canada's West Coast*.

NLG. 2018. Environmental Assessment Guidelines (DRAFT).

North Coast Regional District (NCRD). 2021. North Coast Regional District Financial Statements 2020. Accessed on: April 2022. Accessed at: https://www.ncrdbc.com/sites/default/files/uploads/documents/2020_ncrd_audited_financial_statements.pdf.

North Coast-Skeena First Nations Stewardship Society and GoBC. 2015. North Coast Marine Plan.

Northwest Invasive Plant Council (NWIPC). 2020. NWIPC Target Plant List – 2020.

Oxford Institute for Energy Studies (OIES). 2018. LNG Plant Cost Reduction 2014-18.

Oxford Institute for Energy Studies (OIES). 2019. Floating LNG Update – Liquefaction and Import Terminals.

Prince Rupert Gas Transmission (PRGT). 2022. Prince Rupert Gas Transmission. Accessed: January 2022. Accessed at: https://projects.eao.gov.bc.ca/p/588511d9aaecd9001b826b33/project-details

Regional District of Kitimat-Stikine (RDKS). 2020. Statement of Financial Information. Accessed on: April 2022. Accessed at: https://p1cdn4static.civiclive.com/UserFiles/Servers/Server_12415106/File/Government/Public%20Reporting/2020%20Statement%20of%20Financial%20Information%20(SOFI)%20Signed.pdf.

Roman-White, S.A., J.A. Littlefield, K.G. Fleury, D.T. Allen, P. Balcome, K.E. Konschnik, J. Ewing, G.B. Ross and F. George. 2021. LNG Supply Chains: A Supplier-Specific Life-Cycle Assessment for Improved Emission Accounting. *ACS Sustainable Chem. Eng.* 9, 32, 10857-10867

Shell. 2021. Shell LNG Outlook 2021. Accessed: January, 2022. Available at: https://www.shell.com/energy-and-innovation/natural-gas/liquefied-natural-gas-lng/lng-outlook-2021.html#iframe=L3dlYmFwcHMvTE5HX091dGxvb2svMjAyMS8

State of Alaska and Province of British Columbia. 2015. A Memorandum of Understanding (MOU) and Cooperation between the State of Alaska and the Province of British Columbia (BC).

Statistics Canada. 2017a. Housing Reference Guide, Census of Population, 2016. Accessed on: April 2022. Accessed at: https://www12.statcan.gc.ca/census-recensement/2016/ref/guides/005/98-500-x2016005-eng.cfm.

Statistics Canada. 2017b. Kitimat-Stikine, RD [Census division], British Columbia and British Columbia [Province] (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. Accessed on: April 2022. Accessed at: https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E.

Statistics Canada. 2017c. Prince Rupert, CY [Census subdivision], British Columbia and Skeena-Queen Charlotte, RD [Census division], British Columbia (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. Accessed on: April 2022. Accessed at: https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=5947012&Geo2=CD&Code2=5947&SearchText=&SearchType=Begins&SearchPR=01&B1=All&TABID=1&type=1.

Statistics Canada. 2017d. Skeena-Queen Charlotte, RD [Census division], British Columbia and British Columbia [Province] (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. Accessed on: April 2022. Accessed at: https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E.

Statistics Canada. 2017e. Terrace, CY [Census subdivision], British Columbia and Kitimat-Stikine, RD [Census division], British Columbia (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. Accessed on: April 2022. Accessed at: https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E.

Statistics Canada. 2022a. Focus on Geography Series. 2021 Census. Kitimat-Stikine, Regional District. Accessed on: April 2022. Accessed at: https://www12.statcan.gc.ca/census-recensement/2021/as-sa/fogs-spg/Page.cfm?dguid=2021A00035949&lang=E&r=1.

Statistics Canada. 2022b. Focus on Geography Series. 2021 Census. Prince Rupert, City. Accessed on: April 2022. Accessed at: https://www12.statcan.gc.ca/census-recensement/2021/as-sa/fogs-spg/Page.cfm?dguid=2021A00055947012&lang=E&r=1.

Statistics Canada. 2022c. Focus on Geography Series. 2021 Census. Skeena-Queen Charlotte, Regional District. Accessed on: April 2022. Accessed at: https://www12.statcan.gc.ca/census-recensement/2021/as-sa/fogs-spg/page.cfm?r=1&Lang=E&dguid=2021A00035947&TOPIC=1.

Statistics Canada. 2022d. Focus on Geography Series. 2021 Census. Terrace, City. Accessed on: April 2022. Accessed at: https://www12.statcan.gc.ca/census-recensement/2021/as-sa/fogs-spg/Page.cfm?dguid=2021A00055949011&lang=E&r=1.

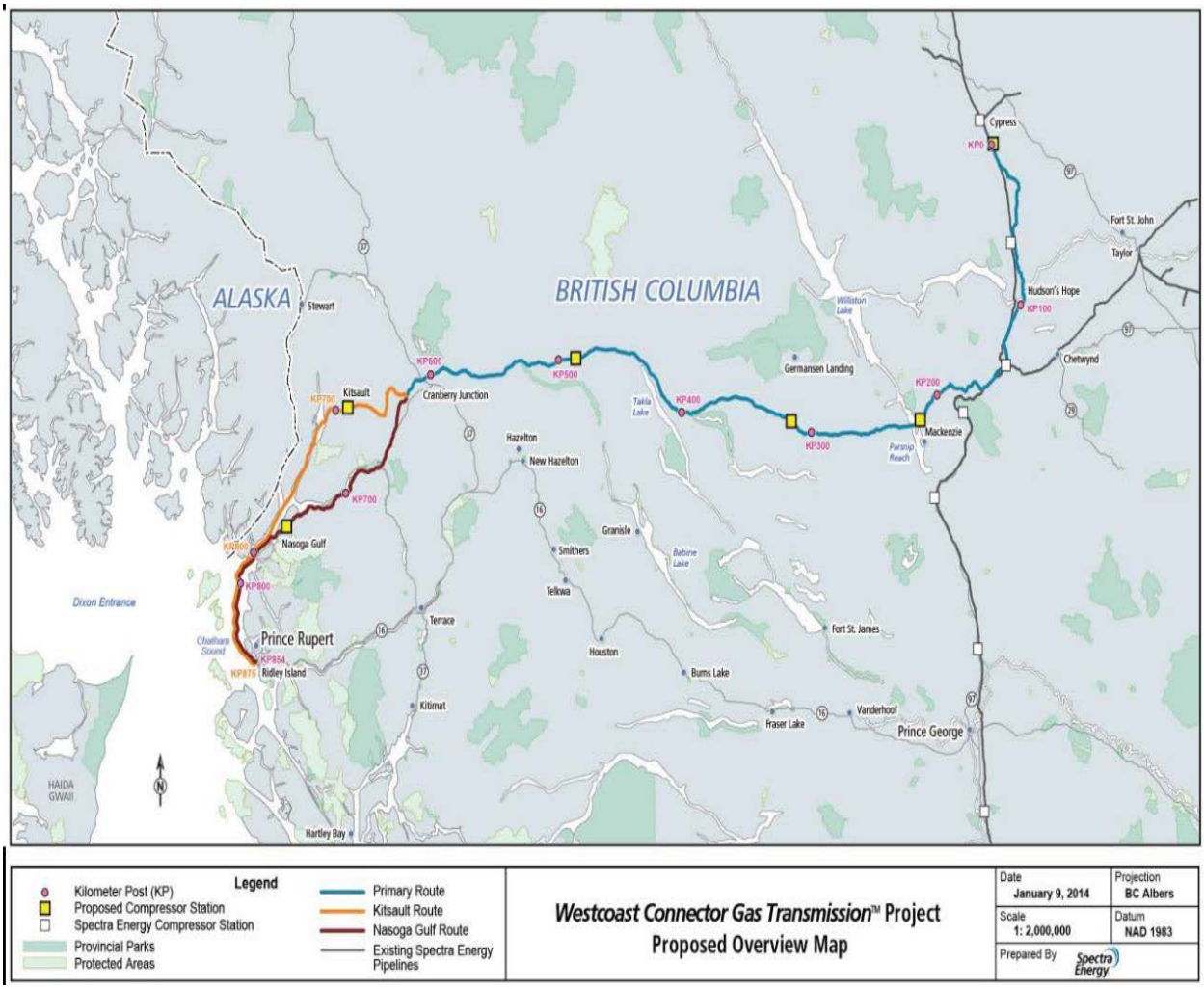
Transport Canada. 2019. TERMPOL Review Process – 2019 Edition – TP 743 E. Accessed at: https://tc.canada.ca/en/marine-transportation/marine-safety/termpol-review-process-2019-edition-tp-743-e

United Nations. 2007. United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

Westcoast Connector Gas Transmission (WCGT). 2022. Westcoast Connector Gas Transmission. Accessed: January 2022. Accessed at: https://projects.eao.gov.bc.ca/p/588511b7aaecd9001b824889/project-details

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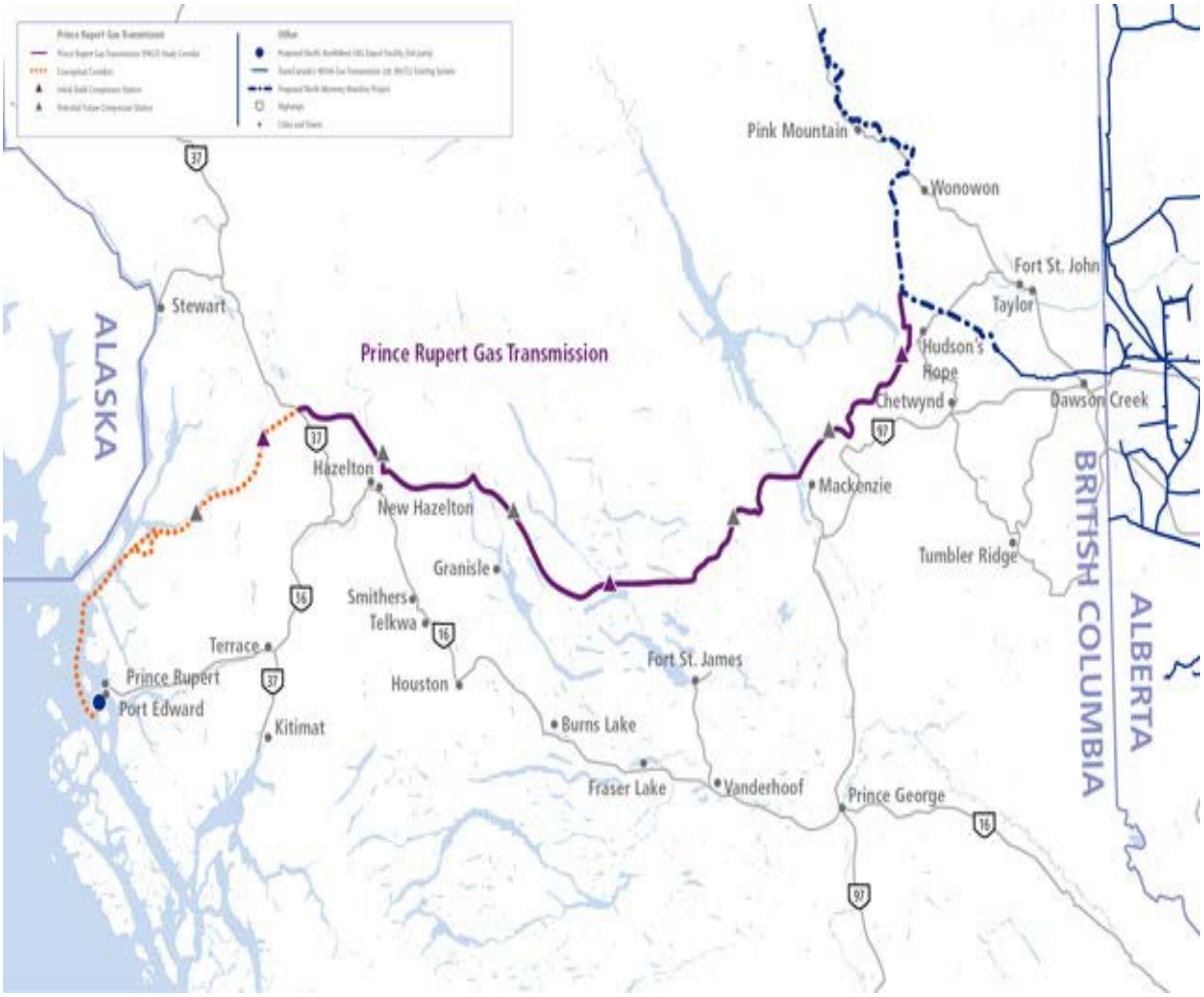
APPENDIX 1 – ENBRIDGE – WESTCOAST CONNECTOR GAS TRANSMISSION (WCGT) PIPELINE ROUTE



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APPENDIX 2 – TC ENERGY – PRINCE RUPERT GAS TRANSMISSION (PRGT) PIPELINE ROUTE



Source: PRGT 2022

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APPENDIX 3 – TABLE OF CONCORDANCE WITH PROVINCIAL INFORMATION REQUIRED IN THE DETAILED PROJECT DESCRIPTION

IPD Requirement	DPD Requirement	DPD Section
Executive Summary	Any updates to information in the IPD	Executive Summary, 2.1
General information and Contacts Project name.	Any updates to information in the IPD	1
Project location.	Any updates to information in the IPD	1, 2.2
Project industrial sector and type.	Any updates to information in the IPD	1
Proponent name, mailing address, phone numbers, email address and website URL.	Any updates to information in the IPD	1.1
Name and contact information of the primary representative for the EA.	Any updates to information in the IPD	1.1
N/A	Anticipated cost for construction and decommissioning as well as projected annual operating costs	1.2.5
Purpose and Rationale A general rationale for why the project has been proposed.	Any updates to information in the IPD	1.2
Potential project benefits.	Any updates to information in the IPD	1.2
Legislative and Regulatory Context The type and size of the project, with specific reference to EA Regulatory Triggers [e.g., the EAO Reviewable Project Regulations and *Impact Assessment Act* (Canada) thresholds].	Any updates to information in the IPD	6.3.1, 6.3.2
A list of anticipated authorizations and permits.	Any updates to information in the IPD	6.3.3, Table 6.1
Consider the requirements of any applicable agreements between the Province and Indigenous Nations, including treaties.	Any updates to information in the IPD	4.1, 6.1, 6.3.4
Consider the requirements of any applicable international agreements between the Province and state or federal governments.	Any updates to information in the IPD	6.3.4
A description of relevant government policies that the project may not be compatible with.	Any updates to information in the IPD	6.3.5.1
Proposed timing for conducting the provincial EA and federal EA.	Any updates to information in the IPD	6.5, Table 6.3
Project Status and History Project history, including past ownership.	Any updates to information in the IPD	1
State if it is a new project or a modification to an existing project.	Any updates to information in the IPD	1
A list of any existing permits or tenure in place.	Any updates to information in the IPD	1, 6.3, Table 6.2
A description of any previous proposal(s) for the project or a similar proposal and the outcomes and history of the proposal(s), if applicable.	N/A	N/A
If the project was previously declined or terminated, a description of how this proposal differs and how the issues for which the previous proposal was declined or terminated have been addressed.	N/A	N/A

IPD Requirement	DPD Requirement	DPD Section
Project Timing A list of proposed project phases (e.g., construction, operation, decommissioning, and reclamation) and the anticipated timing and duration of each phase.	Any updates to information in the IPD, including a justification for any updates/changes to project timing and a description of how engagement was considered	2.12
Known seasonal timing constraints.	Any updates to information in the IPD	2.12
-	A list of timelines for the proposed project's EA and permitting processes and expected timing to submit key permit applications	6.5, Table 6.3
Project Location, Activities and Components A description of the proposed project's location in a local and regional context, including proximity to communities or locations of interest to the public, government, or Indigenous Nations, and key designated or protected areas such as parks or Wildlife Habitat Areas.	Any updates to information in the IPD, including a justification for any updates/changes to project location, activities and/or components, and a description of how engagement was considered	1, 2.2, 4.1, 4.2, 4.3
Proposed project activities and components.	Any updates to information in the IPD	2.3, 2.5, 2.6, 2.7, 2.8
Proposed on and off-site facilities and equipment.	Any updates to information in the IPD	2.3, 2.4, 2.5, 2.6, 2.7, Appendix 1, Appendix 2
A brief description of proposed activities related to processing, transportation and/or shipping of materials to/from the site.	Any updates to information in the IPD	2.3, 2.6, 2.7
A description of any other project(s) that are needed for the proposed project to proceed and be feasible.	Any updates to information in the IPD	1, 2.4, 2.14.4, 2.14.5, Appendix 1, Appendix 2
A description of the work that has been conducted to arrive at the proposed project as described in the IPD.	A description of the work that has been conducted to arrive at the proposal, including what other options were considered and how engagement was considered	2.1, 2.3, 2.14.1
A list of design or siting constraints that are flexible and those that are not flexible.	Any updates to information in the IPD	2.1, 2.14
A list of other design or siting options that may be considered.	Include what further information, if any, is needed to confirm design and siting options, and approximate timelines	2.13, 2.14
Anticipated daily and annual maximum production or operational capacity of the project.	Any updates to information in the IPD	2.3

IPD Requirement	DPD Requirement	DPD Section
Maps and Shape Files ▪ Local and regional scale maps of the project showing its location and known off-site components. ▪ Shapefiles of the proposed project footprint and the footprint of known off-site components: • Shapefiles must be in ESRI format and include four file types: .shp, .shx, .dbf, and prj. • Please also provide .KMZ files. • Shapefiles must be in BC Albers (NAD83) projection. • Shapefile polygons and their corresponding polygons on all maps must be identical in shape, size, and location. • Spatial features (.shp and .shx) must be represented as polygons, not as points or line features. • Shapefiles must be named in a way that clearly describes the contents. • To avoid having ArcGIS generate random errors, follow these best practices: avoid starting names by number, add an underscore instead of a space or dash, and do not include a symbol outside of the underscore. • Provide shapefiles demonstrating the overlap of known project components with any identified communities or locations of interest to the public. This may include information regarding specific sites of importance to an Indigenous Nation or their territory if this information is not confidential in nature and an Indigenous Nation has agreed to allow the information to be shared. ▪ Maps must be presented in the required standard format with legible grids and suitable scaling (typically 1:100,000 to 1:150,000 for centralized projects such as a mine, and up to 1:1,500,000 or 1:1,250,000 scale for linear projects such as a pipeline or transmission line). ▪ Maps must also include a national Topographic System (NTS) Map number, latitude and longitude references, titles, a north arrow, and relevant legends.	Any updates to information in the IPD	Figure 2.1, Figure 2.2, Figure 2.3, Figure 4.8, and Figure 6.1 Shapefiles provided in separate cover
N/A	When known, include landscape features of importance to Indigenous Nations and local communities in maps	Figure 4.1 – Figure 4.7
N/A	Any new maps showing the boundary within which the project would be built, including updated location, project components and transportation routes	Figure 2.1, Figure 2.2, Figure 2.3, Figure 4.12, Figure 4.14

IPD Requirement	DPD Requirement	DPD Section
Indigenous Nation Interests A description of the proximity of the proposed project to Indigenous Nations' territory, communities, locations of interest, *Indian Act* reserve lands, lands subject to a Treaty, or other relevant agreements.	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	4.1, 4.2, 4.3, Figures 4.1-4.7, 6.1, Figure 6.1
A description of potential project interactions with any identified Indigenous interests.	An identification of potential effects on Indigenous interests	5.3.5, 7.4
A description of alignment of the IPD with Indigenous Nation laws, customs and policies.	Any updates to information in the IPD	4.4, 6.1, 6.3.4, 7.3.6.1, 7.5
A list of any issues, concerns, or questions raised by Indigenous Nations during engagement on the draft IPD or other information shared in relation to the proposed project.	Any updates to information in the IPD	7.3, Appendix 7, Appendix 10
N/A	For each Indigenous Nation identified, an overview of engagement activities that have been carried out, a description of issues that have been raised with respect to the proposed project, and an explanation of how those issues have been or will be addressed by the proponent	7.2, 7.3, Appendix 6, Appendix 7
N/A	A description of how Indigenous Nations plan to work with the proponent moving forward	7.5
N/A	A list of agreements the proponent has entered into with Indigenous Nations during Early Engagement	7.6
N/A	A description of opportunities for the proponent to work with the EAO and Indigenous Nations7.5, 7.6	7.5, 7.6, 7.7
N/A	Additional information provided by Indigenous Nations	7.3, Table 7.2, Appendix 6, Appendix 7
N/A	A description of how this engagement and information was considered in the DPD, and corresponding changes that were made with justification for these changes	7.3, Appendix 7, Appendix 10
N/A	A description of how information contained in the EAO's Summary of Engagement provided by the EAO was addressed in the DPD	7.3, Appendix 10
Biophysical Environment A description of the natural setting characteristics, including coastal, foreshore, riparian, mountainous, watersheds, and agricultural land.	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	3.1, 3.2, 3.3
A description of disturbed area characteristics, including brown field; contaminated site(s), and any history of development.	Any updates to information in the IPD	4.5, 5.3
Identification of sensitive or vulnerable species, ecosystems, and/or habitats in the project area.	Any updates to information in the IPD	3.3, Table 3.8, Table 3.9, Table 3.10
A list of existing data, including monitoring reports, previous EAs, regional studies, and/or other sources of information that support the understanding of the existing biophysical conditions.	Any updates to information in the IPD	3.4,Table 3.3, Appendix 5, 11
N/A	A table showing a list of studies that are underway and those that are anticipated, including guidance and standards to be used in preparing these studies	Table 3.9, Table 3.10
N/A	A description of engagement that occurred following acceptance of the IPD and Engagement Plan, including any additional information collected during this period on sensitive or vulnerable environmental values that may be affected by the proposed project and any further understanding of the potential effects of the project, including cumulative effects	7.1, Table 7.2, 8.1, Appendix 6, Appendix 7, Appendix 8, Appendix 9, Appendix 10, Appendix 11
N/A	A description of future methods of information collection that will occur through continuing engagement	4.6, 7.5
N/A	A description of Indigenous knowledge that may have been incorporated into the description of existing biophysical environment, with permission of the Indigenous Nation	none
N/A	A description of how this engagement and information was considered, and corresponding changes that were made with justification for these changes	Appendix 7, Appendix 10, Appendix 11

IPD Requirement	DPD Requirement	DPD Section
Human and Community Wellbeing A description of the proposed project's proximity to local communities, including seasonal or temporary residences.	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	Table 2.1
Identification of the municipalities within which the proposed project is located or where effects may occur.	Any updates to information in the IPD	2.2, 4.1
A description of the proposed project's proximity to important or sensitive community and natural places such as: municipal boundaries, parks, schools, hospitals, housing, water supplies, roads, railways, and protected and recreational areas.	Any updates to information in the IPD	4.1, 4.2, 4.3, 4.4, 4.5, 4.7, Table 4.1
A list of existing data, including monitoring reports, previous EAs, regional studies, and/or other sources of information that support the understanding of the existing human environment conditions.	Any updates to information in the IPD	4.2, 4.3, 4.4, 4.5, 4.7, 11, Appendix 5
Identification of any sensitive or vulnerable economic, social, heritage, or health values that may be affected by the project.	Any updates to information in the IPD	4.1, 4.5, 6.1, Table 5.2
A preliminary understanding of the anticipated size of the workforce for each project phase, where the workforce will be drawn from, and where the workforce will be housed.	An outline of the anticipated number of construction and operating jobs and anticipated percent of workforce from local community	2.3, 2.4.3, 2.5, 5.3.4.1
N/A	A description of how the proposed project may affect the local and regional economy	5.3.4.1, 5.3.4.3
N/A	A description of the engagement that occurred following acceptance of IPD and Engagement Plan and any additional information collected during this period regarding sensitive or vulnerable economic, social, heritage, or health values that may be affected by the proposed project	Appendix 6, Appendix 7, Appendix 8, Appendix 9, Appendix 10, Appendix 11
N/A	A description of how this engagement and information was considered, and corresponding changes that were made with justification for these changes	Appendix 7, Appendix 9, Appendix 10, Appendix 11
Emissions, Discharges, and Waste A high-level outline of anticipated direct project waste and emissions to land, air, and water. biophysical environment, and/or the human environment.	Any updates to information in the IPD, including a justification for updates or changes and a description of how engagement was considered	Table 2.1, 2.9
Estimated greenhouse gas emissions including direct emissions that are expected to be above provincial or national standards and emissions that have the potential to interact with Indigenous interests.	An estimate of direct and indirect project GHG emissions by phase.	2.10, Table 2.10, 6.3.5.1
A description of proposed mitigation measures and/or project design changes to address emissions, including greenhouse gases.	Any updates to information in the IPD	1, 2.9.4, Table 2.13, 5.3.1
N/A	A description of the potential effects on the province being able to meet its targets under the *Greenhouse Gas Reduction Targets Act*.	6.4
N/A	A justification for updates or changes to expected emissions, effluents, discharges and/or wastes and a description of how engagement was considered.	Table 2.1, 2.9

IPD Requirement	DPD Requirement	DPD Section
Public and Environmental Safety A description of potential malfunctions or accidents associated with the industry or specific to the proposed project and how they will be managed. 1. Include any proposed outreach to help Indigenous Nations, governments and the public better understand the risks and mitigations.	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered.	Table 2.1, 8.1.1 9.3, 9.4, Appendix 7, Appendix 9, Appendix 10, Appendix 11
2. Include any issues raised about public and environmental safety during engagement with Indigenous Nations, the public, provincial and federal government agencies, and stakeholders and how issues were considered in developing any mitigation measures or design changes.	Any updates to information in the IPD	7.3, 9.2.5, Table 9.2, Appendix 7, Appendix 9, Appendix 10, Appendix 11
N/A	Include a description of potential project-related scenarios when there is a real or perceived risk of a malfunction or accident	9.4
N/A	Identification of moderate-to high-risk potential malfunctions or accidents associated with the proposed project and how they will be managed: • Refer to risk disclosure standards and provincial risk management policy, including the Risk Management Guideline for the B.C. Public Sector (Province of British Columbia Risk Management Branch and Government Security Office, April 2019)	9.4
Alternative Means of Carrying out the Project A high-level description of the alternative options for the proposed project, including a rationale for the preferred option that demonstrates how positive and negative effects and/or issues raised during engagement have been considered.	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	Table 2.1, 2.14, Table 2.14
The alternative means of undertaking the proposed project may include information related to: 3. the use of best achievable technologies; 4. the technical and economic feasibility; 5. the potential effects, risks and uncertainties of those alternatives; 6. the preferred option and a rationale for this preference; and, 7. the different options for the project location, project routing, technologies, mitigation, or design.	Any updates to information in the IPD	2.14
N/A	Provide clear definitions with transparent weighting and criteria for assessing alternative means	2.14
Effects of the Environment on the Project An overview of potential effects of natural hazards or processes and climate change on the proposed project.	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	10, Appendix 7, Appendix 9, Appendix 10, Appendix 11
N/A	A justification for updates/changes to potential effects and a description of how engagement was considered, especially Indigenous knowledge and local knowledge gathered during Early Engagement	none

IPD Requirement	DPD Requirement	DPD Section
Land and Water Use An outline of the anticipated project footprint and proposed area of disturbance.	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	Table2.1, 2.2, 2.5.1, 2.11, Figure 2.2, Figure 2.3, 2.14, Table 2.14, 4.5, 5.2
A description of the land required for the proposed project, including whether the project is located on private lands, provincial or federal Crown lands, or Indian Reserve lands.	Any updates to information in the IPD	2.2, 2.11, 4.5.3, Table 4.2, Figure 2.1, Figure 2.2, Figure 2.3, 9.1
Include the applicable zoning, Agriculture Land Reserve designation, land and resource management plans, and other land use designations (e.g., parks and protected areas) and the legal land descriptions and/or tenure numbers of those lands, if known.	Any updates to information in the IPD	4.2, 4.3, 4.4, Figure 4.13, Table 4.1
A description of past uses of the land required for the proposed project, including whether the site has been previously developed.	Any updates to information in the IPD	4.5.3
A description of water requirements for the proposed project, if applicable, and the proposed source of water.	Any updates to information in the IPD	2.11
N/A	Identification of the location of previously disturbed site or green field site, agricultural land, foreshore	4.5
N/A	Legal information regarding land title, authorization, permits	Table 4.2
N/A	Identification of the proximity to seasonal or temporary residences	4.1
N/A	Description of the relationship to known regional initiatives (e.g., Elk Valley Water Quality Plan or Indigenous land use plans)	0
N/A	A description of project land and water use following engagement clearly noting any changes and a justification for why changes were made and how engagement was considered	Table 2.1, 4.5, Appendix 7, Appendix 9, Appendix 10, Appendix 11
Land Use Plans A list of all relevant land use plans, including provincial land use plans, Indigenous land use plans, and relevant municipal plans. An identification of any rezoning or changes in land designations that would be required for the proposed project.	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	Table 2.1, 4.2
N/A	A justification for updates/changes to relevant provincial land use plans and a description of how engagement was considered	n/a
Project Interactions A description of potential interactions between the proposed project and the biophysical and human environments, including Indigenous interests.	Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered. A description of potential positive and negative effects of the project on the biophysical and human environments, and Indigenous interests, including any potential cumulative effects.	5.1, 5.3, 5.4, Table 5.2, Appendix 7, Appendix 9, Appendix 10, Appendix 11
A summary of any biophysical feasibility studies undertaken that may be pertinent to understanding potential interactions.	Any updates to information in the IPD	3.4, Table 3.9, Table 3.9, Table 3.10, Appendix 5
A list of any activities proposed to be undertaken during the Early Engagement period to inform the development of the DPD or the Application, should the project proceed to an EA.	Any updates to information in the IPD	Table 6.4, 7.1, 7.2, 8.3
An identification of existing cumulative effects in the region that the project may interact with.	Any updates to information in the IPD	4.5.2, 4.5.3, 4.5.4.1, 5.3, 5.3.4
N/A	An initial description of measures to prevent or reduce the potential negative effects to an acceptable level. Include measures that could be integrated into project design, compliance with applicable regulations, standards, codes of practice, or Best Management Practices, corporate management systems, and/or project-specific measures that will be implemented.	5.3
N/A	A brief description of proposed monitoring programs, if known, that will be implemented to measure the effectiveness of mitigations to prevent or reduce the potential negative project effects.	5.3

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APPENDIX 4 – TABLE OF CONCORDANCE WITH FEDERAL INFORMATION REQUIRED IN A DETAILED DESCRIPTION OF DESIGNATED PROJECT

Requirement	Section Reference
PART A Updated General Information	
1 The project's name, type or sector and proposed location.	1
2 The proponent's name and contact information and the name and contact information of their primary representative for the purpose of the description of the project.	1.1
PART B Planning Phase Results	
3 A summary of and the results of any engagement undertaken with any jurisdiction or other party, including a description of how the proponent intends to address the issues raised in the summary referred to in subsection 14(1) of the Act (*Summary of Issues*).	8.1, Appendix 7, Appendix 9, Appendix 10, Appendix 11
4 A summary of and the results of any engagement undertaken with Indigenous peoples of Canada, including: • a list of the Indigenous groups that may be affected by the project, including those groups that identified themselves during the planning phase as being potentially affected; and • a description of how the proponent intends to address the issues raised in the Summary of Issues, including the perspective of Indigenous groups regarding any potential adverse impact that the project may have on the rights of the Indigenous peoples of Canada recognized and affirmed by section 35 of the *Constitution Act,1982*. The response to the Summary of Issues should indicate, where appropriate, any changes between the Initial and Detailed Project Description that were made as part of the response.	7.1, 7.2, 7.5, Table 7.1, Appendix 6, Appendix 7, Appendix 11
5 Any study or plan, relevant to the project, that is being or has been conducted in respect of the region where the project is to be carried out, including any regional assessment that is being or has been carried out under section 92 or 93 of the *Act* or by any jurisdiction, including by or on behalf of an Indigenous governing body, if the study or plan is available to the public.	3.5, Table 3.8, 4.2, 6.4, Table 6.1, Appendix 5
6 Any strategic assessment, relevant to the project, that is being or has been carried out under section 95 of the *Act*.	6.3
PART C Project Information	
7 An updated statement of the purpose of and need for the project, including any potential benefits.	1.2
8 The provisions in the schedule to the *Physical Activities Regulations* describing the project, in whole or in part.	6.3.2
9 A description of all activities, infrastructure, permanent or temporary structures and physical works to be included in and associated with the construction, operation and decommissioning of the project, including their purpose, size and capacity	2.3, 2.4, 2.5, 2.6, 2.7, 2.8, Appendix 1, Appendix 2
10 An estimate of the maximum production capacity of the project and a description of the production processes to be used.	2.3.1, 2.3.2
11 The anticipated schedule for the project's construction, operation, decommissioning and abandonment, including any expansions of the project.	2.12, Table 2.14
12 A description of potential: a. alternative means of carrying out the project that the proponent is considering and that are technically and economically feasible, including through the use of best achievable technologies. b. alternatives to the project that the proponent is considering, that are technically and economically feasible and directly related to the project.	2.13, 2.14, Table 2.15
PART D Location Information and Context	
Provide a description of the designated project's proposed location, including	
13a its proposed geographic coordinates, including, for linear development projects, the proposed locations of major ancillary facilities that are integral to the project and a description of the spatial boundaries of the proposed study corridor.	2.2, Appendix 1, Appendix 2
13b site maps produced at an appropriate scale in order to determine the project's proposed general location and the spatial relationship of the project components.	Figure 2.1, Figure 2.2, Figure 2.3
13c the legal description of land to be used for the project, including, if the land has already been acquired, the title, deed or document and any authorization relating to a water lot.	4.2, 4.5.3, Table 4.2
13d the project's proximity to any permanent, seasonal or temporary residences and to the nearest affected communities;	4.1
13e the project's proximity to: • land used for traditional purposes by Indigenous peoples of Canada • land in a reserve as defined in subsection 2(1) of the Indian Act • First Nation land as defined in subsection 2(1) of the First Nations Land Management Act • land that is subject to a comprehensive land claim agreement or a self-government agreement and, • any other land set aside for the use and benefit of Indigenous peoples of Canada.	4.1, 4.3, Figure 2.2, Figure 2.3 Figure 4.1 through Figure 4.13, Table 4.1, 6.1
13f the project's proximity to any federal lands.	2.2, 4.3

Requirement	Section Reference
14 A description of the physical and biological environment of the project's location, based on information that is available to the public.	3.1, 3.2, 3.3, 3.4
15 A description of the health, social and economic context in the region where the project is located, based on information that is available to the public or derived from any engagement undertaken.	4.1, 4.4, 4.5
PART E Federal, Provincial, Territorial, Indigenous and Municipal Involvement	
16 A description of any financial support that federal authorities are, or may be, providing to the project.	6.3, 6.5
17 A description of any federal lands that may be used for the purpose of carrying out the project.	4.3, 6.3, 6.5
18 A list of the permits, licenses, or other authorizations that may be required by jurisdictions that have powers, duties or functions in relation to an assessment of the project's environmental effects.	6.1, 6.1.2, 6.2, 6.3, Table 6.1
PART F Potential Effects of the Project	
19 A description of any changes that, as a result of the carrying out of the project, may be caused to the following components of the environment that are within the legislative authority of Parliament:	
(a) fish and fish habitat, as defined in subsection 2(1) of the *Fisheries Act;*	5.4
(b) aquatic species, as defined in subsection 2(1) of the *Species at Risk Act*; and	5.4
(c) migratory birds, as defined in subsection 2(1) of the *Migratory Birds Convention Ac*t, 1994.	5.4
20 A description of any changes to the environment that, as a result of the carrying out of the project, may occur on: • federal lands • in a province other than the province in which the project is proposed to be carried out or, • outside of Canada.	5.4, 6.4
21 With respect to the Indigenous peoples of Canada, a brief description of the impact — that, as a result of the carrying out of the project, may occur in Canada and result from any change to the environment — on: • physical and cultural heritage • the current use of lands and resources for traditional purposes and, • any structure, site or thing that is of historical, archaeological, paleontological or architectural significance based on information that is available to the public or derived from any engagement undertaken with Indigenous Peoples of Canada.	5.3.5, Table 5.2
22 A brief description of any change that, as a result of the carrying out of the project, may occur in Canada to the health, social or economic conditions of Indigenous Peoples of Canada, based on information that is available to the public or derived from any engagement undertaken with Indigenous Peoples of Canada.	1.2.1, 4.1, 5.1, 5.3.5
23 An estimate of any greenhouse gas emissions associated with the project.	2.10
24 A description of the types of waste and emissions that are likely to be generated — in the air, in or on water and in or on land — during any phase of the project and a description of the plan to manage them.	2.9, Table 2.1
PART G Summary	
25 A plain-language summary of the information contained in parts A to F in English and in French.	DPD Project Summary

APPENDIX 5 – NISGA'A FISHERIES: NASS TECHNICAL AND PROJECT REPORTS

Alexander, R.F. and R.C. Bocking. 1993. Enumeration of chinook and coho smolts released from the Kincolith Hatchery, 1992 and the coded-wire tagging of the 1991 brood. Report NF 92-01 prepared by LGL Limited for the Nisga'a Tribal Council, New Aiyansh, B.C.

Alexander, R.F. and R.C. Bocking. 1994. Results from the Tseax River enhancement program for Coho Salmon, 1992 and 1993, and the monitoring of downstream migrant salmonids, 1993. Report NF 93-01 prepared by LGL Limited for the Nisga'a Tribal Council, New Aiyansh, B.C.

Alexander, R.A., W.J. Gazey, and I. Winther. 2004. Assessment of the Dungeness Crab population in the Nass Estuary, 2000 and 2001. Canadian Science Advisory Secretariat Research Document 2004/130. http://www.dfo-mpo.gc.ca/csas-sccs/publications/resdocs-docrech/2004/2004_130-eng.htm

Alexander, R.F. and W.R. Koski. 1995. Distribution, timing and numbers of steelhead returningto the Nass Watershed in 1993. Prepared by LGL Limited, Sidney, BC, for the Nisga'a Tribal Council, New Aiyansh, BC. Nisga'a Fisheries Report NF93-10: 85 p.

Alexander, R.F. and B.L. Nass. 1996. Tseax River enhancement program for Coho Salmon, 1994 and 1995. Report prepared for the Nisga'a Tribal Council by LGL Limited. Nisga'a Fisheries Report No. NF95-03.

Alexander, R.F. 1997. The Kincolith River enhancement program for chinook, coho and chum salmon, 1995-96: Results from the rearing of 1995 brood and release of 1994 brood. Report NF95-07, prepared by LGL Limited for the Nisga'a Tribal Council, New Aiyansh, B.C.

Alexander, R. F. and M.R. Link. 2001. The 1998 fishwheel project on the Nass River, BC.Can. Manuscr. Rep. Fish. Aquat. Sci. 2556: xi + 111 p.

Alexander, R. F. 2001. The 1999 fishwheel project on the Nass River, BC. Can. Manuscr. Rep.Fish. Aquat. Sci. 2588: xi + 113 p.

Alexander, R.F. 2001. The Nass fishwheel steelhead tagging program, 2000. Unpublished datasummary report prepared by LGL Limited, Sidney, BC, for the Nisga'a Lisims Government andFisheries Renewal BC. Nisga'a Fisheries Report NF02-02: 14 p.

Alexander, R.F. 2002. The Nass fishwheel steelhead-tagging program, 2001. Unpublished data summary report prepared by LGL Limited, Sidney, BC, for the Nisga'a Lisims Government and Fisheries Renewal BC. Nisga'a Fisheries Report NF02-02: 13 p.

Alexander, R. F., M. R. Link, and R.C. Bocking 2002. The 2000 fishwheel project on the Nass River, BC. Can. Manuscr. Rep. Fish. Aquat. Sci. 2616: xi + 118 p.

Alexander, R. F. and R.C. Bocking 2003. The 2001 fishwheel project on the Nass River, BC.Can. Manuscr. Rep. Fish. Aquat. Sci. 2659: xi + 118 p.

Alexander, R.F., W.J. Gazey, and I. Winther. 2004. Assessment of the Dungeness crab population in the Nass estuary, 2000 and 2001. Canadian Science Advisory Secretariat Research Document: 2004/130.

Alexander, R.F. and M.O. Jessop. 2007. Upper Nass Mark-rate Sampling Program for AdultCoho Salmon: Kwinageese Weir Program, 2006. Report prepared by LGL Limited, Sidney, BC, for the Nisga'a Lisims Government, New Aiyansh, BC, and the Pacific Salmon Commission, Vancouver, BC. Nisga'a Fisheries Report #06-42: iii + 30 p.

Alexander, R.F. and B.B. Stewart. 2008. The Kincolith River weir program 2007: Coastal Area3 Nass escapement and enhancement monitoring. Prepared by LGL Limited, Sidney, BC, and the Nisga'a Lisims Government Fisheries and Wildlife Department, New Aiyansh, BC, for the Pacific Salmon Commission, Vancouver, BC. Nisga'a Fisheries Report #07-39: vii + 80 p.

Alexander, R.F., R.J. Bussanich and M.O. Jessop. 2008. The Seaskinnish Creek Weir Project 2007: Mark-recapture sampling program for Middle and Upper Nass River adult coho salmonstocks caught and tagged at the Gitwinksihlkw fishwheels. Report prepared by LGL Limited, Sidney, BC, for the Pacific Salmon Commission, Vancouver, BC, and the Nisga'a Lisims Government Fisheries and Wildlife Department, New Aiyansh, BC. Nisga'a Fisheries Report#07-42: viii + 66 p.

Alexander, R. F., R. J. Bussanich and R. C. Bocking. 2009. The Seaskinnish Creek Weir Project 2008: Mark-recapture sampling program for Middle and Upper Nass River adult cohosalmon stocks caught and tagged at the Gitwinksihlkw fishwheels. Report prepared by LGL Limited, Sidney, BC, for the Pacific Salmon Commission, Vancouver, BC, and the Nisga'a Lisims Government Fisheries and Wildlife Department, New Aiyansh, BC. Nisga'a FisheriesReport #08-42: vii + 76 p.

Alexander, R. F., R. C. Bocking, W. J. Gazey, R. J. Bussanich and S. C. Kingshott. 2010. Estimating the Abundance of Adult Chinook Salmon Returning to the Nass River, BC, using Mark-recapture Techniques, 2009. Prepared by LGL Limited, Sidney, BC, for the Pacific Salmon Commission, Vancouver, BC, and the Nisga'a Lisims Government Fisheries and Wildlife Department, New Aiyansh, BC. Nisga'a Fisheries Report #09-22: viii + 103 p.

Alexander R. F., J. J. Smith, W. D. Duguid, S. C. Kingshott, and R. C. Bocking. 2011. Estimating the abundance of adult Chinook salmon returning to the Nass River, BC, using mark-recapture techniques, 2010. Prepared by LGL Limited, Sidney, BC, for the Pacific Salmon Commission, Vancouver, BC, and the Nisga'a Lisims Government Fisheries and Wildlife Department, New Aiyansh, BC. Nisga'a Fisheries Report #10-22: x + 131 p.

Alexander, R. F., W. D. Duguid, and S. C. Kingshott. 2012. Estimating the abundance of adult Chinook salmon returning to the Nass River, BC, using mark-recapture techniques, 2011. Report prepared by LGL Limited, Sidney, BC, for the Pacific Salmon Commission, Vancouver, BC, andthe Nisga'a Lisims Government Fisheries and Wildlife Department, New Aiyansh, BC. Nisga'a Fisheries Report #11-22: ix + 117 p.

Alexander, R. F. 2013. Capital Replacements and Operations of Fishwheels for Assessing AdultSalmon and Summer-run Steelhead Returns to the Nass River, 2012. Prepared by LGL Limited,Sidney, BC, for the Pacific Salmon Commission, Vancouver, BC, and the Nisga'a Lisims Government Fisheries and Wildlife Department, New Aiyansh, BC. Nisga'a Fisheries Report #12-19: iv + 29 p.

Alexander, R. F., W. D. Duguid, and S. C. Kingshott. 2013. Estimating the abundance of adult Chinook salmon returning to the Nass River, BC, using mark-recapture techniques, 2012. Report prepared by LGL Limited, Sidney, BC, for the Pacific Salmon Commission, Vancouver, BC, and the Nisga'a Lisims Government Fisheries and Wildlife Department, New Aiyansh, BC. Nisga'a Fisheries Report #12-22: ix + 112 p.

Alexander R. F., I. A. Beveridge, W. D. Duguid, S. C. Kingshott, and D. Robichaud. 2014. Estimating the abundance of adult Chinook Salmon returning to the Nass River, BC, using mark-recapture techniques, 2013. Prepared by LGL Limited, Sidney, BC, for the Pacific Salmon Commission, Vancouver, BC, and the Nisga'a Lisims Government Fisheries and Wildlife Department, New Aiyansh, BC. Nisga'a Fisheries Report #13-22: xii + 113 p.

Alexander R. F., I. A. Beveridge, and S. C. Kingshott. 2015. Estimating the abundance of adult Chinook Salmon returning to the Nass River, BC, using mark-recapture techniques, 2014. Prepared by LGL Limited, Sidney, BC, for the Pacific Salmon Commission, Vancouver, BC, andthe Nisga'a Lisims Government Fisheries and Wildlife Department, New Aiyansh, BC. Nisga'a Fisheries Report #14-22: xi + 133 p.

Barner, G.L. 2000. Nisga'a Catch Monitoring Program: 1999 Nisga'a Fishery. Report NF 99-02prepared by LGL Limited, Sidney, BC, for the Nisga'a Tribal Council, New Aiyansh, BC.

Barner, G.L. and B.L. Nass. 1999. Nisga'a Catch Monitoring Program: 1998 Nisga'a Fishery.Report NF 98-02 prepared by LGL Limited, Sidney, BC, for the Nisga'a Tribal Council, New Aiyansh, BC.

Baxter, B. E and B.B. Stewart. 2005. Nass River watershed stream gauging program, 2004.Report NF 04-02 prepared by Nisga'a Fisheries and LGL Limited, Sidney, BC, for Nisga'a Lisims Government, New Aiyansh, BC.

Baxter, B. E. 2000. Report on the installation and monitoring of stream gauging stations withinthe Nass River watershed in 1999. Report NF 99-10 prepared by LGL Limited, Sidney, BC, forFisheries Renewal BC.

Baxter, B. E. 2001. Nass River watershed stream gauging program, 2000. Report NF 00-11prepared by LGL Limited, Sidney, BC, for Nisga'a Lisims Government, New Aiyansh, BC.

Baxter, B. E. 2002. Nass River watershed stream gauging program, 2001. Report NF 01-07prepared by LGL Limited, Sidney, BC, for Nisga'a Lisims Government, New Aiyansh, BC.

Baxter, B. E. 2003. Nass River Sport Fishery Catch Monitoring Program, 2002. ReportNF 02-04 prepared by LGL Limited, Sidney, BC, for the Nisga'a Lisims Government, New Aiyansh, BC.

Baxter, B. E. 2003. Nass River watershed stream gauging program, 2002. Report NF 02-05prepared by LGL Limited, Sidney, BC, for Nisga'a Lisims Government, New Aiyansh, BC.

Baxter, B. E. 2005. Nass River Sport Fishery Catch Monitoring Program, 2004. ReportNF 04-03 prepared by LGL Limited, Sidney, BC, for the Nisga'a Lisims Government, New Aiyansh, BC.

Baxter, B. E. and R. C. Bocking. 2002. Herring spawn-on-kelp feasibility study in the Nass Area, 2001. Report NF 01-09 prepared by LGL Limited, Sidney, BC, for Nisga'a Lisims Government, New Aiyansh, BC.

Baxter, B. E., and C. G. Azak. 2003. Nisga'a Catch Monitoring Program: 2002 Nisga'a Fishery. Report NF 02-07 prepared by LGL Limited, Sidney, BC, and Nisga'a Fisheries,New Aiyansh, BC, for the Nisga'a Lisims Government, New Aiyansh, BC.

Baxter, B. E., C. Y. Stephens, and R. C. Bocking. 2002. Nisga'a Catch Monitoring Program: 2001 Nisga'a Fishery. Report NF 01-04 prepared by LGL Limited, Sidney, BC, and Nisga'a Fisheries, New Aiyansh, BC, for the Nisga'a Lisims Government, NewAiyansh, BC.

Baxter, B. E., C. Y. Stephens, G. L. Barner, and R. C. Bocking. 2001. Nisga'a Catch Monitoring Program: 2000 Nisga'a Fishery. Report NF 00-04 prepared by LGL Limited,Sidney, BC, and Nisga'a Fisheries, New Aiyansh, BC, for the Nisga'a Lisims Government, New Aiyansh, BC.

Baxter, B.E. 2000. Nass River Sport Fishery Catch Monitoring Program, 1999. Report NF99-05 prepared by LGL Ltd., Sidney, BC, for Nisga'a Tribal Council, New Aiyansh, BC.

Baxter, B.E. 2001. Nass River Sport Fishery Catch Monitoring Program, 2000. Report NF00-06 prepared by LGL Ltd., Sidney, BC, for Nisga'a Lisims Government, New Aiyansh, BC.

Baxter, B.E. 2002. Kwinageese River juvenile chinook/coho trapping summary, 2000. Datasummary report prepared for Nisga'a Lisims Government.

Baxter, B.E. 2002. Nass River Sport Fishery Catch Monitoring Program, 2001. Report NF01-05 prepared by LGL Ltd., Sidney, BC, for Nisga'a Lisims Government, New Aiyansh, BC.

Baxter, B.E. 2003. Adult and Juvenile coho salmon enumeration and coded-wire tag recoveryanalysis for Zolzap Creek, BC, 2002. Can. Manuscr. Rep. Fish. Aquat. Sci. 2646: viii + 44 p.

Baxter, B.E. and B.L. Nass. 1999. Nass River Sport Fishery Catch Monitoring Program, 1998.Report NF98-05 prepared by LGL Ltd., Sidney, BC, for Nisga'a Tribal Council, New Aiyansh, BC.

Baxter, B.E. and C.G. Azak. 2003. Nisga'a non-salmon catch monitoring program: 2002. Report NF 02-06-prepared by Nisga'a Fisheries and LGL Limited, Sidney, BC, for the Nisga'aLisims Government, New Aiyansh, BC.

Baxter, B.E. and C.Y. Stephens. 2002. Nisga'a non-salmon catch monitoring program: 2001.Report NF 01-06 prepared by Nisga'a Fisheries and LGL Limited, Sidney, BC, for the Nisga'aLisims Government, New Aiyansh, BC.

Baxter, B.E. and C.Y. Stephens. 2004. Adult and juvenile coho salmon enumeration and coded-wire tag recovery analysis for Zolzap Creek, BC, 2003. Can. Manuscr. Rep. Fish. Aquat. Sci. 2684: vii + 44 p.

Baxter, B.E. and C.Y. Stephens. 2004. Nisga'a non-salmon catch monitoring program: 2003.Report NF 03-05 prepared by Nisga'a Fisheries and LGL Limited, Sidney, BC, for the Nisga'aLisims Government, New Aiyansh, BC.

Baxter, B.E. and C.Y. Stephens. 2005. Nisga'a non-salmon catch monitoring program: 2004.Report NF 04-06 prepared by Nisga'a Fisheries and LGL Limited, Sidney, BC, for the Nisga'aLisims Government, New Aiyansh, BC.

Baxter, B.E. and C.Y. Stephens. 2004. Nisga'a Catch Monitoring Program: 2003 Nisga'a Fishery. Report NF 03-04 prepared by LGL Limited, Sidney, BC, and Nisga'a Fisheries, NewAiyansh, BC, for the Nisga'a Lisims Government, New Aiyansh, BC.

Baxter, B.E. and C.Y. Stephens. 2005. Nisga'a Catch Monitoring Program: 2004 Nisga'a Fishery. Report NF 04-04 prepared by LGL Limited, Sidney, BC, and Nisga'a Fisheries, NewAiyansh, BC, for the Nisga'a Lisims Government, New Aiyansh, BC

Baxter, B.E. and R. Robinson. 2002. Assessment of juvenile coho populations in tributaries of the Nass River, BC. 2001. Report NF01-08 prepared by LGL Limited, Sidney, B.C., for Nisga'aLisims Government, New Aiyansh, B.C.

Baxter, B.E. and V. Johnson. 2000. Assessment of juvenile coho populations in tributaries of the Nass River, BC. 1999. Report NF99-09 prepared by LGL Limited, Sidney, B.C., for Nisga'a Tribal Council, New Aiyansh, B.C.

Baxter, B.E. and V. Johnson. 2001. Assessment of juvenile coho populations in tributaries of the Nass River, BC. 2000. Report NF00-13 prepared by LGL Limited, Sidney, B.C., for Nisga'a Lisims Government, New Aiyansh, B.C.

Baxter, B.E., R. Bussanich, and D. Miller. 2002. Juvenile sockeye salmon studies at Fred WrightLake, BC, 2001. Report NF 01-10 prepared by LGL Limited, Sidney, BC, for Nisga'a Lisims Government, New Aiyansh, BC.

Baxter, B.E. S. Sviatko, and B. Stewart. 2005. Adult Chinook salmon enumeration and coded-wire tag recovery analysis for Kincolith River, BC, 2002. Can. Manusc. Rep. Fish. Aquat. No 2712:vii + 46p.

Beacham, T.D., and C.C. Wood. 1999. Application of microsatellite DNA variation to estimation of stock composition and escapement of Nass River sockeye salmon (Onchorhynchusnerka). Can. J. Fish. Aquat. Sci. 56: 297-310.

Beveridge, I. A. and R. F. Alexander. 2015. An evaluation of Nass Area Chum Salmon escapement data, 1980–2014. Prepared by LGL Limited, Sidney, BC, for the Pacific Salmon Commission, Vancouver, BC, and the Nisga'a Lisims Government Fisheries and Wildlife Department, New Aiyansh, BC. Nisga'a Fisheries Report #14-26: v + 35 p.

Bocking, R.C. and K.K. English. 1993. Nass River Sport Fishery Catch Monitoring Program, 1992. Report NF 92-05 prepared by LGL Ltd., Sidney, BC, for the Nisga'a Tribal Council, NewAiyansh, BC.

Bocking, R.C., K.K. English, D. Peacock, and L. Jantz. 1993. Reconstruction of Nisga'a harvests of sockeye and chinook salmon. 1983-1991. Report to Nisga'a Tribal Council, NewAiyansh, BC

Bocking, R.C.B. 1993. A comparison of two gillnet test fisheries operated on the Nass River in1992. Prepared by LGL Limited, Sidney, BC, for Nisga'a Lisims Government, New Aiyansh, BC.

Bocking, R.C. 1995. Nass River Sport Fishery Catch Monitoring Program, 1994. Report NF94-03 prepared by LGL Ltd., Sidney, BC, for Nisga'a Tribal Council, New Aiyansh, BC.

Bocking, R.C. and K.K. English. 1996. Nisga'a Catch Monitoring Program, 1993 Nisga'aFishery. Can. Manuscr. Rep. Fish. Aquat. Sci. 2377: vii + 38 p.

Bocking, R.C. and K.K. English. 1994. Nass River Sport Fishery Catch Monitoring Program, 1993. Report NF 93-04 prepared by LGL Ltd., Sidney, BC, for the Nisga'a Tribal Council, New Aiyansh, BC.

Bocking, R.C., H.R. Frith, and J. Ferguson. 1997. Fisheries Impact Assessment: Greenville and Kincolith: Fisheries Resources. Report EA1086 prepared by LGL Limited, Sidney, BC, for Ministry of Transportation and Highways, Victoria, BC.

Bocking, R.C., B. Murray and H.R. Frith. 2000. Mark-recapture estimate of chinook smolt out migrations from the Kincolith River, 1999. Report NF 99-06 prepared by LGL Limited,Sidney, BC, for the Nisga'a Tribal Council, New Aiyansh, BC.

Bocking, R.C., B. Murray, C. Sliwinski and B.E. Baxter. 2001. Mark-recapture estimate of chinook smolt out migrations from the Kincolith River, 2000. Report NF 00-09 prepared by LGLLimited, Sidney, BC for the Nisga'a Lisims Government, New Aiyansh, BC.

Bocking, R.C., B.E. Baxter and C. Sliwinski. 2001. Nisga'a non-salmon catch monitoringprogram: 2000–2001. Report NF 00-06 prepared by Nisga'a Fisheries and LGL Limited, Sidney, BC, for the Nisga'a Lisims Government, New Aiyansh, BC.

Bocking, R.C. and D. Peacock. 2004. Habitat-based production goals for coho salmon in Fisheries and Oceans Statistical Area 3. Canadian Science Advisory Secretariat. Research Document 2004/129: viii + 77 p.

Bocking, R.C., C.K. Parken and D.Y. Atagi. 2005. Nass River steelhead habitat capability production model and preliminary escapement goals. Skeena Fisheries Report # SK 142: v + 69p.

Burd, B., R. MacDonald, and J. Boyd. 2000. Recovery of sediments and benthic infauna over 15 years following mine tailings deposition in a British Columbia fjord. Marine Environmental Research, 49: 145–175.

Bussanich, R.B., R.C. Bocking R.F. Alexander. 2009. Feasibility Study for enhancing Nass River Chinook salmon using a low-technology enhancement facility at Tseax River, 2008. Prepared by LGL Limited, Sidney, BC, for the Pacific Salmon Commission, Vancouver, BC, andthe Nisga'a Lisims Government Fisheries and Wildlife Department, New Aiyansh, BC. Nisga'a Fisheries Report #08-19: viii + 117 p.

Coastal and Ocean Resources. 2020. ShoreZone Habitat Mapping summary report for the Nisga'a survey area. Prepared for Nisga'a Lisims Government, New Aiyansh, British Columbia.

Cooper, K. L., M. R. S. Johannes, and K. D. Hyatt. 1994a. Limnology of salmonid nursery lakes of the Nass River system (1991-1993) under study by the interim measures fisheries program. Can. Data. Rep. Fish. Aquat. Sci. 29 p.

Cox-Rogers, S. 2003. Pre-season 2003 stock size forecasts for Nass River and Skeena River sockeye salmon. PSARC Working Paper S2003-01. Fisheries and Oceans Canada, Nanaimo, BC.

Dale, N.G. 1997. An overview and strategic assessment of key conservation, recreation and cultural heritage values in British Columbia's marine environment. Prepared by ESSA Technologies Ltd., Vancouver, BC for BC Corporate Information Services, Victoria, BC. https://waves-vagues.dfo-mpo.gc.ca/Library/227885.pdf

Demarchi, M.W. 1997. Wildlife and habitat impact assessment Greenville to Kincolith Highway Project. LGL Report EA1085. Prepared for BC Ministry of Transportation and Highways, Victoria, BC.

Demarchi, M.W. 2000. Moose in the Nass Wildlife area. Report prepared for Forest Renewal BC, Skeena-Bulkley Region, Smithers, B.C., and Ministry of Environment, Lands and Parks, Skeena Region, Smithers, B.C., by LGL Limited, Sidney, B.C. 41 pages + appendices.

Demarchi, M.W. 2002. Grizzly bear DNA sampling in the Nass Wildlife Area. Report prepared for Forest Renewal BC, Skeena Region, Smithers, B.C., and Ministry of Sustainable Resource Management, Skeena Region, Smithers B.C., by LGL Limited, Sidney, B.C. 134 pages.

Demarchi, M.W. 2003. Grizzly bear monitoring for the Greenville to Kincolith road project2002 annual report. Prepared for BC Ministry of Water, Land and Air Protection by LGL Limited, Sidney, BC. 54 pages. EA1429.1.

Demarchi, M.W. 2004. Grizzly bear monitoring for the Greenville to Kincolith roadproject 2003 Annual Report. Prepared for BC Ministry of Water, Land and Air Protection, Smithers, BC by LGL Limited, Sidney, BC. 42 pages. EA1429.1.

Demarchi, M.W. 2005. Grizzly bear monitoring for the Greenville to Kincolith roadproject 2004 Annual Report. Prepared for BC Ministry of Water, Land and Air Protection, Smithers, BC by LGL Limited, Sidney, BC. 43 pages. EA1429.2.

Demarchi, M.W. 2006. Grizzly bear monitoring for the Greenville to Kincolith roadproject 2005 Annual Report. Prepared for BC Ministry of Water, Land and Air Protection, Smithers, BC by LGL Limited, Sidney, BC. 45 pages.

Demarchi, M.W. 2007. A stratified random block survey of moose in the Nass River Watershed, January 2007. Report prepared for the Nass Wildlife Committee by LGL Limited,Sidney, BC. 34 pages.

Demarchi, M.W. 2007. Grizzly bear monitoring for the Greenville to Kincolith roadproject 2006 Annual Report. Prepared for BC Ministry of Water, Land and Air Protection, Smithers, BC by LGL Limited, Sidney, BC. 58 pages. EA1429.3.

Demarchi, M., D. Miller, D.JF. McCubbing, and L.E. Burroughs. 2002. Evaluating and deploying remote systems to enumerate salmon escapement in Nass area indicator streams. Prepared by LGL Limited, Sidney, BC, and Instream Fisheries Consultants, Vancouver, BC forNisga'a Lisims Government, New Aiyansh, BC.

Demarchi, M.W. and G.F. Searing. 1996. Assessment of the wildlife resources along the proposed highway corridor between Greenville and Kincolith. Report prepared for Ministry of Transportation and Highways by LGL Limited, Sidney, BC. 18 pages.

Demarchi, M.W. and G.F. Searing. 1996. Overview of the wildlife resources of the proposed access corridor between Greenville and Kincolith. Report prepared for Ministry ofTransportation and Highways by LGL Limited, Sidney, BC. 27 pages.

Demarchi, M.W. and S.R. Johnson. 1998. Moose radio-collaring and inventory in the Nisga'a Traditional Territory. 1997 annual report. Report prepared for Forest Renewal B.C. by Nisga'a Tribal Council, New Aiyansh, BC. 38 pages + appendices.

Demarchi, M.W. and S.R. Johnson. 1999. Moose Radio-Collaring and Inventory in the Nass Wildlife Area (NWA) 1998 Annual Report. Report prepared for Forest Renewal BC, Skeena-Bulkley Region, Smithers, B.C., and Ministry of Environment, Lands and Parks, SkeenaRegion, Smithers, B.C., by LGL Limited, Sidney, B.C. 32 pages + appendices.

Demarchi, M.W. and S.R. Johnson. 2000. Grizzly bears in the Nass Wildlife Area, finalreport. Report prepared for Forest Renewal BC, Skeena-Bulkley Region, Smithers, B.C., and Ministry of Environment, Lands and Parks, Skeena Region, Smithers B.C., by LGL Limited, Sidney, B.C. 67 pages + appendices.

Demarchi, M.W., and G. Schultze. 2011. A stratified random block survey of moose inthe Nass River Watershed: February 2011. LGL Report EA3270. Prepared for the Nisga'a Lisims Government.

Demarchi, M.W., and S.R, Johnson. 1998. Grizzly bear inventory in the Nisga'a Wildlife Management Area, 1997 annual report. Report prepared for Forest Renewal B.C. byNisga'a Tribal Council, New Aiyansh, BC. 27 pages + appendices.

Demarchi, M.W., G.F. Searing and S.R. Johnson. 1997. Moose radio-collaring and inventory in the Nisga'a Traditional Territory. Final 1996 annual report. Report prepared forForest Renewal B.C. by Nisga'a Tribal Council, New Aiyansh, BC. 28 pages.

Demarchi, M.W., S.R. Johnson and G.F. Searing. 1997. Mountain goat inventory in the Nisga'a Wildlife Management Area, Region A. Final 1996 annual report. Report prepared for Forest Renewal B.C. by Nisga'a Tribal Council, New Aiyansh, BC. 13 pages.

Demarchi, M.W., S.R. Johnson. 1998. Mountain goat inventory in the Nisga'a Wildlife Management Area, Region A. 1997 annual report. Report prepared for Forest Renewal B.C. by Nisga'a Tribal Council, New Aiyansh, BC. 25 pages + appendices.

Demarchi, M.W., V.C. Hawkes, R.K. McCann, and D. Paetkau. 2010. Grizzly Bear Monitoring Program for the Greenville to Kincolith Road Project: final project report. LGLReport EA1429. Prepared for BC Ministry of Environment, Smithers, B.C.

Demarchi, M.W., V.C. Hawkes. 2009. Grizzly bear monitoring and education for the Greenville to Kincolith Road Project, 2008 annual report. LGL Report EA1429.3. Prepared forBC Ministry of Environment, Smithers, B.C. 35 p.

Demarchi, Mike W., Sergei Yazvenko and Lucia Ferreria. 1997. Wildlife impact assessment: Greenville to Kincolith Highway Project. Interim report prepared for B.C. Ministry of Transportation and Highways by LGL Limited, Sidney, B. C. 20 pages + appendices.

Duguid, W.D., R. F. Alexander and R. C. Bocking. 2011. The Seaskinnish Creek WeirProject 2010: Mark-recapture sampling program for Middle and Upper Nass River adult Coho salmon stocks caught and tagged at the Gitwinksihlkw fishwheels. Prepared by LGL Limited,Sidney, BC, for the Pacific Salmon Commission, Vancouver, BC, and the Nisga'a Lisims Government Fisheries and Wildlife Department, New Aiyansh, BC. Nisga'a Fisheries Report #10-42: ix + 93 pp.

English, K.K. and R.C. Bocking. 1993. Nisga'a Catch Monitoring Program, 1992 Nisga'a Fishery. Report NF 92-03 prepared by LGL Limited, Sidney, BC, for the Nisga'a TribalCouncil, New Aiyansh, BC.

Fissel D.B, Y. Lin, A. Scoon, et al. (2017). The variability of the sediment plume and ocean circulation features of the Nass River Estuary, British Columbia. Satellite Oceanography and Meteorology, 2(2): 316. http://dx.doi.org/10.18063/SOM.v2i2.316

Hall. P.E.D., B, Bocking, Hume, J.M., R.C, Selbie, D.T, Candy, J.R, Alexander R.F, and Gottesfeld, A.S. 2011 (in review). Status of Nass River Sockeye Salmon (Oncorhynchus nerka). DFO Can. Sci. Advis. Sec. Res. Doc. 2011/nnn.

Hawkes, V.C., M.W. Demarchi. 2008. Grizzly bear monitoring for the Greenville to Kincolith Road Project, 2007 annual report. LGL Report EA1429.4. Prepared for BC Ministryof Environment. 58 p.

Hendersen, M.A., A. Cass, C.C. Wood, D. Rutherford, R. Diewart, and A.L. Jantz. 1991.Assessment of the status of Nass River sockeye salmon (Oncorhynchus nerka). Pacific Stock Assessment Review Committee Working Paper S91-11.

Holst, M., M.W. Demarchi, and T. McKay. 2007. Occurrence of marine mammals and birds in the Nass Marine Area, with a focus on the Lower Nass River, British Columbia, during the 2007 eulachon run. LGL Report EA1842-11. Prepared for Fisheries and Oceans Canada, Prince Rupert, BC.

Jantz, A. L., D. Wagner, D. Burnip, and S. Hildebrandt. 1989. Salmon escapement and timing data for Statistical Area 3 of the North Coast of British Columbia. Prepared by the Department of Fisheries and Oceans, Canada. 167 p.

Johnson, S.R. and M.W. Demarchi. 1999. Grizzly Bear Inventory in the Nass Wildlife Area (NWA) 1998 Annual Report. Report prepared for Forest Renewal BC, Skeena-Bulkley Region, Smithers, B.C., and Ministry of Environment, Lands and Parks, Skeena Region, Smithers B.C., by LGL Limited, Sidney, B.C. 40 pages + appendices.

Johnson, S.R., M.W. Demarchi and G.F. Searing. 1997. Grizzly bear inventory in the Nisga'a Wildlife Management Area, final 1996 annual report. Report prepared for Forest Renewal B.C. by Nisga'a Tribal Council, New Aiyansh, BC. 34 pages.

JTC. 2004b. Nass area salmon fisheries management report, 2001: Update version 27 April 2004. Report prepared by the Nisga'a Joint Technical Committee for the Nisga'a JointFisheries Management Committee.

JTC. 2004c. Nass area salmon fisheries management report, 2002: Update version 27 April 2004. Report prepared by the Nisga'a Joint Technical Committee for the Nisga'a JointFisheries Management Committee.

Koski, W.R. and K.K. English. 1996. Status of Nass River Steelhead. Prepared by LGL Limited, Sidney, BC, for the BC. Ministry of Environment, Lands, and Parks, Smithers, BC. Nisga'a Fisheries Report NF01-02: 13 p.

Koski, W.R., M.R. Link, and K.K. English. 1996b. Distribution, timing, fate and numbers of chinook salmon returning to the Nass River Watershed in 1992. Can. Tech. Rep.Fish. Aquat. Sci. No. 2129: xi + 141 p.

Koski, W.R., R.F. Alexander, and K.K. English. 1996a. Distribution, timing, fate and numbers of chinook salmon returning to the Nass River Watershed in 1993. Can. Manuscr. Rep.Fish. Aquat. Sci. No. 2371: xi + 143 p.

Link, M. R. 1999. The 1996 fishwheel project on the Nass River, BC. Can. Manuscr.Rep. Fish. Aquat. Sci. 2476: xi + 92 p.

Link, M. R. and R.M. Peterman. 1998. Estimating the value of in-season estimates of abundance of sockeye salmon (Onchorhynchus nerka) Can. J. Fish. Aquat. Sci. 55: 1408-1418.

Link, M. R., and A. C. Gurak. 1997. The 1995 Fishwheel Project on the Nass River, BC.Can. Manuscr. Rep. Fish. Aquat. Sci. 2422: xi + 99 p.

Link, M. R., and K. K. English. 1996. The 1993 Fishwheel Project on the Nass Riverand an Evaluation of Fishwheels as an In-season Management and Stock Assessment Tool forthe Nass River. Can. Tech. Rep. Fish. Aquat. Sci. 2130: xi + 103 p.

Link, M. R., and K. K. English. 1997. The 1994 Fishwheel Project on the Nass River,BC. Can. Manuscr. Rep. Fish. Aquat. Sci. 2421: xi + 93 p.

Link, M. R., K. K. English, and R. C. Bocking. 1996. The 1992 Fishwheel Project onthe Nass River and an Evaluation of Fishwheels as an In-season Management and Stock Assessment Tool for the Nass River. Can. Manuscr. Rep. Fish. Aquat. Sci. 2372: x + 82 p.

Link, M. R., R. F. Alexander, and A. C. Blakley. 2001. The 1997 fishwheel project onthe Nass River, BC. Can. Manuscr. Rep. Fish. Aquat. Sci. 2555: xi + 100 p.

Link, M.R. 1998. Evaluation of the utility of using fishwheels to assess the abundance of steelhead returning to the Nass River, BC. Unpublished report prepared by LGL Limited for BC Ministry of Environment, Lands and Parks, Smithers, BC. vii + 49 p.

Link, M.R. and B.L. Nass. 1999. Estimated abundance of chinook salmon returning tothe Nass River, BC, 1997. Can. Manuscr. Rep. Fish. Aquat. Sci. 2475: x + 64 p.

Mathews, M. A., A. C. Blakley, R. C. Bocking, C. Y. Stephens, and N. S. Morven. 2012.Nisga'a Catch Monitoring Program 2006-2011. Prepared by LGL Limited, Sidney, BC, and Nisga'a Fisheries and Wildlife Department, New Aiyansh, BC, for Nisga'a Lisims Government, New Aiyansh, BC. Nisga'a Fisheries Report #11-03: vii + 115 p.

MacLean, N., M. Demarchi and M. Todd. 2006. Winter habitat verification for Mountain Goats in the Nass study area. LGL Limited, Sidney, BC, report. 99 pages.

McCreight, D.K. M.R.S. Johanees, S.P. Murdoch, and K.D. Hyatt. 1993. Fish catch statistics in salmonid nursery lakes of the Nass River system under study by the Interim Measures Fisheries Program. Can. Dat. Rep. Fish. Aquat. Sci. 903.

Murray, R.B, R.C. Bocking, and M.W. Demarchi. 1996. Overview route assessment forthe proposed linking of Greenville and Kincolith: Fisheries Resources. Report EA1028 prepared by LGL Limited, Sidney, BC, for Ministry of Transportation and Highways, Victoria, BC.

Nass, B.L. 1994. A biophysical inventory of coastal resources and assessment of shellfish culture capability in the Nisga'a land claim area, B.C., 1993. Report NF- 93-09 prepared by LGL Limited, Sidney BC, for the Nisga'a Tribal Council, New Aiyansh, BC.

Nass, B.L. 1995. Coastal Shore type classification and assessment of intertidal bivalve populations in the Nisga'a Land Claim Area, B.C., 1994. LGL Limited Report EA650. Prepared for Nisga'a Tribal Council.

Nass, B.L. 1996. Nass River Sport Fishery Catch Monitoring Program, 1995. Report NF95-06 prepared by LGL Ltd., Sidney, BC, for Nisga'a Tribal Council, New Aiyansh, BC.

Nass, B.L. 1997. Nass River Sport Fishery Catch Monitoring Program, 1996. Report NF96-05 prepared by LGL Ltd., Sidney, BC, for Nisga'a Tribal Council, New Aiyansh, BC.

Nass, B.L. 1998. Nass River Sport Fishery Catch Monitoring Program, 1997. Report NF 97-05 prepared by LGL Limited, Sidney, BC, for the Nisga'a Tribal Council, New Aiyansh,BC.

Nass, B.L. and A.C. Blakley. 1998. Nisga'a Catch Monitoring Program: 1997 Nisga'a Fishery. Report NF 97-02 prepared by LGL Limited, Sidney, BC, for the Nisga'a Tribal Council, New Aiyansh, BC.

Nass, B.L. and A.C. Gurak. 1997. Nisga'a Catch Monitoring Program, 1996 Nisga'a Fishery. Report NF 96-02 prepared by LGL Limited, Sidney, BC, for the Nisga'a Tribal Council, New Aiyansh, BC.

Nass, B.L. and H.R. Frith. 2001. Adult and juvenile coho salmon enumeration and coded-wire tag recovery analysis for Zolzap Creek, BC, 1997. Can. Manuscr. Rep. Fish. Aquat.Sci. 2565: viii + 41 p.

Nass, B.L. and V. Johnson. 1999. Assessment of juvenile coho populations in tributariesof the Nass River, BC. 1998. Report NF98-09 prepared by LGL Limited, Sidney, B.C., for Nisga'a Tribal Council, New Aiyansh, B.C.

Nass, B.L., and K.K. English. 1997. Nisga'a bivalve harvest areas and surveys of bivalve beaches in the Nass Area. Report NF 96-06 prepared by LGL Limited, Sidney, B.C. forthe Nisga'a Tribal Council, New Aiyansh, B.C., Ministry of Agriculture, Fisheries and Food, Victoria, B.C. and the Department of Fisheries and Oceans, Vancouver, B.C.

Nass, B.L., R.C. Bocking, and K.K. English. 1995. Nisga'a Catch Monitoring Program:1994 Nisga'a Fishery. Report NF 94-01 prepared by LGL Limited, Sidney, BC, for the Nisga'a Tribal Council, New Aiyansh, BC.

Nass, B.L., R.C. Bocking, and K.K. English. 1996. Nisga'a Catch Monitoring Program:1995 Nisga'a Fishery. Report NF 95-01 prepared by LGL Limited, Sidney, BC, for the Nisga'a Tribal Council, New Aiyansh, BC.

Nelson, J. 2001. Nass summer-run steelhead genetic analysis, 2001: 1) development and application of a genetic stock identification system for Nass summer run steelhead populations and 2) stock composition analysis of fishwheel samples from years: 1998, 1999, and2000. Report prepared by SeaStar Bio Inc., Victoria, BC for the Fisheries Branch, Ministry of Environment, Lands and Parks, Smithers, BC.

Neufeld, M.D. and D.Y. Atagi. 2001 (draft). Preliminary estimate of the escapement of summer steelhead to the Nass River, 2000. Draft report prepared by BC Fisheries Branch, Ministry of Environment, Lands and Parks, Smithers, BC. Skeena Fisheries Report SK. 66p.

Nisga'a Fisheries. 1997. Nisga'a Fisheries Program: Progress Report, December 1997.Report prepared by Nisga'a Fisheries for Ted Gale, Aboriginal Fisheries, Department of Fisheries and Oceans, Ottawa. Nisga'a Fisheries Report #NF97-01.

Nisga'a Fisheries. 1999. Nisga'a Fisheries Program: Final Report of 1998 Projects. Report prepared by Nisga'a Fisheries for NLG/DFO Technical Committees. Nisga'a FisheriesReport # NF98-01.

NFWD (Nisga'a Fish and Wildlife Department). 2000. Nisga'a Fisheries Program: Final Report of 1999 Projects. Report prepared by Nisga'a Fisheries for NLG/DFO TechnicalCommittees. Nisga'a Fisheries Report # NF99-01.

NFWD (Nisga'a Fish and Wildlife Department). 2001. Nisga'a Fisheries Program: Final Report of 2000 Projects. Report prepared by Nisga'a Fisheries and Wildlife Departmentfor the Nass Joint Technical Committee. Nisga'a Fisheries Report # NF00-01: 18 p.

NFWD (Nisga'a Fish and Wildlife Department). 2002. Nisga'a Fisheries Program: Final Report of 2001 Projects. Report prepared by Nisga'a Fisheries and Wildlife Departmentfor the Nass Joint Technical Committee. Nisga'a Fisheries Report #NF01-01: 20 p.

NFWD (Nisga'a Fish and Wildlife Department). 2003. Nisga'a Fisheries Program: Final Report of 2002 Projects. Report prepared by Nisga'a Fisheries and Wildlife Departmentfor the Nass Joint Technical Committee. Nisga'a Fisheries Report #NF02-01: 19 p.

NFWD (Nisga'a Fish and Wildlife Department). 2004. Nisga'a Fisheries Program: Final Report of 2003 Projects. Report prepared by Nisga'a Fisheries and Wildlife Departmentfor the Nisga'a-Canada-BC Nass River Joint Technical Committee. Nisga'a Fisheries Report #NF03-01: 21 p.

NFWD (Nisga'a Fish and Wildlife Department). 2005. Nisga'a Fisheries Program: Final Report of 2004 Projects. Report prepared by Nisga'a Fisheries and Wildlife Departmentfor the Nisga'a-Canada-BC Nass River Joint Technical Committee. Nisga'a Fisheries Report #NF04-01: 23 p.

NFWD (Nisga'a Fish and Wildlife Department). 2006. Nisga'a Fisheries Program: Final Report of 2005 Projects. Report prepared by Nisga'a Fisheries and Wildlife Departmentfor the Nass Joint Technical Committee. Nisga'a Fisheries Report #NF05-01: 26 p.

NFWD (Nisga'a Fish and Wildlife Department). 2007. Nisga'a Fisheries Program: Final Report of 2006 Projects. Report prepared by Nisga'a Fisheries and Wildlife Departmentfor the Nass Joint Technical Committee. Nisga'a Fisheries Report #NF06-01: 29 p.

NFWD (Nisga'a Fish and Wildlife Department). 2008. Nisga'a Fisheries Program: Final Report of 2007 Projects. Report prepared by Nisga'a Fisheries and Wildlife Departmentfor the Nass Joint Technical Committee. Nisga'a Fisheries Report #NF07-01: 31 p.

NFWD (Nisga'a Fish and Wildlife Department). 2009. Nisga'a Fisheries Program: Final Report of 2008 Projects. Report prepared by Nisga'a Fisheries and Wildlife Departmentfor the Nass Joint Technical Committee. Nisga'a Fisheries Report #NF08-01: 28 p.

NFWD (Nisga'a Fish and Wildlife Department). 2010. Nisga'a Fisheries Program: Final Report of 2009 Projects. Report prepared by Nisga'a Fisheries and Wildlife Departmentfor the Nass Joint Technical Committee. Nisga'a Fisheries Report #NF09-01: 26 p.

NFWD (Nisga'a Fish and Wildlife Department). 2011. Nisga'a Fisheries Program: Final Report of 2010 Projects. Report prepared by Nisga'a Fisheries and Wildlife Departmentfor the Nass Joint Technical Committee. Nisga'a Fisheries Report #NF10-01: 32 p.

NFWD (Nisga'a Fish and Wildlife Department). 2012. Nisga'a Fisheries Program: Final Report of 2011 projects. Report prepared by Nisga'a Fisheries and Wildlife Department for the Nass Joint Technical Committee. Nisga'a Fisheries Report #11-01: 36 p.

NFWD (Nisga'a Fish and Wildlife Department). 2013. Nisga'a Fisheries Program: Final Report of 2012 projects. Report prepared by Nisga'a Fisheries and Wildlife Department for the Nass Joint Technical Committee. Nisga'a Fisheries Report #12-01: 34 p.

NFWD (Nisga'a Fish and Wildlife Department). 2014. Nisga'a Fisheries Program: FinalReport of 2013 projects. Report prepared by the Nisga'a Fisheries and Wildlife Department for the Nass Joint Technical Committee. Nisga'a Fisheries Report #13-01: 37 p.

NFWD (Nisga'a Fish and Wildlife Department). 2015. Nisga'a Fisheries Program: FinalReport of 2014 projects. Report prepared by the Nisga'a Fisheries and Wildlife Department for the Nass Joint Technical Committee. Nisga'a Fisheries Report #14-01: 40 p.

NFWD (Nisga'a Fish and Wildlife Department). 2016 (draft). Nisga'a Fisheries Program:Interim Report of 2015 projects. Report prepared by the Nisga'a Fisheries and Wildlife Department for the Nass Joint Technical Committee. Nisga'a Fisheries Report #15-01

NFWD (Nisga'a Fish and Wildlife Department). 2017 (draft). Nisga'a Fisheries Program:Interim Report of 2016 projects. Report prepared by the Nisga'a Fisheries and Wildlife Department for the Nass Joint Technical Committee. Nisga'a Fisheries Report #14-01: 40 p.

Noble, C.A.J., M.A. Mathews, R.C. Bocking, and N.S. Morven. 2015 (draft). Nass RiverSport Fishery Catch Monitoring Program, 2006–2014. Prepared by LGL Limited, Sidney, BC, and Nisga'a Fisheries and Wildlife Department, New Aiyansh, BC, for Nisga'a Lisims Government, New Aiyansh, BC. Nisga'a Fisheries Report #14-06: iv + 43 p.

Parken, C.K. 1998. Mean smolt age estimation and under-aging bias of Nass River Steelhead populations. Report prepared by Cascadia Natural Resource Consulting, Smithers, BC for Fisheries Branch, Ministry of Environment, Lands and Parks, Smithers, BC. Skeena Fisheries Report SK-117.

Parken, C.K. and D.Y. Atagi. 2000 (draft). Preliminary estimate of the escapement of summer steelhead to the Nass River, 1999. Draft report prepared by Cascadia Natural ResourceConsulting, Smithers, BC for Fisheries Branch, Ministry of Environment, Lands and Parks, Smithers, BC. 76 p.

Parken, C.K. and D.Y. Atagi. 2000. Preliminary estimate of the escapement of summer steelhead to the Nass River, 1998. Report prepared by Cascadia Natural Resource Consulting, Smithers, BC for Fisheries Branch, Ministry of Environment, Lands and Parks, Smithers, BC. Skeena Fisheries Report SK-124.

Parken, C.K. and D.Y. Atagi. 2001 (draft). Evaluation of sampling selectivity at the Nass River fishwheels pertaining to summer steelhead. Draft report prepared by Cascadia Natural Resource Consulting, Smithers, BC for Fisheries Branch, Ministry of Environment, Lands and Parks, Smithers, BC. Skeena Fisheries Report SK. 45 p.

Remington, D. 1993. Coastal wetlands habitat assessment and classification for northwestern British Columbia. North Coast Wetlands Program report for the Pacific Estuary Conservation Program. https://www.for.gov.bc.ca/hfd/library/documents/bib45376.pdf https://www.for.gov.bc.ca/hfd/library/documents/bib70358.pdf

Rutherford, D.T., C.C. Wood, A.L. Jantz, and D. R. Southgate. 1994. Biological characteristics of Nass River sockeye salmon (*Onchorhynchus nerka*) and their utility for stockcomposition analysis of test fishery samples. Dept. Fish. Ocean. Res. Serv. Br. Can. Tech. Rep.Fish. And Aquat. Sci. No 1988.

Ryder, J., J. Kenyon, D. Buffett, K. Moore, M. Ceh, and K. Stipec. 2007. An integrated biophysical assessment of estuarine habitats in British Columbia to assist regional conservation planning. Yukon, BC. Canadian Wildlife Service Technical Report Series No. 476 https://docplayer.fr/167443564-An-integrated-biophysical-assessment-of-estuarine-habitats-in-british-columbia-to-assist-regional-conservation-planning.html.

Searing, G.F., T. Hollenhorst, S. Yazvenko, S.R. Johnson and M.W. Demarchi. 1997.Wildlife Habitat Assessment in the Nisga'a Wildlife Management Area: 1996 Annual Report.Report prepared for Forest Renewal B.C. by Nisga'a Tribal Council, New Aiyansh, B.C. and LGL Limited, Sidney, BC.

Stephens, C.Y. 2000. The Kincolith River enhancement program for Chinook, coho and chum salmon, 1998-1999. Results from the rearing of 1998 brood and release of 1997 brood. Report prepared by Nisga'a Tribal Council, New Aiyansh, BC. NF#98-07.

Stephens, C.Y. 2001. The Kincolith River enhancement program for Chinook and chum salmon, 1999-2000. Results from the rearing of 1999 brood and release of 1998 brood. Report prepared by Nisga'a Tribal Council, New Aiyansh, BC. NF#99-07.

Stephens, C.Y. 2002. The Kincolith River enhancement program for chinook and chumsalmon, 2000-2001. Results from the rearing of 2000 brood and the release of 1999 brood. Report prepared by Nisga'a Lisims Government, New Aiyansh, B.C. Report NF#00-03.

Stephens, C.Y. and R.F. Alexander. 1999. The Kincolith River enhancement program for Chinook, coho and chum salmon, 1997-98. Results from the rearing of 1997 brood and release of 1996 brood. Report prepared by Nisga'a Tribal Council, New Aiyansh, BC. NF#97-07.

Stephens, C.Y. and S. Humble. 2006. Nisga'a Catch Monitoring Program: 2005 Nisga'a Fishery. Report NF#05-03 prepared by Nisga'a Fisheries, New Aiyansh, BC, and LGL Limited,Sidney, BC, for the Nisga'a Lisims Government, New Aiyansh, BC.

Stephens, C.Y., R.F. Alexander, and B.L. Nass. 1998. The Kincolith River enhancementprogram for Chinook, coho and chum salmon, 1996-97. Results from the rearing of 1996 brood and release of 1995 brood. Report prepared by Nisga'a Tribal Council, New Aiyansh, BC. NF#96-08.

Stewart, B.B. 2002. The Kincolith River enhancement program for Chinook and chum salmon, 2001-2002. Results from the rearing of 2001 brood and release of 2000 brood. Reportprepared by Nisga'a Lisims Government, New Aiyansh, BC. Nisga'a Fisheries Report NF#01- 02

Stewart, B.B. 2003. The Kincolith River enhancement program for Chinook and chumsalmon, 2002-2003. Results from the rearing of 2002 brood and release of 2001 brood. Reportby Nisga'a Lisims Government, New Aiyansh, BC. Nisga'a Fisheries Report NF#02- 01.

Stewart, B.B. 2005. Kincolith Community Economic Development Program 2004 annual report for Chinook salmon: 1. Egg collection (brood 2004), 2. Fry rearing (brood 2003),and 3. Smolt release (brood 2002). Report prepared by Nisga'a Lisims Government, New Aiyansh, BC. Nisga'a Fisheries Report NF#04-02.

Stewart, B.B. and R.F. Alexander. 2007. Kincolith Hatchery Program 2006 annual report for Chinook and chum salmon: 1. Adult salmon enumeration, 2. Egg collection (brood2006), 3. Fry rearing (brood 2005), and 4. Smolt release (brood 2004). Report prepared by Nisga'a Fisheries, New Aiyansh, BC, and LGL Limited, Sidney, BC, for the Nisga'a Lisims Government, New Aiyansh, BC. Nisga'a Fisheries Report NF#06-02.

Stewart, B.B. and R.F. Alexander. 2008. Kincolith Hatchery Program 2007 annual report for Chinook and chum salmon: 1. Adult salmon enumeration, 2. Egg collection (brood 2007), 3. Fry rearing (brood 2006), and 4. Smolt release (brood 2005). Report prepared by Nisga'a Fisheries, New Aiyansh, BC, and LGL Limited, Sidney, BC, for the Nisga'a LisimsGovernment, New Aiyansh, BC. NF#07-39.

Stewart, B.B. and R.J. Bussanich. 2006. Kincolith Hatchery Program 2005 annual reportfor Chinook and chum salmon: 1. Adult salmon enumeration, 2. Egg collection (brood 2005), 3. Fry rearing (brood 2004), and 4. Smolt release (brood 2003). Report prepared by Nisga'a Fisheries, New Aiyansh, BC, and LGL Limited, Sidney, BC, for the Nisga'a Lisims Government, New Aiyansh, BC. Nisga'a Fisheries Report NF#05-02.

Sviatko, S. and B. E. Baxter. 2002. Adult Chinook salmon enumeration and coded-wiretag recovery analysis for Kincolith River, BC, 2001. Report NF 01-12 prepared by LGL Limited, Sidney, BC for the Nisga'a Lisims Government, New Aiyansh, BC.

Tiley, M.H., B.E. Baxter, B. B. Stewart, S. Sviatko, and G. E. Gillespie. Draft. Intertidal bivalve surveys of Portland and Observatory Inlets, British Columbia – 2002 and 2003. Nisga'a Fisheries Report #03-33: xv + 153 p.

Todd, I.S. and F.V. Dickson. 1970. Nass River sockeye salmon: a review of the commercial fishery and a summary of the 1963 to 1969 biological programs. Can. Dept. Fish.And For. Pac. Reg. Tech. Rep. No. 1970-10.

Yazvenko, S.B. and G.F. Searing. 1998. Wildlife Habitat Assessment in the Nisga'a Wildlife Management Area: 1997 Annual Report. Report prepared for Forest Renewal B.C. by Nisga'a Tribal Council, New Aiyansh, B.C. and LGL Limited, Sidney, B.C. 38 pages + appendices.

Yazvenko, S.B., G.F. Searing and M.W. Demarchi. 2000. Wildlife habitat assessment inthe Nass Wildlife Area. Final report prepared for Forest Renewal B.C. and B.C. Ministry of Environment, Lands and Parks by Nisga'a Tribal Council, New Aiyansh, B.C. and LGL Ltd., Sidney. 69 pages + appendices.

APPENDIX 6 – RECORD OF INDIGENOUS ENGAGEMENT

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Indigenous Nation	Summary of Early Engagement Activities
Lax Kw'alaams Band	March 10, 2021 - Oral announcement of the Project from a designated representative of NLG at the FNCI Technical Group meeting to the FNCI technical representatives of Lax Kw'alaams, Metlakatla and Haisla.
	March 11, 2021 - Email correspondence with letter from the NLG to the elected leadership of Lax Kw'alaams Band and Metlakatla First Nation introducing the Project. The letter offered an opportunity for senior leadership of Nisga'a Nation, Lax Kw'alaams Band and Metlakatla First Nation to meet.
	March 17, 2021 - Email correspondence with letter from Lax Kw'alaams Band and Metlakatla First Nation to NLG in relation to the Project, copied to other members of the Proponent ownership group.
	March 31, 2021 - Written correspondence from Director Environmental and Regulatory Affairs to technical contacts Lax Kw'alaams Band. The letter once again introduces the Project and its location, including Project's ownership group. The letter appends a short Fact Sheet and the letters from Nisga'a leadership to Indigenous Nations. The letter requests collaboration in arranging a date for an initial virtual meeting to discuss optimal ways the Project can engage with Lax Kw'alaams Band.
	April 01, 2021 - Email correspondence between Proponent and Lax Kw'alaams Band contact confirming receipt of Director Environmental and Regulatory Affairs Technical letter.
	April 05, 2021 - Email correspondence from Lax Kw'alaams legal counsel to Director Environmental and Regulatory Affairs confirming preferred contact and that the Proponent write Lax Kw'alaams Band providing a rationale as to why a meeting is requested.
	April 09, 2021 - Email correspondence from NLG to Lax Kw'alaams Band and Metlakatla First Nation in response to March 17, 2021 letter from both Nations.
	April 13, 2021 - Email correspondence from Director Environmental and Regulatory Affairs to Lax Kw'alaams legal counsel reiterating request to meet and to virtually present Project.
	April 21, 2021 - Email correspondence from Lax Kw'alaams legal counsel to the Director External Relations agreeing to meet May 3 to present their position on the Ksi Lisims Natural Gas Liquefaction and Marine Terminal LNG Project.
	April 23, 2021 - Email correspondence from Director Environmental and Regulatory Affairs to Lax Kw'alaams legal counsel. Proponents welcomed a meeting with Lax Kw'alaams and proposed to hold the Project Introductory Meeting during the first week of May 2021.
	April 29, 2021 - Follow-up email correspondence from the Director External Relations to Lax Kw'alaams legal counsel offering to meet May 3, 2021 to listen to Lax Kw'alaams position on the Project and to present the Project and Proponent and to listen to how Lax Kw'alaams wish to be engaged on the Project.
	April 30, 2021 - Follow-up email correspondence from Lax Kw'alaams confirming a Project introduction meeting on May 3, 2021.
	May 03, 2021 - Project introduction meeting with Lax Kw'alaams Band. Proponent offered to share draft early engagement and other Project agreements for Lax Kw'alaams Band consideration. Proponent offered to share a copy of the Project Introductory Meeting presentation slides and draft meeting notes for Lax Kw'alaams Band review.

Indigenous Nation	Summary of Early Engagement Activities
Lax Kw'alaams Band (cont'd)	May 04, 2021 - Email correspondence from Director External Relations sent draft meeting notes and a draft Early Engagement Capacity Funding Agreement to Lax Kw'alaams legal counsel.
	May 06, 2021 - Email correspondence from Director Environmental and Regulatory Affairs to Lax Kw'alaams legal counsel. Proponents shared electronic access to documents to facilitate Lax Kw'alaams Band access and review of the Projects Baseline Study Plan and associated draft Federal and Provincial investigative permit applications.
	May 18, 2021 - Email correspondence from Lax Kw'alaams legal counsel to Director External Relations confirming their position on the Project and that they had no interest in a follow up meeting.
	May 26, 2021 - Meeting between Lax Kw'alaams Band and the Proponent. Lax Kw'alaams Band stated their position that Lax Kw'alaams is looking for a significant commercial arrangement in relation to the project, otherwise they will seek to oppose the Project.
	June 01, 2021 - Email correspondence from Director Environmental and Regulatory Affairs to Lax Kw'alaams technical contacts providing access to early engagement drafts of both IPD and EP and asking for comments by June 25, 2021. Included offer of a virtual meeting to present the IPD and EP between June 8–24, 2021.
	June 12, 2021 - Email correspondence from the Director External Relations to the Lax Kw'alaams recognizing the senior project leadership meeting on June 16, 2021 with Lax Kw'alaams Mayor and following up on the June 7, 2021 email and offering a time to meet virtually to review the IPD and EP.
	June 15, 2021 - Email correspondence with Lax Kw'alaams Director Lands and Resources and Director Environmental and Regulatory Affairs confirming receipt of draft IPD and EP and Baseline Study Plan.
	June 16, 2021 - Meeting between senior Executives of the Project Partners and Lax Kw'alaams and Metlakatla leadership with introductions and Project discussions.
	June 23, 2021 - Written correspondence from Lax Kw'alaams Mayor and Metlakatla Chief Councillor to NLG President acknowledging Nation to Nation meeting on June 16, 2021 and advising concerns related to development of the Project.
	June 23, 2021 - Written correspondence from Lax Kw'alaams Mayor and Metlakatla Chief Councillor to NLG President acknowledging letter from NLG President dated April 9, 2021. The letter takes issue with NLG viewpoints in the April 19, 2021 letter and re-asserts that Coast Tsimshian rights and title apply to the Project and its ancillary components.
	June 24, 2021 - Email correspondence from the Director External Relations to Lax Kw'alaams contact requesting comments on draft IPD and EP.
	July 07, 2021 - Email correspondence from the Proponent to Lax Kw'alaams team providing an FTP link to Project IPD and EP.
	July 07, 2021 - Email correspondence from the Proponent to Lax Kw'alaams team advising them that the BC EAO and Agency had received the IPD, IPD Summary and EP.

Indigenous Nation	Summary of Early Engagement Activities
Lax Kw'alaams Band (cont'd)	July 19, 2021 - Written correspondence between NLG President and Lax Kw'alaams Mayor and Metlakatla Chief Councillor confirming agreement to continue Nation-to-Nation discussions. The letter also highlights alternative and conflicting view points to Lax Kw'alaams and Metlakatla viewpoints in their joint June 23, 2021 letters to NLG.
	July 21, 2021 - Letter correspondence from Agency to Lax Kw'alaams Band providing opportunity to comment on the potential impact assessment of the proposed Ksi Lisims LNG Natural Gas Liquefaction and Marine Terminal Project
	August 13, 2021 - Email correspondence from the Proponent to Lax Kw'alaams team advising of the upcoming Project Virtual Information sessions scheduled for September 8 and 9, 2021 and that an initial TA meeting and Participating Indigenous Nations workshop are being hosted on those same two days by BC EAO, respectively.
	August 27, 2021 - Email correspondence from Proponent to Lax Kw'alaams team providing a brief August 27, 2021 Baseline Study Update and a revised EA-IA schedule outlining key tasks to be undertaken until the Readiness Decision.
	September 08, 2021 - BC EAO hosted a meeting of TAs consisting of provincial, federal, local government and US technical representatives and technical representatives of the Participating Indigenous Nations whereby the Project was introduced by the Proponent. Lax Kw'alaams did not attend.
	September 09, 2021 - BC EAO hosted Participating Indigenous Nation workshop. Lax Kw'alaams did not attend.
	October 13, 2021 - Email correspondence from the Proponent to the Lax Kw'alaams team. The Project's objective is to ascertain who the correct Lax Kw'alaams contacts are and to endeavour to set up a meeting between the Proponent and the Lax Kw'alaams team to discuss their September 20, 2021 letter and IPD and EP comments.
	October 13, 2021 - Email correspondence from Lax Kw'alaams team to Proponent responding that they will get back to the Proponent soon with respect to the Proponent's meeting request and the identification of correct Lax Kw'alaams contacts.
	October 13, 2021 - Written correspondence from the Proponent to the Lax Kw'alaams team legal counsel responding to several aspects of the Lax Kw'alaams September 20, 2021 letter to BC EAO.
	October 13, 2021 - Email correspondence from the Proponent to Lax Kw'alaams team documenting a phone conversation with respect to working together on the EA-IA.
	October 13, 2021 - Email correspondence from the Lax Kw'alaams team to the Proponent directing the Project to share dAIR component materials with Lax Kw'alaams team members. In addition, the Lax Kw'alaams contact advised that they intended to share an updated draft of the EA and Regulatory Process Funding Agreement by October 17, 2021.
	October 21, 2021 - Email correspondence from the Proponent to Lax Kw'alaams team requesting a copy of the Lax Kw'alaams land and marine use plan.
	October 21, 2021 - Email correspondence from Lax Kw'alaams team to the Proponent confirming they have a land use plan and that the Lax Kw'alaams contact would need approval from Lax Kw'alaams leadership to release the plan to the Project. Lax Kw'alaams contact requested that all Project correspondence with Lax Kw'alaams be copied to Lax Kw'alaams legal counsel.

Indigenous Nation	Summary of Early Engagement Activities
Lax Kw'alaams Band (cont'd)	October 21, 2021 - Email correspondence from the Proponent acknowledging the response to the Project's request for the land and marine use plan.
	October 21, 2021 - Email correspondence to the Proponent from the Lax Kw'alaams team confirms that Lax Kw'alaams leadership would not permit release of their land use plan to the Proponent at this time.
	October 27, 2021 - The Proponent sent an email correspondence to all BC EAO-identified Participating Indigenous Nations (including Lax Kw'alaams) providing access via FTP site link to a draft version of a Baseline Field Program update (Dated October 26, 2021) and to several Proponent proposed dAIR components (i.e., draft VCs, LAA and RAA Rationales and Study Area figures, Project Interaction Table and Physical Activities Inclusion List).
	October 29, 2021 - Email correspondence to Lax Kw'alaams from Agency that the 180-day IA Planning Phase has been suspended, at the written request of the proponent, at Day 96. Email copied to the Proponent.
	November 01, 2021 - Email correspondence to Participating Indigenous Nations (including Lax Kw'alaams) providing a link to a draft version of a Baseline Field Program update (Dated October 25, 2021) and to several Proponent proposed dAIR components (i.e., draft VCs, LAA and RAA Study Area Rationales and Study Area figures, Project Interaction Table and Physical Activities Inclusion List).
	November 02, 2021 - Email correspondence from Lax Kw'alaams team to Proponent enclosing a Lax Kw'alaams update draft of an EA and Regulatory Process Funding Agreement for Proponent review.
	November 02, 2021 - Email correspondence from Proponent to Lax Kw'alaams team acknowledging receipt of Lax Kw'alaams updated EA and Regulatory Process Funding Agreement.
	November 05, 2021 - Email correspondence from Proponent to Lax Kw'alaams team requesting a date and time to meet to discuss the Lax Kw'alaams revised agreement.
	November 08, 2021 - The Proponent sent a revised version of the Baseline Study Update (e.g., November 7, 2021) to Participating Indigenous Nations (including Lax Kw'alaams).
	November 08, 2021 - The Project held a meeting with Participating Indigenous Nations (including Lax Kw'alaams) to provide a Project engineering update and discuss Proponent proposed dAIR components shared on October 28, 2021 and November 8, 2021 (Baseline Study Update – November 7, 2021 version).
	November 10, 2021 - Email correspondence from the Proponent to the Lax Kw'alaams team requesting comments on Proponent proposed dAIR components and Baseline Study Update by December 3, 2021 and asking that Lax Kw'alaams set aside December 15, 2021 for a BC EAO-hosted TA meeting.
	November 12, 2021 - Email correspondence from Proponent to Lax Kw'alaams team – a follow-up to November 5, 2021 email - with respect to discussing a draft EA and Regulatory Process Funding Agreement.
	November 16, 2021 - Email exchange between Proponent and Lax Kw'alaams team adding a new Lax Kw'alaams team member to the Project's Lax Kw'alaams mailing list.

Indigenous Nation	Summary of Early Engagement Activities
Lax Kw'alaams Band (cont'd)	November 17, 2021 - Email correspondence from the Lax Kw'alaams team to the Proponent acknowledging November 12 email and setting a date of November 19, 2021 for a meeting to discuss a draft EA and Regulatory Process Funding Agreement.
	November 18, 2021 - Email correspondence between the Proponent and the Lax Kw'alaams team with respect to securing Lax Kw'alaams access to Proponent proposed dAIR component materials to be discussed at the November 18, 2021 BC EAO-hosted TA meeting. The Project provided a new FTP site access to Lax Kw'alaams.
	November 18, 2021 - BC EAO hosted a TA meeting attended by the Project, Lax Kw'alaams and others.
	November 19, 2021 - Proponent hosted a virtual meeting with Lax Kw'alaams team to discuss draft EA and Regulatory Process Funding Agreement.
	November 25, 2021 - Email correspondence from the Proponent to Lax Kw'alaams team including a revised draft of an EA and Regulatory Process Funding Agreement – including a black line version so that changes are visible.
	November 29, 2021 - Email correspondence from Lax Kw'alaams team acknowledging receipt of the revised draft of the EA and Regulatory Process Funding Agreement and that it would be forwarded to the Lax Kw'alaams team for review.
	November 30, 2021 - Email correspondence from Lax Kw'alaams team to Proponent confirming timing of comments from the Lax Kw'alaams on the Proponent's proposed dAIR components and Baseline Study Update team delayed until before December 18, 2021.
	November 30, 2021 - Email correspondence from Proponent to Lax Kw'alaams team acknowledging delay in Lax Kw'alaams comments on the Proponent's proposed dAIR components and Baseline Study Update.
	December 11, 2021 - Email correspondence from Lax Kw'alaams to the Proponent with respect to finalizing the EA and Regulatory Process Funding Agreement.
	December 13, 2021 - Email correspondence from the Proponent to Lax Kw'alaams with respect to finalizing the EA and Regulatory Process Funding Agreement.
	December 15, 2021 - BC EAO hosted a TA meeting. Agenda focused on Proponent response to summarized Proponent proposed dAIR component comments, a Project engineering update, and a Project presentation on Marine Safety. Lax Kw'alaams team in attendance. Proponent committed to responding to all Lax Kw'alaams comments received to date by January 2022.
	December 15, 2021 - Written correspondence from Lax Kw'alaams team to BC EAO expressing concerns with the BC EAO EA process. The letter was copied to the Proponent attached to an email correspondence. The email accompanying the letter to BC EAO further advises comments on the Proponent's proposed dAIR components and Baseline Study Update will be provided no later than January 17, 2022.
	December 17, 2021 - Email correspondence from the Proponent to Lax Kw'alaams accompanied by a final EA and Regulatory Process Funding Agreement.

Indigenous Nation	Summary of Early Engagement Activities
Lax Kw'alaams Band (cont'd)	January 04, 2022 - The Proponent provided preliminary draft responses to issues, concerns, questions and recommendations Lax Kw'alaams had raised with respect to the Project in 2021.
	January 05, 2022 - Email correspondence from Indigenous Engagement and Regulatory Advisor to Lax Kw'alaams Band. Proponent provided follow up to Lax Kw'alaams Band regarding their request for feedback on the preliminary draft responses to the issues and concerns that Lax Kw'alaams Band has raised in 2021 with the proposed Project and its EA-IA. The Proponent provided a word version of the document and requested that Gitxaala Nation provide comments by January 14, 2022.
	January 07, 2022 - The Proponent received an email from a technical representative of Lax Kw'alaams. Attached was a document that included Lax Kw'alaams issues, concerns, questions and recommendations on the Project's IPD, EP, dAIR, VC selection and baseline program information made available to date. The email asked that the Proponent for follow-up on how these comments are to be addressed in the assessment and DPD.
	January 07, 2022 - Email correspondence from the Proponent to Lax Kw'alaams acknowledging their January 7, 2022 submission.
	January 07, 2022 - Email correspondence from Lax Kw'alaams Band to Indigenous Engagement and Regulatory Advisor communicating to the Proponent a change in Lax Kw'alaams Band personnel
	January 10, 2022 - Email correspondence with Participating Indigenous Nations (including Lax Kw'alaams) providing access to a managed FTP site where draft Project Study Area figures could be downloaded.
	January 10, 2022 - Email correspondence from the Proponent to Lax Kw'alaams Band. The Proponent proposed a time for a virtual meeting to discuss a future meeting to review Ksi Lisims responses to Lax Kw'alaams concerns, accessing the FTP site to download information, 2022 Marine mammal surveys and participation opportunities as well as Lax Kw'alaams led studies.
	January 10, 2022 - Email correspondence from Lax Kw'alaams Band to the Proponent. Lax Kw'alaams Band communicated that they could not make the meeting time that the Proponent had proposed.
	January 10, 2022 - Email correspondence from the Proponent to Lax Kw'alaams Band. The Proponent communicated their interest in a virtual meeting and asked Lax Kw'alaams Band propose a convenient time for them.
	January 11, 2022 - Email correspondence from the Proponent to Participating Indigenous Nations (including Lax Kw'alaams representatives) inviting them to participate in a Project late January 2022 marine mammal survey.
	January 12, 2022 - The Proponent responded to Lax Kw'alaams providing preliminary Project responses to the issues, concerns, questions and recommendations raised in the document sent to the Project on January 7, 2022 along with outlines of the Project's draft DPD and Proponent proposed dAIR.
	January 19, 2022 - Email correspondence from the Proponent to Participating Indigenous Nations (including Lax Kw'alaams representatives) cancelling the late January 2022 marine mammal survey.
	January 19, 2022 - Email correspondence from the Proponent to Lax Kw'alaams enquiring about finalizing the EA and Regulatory Process Funding Agreement.

Indigenous Nation	Summary of Early Engagement Activities
Lax Kw'alaams Band (cont'd)	January 21, 2022 - Email correspondence from Lax Kw'alaams which included a short cover letter to the Proponent that Lax Kw'alaams advised needs to be read as part of the agreement and an executed EA and Regulatory Process Funding Agreement.
	January 21, 2022 - Email correspondence from the Proponent's legal counsel to the Lax Kw'alaams legal counsel advising that a minor revision to the EA and Regulatory Process Funding Agreement was required. The Project had formed a new Project entity and it is that entity that would enter into the agreement with Lax Kw'alaams. The revised EA and Regulatory Process Funding Agreement was appended to the email.
	January 21, 2022 - Email correspondence from Lax Kw'alaams to the Proponent that included an executed version of the revised EA and Regulatory Process Funding Agreement. The email also included a short cover letter to the Proponent that Lax Kw'alaams once again advised needs to be read as part of the agreement.
	February 10, 2022 - The Proponent sent an email advising all Nations the boundaries of the aerial marine mammal survey had been revised to include Chatham Sound and extending out past Triple Island and attached a copy of the revised survey map showing Current and Extended Marine Mammal Aerial Surveys.
	February 10, 2022 - Email correspondence between the Proponent and Lax Kw'alaams Band with a virtual meeting invitation to discuss the EA process, Lax Kw'alaams Band's comments on the IPD and dAIR, and the Indigenous Led Study.
	February 17, 2022 - Email correspondence from the Proponent to Lax Kw'alaams Band regarding the Detailed Project Description and offered assistance to the Nation in their review of the document.
	February 17, 2022 - Email correspondence from the Proponent to Lax Kw'alaams Band, to follow up the meeting the same day. The Proponent asked Lax Kw'alaams Band to indicate when they would send the scope, timeline and budget for the Traditional Use Study so that the Proponent can provide the funds as per the Capacity Agreement.
	February 17, 2022 - The Project held a meeting with Lax Kw'alaams to discuss capacity funding, TUS scope and timing, and concerns or questions that Lax Kw'alaams had.
	February 17, 2022 - Email correspondence from the Proponent regarding the Observer positions on upcoming vessel based marine mammal surveys to Lax Kw'alaams Band. The Proponent detailed the Project and described the details of the Observer Opportunity.
	February 18, 2022 - Email correspondence in regards to a previous meeting. Lax Kw'alaams thanked the Proponent for the meeting.
	February 18, 2022 - Email correspondence between the Proponent and Lax Kw'alaams Band to follow up on the Traditional Use Study scope, timeframe, and budget.
	February 28, 2022 - Email correspondence from the Proponent to Lax Kw'alaams providing shapefiles.
	March 18, 2022 - Email correspondence between the Proponent and the Lax Kw'alaams Band on the Traditional Use Study.

Indigenous Nation	Summary of Early Engagement Activities
Metlakatla First Nation	March 10, 2021 - Oral announcement of the Project from a designated representative of the NLG at the FNCI Technical Group meeting to the FNCI technical representatives of Lax Kw'alaams, Metlakatla and Haisla.
	March 11, 2021 - Written correspondence from the NLG to the elected leadership of Lax Kw'alaams and Metlakatla introducing the Project. The letter offered an opportunity for senior leadership of Nisga'a, Lax Kw'alaams and Metlakatla to meet.
	March 17, 2021 - Email correspondence with letter from Lax Kw'alaams Band and Metlakatla First Nation to NLG in relation to the Project, copied to other members of the Proponent ownership group.
	March 31, 2021 - Written correspondence from Director Environmental and Regulatory Affairs to technical contacts for Metlakatla First Nation. The letter again introduces the Project and its location. The letter appends a short Fact Sheet and the letters from Nisga'a leadership to Indigenous Nations. The letter requests collaboration in arranging a date for an initial virtual meeting to discuss optimal ways the Project can engage with Metlakatla First Nation.
	April 07, 2021 - Email correspondence from Metlakatla First Nation to Proponents requesting that the Project request a meeting with different Metlakatla technical contacts.
	April 09, 2021 - Email correspondence from NLG to Lax Kw'alaams Band and Metlakatla First Nation in response to March 17, 2021 letter from both Nations.
	April 16, 2021 - Email correspondence from Director Environmental and Regulatory Affairs to Metlakatla Stewardship and Treaty Staff. Metlakatla FNCI Technical Group contact requested that the letter provided on March 31, 2021, be redirected to Metlakatla Stewardship and Treaty Staff; the Proponent contacted Metlakatla Stewardship and Treaty Staff to arrange a Project Introductory Meeting.
	April 19, 2021 - Email correspondence from Metlakatla First Nation to Director Environmental and Regulatory Affairs confirming Metlakatla participants and the date and time for a meeting on April 30, 2021.
	April 30, 2021 - Project Introductory Meeting. ▪ Metlakatla First Nation requested to be involved in the archaeological investigations conducted for the Project (i.e., Metlakatla Representatives/Field Technicians participate in the archaeological impact assessment); requested long lead time for review of the Heritage Conservation Act Heritage Inspection Permit application. ▪ Metlakatla First Nation requested a copy of the Project Introductory Meeting presentation slides, draft meeting notes for review, and shapefiles of the Site and potential upland and marine Project footprint. These materials will be shared with Metlakatla Governing Council in a briefing prepared by Metlakatla Stewardship and Treaty Staff. Metlakatla First Nation Governing Council may request that the Proponent host a follow up Project Introductory Meeting with them. The Proponent confirmed they will follow up with Metlakatla First Nation to provide the requested materials. ▪ Metlakatla First Nation confirmed interest in establishing early engagement and other Project agreements. The Proponent confirmed they will follow up with Metlakatla First Nation to establish early engagement and other Project agreements. ▪ Metlakatla First Nation requested that Project agreement discussions go through the Metlakatla Development Corporation.

Indigenous Nation	Summary of Early Engagement Activities
Metlakatla First Nation (cont'd)	April 30, 2021 - Email correspondence from Director External Relations sent draft meeting notes and a draft Early Engagement Capacity Funding Agreement to Metlakatla contacts.
	May 06, 2021 - Email correspondence from Senior Environmental and Regulatory Advisor to Metlakatla Stewardship and Treaty Staff. Proponents shared electronic access to facilitate Metlakatla First Nation access and review of the Projects Baseline Study Plan and associated draft Federal and Provincial investigative permit applications.
	May 10, 2021 - Email correspondence from Director External Relations to Metlakatla Stewardship and Treaty Staff. Proponents request to meet with Metlakatla First Nation to discuss draft Project agreements during the week of May 17, May 24 or June 7, 2021.
	May 11, 2021 - Email correspondence from Metlakatla Stewardship and Treaty Staff to Director External Relations. Metlakatla First Nation require until June 2021 to review the draft Early Engagement Capacity Funding agreement as the Project would not be on their Council agenda until the June meeting at the earliest.
	May 11, 2021 - Email correspondence from Metlakatla Stewardship and Treaty Staff to Senior Environmental and Regulatory Advisor. Metlakatla First Nation acknowledged receipt of the draft investigative permit applications and requesting a copy of the Project's Baseline Study Plan.
	May 11, 2021 - Email correspondence from Senior Environmental and Regulatory Advisor to Metlakatla Stewardship and Treaty Staff directing them to electronic access (e.g., an FTP site) to access the Projects Baseline Study Plan for review of proposed methodology, timing, and spatial data.
	June 01, 2021 - Email correspondence from Director Environmental and Regulatory Affairs to Metlakatla confirming plan to share draft IPD and EP with Metlakatla First Nation by June 7, 2021. Review comments requested for June 25, 2021. Included offer of a virtual meeting to present the draft IPD and EP between June 8–24, 2021.
	June 07, 2021 - Email correspondence from Director Environmental and Regulatory Affairs to technical contacts providing access to early engagement drafts of both IPD and EP and asking for comments by June 25, 2021. Included offer of a virtual meeting to present the IPD and EP between June 8–24, 2021.
	June 12, 2021 - Email correspondence from the Director External Relations to the Metlakatla technical contacts following up on the June 7, 2021 email and offering a time to meet virtually to review the draft IPD and EP.
	June 16, 2021 - Meeting between senior Executives of the three Project Partners and Metlakatla and Lax Kw'alaams leadership – Introductions and Project Discussions.
	June 23, 2021 - Written correspondence from Metlakatla Chief Councillor and Lax Kw'alaams Mayor to NLG President acknowledging Nation to Nation meeting on June 16, 2021 and advising on concerns related to development of the Project.
	June 23, 2021 - Written correspondence from Metlakatla Chief Councillor and Lax Kw'alaams Mayor to NLG President acknowledging the letter from NLG President dated April 9, 2021. The letter takes issue with NLG viewpoints in the April 19, 2021 letter and re-asserts that Coast Tsimshian rights and title apply to the Project and its ancillary components.

Indigenous Nation	Summary of Early Engagement Activities
Metlakatla First Nation (cont'd)	June 24, 2021 - Email correspondence from the Director External Relations to Metlakatla contacts requesting a virtual meeting to discuss draft IPD and EP and capacity funding for further EA engagement.
	July 07, 2021 - Email correspondence from the Proponent to Metlakatla team providing an FTP link to Project IPD and EP.
	July 07, 2021 - Email correspondence from the Proponent to Metlakatla team advising them that the BC EAO and Agency had received the IPD, IPD Summary and EP.
	July 16, 2021 - Email correspondence from the Metlakatla team to the Proponent indicating their understanding of a Nation-to-Nation process that is underway.
	July 19, 2021 - Email correspondence to the Metlakatla team acknowledging the Metlakatla team July 16, 2021 email.
	July 19, 2021 - Written correspondence between NLG President and Metlakatla Chief Councillor and Lax Kw'alaams Mayor confirming agreement to continue Nation-to-Nation discussions. The letter also highlights alternative and conflicting viewpoints to Lax Kw'alaams and Metlakatla viewpoints in their joint June 23, 2021 letters to NLG.
	July 21, 2021 - Letter correspondence from Agency to Metlakatla First Nation providing opportunity to comment on the potential impact assessment of the proposed Ksi Lisims LNG Natural Gas Liquefaction and Marine Terminal Project
	August 13, 2021 - Email correspondence from Proponent to Metlakatla team advising of the upcoming Project Virtual Information sessions scheduled for September 8 and 9, 2021 and that an initial TA meeting and Participating Indigenous Nations workshop are being hosted on those same two days by BC EAO, respectively.
	August 27, 2021 - Email correspondence from Proponent to Metlakatla team providing a brief August 27, 2021 Baseline Study Update and a revised EA-IA schedule outlining key tasks to be undertaken until the Readiness Decision.
	September 08, 2021 - BC EAO hosted a TA meeting. The Ksi Lisims LNG Project was introduced by the Proponent. The meeting was attended by the Metlakatla team.
	September 09, 2021 - A meeting was held between senior leadership of the three Project Partners and Metlakatla leadership. During this time, Metlakatla leadership agreed to engage on a commercial basis. The parties agreed that any grievances or land issues belong in a separate Nation-to-Nation discussion. Metlakatla leadership requested a presentation for Metlakatla Council.
	September 17, 2021 - Record of a phone meeting between the Proponent and the Metlakatla team. Metlakatla team advised that they were awaiting Metlakatla Council direction to participate (or not) in the Project's EA-IA process. The Metlakatla team confirmed they had received all email correspondence and EA-IA materials shared by the Proponent.
	October 04, 2021 - Letter correspondence from Metlakatla First Nation to Agency. The purpose of Metlakatla's letter is to respond to the questions received from the BC EAO and Agency. Attachment 1 in letter lists Melakatla's rights and interests that may be impacted by the project.
	October 05, 2021 - Email correspondence between Nisga'a leadership and Metlakatla leadership with the objective of setting up a Nation-to-Nation meeting.

Indigenous Nation	Summary of Early Engagement Activities
Metlakatla First Nation (cont'd)	October 05, 2021 - Written correspondence from President of Nisga'a Nation and Chief Councillor of Metlakatla First Nation regarding the scheduling of meeting between Ksi Lisims LNG and Metlakatla First Nation representatives. The meeting was not confirmed. However, Nisga'a Nation affirmed that the door is open for Metlakatla Council to learn more about the Project.
	October 07, 2021 - Email correspondence from the Metlakatla team to the Proponent acknowledging the Project's August 13 email, which included a draft of an EA and Regulatory Process Funding Agreement. The Metlakatla team email asks if the Proponent had received their comments on the IPD and EP from the BC EAO.
	October 08, 2021 - Email communication from the Proponent to the Metlakatla team acknowledging that the Proponent had received the Metlakatla comments on the IPD and EP from BC EAO. In addition, the Proponent attached a revised version of the EA and Regulatory Process Funding Agreement for review.
	October 08, 2021 - Email communication from the Metlakatla team to the Proponent acknowledging they would review the revised version of the EA and Regulatory Process Funding Agreement.
	October 12, 2021 - Record of a phone call between Proponent and Metlakatla team. Metlakatla confirmed they wish to participate in the review of Project EA documents and asked if the Project would support the Metlakatla team writing their own assessment of impacts. The Project responded that further discussion is necessary before the Project can respond to the request.
	October 15, 2021 - Follow-up email communication with the Metlakatla team to try and arrange a meeting to discuss Metlakatla team comments on the Proponent's proposed dAIR components. The Proponent responded they would arrange a meeting.
	October 15, 2021 - Email correspondence from the Metlakatla team to the Proponent requesting written comments from the Project on comments on the IPD and EP Metlakatla filed with BC EAO.
	October 18, 2021 - Email correspondence from Metlakatla team to Proponent sharing Metlakatla's Heritage policies including CMT policy and a Chance Find Procedure.
	October 22, 2021 - Email correspondence from Metlakatla First Nation to Indigenous Engagement and Regulatory Advisor. Metlakatla First Nation followed up with the Proponent's inquiry regarding a publicly available Land Use Plan/Marine Use Plan. Metlakatla First Nation indicated that they cannot provide such a document, but directed the Proponent to an alternate LUP that was written with Metlakatla First Nation's input.
	October 26, 2021 - Email correspondence from the Metlakatla team to the Proponent with respect to the draft EA and Regulatory Process Funding Agreement. The Metlakatla version of the agreement had legal review as well as input from MSS.
	October 26, 2021 - Record of a phone call with the Metlakatla team with respect to Proponent proposed draft VC components and their experiences with Vopak EA.
	October 27, 2021 - The Proponent sent an email correspondence to all BC EAO-identified Participating Indigenous Nations (including Metlakatla) providing access via FTP site link to a draft version of a Baseline Field Program update (Dated October 26, 2021) and to several Proponent proposed dAIR components (i.e., draft VCs, LAA and RAA Study Area Rationales and Study Area figures, Project Interaction Table and Physical Activities Inclusion List).

Indigenous Nation	Summary of Early Engagement Activities
Metlakatla First Nation (cont'd)	October 28, 2021 - Virtual meeting with follow-up email correspondence from the Proponent to the Metlakatla team with respect to reviewing the draft EA and Regulatory Process Funding Agreement.
	October 28, 2021 - Follow-up email correspondence from the Proponent to the Metlakatla team with respect to reviewing the draft EA and Regulatory Process Funding Agreement. The email note highlights action items for both parties with respect to concluding the agreement.
	October 29, 2021 - Email correspondence to Metlakatla from Agency that the 180-day IA Planning Phase has been suspended, at the written request of the proponent, at Day 96. Email copied to the Proponent.
	November 01, 2021 - Email correspondence to Participating Indigenous Nations (including Metlakatla) providing a link to a draft version of a Baseline Field Program update (Dated October 25, 2021) and to several Proponent proposed dAIR components (i.e., draft VCs, LAA and RAA Study Area Rationales and Study Area figures, Project Interaction Table and Physical Activities Inclusion List).
	November 08, 2021 - The Proponent held a meeting with Participating Indigenous Nations (including Metlakatla) to provide a Project engineering update and discuss Proponent proposed dAIR components shared on October 28, 2021 and November 8, 2021 (Baseline Study Update – November 7, 2021 version).
	November 08, 2021 - The Proponent sent a revised version of the Baseline Study Update (e.g., November 7, 2021) to Participating Indigenous Nations (including Metlakatla).
	November 10, 2021 - Email correspondence from the Proponent to Participating Indigenous Nations (including Metlakatla) providing a copy of draft November 8, 2021 Project - Participating Indigenous Nations meeting notes and the Project's November 8, 2021 presentation.
	November 10, 2021 - Email correspondence from Metlakatla team to the Proponent with respect to a wildlife study area (e.g., RSA) issue (e.g., island effect) raised at November 8, 2021 meeting.
	November 12, 2021 - Email correspondence from the Proponent to Metlakatla team with respect to the wildlife VC and the RSA boundary. It was agreed that the term "island effect" was inappropriate and would be dropped from the November 8, 2021 meeting record. Proponent noted they are taking the RSA boundary recommendation under advisement.
	November 18, 2021 - BC EAO hosted a TA meeting attended by the Proponent, Metlakatla and others.
	November 30, 2021 - Record of a phone meeting between the Proponent and the Metlakatla team where they discussed the draft EA and Regulatory Process Funding Agreement. The Metlakatla team confirmed they will meet with Metlakatla Council to discuss the scope of any Metlakatla-led studies as contemplated in the draft agreement, develop a Metlakatla workplan and budget and potentially meet to discuss the next draft of the EA and Regulatory Process Funding Agreement the week of December 13, 2021 with potential sign-off by Metlakatla Council in January 2022.

Indigenous Nation	Summary of Early Engagement Activities
Metlakatla First Nation (cont'd)	December 03, 2021 - Email correspondence with preliminary comments on the dAIR components from the Metlakatla team. The Metlakatla team notes that their contractor has not yet commented on the Proponent proposed dAIR component package. Further, the Metlakatla team noted that further and more detailed comments on the dAIR Components (i.e., draft VCs, LAA and RAA Study Area Rationales and Study Area figures, Project Interaction Table and Physical Activities Inclusion List) once a draft is available.
	December 13, 2021 - Virtual meeting held between the Proponent and the Metlakatla team to discuss EA and Regulatory Process Funding Agreement including revised workplan-budget, descriptions of Metlakatla-led studies and a proposed payment structure. The Proponent would forward a revised EA and Regulatory Process Funding Agreement to the Metlakatla team by December 17, 2021. The Metlakatla team agreed to provide more detailed descriptions of the Metlakatla-led studies as well as a workplan-budget. The Metlakatla team will advise the Proponent of the date of the next Metlakatla Council meeting where it is anticipated Metlakatla Council will approve the agreement.
	December 14, 2021 - Email correspondence from the Metlakatla team to the Proponent advising that the next Metlakatla Council meeting is set for January 19, 2022. The Proponent acknowledged this email with an email response.
	December 15, 2021 - TA meeting was hosted by BC EAO. Agenda focused on Proponent response to summarized dAIR component comments, a Project engineering update, and a Project presentation on Marine Safety. Metlakatla team in attendance. Proponent committed to responding to all Metlakatla comments received to date by early 2022.
	January 04, 2022 - An email exchange occurred with respect to providing Metlakatla with the Proponent's preliminary responses to the comments (i.e., issues, concerns, questions and recommendations) Metlakatla had raised about the Project in 2021. It was noted that the Proponent's preliminary responses were incomplete.
	January 10, 2022 - Email correspondence with Participating Indigenous Nations (including Metlakatla) providing access to a managed FTP site where draft Project Study Area figures could be downloaded.
	January 11, 2022 - The Proponent forwarded an email with attached preliminary responses to a complete set of Metlakatla issues, concerns, questions or suggestions with respect to the Proponent's proposed dAIR components. Outlines of the draft DPD and the Proponent's proposed dAIR were also provided for reference.
	January 11, 2022 - Email correspondence from the Proponent to Participating Indigenous Nations (including Metlakatla representatives) inviting them to participate in a late January 2022 marine mammal survey. Metlakatla responded positively to this request.
	January 12, 2022 - The Proponent sent an email to Metlakatla representatives with an attached clean version of the EA and Regulatory Process Funding Agreement.
	January 19, 2022 - Email correspondence from the Proponent to Participating Indigenous Nations (including Metlakatla representatives) cancelling the late January 2022 marine mammal survey.

Indigenous Nation	Summary of Early Engagement Activities
Metlakatla First Nation (cont'd)	January 21, 2022 - An email exchange occurred between Metlakatla and the Proponent with respect to Metlakatla Council being unable to address the EA and Regulatory Process Funding Agreement at the January 19, 2022 Metlakatla Council Meeting. Metlakatla advised that a new date for presenting and discussing the draft agreement will be forthcoming in the near future.
	January 26, 2022 - Email correspondence between the Proponent and Metlakatla First Nation requesting Project shapefiles.
	January 27, 2022 - Virtual Meeting between the Proponent and Metlakatla First Nation to review DPD / dAIR.
	February 06, 2022 – Proponent provided internal notes from the January 24, 2022 meeting with Metlakatla to review DPD / dAIR.
	February 09, 2022 - Email correspondence between the Proponent and Metlakatla First Nation confirming receipt of Project shapefiles and requesting shipping land shapefile.
	February 10, 2022 - The Proponent provided shapefiles for the project footprint and shipping lanes as per a request from Metlakatla.
	February 10, 2022 - The Proponent sent an email advising all Nations the boundaries of the aerial marine mammal survey had been revised to include Chatham Sound and extending out past Triple Island and attached a copy of the revised survey map showing Current and Extended Marine Mammal Aerial Surveys.
	February 17, 2022 - Email correspondence from the Proponent to Metlakatla First Nation regarding the Detailed Project Description and offered assistance to the Nation in their review of the document.
	February 17, 2022 - Email correspondence from the Proponent regarding the Observer positions on upcoming vessel based marine mammal surveys to Metlakatla First Nation. The Proponent detailed the Project and described the details of the Observer Opportunity.
	February 22, 2022 - Email correspondence from Metlakatla First Nation to the Proponent, expressing Metlakatla First Nation's interest in the Observer Opportunity. Metlakatla First Nation inquired if the information used for previous would work for this.
	February 22, 2022 - Email correspondence from the Proponent to Metlakatla First Nation indicating that the information would likely work but that the Proponent would confirm.
	February 23, 2022 - Email correspondence from Metlakatla First Nation to the Proponent, requesting shapefiles.
	February 24, 2022 - The Proponent acknowledged an email sent from Metlakatla with initial comments to the DPD and with an update to when council may sign the EA agreement.
	February 24, 2022 - Email correspondence between the Proponent and Metlakatla First Nation regarding two comments from the IPD tracking table. Metlakatla inquired if the Proponent could provide the public reports referenced in the TAC
	February 25, 2022 - Email correspondence from the Proponent to Metlakatla First Nation providing the requested shapefiles.
	March 01, 2022 - Email correspondence from Metlakatla First Nation to the Proponent, asking if the notice contact for the Proponent needed to be updated prior to signing the EA funding agreement.

Indigenous Nation	Summary of Early Engagement Activities
Metlakatla First Nation (cont'd)	March 01, 2022 - Email correspondence from the Proponent to Metlakatla First Nation, providing the updated Proponent notice contact.
	March 02, 2022 - Email correspondence from Metlakatla First Nation to the Proponent, confirming that they had received the updated contact list. The Proponent replied and asked Metlakatla First Nation to send the signed funding agreement after signing.
	March 02, 2022 - Email correspondence from the Proponent to Metlakatla First Nation, inquiring whether an update was to be provided following the meeting with Council regarding the EA funding agreement.
	March 03, 2022 - Email correspondence from Metlakatla First Nation to the Proponent, confirming that both the EA funding agreement and supporting BCR were signed, with a PDF of the BCR available, but still awaiting the funding agreement which could be sent separately. Metlakatla First Nation requested next steps. The Proponent replied and provided next steps.
	March 03, 2022 - Email correspondence from the Proponent to Metlakatla First Nation providing the EFT Payment form to be filled and returned to the Proponent.
	March 07, 2022 - Email correspondence from the Proponent to Metlakatla First Nation regarding the signing status of the finalized EA funding agreement and the EFT payment form.
	March 07, 2022 - Email correspondence with the Proponent and Metlakatla First Nation regarding the submission of the signed signature page and BCR for the EA funding agreement by Metlakatla First Nation and update on EFT form completion status.
	March 07, 2022 - Email correspondence with the Proponent and Metlakatla First Nation regarding the EA funding agreement.
	March 08, 2022 - Email correspondence with the Proponent and Metlakatla First Nation regarding the dAIR and a request for a clean copy.
	March 09, 2022 - Email correspondence with the Proponent and Metlakatla First Nation regarding the fully executed EA funding agreement.
	March 18, 2022 - Email correspondence between the Proponent and Metlakatla First Nation regarding the receipt of the EFT payment form.
	March 18, 2022 - Email correspondence between the Proponent and Metlakatla First Nation regarding actions for the Nation-led studies.
	March 21, 2022 - Email correspondence between the Proponent and Metlakatla First Nation confirming actions for the Nation-led studies.
	March 23, 2022 - Email correspondence between Metlakatla and Ksi Lisims LNG on the Metlakatla Census.
	March 24, 2022 - Email correspondence between the Proponent and Metlakatla First Nation providing Metlakatla First Nation's 2020 Census Questionnaire, indicating it was confidential and not to be shared externally.

Indigenous Nation	Summary of Early Engagement Activities
Kitsumkalum First Nation	March 23, 2021 - Written correspondence from the Nisga'a Lisims Government to the elected leadership of Kitsumkalum, Gitxaała, Kitselas and Haida introducing the Ksi Lisims LNG Natural Gas Liquefaction and Marine Terminal Project highlighting the shared interest in marine waters stewardship.
	March 31, 2021 - Written correspondence from Director Environmental and Regulatory Affairs to technical contacts for Kitsumkalum First Nation. The letter again introduces the Project and its location, including Project ownership group. The letter appends a short Fact Sheet and the letters from Nisga'a leadership to Indigenous Nations. The letter requests collaboration in arranging a date for an initial virtual meeting to discuss optimal ways the Project can engage with Kitsumkalum First Nation.
	April 12, 2021 - Ksi Lisims LNG Project Introductory Meeting. Kitsumkalum technical contacts were offered an opportunity to review the Ksi Lisims Baseline Study Plan. Kitsumkalum technical contacts to undertake review.
	April 22, 2021 - Email Correspondence from Senior Environmental and Regulatory Advisor to Kitsumkalum technical contacts. The latter confirmed they had received a list of draft Baseline Field Survey investigative permit applications proposed for the Project and the Baseline Study plan. Proponents to follow up with Kitsumkalum technical contacts to establish early engagement and other Project agreements.
	April 27, 2021 - Email correspondence from the Director, External Relations with a draft Early Engagement Capacity Funding Agreement to Kitsumkalum contacts.
	May 06, 2021 - Email correspondence from Senior Environmental and Regulatory Advisor to Kitsumkalum Referrals technical contacts. Proponents shared a link to electronic access to Projects Baseline Study Plan and associated Federal and Provincial draft investigative permit applications facilitate Kitsumkalum First Nation review.
	May 10, 2021 - Email correspondence from the Director External Relations followed-up with Kitsumkalum contacts on the draft Early Engagement Capacity Funding Agreement.
	May 17, 2021 - Email correspondence from Kitsumkalum contacts confirming their review of the draft Early Engagement Capacity Funding Agreement had been delayed due to computer system issues.
	May 26, 2021 - Email correspondence to Kitsumkalum First Nation with requested Ksi Lisims Baseline Study Plan.
	May 26, 2021 - Email correspondence from Kitsumkalum contacts confirming their review of the draft Early Engagement Capacity Funding Agreement had been delayed due to computer system issues.
	June 01, 2021 - Email correspondence from Director Environmental and Regulatory Affairs to technical contacts at Kitsumkalum First Nation confirming plan to share draft IPD and EP with Kitsumkalum Nation by June 7. Review comments requested for June 25, 2021. Included offer of a virtual meeting to present the IPD and EP between June 8 – 24, 2021.
	June 07, 2021 - Email correspondence from Director Environmental and Regulatory Affairs to technical contacts providing electronic access to early engagement drafts of both IPD and EP and asking for comments by June 25, 2021. Included offer of a virtual meeting to present the IPD and EP between June 8–24, 2021.

Indigenous Nation	Summary of Early Engagement Activities
Kitsumkalum First Nation (cont'd)	June 12, 2021 - Email correspondence from the Director External Relations to the Kitsumkalum contacts following up on the June 7 email and offering a time to meet virtually to review the IPD and EP.
	June 16, 2021 - Email correspondence from Kitsumkalum team confirming engagement contacts.
	June 22, 2021 - Director Environmental and Regulatory Affairs contacted Kitsumkalum referrals contact with respect to the deployment of an underwater microphone off the west coast of Somerville Island in Portland Inlet. The instrument was deployed – but at the request of the Kitsumkalum Chief Councilor (due to potential conflict wish fishing gear) was removed on June 23, 2021 and not re-deployed. NLG leadership to reach out to Chief Councilor to explore alternatives for re-deployment of the hydrophone in Portland Inlet.
	June 23, 2021 - Email correspondence from Director External Relations to Kitsumkalum contacts with respect to review and comment on the draft IPD and EP, schedule a virtual meeting to discuss the drafts and to discuss engagement funding moving forward in the EA-IA process.
	June 25, 2021 - Email correspondence with Director External Relations and Kitsumkalum team confirming virtual meeting timing to discuss IPD and EP on July 5.
	June 30, 2021 - Email correspondence from Kitsumkalum team. They provide two specific comments on draft IPD and EP; depiction of Kitsumkalum territory in Figure 6 and the brief description of the Kitsumkalum in Section 4.1.1.3. Proponent make edits to IPD as requested.
	July 01, 2021 - Kitsumkalum team provided a letter summarizing their comments on the draft IPD and EP. Edits made to IPD and EP.
	July 05, 2021 - Email correspondence from Kitsumkalum team to Proponent regarding deployment of underwater microphone in Portland Inlet.
	July 07, 2021 - Email correspondence from Director, Environmental and Regulatory Affairs to the Kitsumkalum First Nation. Proponent contacted Kitsumkalum First Nation to advise that the Project has received confirmation that the BC EAO (July 5, 2021) and Agency (July 6, 2021) received the Proponent's submission of the IPD and supporting documents (e.g., Engagement Plan for BC EAO and IPD Project Summary in both official languages for Agency).
	July 09, 2021 - Email correspondence from Proponent to Kitsumkalum team enclosing IPD-EP Project Response table to Kitsumkalum comments on IPD and EP and meeting notes from the July 5 meeting.
	July 13, 2021 - Email correspondence from Proponent to Kitsumkalum team with respect to a draft EA and Regulatory Process Funding Agreement for Kitsumkalum review and to set a date for a meeting to discuss the draft agreement.
	July 14, 2021 - Email correspondence from Kitsumkalum team to Proponent confirming a conversation with Kitsumkalum Chief regarding deployment of underwater microphone in Portland Inlet.
	July 14, 2021 - Email correspondence from the Proponent to Kitsumkalum team confirming further research into underwater microphone optimal depths.

Indigenous Nation	Summary of Early Engagement Activities
Kitsumkalum First Nation (cont'd)	July 21, 2021 - Written correspondence to Kitsumkalum team from Agency with respect to Ksi Lisims LNG Project and an IA – copied to the Proponent.
	July 21, 2021 - Letter correspondence from Agency to Kitsumkalum Indian Band. : Subject: Opportunity to comment on the potential impact assessment of the proposed Ksi Lisims LNG Natural Gas Liquefaction and Marine Terminal Project
	July 22, 2021 - Email correspondence from Proponent to Kitsumkalum team with respect to a draft EA and Regulatory Process Funding Agreement for Kitsumkalum review and to set a date for a meeting to discuss same.
	July 23, 2021 - Email correspondence from Kitsumkalum team to Proponent to meet on July 28, 2021 with respect to the agreement.
	August 13, 2021 - Email correspondence from Proponent to Kitsumkalum team advising of the upcoming Project Virtual Information sessions scheduled for September 8 and 9, 2021 and that an initial TA meeting and Participating Indigenous Nations workshop are being hosted on those same two days by BC EAO, respectively.
	August 25, 2021 - Written notice to BC EAO from Kitsumkalum team advising BC EAO of their intent to participate in the EA process. BC EAO copy the Proponent.
	August 27, 2021 - Email correspondence from the Proponent to Kitsumkalum team providing a brief Aug. 27, 2021 Baseline Study Update and a revised EA-IA schedule outlining key tasks to be undertaken until the Readiness Decision.
	September 08, 2021 - BC EAO hosted TA meeting. The Project was introduced by the Proponent. Kitsumkalum team in attendance.
	September 09, 2021 - BC EAO hosted Participating Indigenous Nation workshop. Kitsumkalum team in attendance.
	September 13, 2021 - Email correspondence to BC EAO that includes additional comments on the IPD and EP.
	September 15, 2021 - Email correspondence from Kitsumkalum team to Proponent requesting spatial shape files for various Project components with a focus on project layout and marine shipping route figures from the IPD.
	September 15, 2021 - Email correspondence from the Proponent to Kitsumkalum team acknowledging the data shape file request.
	September 15, 2021 - Email correspondence from Kitsumkalum First Nation to the Proponent regarding Kitsumkalum's request of spatial files of the Project footprint, the shipping route assessment area, the socio-economic assessment area and the land traffic (impact study) assessment area.
	September 16, 2021 - Proponent hosted a meeting with the Kitsumkalum team to discuss request for spatial files and scopes for Kitsumkalum-led studies. Meeting notes taken.
	September 16, 2021 - Email correspondence from the Proponent to the Kitsumkalum team confirming follow up on sharing shape files and highlighting more engagement required between the Proponent and Kitsumkalum team with respect to Kitsumkalum-led study scopes of work.

Indigenous Nation	Summary of Early Engagement Activities
Kitsumkalum First Nation (cont'd)	September 17, 2021 - Email correspondence from the Kitsumkalum team to the Proponent acknowledging Proponents' follow-up email of September 16, 2021. Kitsumkalum also highlighted that the lack of timely information from the Project may hamper their ability to meet timelines for information from the Kitsumkalum-led studies.
	September 17, 2021 - Email correspondence from the Proponent to Kitsumkalum team. Proponent will provide a digital spatial data file for marine shipping routes, but not Project layout as Project conceptual components are changing substantively.
	September 20, 2021 - Email correspondence from the Proponent to Kitsumkalum team with respect to an attached signature ready EA and Regulatory Process Funding Agreement.
	September 20, 2021 - Email correspondence from Kitsumkalum team to Proponent responding to Project correspondence of same date regarding the agreement. Protect team acknowledge receipt of this correspondence.
	September 23, 2021 - Email correspondence for Kitsumkalum team to Proponent including an attached Band Council Resolution and executed EA and Regulatory Process Funding Agreement.
	September 23, 2021 - Email correspondence from the Proponent to the Kitsumkalum team with respect to Agency's request of July 21 for Kitsumkalum to comment on the BC EAO's substitution request.
	September 23, 2021 - Email correspondence from the Kitsumkalum team to the Proponent acknowledging the Agency request and confirming Kitsumkalum have provided Agency with a response to the BC EAO substitution request.
	October 04, 2021 - Email correspondence from Senior Negotiator and Strategic Advisor to the Kitsumkalum First Nation. Proponent contacted Kitsumkalum First Nation to request revised Band Council Resolution for the EA and Regulatory Process Funding Agreement. The Proponent also requested if Kitsumkalum First Nation would be willing to provide information regarding Kitsumkalum First Nation's proposed power Project and suggested a Non-Disclosure Agreement if Kitsumkalum First Nation required one.
	October 04, 2021 - Email correspondence from Kitsumkalum First Nation to the Senior Negotiator and Strategic Advisor. Kitsumkalum First Nation provided revised Band Council Resolution and indicated that Kitsumkalum First Nation would prefer a Non-Disclosure Agreement in regards to providing information about the proposed power Project.
	October 04, 2021 - Email correspondence between Indigenous Engagement and Regulatory Advisor to Kitsumkalum First Nation regarding clarification on scope and expectations of Indigenous Led Studies
	October 04, 2021 - Email correspondence from Indigenous Engagement and Regulatory Advisor to Kitsumkalum First Nation regarding the scope of work for three Kitsumkalum led studies.
	October 07, 2021 - Email correspondence from Senior Negotiator and Strategic Advisor to the Kitsumkalum First Nation. Proponent indicated that they were looking into a NDA and requested if Kitsumkalum First Nation could provide publicly available information regarding the power Project.

Indigenous Nation	Summary of Early Engagement Activities
Kitsumkalum First Nation (cont'd)	October 13, 2021 - Email correspondence from Kitsumkalum First Nation to the Senior Negotiator and Strategic Advisor. Kitsumkalum First Nation advised they would follow up with the Chief to confirm what information about the power Project could be shared.
	October 13, 2021 - Email correspondence from Kitsumkalum Indian Band to Agency indicating discussion with Project and submission of comments on IPD to BC EAO. The correspondence also provided a summary of potential Project impacts that have been identified by Kitsumkalum. Kitsumkalum also indicated they see efficiency in allowing the substitution of the EA process but, would like to ensure that the Agency remain an active on the Project.
	October 15, 2021 - Email correspondence from the Proponent to the Kitsumkalum team advising of an upcoming Project-Participating Indigenous Nation meeting to discuss a draft (October 26, 2021 version) Baseline Study Update and review the Proponent's proposed dAIR components.
	October 26, 2021 - Email correspondence from the Kitsumkalum team to the Proponent with respect to Kitsumkalum-led studies and their scope.
	October 27, 2021 - Email correspondence from Proponent to all BC EAO-identified Participating Indigenous Nations (including Kitsumkalum) providing access via FTP site link to a draft version of a Baseline Field Program update (Dated October 26, 2021) and to several Proponent proposed dAIR components (i.e., draft VCs, LAA and RAA Study Area Rationales and Study Area figures, Project Interaction Table and Physical Activities Inclusion List).
	October 29, 2021 - Email correspondence to Kitsumkalum from Agency that the 180-day IA Planning Phase has been suspended, at the written request of the proponent, at Day 96. Email copied to the Proponent.
	November 01, 2021 - Email correspondence to Participating Indigenous Nations (including Kitsumkalum) providing a link to a draft version of a Baseline Field Program update (Dated October 26, 2021) and to several Proponent proposed dAIR components (i.e., draft VCs, LAA and RAA Study Area Rationales and Study Area figures, Project Interaction Table and Physical Activities Inclusion List).
	November 01, 2021 - Email correspondence from the Proponent to the Kitsumkalum team with respect to identifying a Kitsumkalum economic development contact and requesting an overview of a potential Kitsumkalum power project.
	November 01, 2021 - Email correspondence from Kitsumkalum team to the Proponent acknowledging email of same date, providing a Kitsumkalum economic development contact and confirming a willingness to discuss the potential Kitsumkalum power project.
	November 01, 2021 - Email correspondence from the Proponent to the Kitsumkalum team with respect to arranging a meeting to discuss the potential Kitsumkalum power project.
	November 08, 2021 - Email correspondence from the Proponent to Participating Indigenous Nations (including Kitsumkalum) providing a copy of the November 7, 2021 Baseline Study Update report (replacing the October 26, 2021 draft of the same report).

Indigenous Nation	Summary of Early Engagement Activities
Kitsumkalum First Nation (cont'd)	November 08, 2021 - The Project held a meeting with Participating Indigenous Nations (including Kitsumkalum) to provide a Project engineering update and discuss Proponent proposed dAIR components shared on October 28, 2021 and November 8, 2021 (Baseline Study Update – November 7, 2021 version).
	November 10, 2021 - Email correspondence from Proponent to Participating Indigenous Nations (e.g., Kitsumkalum) providing a copy of draft November 8, 2021 Project - Participating Indigenous Nations meeting notes and the Project's November 8, 2021 presentation.
	November 15, 2021 - Email correspondence from Kitsumkalum team to the Proponent to discuss Proponent proposed draft LAA-RAA rationale and boundaries for economic and infrastructure services assessment.
	November 15, 2021 - Email correspondence from the Proponent to Kitsumkalum team acknowledging email clarification regarding LAA-RAA rationale and boundaries for economic and infrastructure services assessment.
	November 15, 2021 - Additional follow-up email correspondence including a draft figure for Kitsumkalum review from the Proponent to Kitsumkalum team acknowledging email clarification regarding LAA-RAA rationale and boundaries for economic and infrastructure services assessment.
	November 15, 2021 - Follow-up email from Kitsumkalum team to the Proponent acknowledging a new figure with LAA and RAA rationale and boundaries for economic and infrastructu services assessment. Further to request to ensure Highway 115 (note: meant Highway 113) was included.
	November 18, 2021 - BC EAO hosted a TA meeting attended by the Proponent, Kitsumkalum and others.
	November 30, 2021 - Email from the Proponent to the Kitsumkalum team asking for clarification regarding timing of comments from the Kitselas team on Proponent proposed dAIR components by December 3, 2021.
	December 03, 2021 - Email correspondence from Kitsumkalum team to the Proponent including comments from Kitsumkalum on the Proponent's proposed dAIR component package.
	December 15, 2021 - An EAO-hosted TA meeting occurred. Agenda focused on Proponent response to summarized Proponent's proposed dAIR component comments, a Project engineering update and a Project presentation on Marine Safety. Kitsumkalum team in attendance. Proponent committed to responding to all Kitsumkalum comments received to date by early 2022.
	January 04, 2022 - An email exchange occurred with respect to providing Kitsumkalum with the Proponent's preliminary responses to the comments (e.g., issues, concerns, questions and recommendations) Kitsumkalum had raised about the Project in 2021. It was noted that the Proponent's preliminary responses were incomplete.
	January 05, 2022 - Email exchange between Kitsumkalum and the Proponent with respect the Proponent's preliminary responses on comments (e.g., issues, concerns, questions and recommendations) from Kitsumkalum on the Project in 2021.
	January 06, 2022 - Email correspondence from Kitsumkalum First Nation to Senior Negotiator and Strategic Advisor. Kitsumkalum First Nation asked if the Proponent would be interested in meeting when they are in Vancouver in the month of January.

Indigenous Nation	Summary of Early Engagement Activities
Kitsumkalum First Nation (cont'd)	January 10, 2022 - Email correspondence with Participating Indigenous Nations (including Kitsumkalum) providing access to a managed FTP site where draft Project Study Area figures could be downloaded.
	January 10, 2022 - Email exchange between the Proponent and Kitsumkalum with respect to having further discussions on a potential Kitsumkalum power project.
	January 11, 2022 - The Proponent forwarded an email with attached preliminary responses to a complete set of Kitsumkalum issues, concerns, questions or suggestions with respect to the Proponent's proposed dAIR components. Outlines of the draft DPD and the Proponent's proposed dAIR were also provided for reference.
	January 11, 2022 - Email correspondence from the Project to Participating Indigenous Nations (including Kitsumkalum representatives) inviting them to participate in a late January 2022 marine mammal survey. Kitsumkalum responded positively to this request.
	January 19, 2022 - Email correspondence from the Project to Participating Indigenous Nations (including Kitsumkalum representatives) cancelling the late January 2022 marine mammal survey.
	January 21, 2022 - The Proponent met with the Kitsumkalum team to discuss preliminary Project responses to issues, concerns, questions and recommendations raised by Kitsumkalum in 2021 and on the Proponent's proposed dAIR components.
	February 10, 2022 - The Proponent sent an email advising all Nations the boundaries of the aerial marine mammal survey had been revised to include Chatham Sound and extending out past Triple Island and attached a copy of the revised survey map showing Current and Extended Marine Mammal Aerial Surveys.
	February 15, 2022 - Email correspondence from the Proponent to Kitsumkalum First Nation inquiring about the progress of the TUS and provided a suggested payment structure for the Nation led studies.
	February 17, 2022 - Email correspondence from the Proponent to Kitsumkalum First Nation regarding the Detailed Project Description and offered assistance to the Nation in their review of the document.
	February 17, 2022 - Email correspondence from the Proponent regarding the Observer positions on upcoming vessel based marine mammal surveys to Kitsumkalum Nation. The Proponent detailed the Project and described the details of the Observer Opportunity.
	February 28, 2022 - Email correspondence from the Proponent to Kitsumkalum First Nation providing shapefiles.
	March 16, 2022 - Email chain of correspondence between the Proponent and Kitsumkalum First Nation on funding for Indigenous Led Studies.
	March 17, 2022 - Email correspondence between the Proponent and Kitsumkalum First Nation regarding the planning details of the Kitsumkalum-led studies.

Indigenous Nation	Summary of Early Engagement Activities
Kitselas First Nation	March 23, 2021 - Written correspondence from Nisga'a Lisims Government to the elected leadership of Kitsumkalum First Nation, Gitxaała Nation, Kitselas First Nation, and Haida Nation introducing the Ksi Lisims LNG Project highlighting the shared interest in marine waters stewardship.
	March 31, 2021 - Written correspondence from Director Environmental and Regulatory Affairs to technical contacts for Kitselas First Nation. The letter again introduces the Project and its location, including Project ownership group. The letter appends a short Fact Sheet and the letters from Nisga'a leadership to Indigenous Nations. The letter requests collaboration in arranging a date for an initial virtual meeting to discuss optimal ways the Project can engage with Kitselas First Nation.
	April 19, 2021 - Ksi Lisims LNG Project Introductory Meeting. ▪ Kitselas First Nation confirmed they have a preferred process for engagement in major projects that is meant to uphold their rights and values. Proponents to follow up with Kitselas First Nation to establish early engagement and other Project agreements. ▪ Kitselas First Nation are open to initiating early engagement and Project agreements with the Proponents as a precursor for subsequent negotiations surrounding Project agreements for Kitselas participation in the regulatory process. ▪ Kitselas First Nation requested a letter from the Proponents identifying that the Project intends to enter into Project agreements with Kitselas as part of Project development. Kitselas First Nation also requested a copy of the Ksi Lisims LNG Project Introductory Meeting presentation slides. Proponents confirmed they will follow up with Kitselas First Nation to establish Project agreements and provide the requested materials. Meeting notes available.
	April 21, 2021 - Email correspondence from Director Environmental and Regulatory Affairs to Treaty and Engagement Advisor, Land and Resources Department, Kitselas First Nation. The Proponents provided Kitselas First Nation with a copy of the Ksi Lisims LNG Project Introductory Meeting presentation slides, and meeting minutes for their review, edit and comment.
	April 22, 2021 - Email correspondence from Senior Environmental and Regulatory Advisor to Project Assessment Officer, Land and Resources Department, Kitselas First Nation. Kitselas First Nation received a list of Baseline Field Surveys proposed for the Project. Proponents to follow up with Kitselas First Nation to establish early engagement and other Project agreements.
	April 23, 2021 - Email correspondence from Project Assessment Officer, Land and Resources Department, Kitselas First Nation to Senior Environmental and Regulatory Advisor. Kitselas First Nation acknowledged receipt of the list of proposed draft Baseline Field Survey investigative permit applications and indicated their desire to finalize the early engagement agreement and engage on the baseline field study plans.
	April 27, 2021 - Email correspondence from Project Senior Negotiator and Strategic Advisor, Indigenous Engagement with a draft Early Engagement Capacity Funding Agreement to Kitselas contacts.
	May 06, 2021 - Technical Meeting with Kitselas contacts and Director External Relations to discuss Project agreements with Kitselas First Nation. Two follow-up Technical Meetings proposed for May 26, 2021 to discuss Baseline Studies and Permit applications, and June 9, 2021 to discuss the IPD/EP.

Indigenous Nation	Summary of Early Engagement Activities
Kitselas First Nation (cont'd)	May 06, 2021 - Email correspondence to Senior Environmental and Regulatory Advisor, to Project Assessment Officer (PAO), Land and Resources Department, Kitselas First Nation. Proponent shared link to FTP site to facilitate Kitselas First Nation access and review of the Project's Baseline Study Plan and associated Federal and Provincial permit applications.
	May 12, 2021 - Kitselas First Nation signed an Early Engagement Capacity Funding Agreement with the Proponent, effective May 12, 2021.
	May 19, 2021 - Kitselas First Nation provide comments on May 3, 2021 DRAFT Proposed 2021-2022 Baseline Field Program.
	May 26, 2021 - Meeting with Kitselas contacts to discuss comments by Kitselas First Nation on the draft Ksi Lisims Baseline Study Plan.
	June 01, 2021 - Email correspondence from Director, Environmental and Regulatory Affairs to technical contacts at Kitselas First Nation confirming plan to share draft IPD and EP with Kitselas Nation by June 7.
	June 07, 2021 - Email correspondence from Director Environmental and Regulatory Affairs to technical contacts providing electronic access to early engagement drafts of both IPD and EP and asking for comments by June 25, 2021. Included offer of a virtual meeting to present the IPD and EP between June 8–24.
	June 09, 2021 - Email correspondence from the Senior Environmental and Regulatory Advisor to Kitselas contacts with a Project response to Kitselas comments with respect to Baseline Study Plan.
	June 12, 2021 - Email correspondence from the Director, External Relations to the Kitselas following up on the June 7 email and offering a time to meet virtually to review the IPD and EP.
	June 14, 2021 - Email correspondence from Kitselas contacts confirming download of the draft IPD and EP for their review, with a commitment to have the documents reviewed before the scheduled June 22, 2021 meeting.
	June 22, 2021 - Virtual meeting between the Proponent to discuss the IPD and EP with the Kitselas team.
	June 23, 2021 - Kitselas team provide written comments on IPD and EP to the Proponent. Edits made to draft IPD and EP.
	July 07, 2021 - Email correspondence from the Proponent to the Kitselas team providing an FTP link to Project IPD and EP.
	July 07, 2021 - Email correspondence from the Proponent to the Kitselas team advising them that the BC EAO and Agency had received the IPD, IPD Summary and EP.
	July 07, 2021 - Email correspondence from Kitselas team to Proponent requesting a Project response to Kitselas comments on draft IPD and EP.
	July 07, 2021 - Email correspondence from the Proponent to the Kitselas team confirming that the Proponent has responded to their comments on IPD and EP. Project response table (July 2, 2021) attached to July 7 email correspondence.
	July 20, 2021 - Proponent host virtual meeting with Kitselas team. The meeting included a discussion of a draft EA and Regulatory Process Funding Agreement.

Indigenous Nation	Summary of Early Engagement Activities
Kitselas First Nation (cont'd)	July 21, 2021 - Written correspondence to Kitselas team from Agency with respect to Ksi Lisims LNG Project and an IA – copied to Proponent.
	August 13, 2021 - Email correspondence from Proponent to Kitselas team advising of the upcoming Project Virtual Information sessions scheduled for September 8 and 9, 2021 and that initial TA meeting and Participating Indigenous Nations workshop are being hosted on those same two days by BC EAO, respectively.
	August 18, 2021 - Written notice to BC EAO from Kitselas team advising BC EAO of their intent to participate in the EA process. BC EAO copy the Proponent.
	August 27, 2021 - Email correspondence from Proponent to Kitselas team providing a brief August 27, 2021 Baseline Study Update and a revised EA-IA schedule outlining key tasks to be undertaken until the Readiness Decision.
	September 08, 2021 - BC EAO hosted a TC meeting. The Project was introduced by the Proponent. Kitselas team in attendance.
	September 09, 2021 - BC EAO hosted Participating Indigenous Nation workshop. Kitselas team in attendance.
	September 16, 2021 - Email correspondence from the Proponent to Kitselas team proposing an agenda for September 20, 2021 meeting.
	September 17, 2021 - Written submission to BC EAO on IPD. BC EAO provided a copy of Kitselas comments to Proponent.
	September 20, 2021 - Proponent host virtual meeting with Kitselas team.
	September 22, 2021 - Email correspondence from Director of Lands and Resources, Kitselas First Nation to the Proponent. Kitselas First Nation indicated that the Capacity Funding Agreement had been approved in principle and a final executed version would be forthcoming.
	September 22, 2021 - Email correspondence from Kitselas team to Proponent with additional comments on IPD
	September 22, 2021 - Email request from Kitselas team for digital spatial data for marine shipping routes and project layout provided in the in IPD.
	September 22, 2021 - Proponent provide a digital spatial data file for marine shipping route, but not project layout as Project conceptual components are changing substantively.
	October 04, 2021 - Email correspondence from` Indigenous Engagement and Regulatory Advisor to the Kitselas First Nation. The Proponent was following up on the terms of reference for the Kitselas led studies.
	October 05, 2021 - Proponent advised by Kitselas team in email correspondence that the Kitselas Environmental Assessment and Regulatory Process Funding Agreement was executed on October 5, 2021.
	October 07, 2021 - Email correspondence from Kitselas team to Proponent providing a contact for their power project.
	October 08, 2021 - Email correspondence from Proponent to Kitselas team and their power project consultant regarding Kitselas power project.

Indigenous Nation	Summary of Early Engagement Activities
Kitselas First Nation (cont'd)	October 14, 2021 - BC EAO-Agency wrote the Project and provided the JSOIE. In Section 3.0 of that document, BC EAO and Agency advised that they had notified and requested input from the Kitselas. They further advised that the Kitselas were confirmed as a Participating Indigenous Nation under the EAA 2018.
	October 15, 2021 - Email correspondence from the Proponent to the Kitselas team advising of an upcoming Project-Participating Indigenous Nation meeting to discuss a draft (October 26, 2021 version) Baseline Study Update and review of Proponent's proposed dAIR components.
	October 15, 2021 - Email correspondence from Kitselas team to Proponent acknowledging Kitselas team concerns with respect to timing and advance distribution of meeting materials for upcoming Proponent's proposed dAIR component review meeting.
	October 15, 2021 - Email correspondence from Proponent to Kitselas team with respect to timing and advance distribution of meeting materials for upcoming dAIR component review meeting.
	October 15, 2021 - Email correspondence from Proponent to Kitselas team regarding setting date for a meeting to discuss Kitselas power production project.
	October 27, 2021 - The Proponent sent an email correspondence to all BC EAO-identified Participating Indigenous Nations (including Kitselas) providing access via FTP site a link to a draft version of a Baseline Field Program update (Dated October 26, 2021) and to several of the Proponent's proposed dAIR components (i.e., draft VCs selection table, proposed VC assessment area figures, a preliminary VC and Project works and activities interaction table as well as a preliminary Project inclusion list).
	October 29, 2021 - Email correspondence to Kitselas from Agency that the 180-day IA Planning Phase has been suspended, at the written request of the proponent, at Day 96. Email copied to the Proponent.
	November 01, 2021 - Email correspondence to Participating Indigenous Nations (including Kitselas) providing a link to a draft version of a Baseline Field Program update (Dated October 26, 2021) and to several dAIR components (i.e., draft VCs selection table, proposed VC assessment area figures, a preliminary VC and Project works and activities interaction table as well as a preliminary Project inclusion list).
	November 08, 2021 - Email correspondence from Proponent to Participating Indigenous Nations (e.g., Kitselas) providing a copy of the November 7, 2021 Baseline Study Update report (replacing the October 26, 2021 draft of the same report).
	November 08, 2021 - The Project held a meeting with Participating Indigenous Nations (including Kitselas) to provide a Project engineering update and discuss draft dAIR components shared on October 28, 2021 and November 8, 2021 (Baseline Study Update – November 7, 2021 version).
	November 09, 2021 - Email correspondence from Kitselas team to Proponent with respect to the Kitselas Marine Use Plan (not finalized – perhaps ready for distribution to the project April 2022).
	November 09, 2021 - Email correspondence from the Proponent to Kitselas team requesting Terms of Reference (Tor) for Kitselas-led studies.

Indigenous Nation	Summary of Early Engagement Activities
Kitselas First Nation (cont'd)	November 09, 2021 - Email correspondence from Kitselas team to Proponent updating timing on ToR for the studies and commenting on November 8, 2021 Project-Participating Indigenous Nation meeting to discuss Proponent proposed dAIR components.
	November 09, 2021 - Email correspondence from the Proponent to Kitselas team acknowledging their response to the ToR.
	November 10, 2021 - Email correspondence from Proponent to Participating Indigenous Nations (including Kitselas) providing a copy of draft November 8, 2021 Project - Participating Indigenous Nations meeting notes and the Project's November 8, 2021 presentation.
	November 18, 2021 - BC EAO hosted a TA meeting attended by the Proponent, Kitselas and others – hosted by BC EAO-Agency.
	November 30, 2021 - Email documenting phone call from the Proponent to Kitselas team asking for clarification regarding timing of comments from the Kitselas team on the Proponent's proposed dAIR components by December 3, 2021.
	November 30, 2021 - Kitselas team advise their comments on the Proponent's proposed dAIR components will be provided by December 3, 2021.
	December 06, 2021 - Email correspondence from Kitselas team to Proponent including comments from Kitselas on the Proponent's proposed dAIR component package.
	December 07, 2021 - Email correspondence from Proponent to Kitselas team acknowledging receipt of Kitselas comments on the Proponent's proposed dAIR component package.
	December 15, 2021 - BC EAO hosted a TA meeting. Agenda focused on the Proponent's response to summarized Proponent proposed dAIR component comments, a Project engineering update and a Project presentation on Marine Safety. Kitselas team in attendance. Proponent committed to responding to all Kitselas comments received to date by early 2022.
	January 04, 2022 - An email exchange occurred with respect to providing Kitselas with the Proponent's preliminary responses to the comments (e.g., issues, concerns, questions and recommendations) Kitselas had raised about the Project in 2021. It was noted that the Proponent's preliminary responses were incomplete.
	January 05, 2022 - Email correspondence from Indigenous Engagement and Regulatory Advisor to Kitselas First Nation. The Proponent inquired if Kitselas First Nation had received the Jan 1, 2022 funding payment.
	January 05, 2022 - Email correspondence from Kitselas First Nation to Indigenous Engagement and Regulatory Advisor. Kitselas First Nation confirmed they would follow up on the Jan 1, 2022 funding payment. Kitselas First Nation provided the workplan for the Kitselas-led study, the Social Determinants of Health Baseline and Risk Report for the Proponent's review.
	January 05, 2022 - Email correspondence from Director, Environmental and Regulatory Affairs to Kitselas First Nation: Proponent acknowledged receipt of workplan for the Kitselas-led study, Social Determinants of Health Baseline and Risk Report.

Indigenous Nation	Summary of Early Engagement Activities
Kitselas First Nation (cont'd)	January 05, 2022 - Email correspondence from Indigenous Engagement and Regulatory Advisor to Kitselas First Nation indicating that the Proponent provided follow up to Kitselas First Nation regarding their request for feedback on the preliminary draft responses to the issues and concerns that Kitselas First Nation has raised in 2021 with the proposed Project and its EA-IA. The Proponent provided a word version of the document and requested that Gitxaala Nation provide comments by January 14, 2022.
	January 10, 2022 - Email correspondence with Participating Indigenous Nations (including Kitselas) providing access to a managed FTP site where draft Project Study Area figures could be downloaded.
	January 11, 2022 - The Proponent forwarded an email with attached preliminary responses to a complete set of Kitselas issues, concerns, questions or suggestions with respect to the Proponent's proposed dAIR components. Outlines of the draft DPD and the Proponent's proposed dAIR were also provided for reference.
	January 12, 2022 - An email exchange occurred between the Proponent and Kitselas with respect to the Kitselas-led Social Determinants Health Study.
	January 14, 2022 - Email correspondence from the Project to Participating Indigenous Nations (including Kitselas representatives) inviting them to participate in a late January 2022 marine mammal survey.
	January 14, 2022 - Email from Kitselas advising the Proponent of an error in the Project's response table. The error was corrected by the Proponent.
	January 14, 2022 - Email correspondence from Kitselas First Nation to Indigenous Engagement and Regulatory Advisor. Kitselas First Nation provided their feedback on the preliminary draft responses to the issues and concerns that Kitselas First Nation has raised in 2021
	January 17, 2022 - Email exchange between the Proponent and Kitselas discussing self assessment of project effects.
	January 19, 2022 - Email correspondence from the Project to Participating Indigenous Nations (including Kitselas representatives) cancelling the late January 2022 marine mammal survey.
	January 20, 2022 - Email from Kitselas with their comments on the Project's preliminary response to Kitselas comments on the Project's proposed dAIR components shared on January 11, 2022.
	February 04, 2022 - Email correspondence from the Proponent to Kitselas First Nation confirming the progress of the Nation led studies. The Proponent asked Kitselas First Nation to determine payment dates and structure to assist in completing the studies.
	February 07, 2022 - Email correspondence from Kitselas First Nation to the Proponent with budget corrections and suggested a payment structure for the Kitselas led studies.
	February 08, 2022 - Email correspondence from the Proponent to Kitselas First Nation, suggesting an amendment to the proposed payment structure. Kitselas First Nation replied and suggested an additional amendment for the payment structure and dates of payment.

Indigenous Nation	Summary of Early Engagement Activities
Kitselas First Nation (cont'd)	February 10, 2022 - The Proponent sent an email advising all Nations the boundaries of the aerial marine mammal survey had been revised to include Chatham Sound and extending out past Triple Island and attached a copy of the revised survey map showing Current and Extended Marine Mammal Aerial Surveys.
	February 14, 2022 - Email correspondence from the Proponent to Kitselas First Nation, summarizing the discussed payment structure and asked Kitselas First Nation to confirm everything was correct. The Proponent noted that once everything was confirmed the payment could proceed.
	February 15, 2022 - Email correspondence from Kitselas First Nation to the Proponent, confirming the Kitselas-led studies payment structure. Kitselas First Nation asked for clarification on the payment dates and if Schedule B of the EA funding agreement needed to be amended with the updated table. The Proponent replied and noted the payment structure timeframe for payment after completion and noted they would confirm the need to update Schedule B.
	February 15, 2022 - Email correspondence from the Proponent to Kitselas First Nation confirming that Schedule B did not need to be updated.
	February 17, 2022 - Email correspondence from the Proponent to Kitselas First Nation regarding the Detailed Project Description and offered assistance to the Nation in their review of the document.
	February 17, 2022 - Email correspondence from the Proponent regarding the Observer positions on upcoming vessel based marine mammal surveys to Kitselas First Nation. The Proponent detailed the Project and described the details of the Observer Opportunity.
	February 22, 2022 - Email correspondence with the Proponent and Kitselas First Nation regarding the updated EFT form.
	February 24, 2022 - Email correspondence with the Proponent and Kitselas First Nation regarding the updated EFT form.
	February 25, 2022 - Email correspondence with the Proponent and Kitselas First Nation regarding the receipt of the funds for the Nation-led studies.
	February 28, 2022 - Email correspondence from the Kitselas First Nation providing shapefiles.
	March 01, 2022 - Email correspondence with the Proponent and Kitselas First Nation regarding the receipt of the funds for the Indigenous Led studies.
	March 10, 2022 - Email correspondence with the Proponent and Kitselas First Nation regarding the receipt of the funds for the Nation-led studies.
	March 22, 2022 - Email correspondence between the Proponent and Kitselas First Nation regarding a meeting to discuss the results of the Nation-led studies.
	March 23, 2022 - Email correspondence between the Proponent and Kitselas First Nation regarding a meeting to discuss the results of the Nation-led studies.

Indigenous Nation	Summary of Early Engagement Activities
	March 23, 2022 - Email correspondence between the Proponent and Kitselas First Nation requesting clarification on the meeting length and providing clarification on incorporation of results.
	March 24, 2022 - Email correspondence between the Proponent and Kitselas First Nation regarding a meeting to discuss the results and incorporation of the Nation-led studies.
	March 24, 2022 - Email correspondence between the Proponent and Kitselas First Nation thanking them for the clarification of incorporation of results, and a revised meeting invite.
Gitxaała Nation	March 23, 2021 - Written correspondence from the Nisga'a Lisims Government to the elected leadership of Kitsumkalum, Gitxaała, Kitselas and Haida introducing the Ksi Lisims LNG Natural Gas Liquefaction and Marine Terminal Project highlighting the shared interest in marine waters stewardship.
	March 31, 2021 - Written correspondence from Project's Director of Environmental and Regulatory Affairs to technical contacts for Gitxaała Nation. The letter introduces the Project and its location, including Project ownership group. The letter appends a short Fact Sheet and the letters from Nisga'a leadership to Indigenous Nations and requests collaboration in arranging a date for an initial virtual meeting to discuss optimal ways the Project can engage with Gitxaała Nation.
	April 15, 2021 - Ksi Lisims LNG Project Introductory Meeting. Gitxaała Nation confirmed interest in establishing Project agreements. Proponents confirmed they will follow up with Gitxaała Nation to establish Project agreements.
	April 22, 2021 - Email Correspondence from Senior Environmental and Regulatory Advisor to Environmental Assessment Coordinator, Gitxaała Nation. Gitxaała Nation received electronic access to draft investigative permit applications and the draft Baseline Study Plan proposed for the Project. Proponents also proposed to follow up with Gitxaała Nation to establish early engagement and other Project agreements.
	April 27, 2021 - Email correspondence from Director External Relations with a draft Early Engagement Capacity Funding Agreement to Gitxaala contacts.
	May 05, 2021 - Email correspondence from Director External Relations to follow-up with Gitxaala contacts on status of draft Early Engagement Capacity Funding Agreement. Draft meeting notes from April 15 meeting were shared as well as the Project's introductory presentation.
	May 06, 2021 - Email correspondence from Senior Environmental and Regulatory Advisor to Gitxaała Nation. Proponent shared link to facilitate Gitxaała Nation access and review of the Project Baseline Study Plan and associated Federal and Provincial investigative permit applications.
	May 31, 2021 - Email correspondence from EA Coordinator, Gitxaała Nation to Director External Relations with suggested revisions to the draft Early Engagement Capacity Funding Agreement.
	May 31, 2021 - Phone conversation between Senior Negotiator and Strategic Advisor and Environmental Assessment Coordinator, Gitxaała Nation to discuss suggested revisions.

Indigenous Nation	Summary of Early Engagement Activities
Gitxaała Nation (cont'd)	June 01, 2021 - Email correspondence between Senior Negotiator and Strategic Advisor to Environmental Assessment Coordinator, Gitxaała Nation with revised Early Engagement Funding Agreement for signature.
	June 01, 2021 - Email correspondence from Director Environmental and Regulatory Affairs to Gitxaała Nation. Proponents advised that the draft IPD would be shared for early review and comment no later than June 7, 2021. Review comments requested for June 25, 2021. Included offer of a virtual meeting to present the IPD and EP between June 8–24.
	June 07, 2021 - Email correspondence from Director Environmental and Regulatory Affairs to technical contacts providing access to early engagement drafts of both IPD and EP and asking for comments by June 25, 2021.
	June 10, 2021 - Email correspondence from EA Coordinator, Gitxaala Nation to Senior Negotiator and Strategic Advisor providing a signed (June 9, 2021) copy of the Early Engagement Capacity Funding Agreement. The Senior Negotiator and Strategic Advisor subsequently sent a fully executed copy of the Early Engagement Capacity Funding Agreement for their files.
	June 12, 2021 - Email Correspondence from the Director of External Relations to the Gitxaala Nation following up on the June 7 email and offering a time to meet virtually to review the IPD and EP.
	June 25, 2021 - Email correspondence with Director External Relations requesting review and comments of draft IPD and EP and an invitation to a virtual meeting to discuss both documents on June 30.
	June 30, 2021 - Gitxaala team met with the Proponent to discuss IPD and EP. Several edits made to final IPD and EP based on verbal feedback.
	July 07, 2021 - Email correspondence from the Proponent to the Gitxaala team advising that the EAO and Agency had received the IPD, IPD Summary and EP.
	July 07, 2021 - Email correspondence from Proponent to Gitxaala contacts providing an FTP link to Project IPD and EP.
	July 09, 2021 - Email correspondence to the Gitxaala team including draft notes from the June 30 virtual Project-Gitxaala meeting.
	July 09, 2021 - Email correspondence from the Gitxaala team to the Proponent acknowledging receipt of draft June 30 notes.
	July 21, 2021 - Letter correspondence from Agency to Gitxaala Nation. Opportunity to comment on the potential impact assessment of the proposed Ksi Lisims LNG Natural Gas Liquefaction and Marine Terminal Project
	August 13, 2021 - Email correspondence from Proponent to Gitxaala team enclosing a draft EA and Regulatory Process Funding Agreement and advising of the upcoming Project Virtual Information sessions scheduled for September 8 and 9, 2021 and that an initial TA meeting and Participating Indigenous Nations workshop were being hosted on those same two days by EAO, respectively.
	August 27, 2021 - Email correspondence from Proponent to Gitxaala team providing a brief Baseline Study Update and a revised EA-IA schedule outlining key tasks to be undertaken until the "Readiness Decision".
	September 08, 2021 - BC EAO hosted TA meeting. Ksi Lisims LNG Project introduced by the Proponent. Gitxaala team in attendance.
	September 09, 2021 - BC EAO hosted Participating Indigenous Nation workshop. Gitxaala team in attendance.

Indigenous Nation	Summary of Early Engagement Activities
Gitxaała Nation (cont'd)	September 13, 2021 - Email correspondence from Proponent to Gitxaala team requesting a meeting to further discuss any comments they may have on IPD and EP and a draft Environmental Assessment and Regulatory Process Funding Agreement.
	September 15, 2021 - Email correspondence from Gitxaala team to the Proponent with respect to a future meeting. Email correspondence from Gitxaala team to the Proponent confirming a meeting on September 29, 2021.
	September 15, 2021 - Email correspondence from Gitxaala team to the Project with attached comments to BC EAO-Agency on IPD and EP.
	September 21, 2021 - Email correspondence from Gitxaala team to the Project with attached comments to BC EAO-Agency on IPD and EP.
	September 21, 2021 - Email correspondence to Gitxaala team acknowledging receipt of Gitxaala comments to BC EAO-Agency on IPD and EP.
	September 21, 2021 - Email correspondence from Gitxaala Nation to Agency. Gitxaała Nation, through the Gitxaała Territorial Management Agency have reviewed the Project's IPD and the resulting comments and questions from that review attached to the email.
	September 27, 2021 - Email correspondence from Proponent to Gitxaala team proposing an agenda for the September 29, 2021 meeting.
	September 29, 2021 - Virtual meeting between Proponent and Gitxaala team. A new (dated September 29, 2021) version of a draft Environmental Assessment and Regulatory Process Funding Agreement was shared for review and comment.
	October 04, 2021 - Email correspondence from Proponent to Gitxaala team – follow up to September 29, 2021 meeting including draft meeting notes.
	October 15, 2021 - Email correspondence from Proponent to Gitxaala team discussing upcoming agenda for Participating Indigenous Nation - Project meeting scheduled for October 26, 2021.
	October 20, 2021 - Email correspondence from Gitxaala team to the Proponent with respect to October 26, 2021 Participating Indigenous Nation – Project meeting.
	October 21, 2021 - Email correspondence from Proponent to Gitxaala team confirming that October 26, 2021 meeting was cancelled. Project meeting with Participating Indigenous Nation now scheduled for November 8, 2021.
	October 27, 2021 - Email correspondence from Proponent to Participating Indigenous Nations (including Gitxaala) providing a link to a draft version of a Baseline Field Program update (dated October 26, 2021) and to several Proponent proposed dAIR components (i.e., draft VCs selection table, proposed VC assessment area figures, a preliminary VC and Project works and activities interaction table as well as a preliminary Project inclusion list).
	October 29, 2021 - Email correspondence to Gitxaala from Agency that the 180-day IA Planning Phase has been suspended, at the written request of the proponent, at Day 96. Email copied to the Proponent.

Indigenous Nation	Summary of Early Engagement Activities
Gitxaała Nation (cont'd)	November 01, 2021 - Email correspondence from Proponent to Participating Indigenous Nations (including Gitxaala) providing a link to a draft version of a Baseline Field Program update (Dated October 26, 2021) and to several dAIR components (i.e., draft VCs selection table, proposed VC assessment area figures, a preliminary VC and Project works and activities interaction table as well as a preliminary Project inclusion list).
	November 02, 2021 - Email correspondence from Gitxaala team acknowledging receipt of November 8, 2021 Proponent proposed dAIR component meeting materials.
	November 03, 2021 - Email correspondence from Gitxaala team requesting October 26, 2021 version of Baseline Study Update report.
	November 03, 2021 - Email correspondence from Proponent to Gitxaala team providing FTP access to October 26, 2021 Baseline Study Update report.
	November 04, 2021 - Email correspondence from Gitxaała Nation to BC EAO regarding intent to participate in assessment of Ksi Lisims LNG as a Participating Indigenous Nation.
	November 08, 2021 - Email correspondence from Proponent to Participating Indigenous Nations (e.g., Gitxaala) providing a copy of the November 7 Baseline Study Update report (replacing the October 26, 2021 draft of the same report).
	November 08, 2021 - The Project held a meeting with Participating Indigenous Nations (including Gitxaala) to provide a Project engineering update and discuss the Proponent's proposed dAIR components shared on October 28, 2021 and November 8, 2021 (Baseline Study Update – November 7, 2021 version).
	November 10, 2021 - Email correspondence from Proponent to Participating Indigenous Nations (including Gitxaala) providing a copy of draft November 8, 2021 Project - Participating Indigenous Nations meeting notes and the Project's November 8, 2021 presentation.
	November 18, 2021 - EAO hosted TA meeting attended by the Proponent, Gitxaala and others.
	November 30, 2021 - Email correspondence from Proponent to Gitxaala team asking for clarification regarding timing of comments from the Gitxaala team on Proponent's proposed dAIR components by December 3, 2021.
	November 30, 2021 - Email correspondence from Gitxaala team acknowledging the Proponent's request regarding comments on Proponent's proposed dAIR components by December 3, 2021 asking for a few more days and committing to Gitxaala comments to be finalized and forwarded to the Proponent by December 8, 2021.
	November 30, 2021 - Email correspondence from Proponent to Gitxaala team acknowledging December 8, 2021 date for Gitxaala comments on Proponent's proposed dAIR components.
	December 08, 2021 - Email correspondence from Gitxaala team providing comments on the Proponent's proposed dAIR components and the November 7 Baseline Study Update in tables accompanied with a covering letter.

Indigenous Nation	Summary of Early Engagement Activities
Gitxaała Nation (cont'd)	December 13, 2021 - Email correspondence from Proponent to Gitxaala team acknowledging receipt of Gitxaala comments (e.g., issue, concerns, questions and recommendations) on the Proponent's proposed dAIR component and Baseline Study Update.
	December 15, 2021 - The EAO hosted a TA meeting. Agenda focused on the Proponent's response to summarized Proponent proposed dAIR component comments, a Project engineering update and a Project presentation on Marine Safety. Gitxaala team in attendance. Proponent committed to responding to all Kitselas comments received to date by early 2022.
	January 04, 2022 - An email exchange occurred with respect to providing Gitxaala with the Proponent's preliminary responses to the comments (e.g., issues, concerns, questions and recommendations) Gitxaala had raised about the Project in 2021. It was noted that the Proponent's preliminary responses were incomplete.
	January 05, 2022 - An email exchange with Gitxaala confirming receipt of the Proponent's preliminary responses to the comments (e.g., issues, concerns, questions and recommendations) Gitxaala had raised about the Project in 2021.
	January 10, 2022 - Email correspondence with Participating Indigenous Nations (including Gitxaala) providing access to a managed FTP site where draft Project Study Area figures could be downloaded.
	January 10, 2022 - An email exchange between the Proponent and Kitselas with respect to the Kitselas-led Social Determinants Health Study.
	January 11, 2022 - The Proponent forwarded an email with attached preliminary responses to a complete set of Gitxaala issues, concerns, questions or suggestions with respect to the Proponent's proposed draft dAIR components. Outlines of the draft DPD and the Proponent's proposed dAIR were also provided for reference.
	January 11, 2022 - Email correspondence from the Project to Participating Indigenous Nations (including Gitxaala representatives) inviting them to participate in a late January 2022 marine mammal survey.
	January 14, 2022 - Email from Gitxaala including a revised Gitxaala Territory Map, DFO's Science Advice for Pathways of Effects For Marine Shipping in Canada: Biological and Ecological Effects and a Gitxaala response to the Proponent's preliminary responses to the comments (e.g., issues, concerns, questions and recommendations) Gitxaala had raised about the Project in 2021. The Gitxaala response was acknowledged as received by the Proponent the same day.
	January 18, 2022 - Email correspondence from the Project to Participating Indigenous Nations (including Gitxaala representatives) cancelling the late January 2022 marine mammal survey.
	February 10, 2022 - Email correspondence from Gitxaala Nation regarding Gitxaala Nation's draft EA funding agreement workplan and budget. Gitxaaka Nation asked the Proponent to review their proposed workplan and budget and to plan a meeting to discuss. The Proponent replied via email indicating that the budget would be reviewed and provided several dates and times for a meeting to discuss the budget with Gitxaala Nation.
	February 10, 2022 - The Proponent sent an email advising all Nations the boundaries of the aerial marine mammal survey had been revised to include Chatham Sound and extending out past Triple Island and attached a copy of the revised survey map showing Current and Extended Marine Mammal Aerial Surveys.

Indigenous Nation	Summary of Early Engagement Activities
Gitxaała Nation (cont'd)	February 14, 2022 - Email correspondence from Gitxaala Nation regarding the Gitxaala Nation EA funding agreement, providing the Proponent with a word document version of the agreement with budget included. Gitxaala indicated that they made additional minor revisions to the budget reflecting calculation corrections. The Proponent replied, noted they were unavailable on the requested date, and suggested alternative dates for a meeting.
	February 15, 2022 - Email correspondence from Gitxaala Nation to the Proponent regarding the scheduling of meeting between the Proponent and Gitxaala Nation representatives. The Proponent confirmed the meeting.
	February 17, 2022 - Email correspondence from the Proponent to Gitxaala Nation regarding the Detailed Project Description and offered assistance to the Nation in their review of the document.
	February 17, 2022 - Email correspondence from the Proponent regarding the Observer positions on upcoming vessel based marine mammal surveys to Gitxaala Nation. The Proponent detailed the Project and described the details of the Observer Opportunity.
	February 18, 2022 - Email correspondence from Gixtaala Nation regarding Gixaala Nation's proposed budget.
	February 18, 2022 - Virtual meeting with Gitxaala Nation to discuss the EA funding agreement workplan and budget proposed to the Proponent. A follow-up meeting was scheduled.
	February 24, 2022 - Email correspondence from the Proponent to Gitxaala Nation regarding the EA workplan and budget proposed by Gitxaala Nation, providing a revised budget.
	February 28, 2022 - Email correspondence from the Proponent to Gitxaala Nation providing shapefiles.
	March 03, 2022 - Virtual meeting with Gitxaala Nation to discuss the adjustments to the EA funding agreement workplan and budget proposed to the Proponent. Gitxaala feels the adjustments are reasonable and will discuss internally.
	March 11, 2022 - Email correspondence between the Proponent and Gitxaala First Nation regarding the revised draft EA funding agreement for Gitxaala First Nation's review.
	March 22, 2022 - Telephone correspondence between the Proponent and Gitxaala Nation regarding the EA Funding agreement.
	March 22, 2022 - Email correspondence between the Proponent and Gitxaala Nation regarding the EA Funding agreement.
	March 23, 2022 - Email correspondence between the Proponent and Gitxaala Nation regarding a meeting to discuss how best to incorporate the Gitxaala Nation studies into the Application.
Gitga'at First Nation	November 19, 2021 - BC EAO respond to letters from Gitga'at with respect to the EA for the Ksi Lisims LNG (the Project).
	November 22, 2021 - Agency write Gitga'at Chief and advise them of the Project.
	November 23, 2021 - Email correspondence from the Proponent to Chief and key Gitga'at contacts requesting a meeting to introduce the Project.
	November 23, 2021 - Email response from the Gitga'at contacts acknowledging receipt of Project introductory email.
	November 23, 2021 - Email response from the Gitga'at introducing Gitga'at Development Corporation CEO.

Indigenous Nation	Summary of Early Engagement Activities
Gitga'at First Nation (cont'd)	November 23, 2021 - Email response to Gitga'at acknowledging a future meeting to be organized to introduce the Project
	December 01, 2021 - Email from the Gitga'at team to the Proponent proposing dates to meet.
	December 02, 2021 - Email and virtual meeting invite sent to Gitga'at confirming introductory meeting on December 8, 2021.
	December 08, 2021 - Virtual meeting with Proponent and Gitga'at team to introduce the Project.
	December 13, 2021 - Email correspondence from the Proponent to Gitga'at contacts including December 8, 2021 meeting notes and a copy of the Project's introductory presentation.
	December 20, 2021 - Email correspondence from Proponent to Gitga'at contacts with a copy of a draft Environmental Assessment and Regulatory Process Funding Agreement for review.
	January 11, 2022 - The Proponent exchanged emails to re-initiate discussions on finalizing EA and Regulatory Process Funding Agreement.
	February 04, 2022 - Email correspondence from the Proponent to Gitga'at First Nation. The Proponent asked if Gitga'at First Nation could indicate when the comments on the EA funding agreement workplan and budget would be sent.
	February 04, 2022 - Email correspondence from Gitga'at First Nation to the Proponent who indicated that Gitga'at First Nation was meeting that day to discuss the EA funding agreement and to expect the draft agreement early the next week.
	February 10, 2022 - The Proponent sent an email advising all Nations the boundaries of the aerial marine mammal survey had been revised to include Chatham Sound and extending out past Triple Island and attached a copy of the revised survey map showing Current and Extended Marine Mammal Aerial Surveys.
	February 17, 2022 - Email correspondence from the Proponent to Gitga'at First Nation regarding the Detailed Project Description and offered assistance to the Nation in their review of the document.
	February 17, 2022 - Email correspondence from the Proponent regarding the Observer positions on upcoming vessel based marine mammal surveys to Gitga'at First Nation. The Proponent detailed the Project and described the details of the Observer Opportunity.
	February 22, 2022 - Email correspondence from the Proponent to Gitga'at First Nation, following up on the EA funding agreement. The Proponent asked if Gitga'at First Nation could indicate when the comments and budget would be sent.
	February 22, 2022 - Email correspondence from Gitga'at First Nation to the Proponent, noting that Gitga'at First Nation had previously sent the agreement but reattached the document for the Proponent. The Proponent indicated they would begin reviewing the agreement.
	February 23, 2022 - Email correspondence from the Proponent to Gitga'at First Nation regarding Gitga'at First Nation's proposed EA funding agreement workplan/budget. The Proponent suggested that a meeting is held to walk through the proposed agreement.

Indigenous Nation	Summary of Early Engagement Activities
Gitga'at First Nation (cont'd)	February 24, 2022 - Telephone call from the Proponent to Gitga'at First Nation. The Proponent left a voicemail message.
	February 24, 2022 - Email correspondence from the Proponent to Gitga'at First Nation informing Gitga'at First Nation that they were no longer available for the suggested date for a meeting. The Proponent asked if Gitga'at First Nation could confirm they were available on the other suggested date or to propose an alternative time. Gitga'at First Nation replied and indicated Gitga'at First Nation was determining alternative dates and would communicate with the Proponent once dates were determined.
	February 28, 2022 - Email correspondence from the Proponent to Gitga'at First Nation providing shapefiles.
	March 01, 2022 - Virtual meeting with Gitga'at First Nation to discuss the EA funding agreement workplan/budget proposed to the Proponent.
	March 14, 2022 - Email correspondence between the Proponent and Gitga'at First Nation regarding the revised draft EA funding agreement for Gitga'at First Nation's review.
	March 23, 2022 - Email correspondence between the Proponent and Gitga'at First Nation regarding the revised draft EA funding agreement for Gitga'at First Nation's review.
Haida Nation	March 23, 2021 - Written correspondence from the Nisga'a Lisims Government to the elected leadership of Kitsumkalum, Gitxaała, Kitselas and Haida introducing the Ksi Lisims LNG Natural Gas Liquefaction and Marine Terminal Project highlighting the shared interest in marine waters stewardship.
	March 31, 2021 - Email correspondence/letter from the Director Environmental and Regulatory Affairs, Ksi Lisims LNG Project, to Vice-President, Council of the Haida Nation. Proponents contacted Haida Nation to arrange a Ksi Lisims Introductory Meeting.
	June 01, 2021 - Email correspondence from the Director Environmental and Regulatory Affairs, Ksi Lisims LNG Project, to Haida Nation. Proponents advised that the draft IPD would be shared for early review and comment no later than June 7, 2021.
	June 07, 2021 - Email correspondence from Director Environmental and Regulatory Affairs to Haida Nation providing access to early engagement drafts of both IPD and EP and asking for comments by June 25, 2021. Included offer of a virtual meeting to present the IPD and EP between June 8 – 24, 2021.
	June 12, 2021 - Email correspondence from the Director External Relations to the Haida Nation following up on the June 7, 2021 email and offering a time to meet virtually to review the IPD and EP.
	June 24, 2021 - Email correspondence from the Director External Relations to the Haida Nation requesting a virtual meeting to discuss draft IPD and EP and potential engagement funding for the next steps in the EA-IA process.
	July 07, 2021 - Email correspondence from the Proponent to Haida advising them that the EAO and Agency had received the IPD, IPD Summary and EP.
	July 21, 2021 - Letter correspondence from Agency to Haida Nation regarding opportunity to comment on the potential impact assessment of the proposed Ksi Lisims LNG Natural Gas Liquefaction and Marine Terminal Project

Indigenous Nation	Summary of Early Engagement Activities
Haida Nation (cont'd)	August 13, 2021 - Email correspondence from Proponent to Haida advising of the upcoming Project virtual information sessions scheduled for September 8 and 9, 2021 and that initial TA and Participating Indigenous Nations workshop are being hosted on those same two days by EAO.
	August 27, 2021 - Email correspondence from Proponent to Haida providing a brief August 27, 2021 Baseline Study Update and a revised EA-IA schedule outlining key tasks to be undertaken until the Readiness Decision.
	September 08, 2021 - BC EAO hosted TA meeting. The Project was introduced by the Proponent. Haida did not attend.
	September 09, 2021 - BC EAO hosted Participating Indigenous Nation workshop. Haida did not attend.
	October 29, 2021 - Email correspondence to Haida from Agency that the 180-day IA Planning Phase has been suspended, at the written request of the proponent, at Day 96. Email copied to the Proponent.
	November 18, 2021 - Technical advisor meeting. To the Project's knowledge, BC EAO did not notify Haida of this meeting.
	December 15, 2021 - Technical advisor meeting. To the Project's knowledge, BC EAO did not notify Haida of this meeting.
	February 16, 2022 - Email correspondence from IAAC to the Proponent and Haida Nation, regarding the draft DPD. IAAC provided a copy of the draft DPD to Haida Nation and requested Haida Nation to review and comment on the document. IAAC summarized the next steps for impact assessment determination. IAAC noted they would follow up with Métis Nation British Columbia to convey the outcome and how comments from Haida Nation were taken into account.
	February 23, 2022 - Email correspondence from the Proponent to Haida Nation, informing them that the DPD, including the proposed dAIR had been provided to the Impact Assessment Agency of Canada, the BC EAO, and the participating Indigenous Nations for review and comment. The Proponent noted that they were aware IAAC had sent a copy of the DPD to the Haida Nation for review and indicated that the Proponent would send a copy of the dAIR, should Haida Nation wish to review it.
	March 10, 2022 - Email correspondence between the Proponent and Haida Nation regarding the review and comment on the dAIR.
Métis Nation British Columbia	May 14, 2021 - Written correspondence from the Director External Relations to President of Northwest BC Métis Association introducing the Project. The letter offered an opportunity for a meeting and a Project introduction presentation.
	July 21, 2021 - Written correspondence to MNBC from Agency with respect to the Project and an IA – copied to Proponent.
	July 21, 2021 - Letter correspondence from Agency to MNBC providing opportunity to comment on the potential impact assessment of the proposed Ksi Lisims LNG Natural Gas Liquefaction and Marine Terminal Project
	September 24, 2021 - Email correspondence from Proponent to MNBC requesting comments on Project IPD and EP.
	October 14, 2021 - BC EAO-Agency wrote the Project and provided a JSOIE. In Section 3.0 of the document, BC EAO and Agency advised that they had notified and requested input from MNBC.

Indigenous Nation	Summary of Early Engagement Activities
Métis Nation British Columbia (cont'd)	October 29, 2021 - Email correspondence to MNBC from Agency that the 180-day IA Planning Phase has been suspended, at the written request of the proponent, at Day 96. Email copied to the Proponent.
	February 16, 2022 - Email correspondence from IAAC to the Proponent and Métis Nation British Columbia, regarding the draft DPD. IAAC provided a copy of the draft DPD to MNBC and requested their review and comment on the document. IAAC summarized the next steps for impact assessment determination. IAAC noted they would follow up with MNBC to convey the outcome and how comments from MNBC were taken into account.
	February 23, 2022 - Email correspondence from the Proponent to MNBC, informing them that the draftDPD, including the proposed draft dAIR had been provided to the IAAC, the BC EAO, and the participating Indigenous Nations for review and comment. The Proponent noted that they were aware IAAC had sent a copy of the draft DPD to MNBC for review and indicated that the Proponent would send a copy of the dAIR, should MNBC wish to review it.
	March 10, 2022 - Email correspondence between the Proponent and Métis Nation of British Columbia regarding the review and comment on the draft Application Information Requirement document.

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APPENDIX 7 – PROJECT RECORD AND RESPONSE TO INDIGENOUS NATION COMMENTS RECEIVED TO DATE

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Preamble:

The Project's response to the Indigenous Nations Issues and Concerns in this document cover all engagement with the specific Indigenous Nation. They are being provided to each Indigenous Nation for review and comment as the Indigenous Nation issue and concern and the Project's response to it is an EA-IA requirement.

The DPD reference is general and-or specific (as necessary, depending on the issue or concern raised). Occasionally there is a reference to the dAIR ("dAIR issue" - under development) as the detailed EA-IA methodologies in that document may best address the specific issue and concern building on what is generalized in the DPD. If there is a "n/a" in the DPD reference column, then there is no direct reference to the issue or concern in the DPD.

Comments on the dAIR components are included from a Lax Kw'alaams submission on January 7, 2022.

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Lax Kw'alaams Initial Comments and Concerns with the Project			
Concerned about Project impacts to Coast Tsimshian waters (overlapping with the marine shipping route) and Pearse Island. From Lax Kw'alaams Band perspective, the Project is within their Coast Tsimshian traditional territory and subject to their Aboriginal rights and title.	April 9, 2021 – Letter correspondence from President NLG to Mayor Lax Kw'alaams Band and Chief Councilor Metlakatla First Nation confirming that the Site is on Category A lands held in fee simple by the Nisga'a Nation pursuant to the Nisga'a Treaty and is a former Nisga'a reserve.	17-Mar-21 – Ksi Lisims LNG Project Email	Figure 4.1, Section 7.3.1, Appendix 7
Mayor restated that Lax Kw'alaams assert rights and title on the land and waters of the Project area. Mayor also expressed concern that Lax Kw'alaams was not approached earlier as a partner in the Project.	Proponents acknowledged an understanding of the territory claimed by Lax Kw'alaams Band and confirmed that it will be engaging Lax Kw'alaams Band on that basis.	03-May-21 – Ksi Lisims LNG Project Introductory Meeting	Section 7.3.1, Appendix 7
Lax Kw'alaams Band shared perspective that they have rights and title to the Project's proposed Water Lot and need to be consulted regarding the acquisition of provincial tenure.	Proponents acknowledged an understanding of the territory claimed by Lax Kw'alaams Band and confirmed that it will be engaging Lax Kw'alaams Band on that basis.	03-May-21 – Ksi Lisims LNG Project Introductory Meeting	Section 7.3.1, Appendix 7

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Alternative Means of Carrying Out the Project: Counsel for Lax Kw'alaams Band asked if there were any technical problems with the Nasoga Gulf Site and why the Site was moved to Wil Milit.	Although there are no known technical issues that cannot be overcome at Nasoga Gulf, it is not owned by the Nisga'a Nation. The Wil Milit site is owned in fee simple by the NLG. Site evaluation studies were conducted on the feasibility of four candidate sites and Wil Milit had the highest ranking with respect to mitigating Project risks.	03-May-21 – Ksi Lisims LNG Project Introductory Meeting	Section 2.13.2
Lax Kw'alaams Comments to EAO – IAAC on IPD and EP			
The Project is located on Pearse Island and is within Lax Kw'alaams territory and is subject to Lax Kw'alaams Aboriginal rights and title. As such, the Project cannot proceed without Lax Kw'alaams full consent. Although portions of the Project would occur on lands that NLG claims to own in fee simple, the fact is that much, if not most of the Project and its impacts would occur over Lax Kw'alaams territorial waters, and that all of Pearse Island is subject to Lax Kw'alaams unextinguished Aboriginal title land rights, which underlie any Crown grants of fee simple.	Noted. The Project appreciates portions of the Project would occur over Lax Kw'alaams territorial waters and lands and looks forward to collaborating with Lax Kw'alaams to address their issues and interests.	20-Sep-2021 – Cover letter - Submission on IPD and EP to EAO	Figure 4.1, Section 7.3.1, Appendix 7
The *Łut'ak dił Łoomsk Txanii Laxyuup Ksi'aaks dił Laxsüülda* – Interim Land and Marine Resources Plan of the Allied Tribes of Lax Kw'alaams ("*Laxyuup Plan*") sets out the management direction for this area of Lax Kw'alaams territory.	The Project has requested a copy of the plan from Lax Kw'alaams and looks forward to working with and understanding the management direction in the plan.	20-Sep-2021 – Cover letter - Submission on IPD and EP to EAO	Section 4.2
Environmental – Potential impacts of the Project on the environment, including cumulative effects, must be thoroughly assessed prior to a decision being made on the Project. Baseline data must be gathered to assess those impacts and enable effective monitoring over the life of the Project. Negative impacts to the environment must be avoided or mitigated to the greatest extent possible and steps must be taken to rehabilitate the environment where harm is done. Where the impacts or risks to the environment are too great, or are not well understood, the Project should not proceed.	Cumulative effects assessment methodologies will be further described in the dAIR. Baseline studies will continue with input from Indigenous Nations as the Project's EA-IA moves forward. While the Project looks to avoid potential negative effects to the environment, the Project will collaborate with Indigenous Nations to develop adequate mitigation, management and monitoring plans where potential negative effects are identified and cannot be avoided.	20-Sep-2021 – Cover letter - Submission on IPD and EP to EAO	Sections 3.3, 3.4, 3.5

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Cultural – The Project must not unreasonably interfere with Lax Kw'alaams traditional practices or Lax Kw'alaams deep connection to the ocean, land and its resources. Harm to the land and ocean and their respective resources is harm to Lax Kw'alaams. Where there has been harm, steps must be taken to address that harm, and Lax Kw'alaams must be compensated for any cultural interference, disconnection or loss suffered as a result of the harm.	The Project acknowledges Lax Kw'alaams' connection to the ocean and marine resources and that these values could potentially be negatively affected by the Project and looks forward to collaborating on developing mitigation, management and monitoring plans to address potential Project negative effects that cannot be avoided.	20-Sep-2021 – Cover letter - Submission on IPD and EP to EAO	Section 5.3 - all
Economic – As Lax Kw'alaams secures its place in the current economy of the west coast, Lax Kw'alaams requires an economic base from which to provide economic security to its people. Thus, the Project must not only minimize economic harm to Lax Kw'alaams. Lax Kw'alaams must also receive a share of the wealth generated from the Project and preferential access to jobs, training and business opportunities stemming from the Project.	The Project will work with Indigenous Nations to evaluate and assess potential Project effects on social and economic values in the EA-IA, using methodologies as described in the dAIR. This includes collaboration with Indigenous Nations on the development of mitigation, management and monitoring plans and to develop mitigations to address potential Project negative effects that cannot be avoided.	20-Sep-2021 – Cover letter - Submission on IPD and EP to EAO	Section 5.3 - all
Rights – The Project must recognize, thoroughly assess its impacts on, and not unjustifiably infringe Lax Kw'alaams' title and rights interests. The Project must also recognize the importance of ensuring Lax Kw'alaams' title and rights have meaning overtime and show a willingness to adapt to new circumstances as they arise. Where the impacts or risks to the exercise of Lax Kw'alaams' rights are too great, or are not well understood, the Project should not proceed.	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted Aboriginal title and rights including resource harvesting and the overall health of the ocean and its resources using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	20-Sep-2021 – Cover letter - Submission on IPD and EP to EAO	Sections 7, 7.3.1, 7.4 – 7.7
Market – The accuracy of market projections for the LNG industry and the necessity of the Project.	Noted. Market projections for the Project will be developed in the social and economic components of the EA-IA and described within the dAIR.	20-Sep-2021 Preliminary Description of Lax Kw'alaams interests	Sections 5.3.4, and 7

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Alternatives – How alternatives to the Project have been and will be assessed.	The DPD provides information on the Project's consideration of alternatives. Project alternative assessment methodologies are described in the dAIR.	20-Sep-2021 Preliminary Description of Lax Kw'alaams interests	Section 2.13
Project Site Impacts – Impacts construction and operation of the Project, or an accident or malfunction at the Project site, may have on: ▪ species that utilize the region proximate to the Project, ▪ the exercise of Lax Kw'alaams Aboriginal rights, including resource harvesting and trade and barter rights, and ▪ the overall health of the ocean and its resources.	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted Aboriginal title and rights including from Project-related accidents and malfunctions on species important to the Indigenous Nation, associated resource harvesting and the overall health of the ocean and its resources using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	20-Sep-2021 Preliminary Description of Lax Kw'alaams interests	Section 5 - all

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Marine Shipping Impacts – Impacts marine shipping from the Project may have on: ▪ water quality, ▪ fish, ▪ shellfish, ▪ marine mammals, ▪ aquatic plants, ▪ wildlife, ▪ birds, ▪ the introduction of invasive species in Lax Kw'alaams traditional territories, from ballast water, the hull of the ships, or cargo on the ships, ▪ Lax Kw'alaams culture and heritage sites, ▪ the exercise of Lax Kw'alaams rights, including resource harvesting, culture and heritage and trade and barter rights, ▪ safety in Lax Kw'alaams waters, ▪ Lax Kw'alaams economic interests, ▪ the overall health of the ocean and its resources.	The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project effects of marine shipping related to construction and operation of the Project on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR.	20-Sep-2021 Preliminary Description of Lax Kw'alaams interests	Section 5 - all

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Accident or Malfunction Impacts – Impacts a collision, allision, grounding, or other accident or malfunction involving a ship from the Project may have on: ▪ water quality, ▪ fish, ▪ shellfish, ▪ marine mammals, ▪ aquatic plants, ▪ wildlife, ▪ birds, ▪ Lax Kw'alaams culture and heritage sites, ▪ the exercise of Lax Kw'alaams rights, including resource harvesting, culture and heritage and trade and barter rights, ▪ the health of Lax Kw'alaams people, both physical and mental, ▪ Lax Kw'alaams lands, ▪ Lax Kw'alaams economic interests, ▪ the overall health of the Ocean and its resources.	The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project marine shipping related accidents and malfunctions and potential Project effects of marine shipping accidents and malfunctions on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR.	20-Sep-2021 Preliminary Description of Lax Kw'alaams interests	Section 9
Cumulative Effects – cumulative effects of this and all other projects using or seeking to use Lax Kw'alaams traditional territories and Lax Kw'alaams ability to participate meaningfully in the management of those effects.	The Project looks forward to working with Indigenous Nations to evaluate and assess potential Project related cumulative effects in their traditional territories in the EA-IA using methodologies as described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative cumulative effects that cannot be avoided.	20-Sep-2021 Preliminary Description of Lax Kw'alaams interests	Section 5 – all dAIR issue

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Emergency Preparedness and Response – ensuring governments, response organizations and volunteers are sufficiently prepared and have sufficient capacity torespond to an accident or malfunction at the Project site or involving a ship from the Project, including: ▪ there are clear lines of authority and responsibility in the event of an accident or malfunction ▪ Lax Kw'alaams has sufficient power and capacity to meaningfully participate in response efforts within, or with the potential to impact, its traditional territory.	The Project looks forward to working with Indigenous Nations, NLG, federal and provincial governments, and emergency response organizations to develop emergency management plans that mitigate and respond to potential Project related marine shipping accidents and malfunctions at the Site and along Project shipping routes. All forgoing will be addressed in the DPD, the dAIR, the EA-IA and post positive EA decision associated permitting processes.	20-Sep-2021 Preliminary Description of Lax Kw'alaams interests	Section 5 Section 9
Emergency Compensation – ensuring Lax Kw'alaams is adequately compensated for any impacts stemming from an accident or malfunction at the Project site or involving a ship from the Project, including compensation for cultural interference, disconnection or loss where applicable.	Noted. The regulatory context around marine shipping is described in Section 9 of the DPD.	20-Sep-2021 Preliminary Description of Lax Kw'alaams interests	Section 9
Economic Interest – ensuring Lax Kw'alaams receive an appropriate share of the wealth from Project and preferential access to jobs, training and business opportunities stemmingfrom the Project, given its proposed use of Lax Kw'alaams traditional waters.	The Project looks forward to collaborating with Lax Kw'alaams and other Indigenous Nations to ensure appropriate benefits and opportunities from the Project are discussed, and where agreements are possible, acted upon if the Project is approved.	20-Sep-2021 Preliminary Description of Lax Kw'alaams interests	Sections 7.3.1, 7.6

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Scope of Assessment – ensuring the assessment for the Project is properly scoped, to enable a comprehensive assessment of the Project on Lax Kw'alaams rights and interests and ensure any mitigation measures, accommodation measures or Project conditions can be applied appropriately to Lax Kw'alaams traditional territory.	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted Aboriginal title using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided. The Project will collaborate with Indigenous Nations, federal and provincial regulatory authorities in the consideration, development and implementation of accommodation measures where there is a consensus between these parties that accommodation measures are necessary to address unavoidable and unmitigable potential Project negative effects.	20-Sep-2021 Preliminary Description of Lax Kw'alaams interests	Section 5
Draft IPD - The proposed Project and shipping route is located within the boundaries of Lax Kw'alaams traditional territories. Specifically, the proposed LNG facility is located in Gitlan Tribal Territory and is adjacent to a Gitlan trapline. The Project therefore has the potential to adversely affect Lax Kw'alaams'Indigenous rights.	The potential Project effects of increased Project related shipping on the established shipping routes to and from the Project to Triple Island, and from Prince Rupert and/or Gingolx to the Site will be included in the EA-IA using methodologies described in the dAIR. The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted Aboriginal title using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Section 4.4.3 Figure 4.8

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Draft IPD - The Project is located in the vicinity of known Lax Kw'alaams traditional use values,including, but not limited to: ▪ Salmon fishing ▪ Crab harvesting ▪ Ground fish harvesting ▪ Seal and sealion hunting ▪ Shellfish harvesting ▪ Deer hunting ▪ Trapping	The Project looks forward to working with Indigenous Nations to evaluate and assess potential Project related effects to Indigenous Nation identified values in their traditional territories in the EA-IA using methodologies as described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential Project negative effects that cannot be avoided.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Section 4.4, Section 5
Draft IPD - Effects of marine shipping on fish and marine mammals. The number of LNG shipments is estimated to be between 140 and 160 annually.This will disturb marine mammals and other wildlife.	The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project effects of an increase in marine shipping related to construction and operation of the Project on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR. Where potential Project negative effects to fish and marine mammals cannot be avoided and require mitigation, the Project looks forward to working with Indigenous Nations to develop mitigation, management and monitoring plans to address potential Project negative effects.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Section 4.6.2
Draft IPD - The IPD identifies the Nass River as the largest salmon-producing river in the region under the heading of "Freshwater Communities and Species." Table 8, which is a summary of baseline studies to be undertaken identifies that freshwater fish and habitat studies are a priority. These studies need to include all anadromous fish in the area and potential effects on those species.	Potential Project effects to anadromous fish will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Sections 3.3.3, 3.4, 3.5.5

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Draft IPD - Effects of marine shipping on Indigenous use of the area. Several Indigenous communities utilize this area for marine harvesting activities.The presence of large LNG carriers is likely to affect this use. Lax Kw'alaams members' use of Portland Inlet includes seal and sealion hunting, shellfish harvesting, salmon fishing, and other cultural uses.	The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project effects of an increase in marine shipping related to construction and operation of the Project on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR. Where potential Project negative effects to Indigenous Nation harvest of fish and marine mammals cannot be avoided and require mitigation, the Project looks forward to working with Indigenous Nations to develop mitigation, management and monitoring plans to address potential Project negative effects.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Section 4.6.2
Draft IPD - Loss of high-quality habitat in the tidal areas. Tidal areas include high-quality nursery habitat for fish and other marine species. Development in the Water Lot will remove this habitat. These effects need to be considered in depth.	The potential loss of high-quality habitat and federally required habitat compensation due to Project marine infrastructure in the Water Lot will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Sections 3.3.4, 3.5.6, 5.3.3
Draft IPD - Clearing of old-growth and mature forests. The project includes clearing forests to build several structures and linear development. Lax Kw'alaams is concerned about any clearing of old-growth and mature forests that provide unique ecosystem services to species they support.	The upland Site is on privately owned land, Category A Nisga'a Treaty land. Potential Project effects to old growth ecosystems at the Site and in the area (e.g., old growth forests that could be affected from air emissions) will be addressed in the EA-IA using methodologies described in the dAIR.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Sections 3.5.3, 5.3.3

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Draft IPD - site includes wetland ecosystems, though Proposed Baseline studies listed in Table 8 includes wetlands. Wetland ecosystems often include culturally important plants, including medicines.	Potential Project effects to wetland ecosystems at the Site and in the area (e.g., wetlands that could be affected from air emissions) will be evaluated and assessed in the EA-IA using methodologies described in the dAIR. The Project will work with the Indigenous Nation landowner to ensure baseline studies at the Site for vegetation include culturally important plants.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Sections 3.5.3, 5.3.3
Draft IPD - The Proponent's preliminary assessment of potential impacts to Indigenous groups is very narrow. The section characterizes impacts on Indigenous interests as occurring indirectly through environmental changes. This does not align with current legislation, which requires the assessment of direct and indirect effects.	The Project looks forward to working with Indigenous Nations to scope into the EA-IA direct and indirect potential Project effects to Indigenous Nation values and interests using methodologies described in the dAIR.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Section 5
Draft IPD - The section does not identify potential intangible and cultural impacts, such as knowledge transmission, cultural continuity, sense of place and psychosocial impacts.	The Project looks forward to working with Indigenous Nations to scope into the EA-IA potential Project effects to Indigenous Nations values and interests such as knowledge transmission, cultural continuity, sense of place and psychosocial impacts using methodologies described in the dAIR.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Section 5.3.5
Draft IPD - The section does not acknowledge that the Project has the potential to impact Indigenous rights (other than Nisga'a Nation's Treaty rights).	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted Aboriginal title using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Section 5.3.5

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Required Info and Studies - The site-specific effects of dredging on the marine environment, including release and settling of sediments and how this affects habitats for various marine species.	At this time, dredging does not appear to be necessary for the Project based on new and evolving engineering information.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Section 2.1
Required Info and studies - Effects of shipping on marine mammals, including effects of acoustic masking, potential vessel strikes, and avoidance behaviors.	The Project looks forward to working with Indigenous Nations to scope in potential Project effects on marine mammals from Project related increases in marine shipping including effects of sound masking, potential vessel strikes, and avoidance behaviors. These potential effects will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Section 5.3.3.4
Required Info and studies - Effects to valued components identified by Indigenous groups.	Potential Project effects to Indigenous Nation identified valued components will be evaluated and assessed in the EA-IA with methodologies described in the dAIR.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	n/a – a dAIR item
EP - The Engagement Plan does not identify a plan to collect and integrate Indigenous Knowledge into project planning and environmental assessment. Lax Kw'alaams: ▪ IK must be considered early and at all stages in the EA/IAprocess. ▪ IK can inform project design, EA/IA studies and EA/IA methods, as well as potential impacts on Lax Kw'alaams rights. ▪ should be provided with appropriate funding to conduct its own IK study. ▪ requires an IK Sharing Agreement with the Proponent to ensure the appropriate collection, use and protection of its IK.	The Project is committed to engaging Lax Kw'alaams and is currently negotiating an agreement that includes EA and Regulatory funding capacity. The Project would support Lax Kw'alaams in undertaking Indigenous-led studies to assist in incorporating their Indigenous Knowledge into the EA-IA.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Sections 7.3.1, 7.6, Appendix 7

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Community Engagement: ▪ Lax Kw'alaams will need to engage with its membership to identify priority values,issues and concerns in relation to the project. ▪ Lax Kw'alaams requires the Proponent to participate in community engagement to describe the project and answer questions. ▪ Lax Kw'alaams requires appropriate funding to conduct community meetings andprepare a consultation report for the Proponent. ▪ Lax Kw'alaams requires that the results of early community engagement meaningfully inform the EA/IA, such as selection of VCs, definition of assessment boundaries, identification of mitigation measures and project benefits.	The Project will support Lax Kw'alaams community engagement efforts.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Section 7.6
Lax Kw'alaams requires an Engagement Protocol with the Proponent. The specifics of the Engagement Protocol are to be developed, but would address topics such as capacity funding, engagement methods and anticipated outcomes.	The Project, as requested, can follow-up with engagement on a Project-Lax Kw'alaams Engagement Protocol.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Section 7.6

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Baseline Field Program: ▪ Some studies were scheduled to begin in June, July – August 2021. Methods appear to have been finalized without sufficient time for Lax Kw'alaams review and input. ▪ Planned baseline studies should be cross-referenced with uses identified by Indigenous groups. ▪ Socio-community baseline data focuses on the Nisga'a community. It does not include any baseline information collected on any other communities who use the area or may beemployed by the project. ▪ While there are some references to culturally important species (e.g., "*plant species of importance to the Nisga'a Nation for traditional cultural uses… as identified by Burton(1992) will be documented during the rare plant surveys*") there is no clear plan for engagement on what these species are, or how they should be surveyed. ▪ Lax Kw'alaams would like the Proponent to share anticipated sampling sites, including the justification for the selection of those locations and justification for level of sampling effort. ▪ There is no discussion on Indigenous knowledge-based indicators of health or quality. ▪ There appears to be an identified role for Nisga'a Nation in baseline studies (e.g., on the field crews), but not for other communities.	The Project reached out in May 2021 to the area's Indigenous Nations to request their review and input into a Project Baseline Study program. In order to begin data collection and secure a year of data and meet the Project's regulatory schedule, baseline data programs were developed and implemented based on advice from NLG, their environmental consultants and those Indigenous Nations that chose to provide input in May 2021. An update on Baseline Study progress was completed and provided to all Participating Indigenous Nations in October 2021. The dAIR will further describe Project baseline socio-economic information inputs, data sources and data collection methods with further input from Lax Kw'alaams, and other area Indigenous Nations. There will be opportunities for Lax Kw'alaams participation in baseline studies in 2022.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Sections 3.4, 3.5

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
DPD: ▪ Lax Kw'alaams requires involvement in development of draft VCs. ▪ Draft VCs must be informed by the results of Lax Kw'alaams communityengagement. ▪ Lax Kw'alaams requires involvement in the review of draft study and modeling plans. ▪ This may include Lax Kw'alaams-led studies.	The Project looks forward to working with Lax Kw'alaams and other Indigenous Nations who have indicated they will participate in VC identification and in draft study and modelling plans.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Section 5.1, 5.2
Application Development (Studies) Lax Kw'alaams requires support for Lax Kw'alaams-led studies. studies may include, but not be limited to: ▪ Indigenous Knowledge and Land Use Study ▪ Culture and Rights Impact Assessment Study ▪ Cumulative Impacts Study ▪ Socio-economic Impact Assessment Study	An Environmental Assessment and Regulatory process funding agreement is being negotiated with Lax Kw'alaams. That draft agreement reflects studies the scope of which will be a collaboration between Lax Kw'alaams and the Project. The Project will fund the studies, but they will be undertaken by Lax Kw'alaams.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	Sections 7.3.1, 7.6
Conducting Own Assessment: Lax Kw'alaams requires the option, with appropriate funding, to write sections of the Application/IS that pertain to Lax Kw'alaams, in particular: ▪ Assessment of impacts on Lax Kw'alaams' rights and interests. ▪ Lax Kw'alaams will review for inclusion of its issues and incorporation of its IK. ▪ Lax Kw'alaams will rely on the drafts to prepare its own assessments of project impacts.	Noted. The Project understands that Lax Kw'alaams has the option of conducting its own assessment as per Section 19 (4) of BC EAA 2018.	20-Sep-2021 – Lax Kw'alaams Annex A – Preliminary comments on IPD, EP, Baseline program	n/a

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Concerns with recognition and assessment of impacts on Aboriginal rights and title in the Project area.	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted Aboriginal title using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 5 - all
Concerns with thorough assessment of impacts on the project on the environment, including cumulative effects.	Potential Project effects and cumulative effects assessment methodologies will be further described in the dAIR. While the Project looks to avoid potential negative and cumulative effects to the environment, the Project will collaborate with Indigenous Nations to develop adequate mitigation, management and monitoring plans where potential negative effects are identified and cannot be avoided.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 5 - all
Concerns with the ability to carry out traditional and cultural practices.	The Project will work with Indigenous Nations to evaluate and assess potential Project effects to their abilities to carry out traditional and cultural practices using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Appendix 7, Section 5 - all
Deep connection to the ocean, land, and its resources.	Understood. The Project will work with Indigenous Nations to evaluate and assess potential Project effects to marine and terrestrial resources and their use in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 5 - all
Access to wealth generated from the Project and preferential access to jobs, training, and business opportunities.	The Project is sincere in its objective to collaborate with area Indigenous Nations to identify Project benefit opportunities, and where agreements can be realized, implementing these agreements if the Project is approved.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	n/a

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Effects of environmental pressures and changing economy on Lax Kw'alaams mode of life and continued existence as distinct Indigenous peoples.	The Project will work with Indigenous Nations to evaluate and assess potential Project effects to their culture and traditional ways of life in the EA-IA using methodologies as described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 5.3.4 and 5.3.5
Impacts and cumulative effects on the environment, species that utilize the region, and the overall health of the ocean and its resources.	The Project looks forward to working with Indigenous Nations to assess potential Project related cumulative effects in their traditional territories in the EA-IA using methodologies as described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative cumulative effects that cannot be avoided.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 5 - all
Impacts at the Project site on Lax Kw'alaams Aboriginal rights, including resource harvesting and trade and barter rights.	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted Aboriginal title and rights including resource harvesting and the overall health of the ocean and its resources using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 5 - all
Impacts of marine shipping, accidents, and malfunctions on water quality, fish, shellfish, marine mammals, aquatic plants, wildlife, birds, Lax Kw'alaams culture and heritage sites, the physical and mental health of Lax Kw'alaams people, Lax Kw'alaams lands, safety in Lax Kw'alaams waters, and Lax Kw'alaams economic interests.	The Project looks forward to working with Indigenous Nations to determine how best to assess potential Project effects of an increase in marine shipping related to construction and operation of the Project and potential Project related accidents and malfunctions on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 5.3.4 and 5.3.5

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Introduction of invasive species in Lax Kw'alaams traditional territories from ballast water, the hull of ships, or shipping cargo.	The Project also wishes to avoid introduction of invasive species at the Site, or enroute to, the Site and will endeavor to achieve this objective within its own care and control.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	
Impacts of the LNG facility on an adjacent trapline.	Potential Project effects to trapping and traplines overlapping the Site will be included in the EA-IA using methodology described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 4.4.3, Figure 4.8 Section 5
Impacts to Lax Kw'alaams traditional practices, and traditional use values including salmon fishing, crab harvesting, ground fish harvesting, seal and sea lion hunting, shellfish harvesting, deer hunting, trapping, and other land-based use values.	The Project looks forward to working with Lax Kw'alaams and other Indigenous Nations to assess Project potential effects to Lax Kw'alaams and other Indigenous Nations abilities to carry out traditional and cultural practices such as fishing, hunting, marine resource harvesting, and land-based use values.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 5
Lax Kw'alaams requests emergency preparedness and response structure with clear lines of authority and sufficient capacity to respond to an accident or malfunction at the Project site or involving a ship from the Project.	The Project will evaluate and assess potential effects from Project related marine accidents and malfunctions due to Project related increase in regional marine shipping on the established routes using methodologies as described in the dAIR. The Project will collaborate with NLG, other Indigenous Nations, federal, provincial emergency response authorities and organizations in the development of emergency response plans within its care and control.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 9
Lax Kw'alaams requests emergency compensation from any impacts stemming from an accident or malfunction at the Project site or involving a ship from the Project including compensation for cultural interference, disconnection, or loss.	Noted. The regulatory context around marine shipping is described in Section 9 of the DPD.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 9

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Lax Kw'alaams requests funding that enables Lax Kw'alaams to lead studies and write sections of the Application/Impact Statement, including baseline studies, draft VC's, draft study and modeling plans, an Indigenous Knowledge and Land Use Study, Culture and Rights Impact Assessment Study, Cumulative Impacts Study, Socio-economic Impact Assessment Study, and assessment of impacts to Lax Kw'alaams rights and interests.	A capacity agreement is being negotiated with Lax Kw'alaams. That draft agreement reflects studies to be undertaken by Lax Kw'alaams and the provision of EA and Regulatory Process funding for the studies.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7.6
Lax Kw'alaams requests the development of an Indigenous Knowledge Sharing Agreement and an Engagement Protocol with Lax Kw'alaams that protects Lax Kw'alaams Indigenous Knowledge and ensures appropriate funding and methods for engagement.	The Project, as requested, can follow-up with a conversation on an Engagement Protocol. The Project is committed to engaging Lax Kw'alaams and is currently negotiating an EA and Regulatory Process funding agreement. The Project would support Lax Kw'alaams in undertaking Indigenous-led studies to assist in incorporating their Indigenous Knowledge into the EA-IA.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7.3.1, Appendix 7 and Section 7.6
Lax Kw'alaams Comments – January 7, 2022			
Is liquified natural gas the only product that will ever be produced at the facility?	No. A by-product of the process is the production of condensate.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Sections 1 and 2, 2.3.8
The proponent states that final determination of the production capacity and storage configuration and quantity of each FLNG will be made during the engineering stage of the project. Lax Kw'alaams has concerns that if this information does not become available during the assessment scoping process the potential impacts the project may pose on Lax Kw'alaams rights and interests cannot properly be determined. The size, quantity, design and location of terrestrial and marine structures and their engineering components are critical to managing and mitigating potential and certain impacts that the project will or may pose.	This has been updated in the draft DPD. Two FLNGs will, combined, store 450,000 m^3 of LNG. The annual production for the two FLNGs is 12 MTPA. An updated plot plan is in the DPD showing where the onshore and marine structures are to be located.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.1

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The proponent states that at full build out there will be two to three FLNG's, please verify and confirm.	Two FLNGs.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.1
The power transmission line connection from BC Hydro is to be designed, developed, and owned by a third party. Where is the information surrounding this transmission line? Where is the selected route, what are the impacts that have been identified, managed, or mitigated for, where does this process sit, is it being incorporated into the EA – IA process as a component of the project (it should be as it is a compulsory component for the KSI LISIMS project), if not please elaborate and provide information as to this decision for justification.	Yes. The Project has a commercial agreement with a third party to provide power to the Site from the BC Hydro grid. A third party service provider is engaged with BC Hydro to discuss all attributes of securing transmission capacity and then designing and building a connecting power line through Nisga'a lands and then through the marine waters to the Site. The new power line is not within the care and control of the Ksi Lisims LNG Project. The third party service provider will secure the necessary authorizations from NLG and BC and potentially federal authorities for their project. The BC Hydro sub-station connection location is not fully known but is anticipated to be on Nisga'a lands near New Aiyansh. The degree to which BC Hydro will require system enhancements to meet the Project's demand is not yet known, however, the third party service provider is engaging BC Hydro on this matter.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.3.16
Proponent has stated that access to the site will be via helicopter or boat. Has the proponent included transportation of personnel during all phases of operation of the project into the assessment of impacts?	Yes. The transportation of workers to the Site during construction and operations will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.4

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Has the proponent considered the impacts to GHG emissions of the project if the utilization of the gas-fired power generation facility is required? Does this change the ability of the project to meet the desired net zero emission stated in the IPD? Please provide information around how much gas would be required for energy generation to support the planned facilities electrical needs.	The Project is to be 100% electrified. Only the BC Hydro grid can provide the electricity necessary to achieve that objective. The timing of acquiring the necessary electricity from the BC Hydro grid remains uncertain. The Project will have the temporary ability to use its own feed gas to create on-site electricity for the shortest period of time possible. Once BC Hydro is connected, the ability to self-generate power will be removed from the Site. The Project's assessment of GHGs will comply with the guidance in the SACC Technical Guide – August 2021. Assessment methodologies are described in the draft DPD and the dAIR. Net zero GHG emissions is a fundamental concept for the Project, and it will be met. The amount of gas diverted to temporary power production (i.e., before the BC Hydro connection is made) will be determined in FEED.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.9
The EAC for both pipelines will require amendment to support an amended marine pipeline route with a delivery point at the site. Lax Kw'alaams requests that the proponent expands upon the requirements of the EAC pipeline amendments and the specifics to each one that are necessary (for both the WCGT and PRGT).	The selection of a pipeline partner has not yet been made. The general nature of the EAC amendments to either PRGT or WCGT's certificates is the that the approved pipeline route coming out of Nasoga Gulf to Portland Inlet needs to turn northwestward and proceeding subsea up Portland Inlet and then Portland Canal to the Site. The details of the EAC amendment will rest with either PRGT or WCGT.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.3.4

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The proponent has verified that impurities such as (CO2, sulfur, hydrogen sulfide, mercury, and water) must be removed from the natural gas before it can be introduced into the LNG production equipment. Please elaborate on where these impurities go once removed (i.e., how they are removed/captured and how they are handled to ensure no releases are made into the environment or if they are released how this is undergone). As well can the proponent please confirm what leads to the determination of whether this separation equipment will be placed onshore or on the FLNG.	This information (e.g., how impurities are removed from the feed gas) is generally described in the draft DPD. The impurities are removed on the FLNGs and not released into the environment.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.3.6
The proponent has started that they are exploring options for carbon sequestration of the Co2 that is entrained in the natural gas supply to the project. The proponent then goes on to state how carbon capture and sequestration is not a Project component. The proponent previously stated that they intend for this facility to be net zero by year 3 of operation, how does the proponent then intend to achieve this as it does not seem that carbon capture and sequestration is the major intention for the proponent? If carbon capture is undergone by the proponent, it would require an on-site facility, which would increase the footprint of the project site, expanding the onsite local impacts of the project. This component should be considered as part of the assessment and as a project component as it has been stated by the proponent as a possibility for the project. Please also verify that the ability of the project to reach net zero emissions is not reliant on the incorporation of carbon capture/sequestration process.	This issue has been updated in the draft DPD. Carbon sequestration is not a Project component. Carbon sequestration is not required to meet the Project's net zero emissions objective. Carbon offsets will be incorporated to reduce GHG emissions to net zero.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	n/a

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Has the proponent determined the volume of NOx Co, SO2 PM VOC and GHGs that will be emitted during operations of the facility and what measures will the proponent employ to ensure that emissions will meet federal and provincial reduction guidelines.	The Project has provided GHG emission estimates in the draft DPD. Provincial and federal GHG reduction targets are discussed in the DPD and how the Project's GHG emission profile fits within those targets. The other air emissions from Project components will come in FEED – underway in 2022.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.8
The proposed transit route around the Dundas Island Conservancy is not supported by Lax Kw'alaams due to the immeasurable impacts this route will have on Lax Kw'alaams breadbaskets resources and culture.	The transit route depicted in the IPD showed two options for going around the Dundas Group. The route has been updated in the draft DPD. The Project has been advised by BC Coast Pilots that LNGCs would travel from the Triple Island Boarding Station south of the Dundas Group and up through Main Passage, Portland Inlet and Portland Canal to the Site. This is the existing route other large piloted ocean vessels take from the pilot station to Stewart. That voyage takes a vessel right by the Site at Wil Milit.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.6
Provide a list of wastes, emissions and effluents and proposed plans for disposal/release.	Additional detail with respect to Project wastes and their management has been included in the draft DPD. The level of detail meets the requirements for a DPD. Additional information will be provided in the EA-IA and Project waste management will be evaluated and assessed using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.8

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Lax Kw'alaams has safety concerns regarding the stability of floating LNG facilities in marine waters that are "highly variable due to a combination of wind and tidal forcing" in the fall, and winter seasons. What additional engineering steps or modeling scenarios has the proponent took to ensure that storm events will not cause a major failure in the project facilities (which being aquatic in nature) could have profound impacts to the marine environment. Since most of the shoreline is non-developed a major environmental catastrophe would be profoundly impactful to Lax Kw'alaams traditional territory and its resources.	Additional information on how the FLNGs will be moored is provided in the draft DPD to a level of detail required in a DPD. The Project is undertaking a detailed "mooring analysis" during FEED that will support other marine engineering necessary to ensure the FLNGs are safely moored to the sea floor. The Project has a weather station operating at the Site and an ADCP in the proposed Water Lot gathering current, wave and other data. Site metocean and meteorological information will inform final engineering design.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.3.14
The proponent states that the refrigerants necessary in the LNG production process will be delivered to site by barge in ISO containers and stored on site. How often will this shipping occur? What is the route that this barging will travel, is it any different than the LNG carrier route? Please confirm and verify if mapping has been produced to indicate this additional shipping route or other shipping routes and possible impacts along those routes that do not directly relate to LNG shipping.	The management and supply of refrigerants is described briefly in the DPD. It is not yet known where the refrigerants will come from, or the frequency of shipment, however it is estimated that they will come by barge from Prince Rupert. The supply of refrigerants to the Site, and their on-site management, will be evaluated in the EA-IA using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.3.7
The proponent has indicated that potential berth design will occur in Pre-FEED and FEED. Lax Kw'alaams stresses how critical it is to have engineering and site plan design available as early as possible in the assessment process to allow for a process that enables a fulsome assessment of site and project impacts. If the information of structure design/footprint is not available how are we to determine impacts of the projects on rights and interests. Please provide details of when this information will become available for review.	Since the IPD, there has been a change to the Project's marine terminal design. LNGC berths are no longer part of the design. Tug escorted LNGCs will pull up alongside the FLNGs and load LNG directly from them.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.1, 2.3.14

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The transmission line route has been stated that it is unknown and that it will not be included as a component of the project. Can the proponent please provide information around where this process sits in selection of the transmission route as the impacts of this route selection on the terrestrial and marine environment biologically and on Lax Kw'alaams FSC rights under Section 35(1) need to be assessed.	The new power line is not within the care and control of the Ksi Lisims LNG Project. The third party service provider is engaged with BC Hydro to discuss all attributes of securing transmission capacity and then designing and building a connecting power line through Nisga'a lands and then along the sea floor through the marine waters to the Site.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.3.16
Where will the permanent potable water source be taken from for the site and how will this change the local and regional water balance? Has any water balance modeling or watershed hydraulic modeling been undergone and if not when is it to be undergone by the proponent to verify no changes in water balance or hydraulics will result in negative impacts.	No water balance analyses to date. A brief description of potable water supplies being evaluated for the Project is included in the DPD. Hydrometric studies are being initiated in 2022 to assess water availability from some streams at the Site. An exploratory groundwater well is being considered. Desalination is also under consideration.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.10
How does the proponent intend to store, collect, treat and dispose of waste products on the site? Have the transportation impacts of this been included into the assessment by the proponent (GHG emissions, chemical releases, marine transportation, carbon footprint of the facility and its waste production values).	Additional detail with respect to Project wastes and their management has been included in the draft DPD. The level of detail meets the requirements for a DPD. Additional information will be provided in the EA-IA and Project waste management will be evaluated and assessed using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.8
The proponent states that they do not anticipate a change in natural air quality, however, state that there will be many emissions into the environment. Please explain. Any inputs into the air will result in changes in baseline air quality and this needs to be accounted for. Has the proponent provided or undergone any baseline air quality modeling or assessment so monitoring of long-term impacts or changes can be determined, evaluated, and monitored?	The Project's dAIR provides detail on the Air Quality VC. Potential Project effects to air quality will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 3.5.1

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Figure 3 which depicts the expected marine transit route shows the expected flow of traffic from this project will create a circumference around the Dundas Island Conservancy. The area is Lax Kw'alaams breadbasket. The area is of key cultural, spiritual and FSC location and impacts of increased marine traffic in this area will have negative impacts on marine mammals (specifically orca, who are relatively abundant in the area), fish habitat/feeding in the area, harvesting of marine species for FSC purposes, ability to access terrestrial based resources, safe access to travel routes for band members, sense of self and place, spiritual practice, transmission of cultural information to the following generations. This proposed marine transit route is not acceptable to Lax Kw'alaams and must be changed as the impacts to Lax Kw'alaams rights are immeasurable.	The IPD showed a potential northern route around the Dundas group. The Project has since been advised by BC Coast Pilots that they do not pilot vessels currently on that route. Marine transit routes are further described in the draft DPD and in the dAIR. The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project effects of marine shipping related to construction and operation of the Project on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential Project negative effects that cannot be avoided.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Figure 2.4
Of note, Lax Kw'alaams traditional territory and waters are not 16,497ha but cover 1,809,456ha. Have a population of close to 5000 people of which close to 900 live at the community, with most of the remainder residing in Prince Rupert and Port Edward and Terrace. Lax Kw'alaams suggests the proponent refer to the Lax Kw'alaams band map to ensure they fully understand the boundaries of the nation (based on the description provided, Lax Kw'alaams is not certain they do).	Thank you. The IPD used information provided from public sources and Lax Kw'alaams were not engaged at the time the IPD was developed. Inaccurate information will be corrected in the draft DPD.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Figure 4.1, Section 7.3.1
On page 16, the proponent states that there are marine and land plans for Lax Kw'alaams but reference an old, outdated plan from 2004, new plans and management directions for the traditional territory development and its resources are available.	The Project has requested updated plans from Lax Kw'alaams. They have not been provided to date.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 4.2

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Due to the proximity of the project to Lax Kw'alaams traditional territory, project construction, operation, and decommissioning activities have the potential to result in effects to Lax Kw'alaams rights and to ecological and human effects.	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted Aboriginal title and rights including resource harvesting and the overall health of the ocean and its resources using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 5
Please provide details on the size of the Floating facilities and the total footprint secured and unsecured in the environment.	Marine footprint estimates are not available as FEED engineering is required.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Figure 2.2
Please provide information on how the floating facility will be secured to the ocean floor, what is the footprint and has the design incorporated issues of tidal influence.	FLNG mooring is described in the draft DPD to a level of detail appropriate for a DPD. The Project is undertaking a detailed "mooring analysis" during FEED that will support other marine engineering necessary to ensure the FLNGs are safely moored to the sea floor. The Project has a weather station operating at the Site and an ADCP in the proposed Water Lot gathering current, wave and other data. Site metocean and meteorological information will inform final engineering design.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.3.14
How much of the marine environment in and around the facility will be disturbed by the project?	Marine footprint estimates are not available as FEED engineering is required.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Figure 2.1

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
How much of the terrestrial environment in and around the facility will be disturbed by the project?	The upland Site is on privately owned land, Category A Nisga'a Treaty land. Onshore footprint estimates are under development and depend on more detailed FEED engineering. The NLG and their representatives are involved in determining the location of onshore components.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Figure 2.1
Please provide information on where the flotel is to be situated during the construction phase of the project, how large this structure is going to be, how the wastes will be dealt with from the facility, and the overall footprint on the marine environment. Please provide information on where the flotel will be place permanently if left during the operation and decommissioning phases as stated by the proponent is possible to occur.	The temporary floatel is described in the draft DPD, and its proposed location in Portland Canal is depicted on a figure in Section 2. The floatel will only be at the Site during construction and will be removed when it is no longer needed. Solid wastes will be barged away to suitable disposal sites on the BC mainland. There will be no liquid waste discharges. Additional detail with respect to Project floatel wastes and their management has been included in the draft DPD. The level of detail meets the requirements for a DPD. Additional information will be provided in the EA-IA and Project floatel waste management will be evaluated and assessed using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Figure 2.1, Sections 2.3.3, 2.4.2, 2.4.3
Have the anticipated impacts or assessment of impacts due to the transportation of materials and workers for construction by rail and truck been evaluated by the proponent.	The Project has no rail components. To be confirmed in FEED, it is envisioned that workers will be transported to Gingolx by vehicle (e.g., bus) and then by vessel to the Site. Or transported from Prince Rupert to the Site. The transportation of workers to the Site during construction and operations will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Has the proponent identified a route by which the materials and workers will be barged along from Prince Rupert and included this in the assessment process and evaluated potential impacts associated with these activities.	Yes. The potential Project effects of increased Project related shipping on the established shipping routes to and from the Project to Triple Island, and from Prince Rupert and/or Gingolx to the Site will be included in the EA-IA using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Sections 2.4.5, 2.6 and in dAIR
Please identify what structures will be necessary if the tugboat mooring is to occur on site and where this is to be located. What is the footprint within the marine environment and what structures will be necessary and how much marine environment alteration will occur/be necessary?	The location of tugboat moorage has not yet been determined. This will be determined in FEED (underway in 2022).	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Outcome of FEED, in EA-IA
Lax Kw'alaams requests that we are involved in the decommissioning planning, engagement and approval process as the project is directly located within not just our traditional territory but tremendously close proximity to our community.	Understood.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.7
Please provide a list of all wastes that are and will be emitted by the project over the entire life span for review.	Additional detail with respect to Project wastes and their management has been included in the draft DPD. The level of detail meets the requirements for a DPD. Additional information will be provided in the EA-IA and Project waste management will be evaluated and assessed using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.8

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The proponent states that it is unknown whether there will be unavoidable discharges of sanitary wastes at the site during operations. Lax Kw'alaams requests to know whether waste releases will occur, and how the proponent intends to ensure that no changes to the terrestrial or marine environments occur from any releases of sanitary wastes.	This information has been updated in the DPD. A wastewater treatment plant and treated wastewater will need to be discharged into Portland Canal. Additional general detail with respect to Project wastes and their management has been included in the draft DPD. The level of detail meets the requirements for a DPD. Additional information will be provided in the EA-IA and Project waste management will be evaluated and assessed using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Sections 2.1, 2.3.3, 2.8
The proponent has stated that all construction wastes will be managed, stored, and shipped to approved disposal locations. Where are these approved locations that are anticipated to be utilized? What transportation processes will be necessary? Where are the travel routes that are going to be utilized? How often will the process of transporting wastes occur during construction, what are the impacts of this on the marine environment due to transportation process? Has the proponent conducted any studies to determine the impacts along the transportation route if a spill occurs of any of the identified wastes (biomass, overburden, hazardous materials, sanitary wastes, etc.).	Additional general detail with respect to Project wastes and their management has been included in the draft DPD. The level of detail meets the requirements for a DPD. Additional information will be provided in the EA-IA and Project waste management will be evaluated and assessed using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.8
How does the proponent intend to reduce, minimize, or offset carbon and GHG emission sources during the construction phases and the impacts they will cause to the environment during the construction process?	The Project's assessment of GHGs will comply with the guidance in the SACC Technical Guide – August 2021. Assessment methodologies are described in the draft DPD and the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.9

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The proponent states that potable water shipping during operation could result, if not it would be sourced through on-site potable water treatment facilities. The proponent intends to take water from either surface water streams or ground wells. Has the proponent completed any water balance modeling to show the impacts that would occur to the aquatic environments from removal of water quantities within the local watershed? Where would the locations for the ground wells be located? Where would the location for instream water removal occur? What hydrologic investigations of groundwater have been undergone in support of this? What hydrologic investigations of surface water have been undergone in support of this? Please provide information around what the required water capacity for the project would be during all phases.	A brief description of what the Project is evaluating for potable water supplies for the Project is included in the DPD. Hydrometric studies are being initiated in 2022 to assess water availability from some streams at the Site. An exploratory groundwater well is being considered. Desalination is also under consideration.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.1, 2.10
Please confirm that if any groundwater or surface water is to be removed for utilization by the project there will be no negative impacts to any biological functions or species that rely on the pre-existing flow rates and quantities within the watershed.	Both Surface water and Groundwater are VCs. The Project will evaluate and assess potential Project effects to both VCs using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.10, dAIR issue
Please provide a total footprint for laydown and storage areas within the terrestrial environment and marine environment.	The upland Site is on privately owned land, Category A Nisga'a Treaty land. FEED engineering will provide more detail on the storage and lay down areas at the Site. These areas will be discussed with the NLG and their representatives with respect to the onshore footprint.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	
Please provide information on facilities that will be prepared for workers, will this area be established on land or marine environment. What is the total footprint of the area that will be used for this and what mitigations will be employed to minimize environmental damage to the terrestrial and marine environment?	The upland Site is on privately owned land, Category A Nisga'a Treaty land. The draft DPD provides additional detail on the proposed permanent workforce accommodation and the location of the building on District Lot 5431.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Figure 2.1, Section 2.4.3

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
How will waste water and grey water be treated during construction and operations, is there a plan for a sewage treatment facility or will effluent be pumped directly into the marine environment. This is critical due to the projected size of the construction and operational crew and the potential for e coli contamination in FSC foods for Lax Kw'alaams members.	This information has been updated in the DPD. A wastewater treatment plant and treated wastewater will need to be discharged into Portland Canal. Additional general detail with respect to Project wastes and their management has been included in the draft DPD. The level of detail meets the requirements for a DPD. Additional information will be provided in the EA-IA and Project waste management will be evaluated and assessed using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Sections 2.1, 2.3.3, Figure 2.1, Section 2.8
What is the length of the pipeline route, how wide is the disturbed footprint of that part of the project, has an assessment of species composition and abundances been calculated for the pipeline and how will this be accounted for in the assessment of the project?	The Project's third party pipeline provider will need to address this question.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.3.4
What is the length and width of the proposed road, please include total disturbance during construction, have biological assessment for species composition and abundance been completed and how will this be assessed in the assessment?	The IPD showed a road crossing from near Whiskey Bay over across District Lot 7235 to Pearse Canal. That road is no longer part of the Project's design.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	n/a
What is the length and width of the sea floor disturbance due to the subsea electrical transmission line and how will those impacts be assessed? Please add additional information on the onshore land disturbance for the electrical transmission line as well.	The new power line is not within the care and control of the Ksi Lisims LNG Project. The third party service provider is engaged with BC Hydro to discuss all attributes of securing transmission capacity and then designing and building a connecting power line through Nisga'a lands and then through the marine waters to the Site. The third party service provider will secure the necessary authorizations from NLG and BC and potentially federal authorities for their project.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.3.16

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Please provide an indication of the magnitude of change in baseline aquatic noise levels as these ambient changes will impact marine fish, invertebrates, and mammals.	Acoustic is a Project VC. Potential Project effects to the acoustic environment will be evaluated and assessed using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 3.5.2
The proponent states that the FLNG will be permanently attached to infrastructure that will be constructed on the seabed or cantilevered and attached to the shoreline rock slopes. Please provide engineering details for review on the infrastructure to be implemented and the engineering calculations and modeling to confirm that the structures will be structurally capable of handling tidal and storm event influences.	The information in the IPD has been updated in the draft DPD. Additional information on how the FLNGs will be moored is provided in the draft DPD to a level of detail required in a DPD. The Project is undertaking a detailed "mooring analysis" during FEED that will support other marine engineering necessary to ensure the FLNGs are safely moored to the sea floor. The Project has a weather station operating at the Site and an ADCP in the proposed Water Lot gathering current, wave and other data. Site metocean and meteorological information will inform final engineering design.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.3.14
The proponent has stated that dredging may or may not be required dependent on review of the bathymetric information. Please provide copies of this information and the overall determination on whether dredging is to occur once confirmed.	Dredging is not a Project component.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.1
Please provide an indication of the magnitude of change in baseline aquatic noise levels as these ambient changes will impact marine fish, invertebrates, and mammals.	Acoustic is a Project VC. Potential Project effects to the acoustic environment will be evaluated and assessed using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 3.5

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Lax Kw'alaams would like the proponent to provide mitigation that can or will be implemented to ensure that traditional harvest of important species will not be impacted by shipping and operations of the facility and its components, including but not limited to, eulachon runs, herring SOK, salmon returns, sea vegetation harvesting times, clam and cockle harvest, as the proposed shipping route and facility and component locations directly overlap with multiple traditional and cultural harvest locations of Lax Kw'alaams.	The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project effects of marine shipping related to construction and operation of the Project on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Sections 5 and 7, Appendix 7
Please provide all available information on project layout, dredge location, dredging amount, dredging disposal locations, and method(s) of dredging.	Dredging is not a Project component.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.1
If dredging is to be performed will the proponent perform a sediment composition analysis to determine if there is an abundance of harmful chemicals within the sediments and if found what does the proponent plan to do to mitigate negative impacts to the environment.	Dredging is not a Project component.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.1

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Please provide a full and complete 4 season report that identifies all species composition and abundances (comprehensive inventory) including the project site, the project infrastructure footprint and the marine traffic route and adjacent lands that may be impacted by the proposed project, including marine and freshwater fish, marine and terrestrial plants, terrestrial mammals and ungulates, birds, and amphibians. All studies should have been completed within the last 5 years to be accurate representations of current biological conditions.	The Project reached out in May 2021 to the area's Indigenous Nations to request their review and input into a Project Baseline Study program. In order to begin data collection and secure a year of data, and meet the Project's regulatory schedule, baseline data programs were developed and implemented based on advice from NLG, their environmental consultants and those Indigenous Nations that chose to provide input in May 2021. An update on Baseline Study progress was completed and provided to all Participating Indigenous Nations in October 2021. The dAIR will further describe Project baseline information inputs, data sources and data collection methods. There will be opportunities for Lax Kw'alaams participation in baseline studies in 2022.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 3.5
Lax Kw'alaams requests to be included and given the opportunity to provide input into what data is collected and how it is collected to support any baseline fieldwork that is to be performed.	See above.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 3.5, Appendices 6 and 7
Lax Kw'alaams additionally requests access to the data to be able to cross-reference with published data, their own research field data and will aid in supporting consultation on traditional use with band members. Please liaise with Lax Kw'alaams technical staff directly around this request.	The Project will discuss this request further with Lax Kw'alaams technical staff.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 3.5
The project description does not indicate if Lax Kw'alaams valued species will be considered within the assessment, it is imperative to Lax Kw'alaams for the preservation of FSC rights and continuance of cultural lifestyle and transference of knowledge that these values are respected and taken into consideration and mitigated for through the project design, construction, operation, and decommissioning.	The Project would like to engage with Lax Kw'alaams with respect to culturally important species.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Appendices 6 and 7

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Will there be any old growth forest clearing? If so, how much and how will it be completed?	The upland Site is on privately owned land, Category A Nisga'a Treaty land. Potential Project effects to old growth ecosystems at the Site and in the area (e.g., old growth forests that could be affected from air emissions) will be addressed in the EA-IA using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Figure 3.3, Section 2.1, Figure 2.1
The project description does not discuss wetlands or wetland alteration, please confirm if wetlands will be impacted by the project site, if they are what is the species composition and abundance of the area, how big of the area will be cleared or infilled, what is the carbon storage capacity of the wetlands and how will the proponent compensate for the loss of wetlands and habitats for species.	Potential Project effects to wetland ecosystems at the Site and in the area (e.g., wetlands that could be affected from air emissions) will be evaluated and assessed in the EA-IA using methodologies described in the dAIR. The Project will work with the Indigenous Nation landowner to ensure baseline studies at the Site for vegetation include culturally important plants.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 3.5.3
The proponent states that strong outflow winds commonly blow down the inlets of the project site during winter months. Has the proponent completed any wind modeling to confirm that the influences of wind on tidal currents or structural designs can uphold the wind gust events and not result in infrastructure failure? Please confirm that the engineering designs have incorporated the wind engineering evaluation to ensure safe structural integrity of mooring lines, etc.	The Project is actively monitoring wind at the Site. The Project would be pleased to provide this information to Lax Kw'alaams.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 3.1.1
The proponent states how the vegetation of the CWH Zone is dominated by old growth and second growth forests, is the selected site area an old growth forest plot and will the removal of old growth/ecological niche habitat occur?	The upland Site is on privately owned land, Category A Nisga'a Treaty land. Potential Project effects to old growth ecosystems at the Site and in the area (e.g., old growth forests that could be affected from air emissions) will be addressed in the EA-IA using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 3.3.1

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The proponent states how foreshore habitats and salmon-bearing streams are around the Site. Lax Kw'alaams is of the position that the site is directly linked to salmon-bearing and provides critical ecological niche habitat for many species of wildlife. The development of the site and loss of this pristine sensitive habitat that currently exists will directly impact the species that rely on that habitat. Leading to forced migration, increasing competition among species in the area and hurting the overall local environment's ability to sustain the currently level of species abundance.	Potential Project effects to anadromous fish will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Sections 3.3.4, 3.5.5, 3.5.6
The proponent states that they intend to utilize the technical studies completed for PRGT and WCGT projects produced in 2014 to inform the biophysical information on the waters and lands for this project. Lax Kw'alaams has serious concerns with the utilization of biological and biophysical data that is over 8 years old to be utilized as the foundation for forming an understanding of the current environmental conditions of the local and regional study area of the project. Up-to-date studies that hold no bias should be applied and then the study information gathered should be cross referenced against the older works to see if the previous research findings still are valid. Environments change and adapt and going into a study with a predetermined notion of what an area may biologically consist of from a study 8 years ago can hinder the perception and results.	The Project and the Nisga'a and their biological consultants are of the view that both pipeline EAs and the supporting publicly available background information conducted for PRGT and WCGT in 2014 and 2015 provided valuable and useful information at that time and is still useful today. The Project has undertaken marine resource baseline studies that will continue into 2022.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 3.5
Will the site process or ship any other product now or in the future other than Natural gas that is to be converted into LNG? If so, what are those products and what is the capacity of the facility to hold and ship each separate product.	The Project has a by-product condensate. The draft DPD provides additional detail with respect to the Project's management of condensate.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.3.8

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Please provide an indication of all baseline surveys that will be conducted, methodology of sampling protocol and data to be provided. Generally Lax Kw'alaams like to review the full data set to have a comprehensive understanding of all species that have been sampled and the relative abundances of each species despite not necessarily being the VC species under investigation.	The Project reached out in May 2021 to the area's Indigenous Nations to request their review and input into a Project Baseline Study program. In order to begin data collection and secure a year of data, and meet the Project's regulatory schedule, baseline data programs were developed and implemented based on advice from NLG, their environmental consultants and those Indigenous Nations that chose to provide input in May 2021. An update on Baseline Study progress was completed and provided to all Participating Indigenous Nations in October 2021. The dAIR will further describe Project baseline information inputs, data sources and data collection methods. There will be opportunities for Lax Kw'alaams participation in baseline studies in 2022.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 3.5
For all assessments it is Lax Kw'alaams preference to be able to review the unaltered data or documents provided by contractors and not summaries.	Understood.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Appendices 6 and 7
The proponent describes the current plan to have a single berth for fueling. Are there plans for the additional second berth? If not, what is the anticipated number of vessels that could be awaiting to be filled in the area surrounding the facility, are there appropriate anchorages in the area? Where are the proposed anchorages, have surveys of the proposed anchorages for the marine species composition been completed? How will impacts to these potential issue(s) be addressed in the EA-IA process?	Since the IPD, there has been a change to the Project's marine terminal design. LNGC berths are no longer part of the design. Tug escorted LNGCs will pull up alongside the FLNGs and load LNG directly from them. Information with respect to potential anchorages for LNGCs is an outcome of the FEED process.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.1, Figure 2.1, Sections 2.3.12 and 2.3.14

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Does the proponent plan on constructing a sewage treatment facility on the site?	Yes. This information has been updated in the DPD. A wastewater treatment plant and treated wastewater will need to be discharged into Portland Canal. Additional information will be provided in the EA-IA and Project waste management will be evaluated and assessed using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Sections 2.1, 2.3.3, 2.8
Please provide an indication of the location of the proposed housing facility and how will impacts from this be accounted for within the assessment.	The upland Site is on privately owned land, Category A Nisga'a Treaty land. The draft DPD provides additional detail on the proposed permanent work force accommodation and the location of the building on District Lot 5431. Additional information will be provided in the EA-IA and potential Project effects from the permanent workforce accommodation will be evaluated and assessed using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Figure 2.1, Section 2.3.3
Please provide information on garbage and construction waste removal. This is a pristine environment with no garbage facility locally. It is imperative to understand the processing and fate of these wastes from the proposed project location.	Additional detail with respect to Project wastes and their management has been included in the draft DPD. The level of detail meets the requirements for a DPD. Additional information will be provided in the EA-IA and Project waste management will be evaluated and assessed using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.8
Please provide indication of where the potable water will be sourced from.	This information is described generally in the draft DPD. Sources being evaluated include surface water from streams, precipitation catchment, groundwater or potentially desalination.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.10

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Please provide Lax Kw'alaams with bathymetric data and results of geotechnical drilling.	The Project is pleased to provide bathymetric information. When geo-technical information is available, we will provide that information too.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Figure 3.2
Has the proponent considered the potential for earthquakes, tsunamis, and eruption disasters that could lead to potential impacts on the environment from these scenarios?	Yes. This issue is described in the draft DPD.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Sections 9 and 10
Lax Kw'alaams requests that the proponent reaches out to an actuarial scientist to have a formal risk assessment for marine shipping incidents and impacts from natural disasters undergone. Once completed Lax Kw'alaams would like to review the entire document to gain a comprehensive understanding of the issues and provide commentary.	The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project marine shipping related accidents and malfunctions and potential Project effects of marine shipping accidents and malfunctions on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR. The Project can confirm Quantitative Risk Assessment is part of the effects assessment process. The Project has committed to involving Indigenous nations in Quantitative Risk Assessment scope and in sharing and discussing a Quantitative Risk Assessment report.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Sections 9 and 10
Please provide information on wave patterns and surface substance flows and distribution. Since the proposed projects life expectancy is 30-40 years, marine vessels always have low level hydrocarbon inputs into the marine environment, this needs to be modelled to determine where this low-level hydrocarbon will migrate to, how it will impact natural FSC harvest species and what amounts of bioaccumulation will occur overtime.	Reports from the Project's ADCP will be made available and inform engineering for the Project. Wave information at the Site is currently being monitored. Where potential Project effects may affect marine resources, necessary modelling will be undertaken using methodologies as described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 3.3.4, 3.5.6, Tables 3.4, 3.9

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The proponent states that the construction and operations will run 24/7, this will have negative impacts on not only terrestrial wildlife, aquatic wildlife, but Lax Kw'alaams members for a 40-year period, leading to large scale cumulative impacts from the project related disturbances on the environmental and human setting.	The Project looks forward to working with Indigenous Nations to evaluate and assess potential Project related cumulative effects in their traditional territories in the EA-IA using methodologies as described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative cumulative effects that cannot be avoided.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 5
Lax Kw'alaams requests that the proponent work with Lax Kw'alaams cooperatively, collaboratively and must include accommodations from protections of Lax Kw'alaams valued resources in the development of management plans as there is the potential for large impacts to the community members and their resources and implementation of the highest level of protections that are possible are necessary to protect those rights.	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted Aboriginal title and rights on species important to the Indigenous Nation, associated resource harvesting and the overall health of the ocean and its resources using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 5, Appendices 6 and 7
What is the total footprint of the infrastructure that will be placed and secured to the ocean floor?	Marine footprint estimates are not available as FEED engineering is required.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Figure 2.1

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
From table 1 the approximate project schedule, the proponent states it will be working on engineering design until the 4th Q of 2022, Lax Kw'alaams has deep concerns that the EA assessment should not be commenced until such time as the design is complete. Evaluation of impacts to the environment and Lax Kw'alaams rights depend a great deal on the final engineering schematics. Every time there is a revision in a design a new assessment of impacts need to be completed to ensure that the initial assessments are still accurate and evaluate whether the revision in design could potentially result in additional impacts.	It is correct that FEED will be completed in 2022. FEED information informs the EA-IA. The draft EA-IA is not submitted until 2023. The Project believes that the dAIR is the important document that describes the potential Project effects evaluation and assessment methodologies and the BC EAO require a drafting of the dAIR components in concert with finalizing the DPD. Lax Kw'alaams is participating in the development of both documents.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.4.4, Section 2.4.6, Section 6.5
How does the proponent plan to include impacts to the terrestrial and wildlife systems from the pipeline and marine transmission cable into the assessment when neither appear to be included in any of the study areas? It is imperative to understand the full scope of the project within Lax Kw'alaams traditional territory.	The third party pipeline and third party powerline are not Project components; however, they are included as part of cumulative effects assessment as part of the Project Inclusion List. The draft of the latter list has been provided to Lax Kw'alaams for review and comment.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Sections 2.3.4, 2.3.16
The proponent has stated in Table 6 that it is unlikely that temporary construction workforce accommodation will have impacts on freshwater communities and species. Lax Kw'alaams disagrees with this, as impacts from the facilities whether it be run off from precipitation events can gather sediment and chemicals from the buildings and activities that go on around/within them and transport these chemicals into freshwater and groundwater environments.	The floatel is described generally in the draft DPD.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Figure 2.1, Sections 2.3.3, 2.4.2

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The proponent in table 6 has stated that it is unlikely that upland clearing activities will impact marine communities and species. Lax Kw'alaams disagrees with this statement as erosion and sediment transfer from upland activities and stripping has the possibility to transport solids into the marine environment and increase the TSS found in the water column. As well, the removal of upland vegetation decreases the amount of nutrient runoff during precipitation events that finds its way into the marine environment through migration.	Site preparation and clearing is land-based and is not anticipated to interact with the marine environment or marine use. Activities in the marine environment are captured by the activity "construction of temporary and permanent marine-based infrastructure"; this activity is included as having an interaction with marine use.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 5
The proponent in table 6 has stated that during the operation phase it is unlikely that the natural gas liquefaction process and storage will impact freshwater communities and terrestrial communities. Lax Kw'alaams disagrees with this statement as the noise, and vibration during this process specifically the liquefaction will introduce new decibel levels and vibrational impacts that were once non-existent within this pristine remote environment. Leading to possible changes in terrestrial land use and occupancy of the area. As well, leading to possible changing in the overall species distribution/reliance on the area and impacting Lax Kw'alaams FSC harvesting of valued species found in and currently that rely on the proposed project area.	The Acoustic VC will conduct noise modeling for the construction and operation phases of the Project. Potential Project effects from Project noise will be evaluated and assessed using methodologies as described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Sections 3.1.2 and 3.5.2

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The proponent has identified that the Marine Shipping Assessment area will include an area from Triple Island to the Projects marine terminal, and the construction shipping corridor. Lax Kw'alaams believes and requests that the entire shipping route within the traditional territory be evaluated and not end at Triple Island, this is unacceptable and fails to incorporate all the project shipping impacts within Lax Kw'alaams traditional territory the project will have on Lax Kw'alaams interests and rights into the EA-IA process for evaluation, management, or mitigation. The proponent has also not stated whether they will be assessing the transportation route to be utilized during the operational and decommissioning stages of the project. Can the proponent please verify the transportation route to be utilized for this process as it should be included in the overall assessment process for scoping of impacts and management/mitigation designs.	The Project is currently waiting on direction from the BC EAO and IAAC on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate, once this direction is shared.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 2.6, dAIR issue
The proponent states in potential environmental effects table that the emissions during the construction and operations phase could impact air quality. This is also true for the decommissioning phase and needs to be considered.	The information in the IPD on this issue has been updated in the draft DPD and in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 5
The proponent states that ground disturbances and clearing activities can result in adverse impacts to heritage and archaeological resources. They intend to complete an archaeological impact assessment to develop mitigation measures and management plans. Lax Kw'alaams requests that the proponent work with us collaboratively and collectively to develop what the AIA will consist of/be undergone and must work with us to develop any mitigation or management plans before any construction or operation can move forward.	Potential Project effects with respect to disturbance and/or removal of identified Lax Kw'alaams physical heritage at the Site from those Project related components and activities will be evaluated and assessed using methodologies described in the dAIR. The Nisga'a have Treaty rights to heritage artefacts found at Wil Milit.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Sections 4.5, 4.6.4, 5.3.4

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The proponent states that human health impacts are relatively small. However, if a spill or catastrophic event occurs at the facility or along the shipping/transportation route the chance of exposure or impacts to human health on inhabitants especially Lax Kw'alaams members is significant.	Potential Project effects on Indigenous Nations' health and safety will be included in VCs to be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Sections 4.6.5, 5.3.4
The proponent states in section 6.1 that the project will undertake a comprehensive assessment of the project on Nisga'a treaty rights, including socio-economic impacts, social, heritage, health values, etc. A comprehensive assessment needs to be completed/undergone for Lax Kw'alaams rights and interests as well within the project footprint area within the traditional territory.	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted Aboriginal rights and title using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Sections 5, 6.1.1, 7 and Appendices 6 and 7
Table 8 states that most of the studies will only be completed within the local study area, this does not provide sufficient information to evaluate potential impacts in the regional study area. It is imperative for the determination of potential impacts to Lax Kw'alaams rights to have a fulsome, science-based field evaluation of each VC in both the LSA and RSA. The proponent cannot guarantee that information gathered from the LSA will be able to accurately describe conditions in the whole RSA.	The Project reached out in May 2021 to the area's Indigenous Nations to request their review and input into a Project Baseline Study program. In order to begin data collection and secure a year of data, and meet the Project's regulatory schedule, baseline data programs were developed and implemented based on advice from NLG, their environmental consultants and those Indigenous Nations that chose to provide input in May 2021. An update on Baseline Study progress was completed and provided to all Participating Indigenous Nations in October 2021. The dAIR will further describe Project baseline information inputs, data sources and data collection methods. There will be opportunities for Lax Kw'alaams participation in baseline studies in 2022.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 3.5

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The proponent needs to consider the evaluation of cumulative effects within a cumulative effects boundary. Often cumulative impacts are not felt throughout an entire RSA and to use an RSA boundary to evaluate cumulative effects may not effectively identify cumulative impact magnitude if the area of study includes areas where there will be no impact from the project. It is recommended that the proponent work with Lax Kw'alaams stewardship team to define a cumulative effects boundary that will accurately capture cumulative impacts to the environment.	The Project looks forward to working with Indigenous Nations to evaluate and assess potential Project related cumulative effects in their traditional territories in the EA-IA using methodologies as described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative cumulative effects that cannot be avoided.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 5, dAIR issue
Lax Kw'alaams would like the proponent to acknowledge that the proposed impacts are limited to the list that is provided in the draft dAIR and this will be expanded upon as the project moves through the EA process.	Potential Project effects are further described in the draft DPD. Potential Project effects will be evaluated and assessed using methodologies as described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 5, dAIR issue
The proponent make a comprehensive claim regarding treaty lands and how the project location is tied to the treaty, it should be noted that most of this project is being proposed to be a floating LNG facility and most of the project will be in the marine environment. No treaty in Canada currently contains transfer of marine waters to an indigenous nation and therefore the marine infrastructure cannot be included as a statement of operations within the Nisga'a Nation Treaty lands.	Noted.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	n/a

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Lax Kw'alaams requests a formal risk assessment to be completed by an actuarial scientist to address the full risk of the project on biological aspects within the environment, in addition a socio-economic analysis of risk to Lax Kw'alaams commercial fishing activities needs to be included in the assessment. This full assessment (not a summary of the report) needs to be provided to Lax Kw'alaams for review and comment.	The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project marine shipping related accidents and malfunctions and potential Project effects of marine shipping accidents and malfunctions on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR. The Project can confirm Quantitative Risk Assessment is part of the effects assessment process. The Project has committed to involving Indigenous nations in Quantitative Risk Assessment scope and in sharing and discussing a Quantitative Risk Assessment report.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 9
As per Lax Kw'alaams letter from Ratcliff dated September 20th, 2021, Lax Kw'alaams requires the involvement in the development of the draft VC, and that the draft VC must be informed by the results of the Lax Kw'alaams community engagement.	It is our understanding that draft VCs have been shared and discussed with Lax Kw'alaams representatives since late October 2021.	06-Jan-2022 – Lax Kw'alaams Comments – IPD	Section 7, Appendices 6 and 7
At the time of release of the draft VC selection process and draft DAIR no commentary engagement with Lax Kw'alaams membership has occurred and Lax Kw'alaams will not support the finalization of the DAIR until such time as the community and its specialists have provided feedback and requirements for the evaluation to specifically delineate impacts to valued components important to Lax Kw'alaams' territory and members.	Noted. The Project has offered to come to the community (virtually, due to COVID issues) to facilitate a discussion, and that offer remains.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	Section 7, Appendices 6 and 7

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
It is imperative even though the environment is essentially pristine in nature to have a fulsome understanding of baseline air conditions for the proposed indicators before the modeling for projected impacts take place. Air quality as a VC will also have impacts on marine life (fish invertebrates, plant, birds, and mammals) through inputs that will fall into the water from precipitation, therefore this needs to be assessed in the application.	The Project's dAIR provides detail on the Air Quality VC. Potential Project effects to air quality will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.2
The acoustic VC will also have impacts to marine life as they will be very sensitive to marine noise from vessel traffic, as well as impacts from construction and operations of the proposed facility. Impacts to marine life from acoustics is imperative to be included in this VC.	Potential Project effects to marine life as a result of underwater noise will be addressed in the assessment of potential effects on Marine Resources.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.9
For the water quality VC, please consider the inclusion of inorganic carbon as this is a very important ion that is in the water system and is directly incorporated into invertebrate shells of crab, shrimp, clams, cockles, mussels, abalone (a SARA species) and other species not listed.	Marine water quality samples have been collected and analyzed for a suite of analytical parameters including total alkalinity, total organic carbon, dissolved organic carbon, hardness, and pH. The emission of CO_2 from the terminal and Project vessels is being assessed in the Air Quality VC.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Sections 7.2 and 7.9
The current VC for water quality only states that they will be looking at fresh water, it is imperative that saltwater water quality is assessed as part of this project as most of the potential impacts to water quality will occur in the marine environment. If the proponent does not include this in the water quality VC, please provide details on how the potential impacts will be assessed in the review.	Marine water quality is included as a subcomponent to the Marine Resources VC. Potential Project effects to marine water quality will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.9

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Lax Kw'alaams feels that marine water quality and marine sediment quality should be a separate VC and not addressed as part of the marine resource VC. Information needs to be presented separately to have a fulsome understanding of the impacts and the potential impacts should then be applied to each of the subcomponent's species within the marine resources VC.	Because activities like dredging are not part of the Project, potential impacts to marine water and sediment quality as a result of Project activities are expected to be limited and able to be mitigated through active management. As a result, marine water quality and sediment are not being addressed as a stand-alone VC but will be discussed under the Marine Resources VC.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.9
Thank you for the inclusion of some species of traditional use in the vegetation and wetlands VC. However, Lax Kw'alaams would require a comprehensive list of species composition and abundances to be able to assess impacts to not just biological components of the environment, but also impacts to Lax Kw'alaams FSC rights.	The Vegetation and Wetland Resources technical data report will include a summary of the vegetation plot numbers with the following information: site series and structural stage at each field survey location; a comprehensive list of plant species observed during the field surveys; and the location of the plots (by plot number).	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.6
For the wildlife VC please consider the addition of assessing the impacts to deer and wolves. Please include assessment of habitat fragmentation to these species.	As part of the assessment of change in habitat, connectivity (e.g., fragmentation) will be assessed qualitatively. Indicators may represent more than one subcomponent within the Wildlife and Wildlife Habitat VC. These indicators represent species or species groups of conservation concern or importance to Indigenous communities and collectively will be used to represent potential effects of the Project on the Wildlife and Wildlife Habitat VC and its subcomponents. Grizzly bear will be used as an indicator of potential Project effects on grey wolf and black-tailed deer as these species share similar habitats.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.7
For birds, species of conservation concern, species of indigenous cultural use and value, terrestrial mammals, and amphibians, please include the potential effects of air quality, noise, changes in habitat, local habitat loss, health, foraging, and denning/nesting in area.	The assessment of change in habitat for wildlife will include direct effects (e.g., direct habitat loss) and indirect effects (e.g., sensory disturbance from noise).	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.7

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Lax Kw'alaams does not support the rational for not carrying forward benthic invertebrates, periphyton and bioaccumulation as a subcomponent of freshwater fish as these species can also be negatively impacted by acidification and eutrophication. These species are often at the base of the food web, therefore impacts that change the species composition and abundances will be reflected in changes in species composition and abundances of all species that are interconnected within the food web.	Aquatic resources (benthic invertebrates, periphyton, and bioaccumulation) are not carried forward as a sub-component because the Project is not anticipated to alter water quality in any stream on Wil Milit. Potential changes in flow in streams on Wil Milit are better assessed for the effect on habitat availability and suitability for fish. Aquatic resources would only be carried forward as a sub-component if the surface water quality baseline data and assessment reveal a potential for acidification or eutrophication in area lakes.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.8
For the VC of marine resources, changes in habitat must include the impact of low-level hydrocarbon inputs into the marine environment from marine shipping cross-referenced against bathymetry and water currents to determine changes in abundance and distribution. This low-level input of hydrocarbons will bioaccumulate in the marine environment and over time will have a negative impact on marine plants if they coincide in areas where these low-level hydrocarbons will accumulate and are held in place in the marine environment.	Vessels in Canadian waters will be required to follow the Canada Shipping Act and conventions adopted by the International Maritime Organization (e.g., MARPOL); both of which aim to prevent or limit pollution from ships. As such, impacts to marine water quality are not expected as part of the routine shipping component of the Project. The potential for environmental effects (including on marine water quality) tied to vessel grounding, collision, or allisions will be discussed in Chapter 9 (Malfunctions and Accidents).	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 9
For traditional use fish in the marine resources VC please ensure that the proponent evaluate pacific herring. In addition, please provide Lax Kw'alaams with a comprehensive list of those species that will be evaluated. It is imperative to have a comprehensive understanding and complete list of all species that will be evaluated not just identified (as is currently done).	Fish and invertebrates observed during the field surveys will be reported in the technical data report that will accompany the environmental assessment. In addition, a review of existing data will be used to provide a more fulsome understanding of the marine species that may occur within the study area. The assessment of potential effects will focus on several key species including Pacific herring, Pacific salmon, eulachon, halibut, Dungeness crab, tanner crab, and bivalves using the methods as described in the dAIR.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.9

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
When performing the review of the potential impacts it is very important that Lax Kw'alaams receives a complete list of species composition and abundances for our internal assessment of impacts to Lax Kw'alaams FSC rights.	The baseline study program for the Project is described in the draft DPD, in the Baseline Study Update (November 2021), and in the VC dAIR methodologies.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	Section 3.5, Appendices 6 and 7, Baseline Study Update – Nov. 2021, dAIR Section 7 VCs 7.2 – 7.14 as appropriate
Due to the complexity of potential impacts to the environment Lax Kw'alaams would request that marine shipping be identified as a separate VC. Changes to marine navigation need to be assessed but the proponent needs to assess increases in amounts of shipping vessels, evaluate and assess impacts from low level hydrocarbon inputs and potential for invasive species transport (through ballast water changes) in the marine environment.	Potential effects on shipping are proposed to be assessed by VC as opposed to a stand-alone section. This allows for a more complete understanding of potential effects on the VC rather than splitting these effects into two sections. Potential effects associated with shipping will consider effects associated with an increase in the amount of shipping. Potential concerns with hydrocarbons will be addressed in the Malfunctions and Accidents section. Invasive species will be considered in the Marine Resources VC.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7 VCs 7.2 – 7.14 as appropriate
Please separate out indigenous marine use from public marine use to become separate subcomponent of the marine use VC. There is a profound difference in the level of impacts from public marine use versus indigenous marine use.	Public and Indigenous marine use will be discussed separately in the effects assessment. Indigenous marine use will be assessed in the Indigenous Nation assessments (sections 11 to 18) of the EA-IA where applicable.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.11 and Sections 11 through 18

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The proponent states that acoustic will not include vibration as a subcomponent. Construction related impacts from vibrational forces on land and in the water will occur, as well vibrational impacts from the operation phase and decommissioning phases will always result. The impacts of these vibrational impacts and acoustic interference on the environment and human disturbance should be assessed.	Vibration effects during construction activities (e.g., earth moving, excavation, pile driving) will be local within the Project boundary. Land-based receptors at further distances (outside Project boundary) are not expected to experience vibration effect. A marine user is not considered to be a vibration effect receptor. Vibration energy from Project-related construction and operation (land-based) may be transmitted to water. However, the magnitude of ground-borne vibration is local and a marine user floating on the water is not expected to experience any vibration disturbance.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Sections 7.9 and 7.11
Lax Kw'alaams requests that the proponent when evaluating surface water and ground water produce and provide water balance modeling/hydraulic simulations for the local and regional area on Pearse Island, as well indicate where the surface and groundwater flows directionally travel. The proponent should also provide seasonal GW elevations to determine the impacts (on the environmental ecosystems) that utilizing GW or surface water for potable water sources would have if the project pursues either of these options.	Surface water quantity: local and regional water quantity will be assessed by analyzing regional hydrometric monitoring data, and the output from pre-existing modelled/predicted flow data from the Project area, e.g. data from the Northwest BC Water Tool. Groundwater: Groundwater flow directions will be discussed in a conceptual model of the hydrogeological environment. The comment on seasonal groundwater elevations is noted. Monitoring of seasonal groundwater elevations, where appropriate, will be completed if groundwater is identified as a potable water resource.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Sections 7.4, 7.5

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Please identify what surficial and groundwater changes in flow will occur due to the project footprint/interactions and what losses in groundwater recharge will occur due to loss of permeable area from the infrastructure development. How does the proponent intend to balance pre to post development changes in flow rates for the development area and how will the stormwater management or development of catchment/release and redirection of water management change the overall water balance and groundwater recharge for the site facility area/footprint?	Surface water quantity: the dAIR describes how potential effects will be addressed, including project interactions, positive and negative effects, residual effects, and cumulative effects. Groundwater: most Project infrastructure is anticipated to be off-shore. Infrastructure that is land-based is not anticipated to require considerable excavation below the groundwater table. If excavation below the groundwater table is required for infrastructure design, an assessment of the change in groundwater flow as a result of the excavation(s) will be completed. Land-based Project infrastructure, and the district lots in general, are near the shoreline and at the downstream end of the watersheds intersected by the Project footprint. As a result, decreased groundwater recharge over these developed areas or changes in groundwater flow paths (if excavations are required) will not affect undeveloped areas upstream. Nevertheless, increased runoff (i.e., a loss of groundwater recharge) and other water balance considerations (e.g., stormwater management) will be addressed in the Surface Water VC.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Sections 7.4, 7.5
The proponent should also investigate chemical release into GW by surface water transport from the facilities on site and on the marine environment and confirm how they intend to collect, treat, and dispose of any chemical introductions into the terrestrial and marine environment, protecting both surface and groundwater sources.	The Project does not plan to release chemicals to ground at the Site. If it is determined that a chemical release could occur, the applicable scenario would be considered and assessed in the Malfunctions and Accidents chapter of the environmental assessment.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 9

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The proponent states that soil is not a VC. IT should be noted that current land use does not determine future planned land use on or around the surround/adjacent area. Soil contamination analysis should be undergone by the proponent to identify any contamination on the site or in the marine environment, this is so that when land clearing, stripping, stockpiling, or relocation occurs and or marine dredging the transportation and disposal of contaminated fill occurs in an environmentally safe and correct manner.	There are currently no known areas with existing contamination in the terrestrial environment and they are considered unlikely based on a combination of existing land use, desktop data review, and field studies. A search of publicly available information on iMapBC has no instances of reported remediation sites near the Project location. During the field program there were no observed instances of the potential for soil contamination (e.g., garbage or old machinery, visible staining or odors, unhealthy vegetation or vegetation dieback). Therefore, it is the Project's opinion that a contaminated site analysis is not required for terrestrial soils. If soil contamination is encountered during the Project construction phase, then soil sampling and analysis may be undertaken to determine the extent of contamination and prepare a plan for on-site treatment or disposal. The terminal is situated in an undeveloped location with no currently known areas of marine contamination. Further, no seabed dredging is currently planned as part of the Project. If the need for marine dredging changes, a sediment sampling program will be conducted to confirm the quality of marine sediments and the potential impacts of this activity on fish and fish habitat will be included in the environmental assessment.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	DPD Section 2.1 dAIR Section 7.9

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Aquatic resources should be included in the assessment of freshwater habitat. Freshwater species rely on aquatic resources within the environments which they occupy, as well traditional and cultural uses of aquatic freshwater resources occur in the area, therefore if an assessment of this does not occur the loss to aquatic resources will not be captured and the loss to FSC rights in respects to harvesting or utilization of aquatic resources in freshwater habitats will not be managed or mitigated or captured in the assessment.	Aquatic resources (benthic invertebrates, periphyton, and bioaccumulation) are not carried forward as a sub-component because the Project is not anticipated to alter water quality in any stream on Wil Milit. Potential changes in flow in streams on Wil Milit are better assessed for the effect on habitat availability and suitability for fish. Aquatic resources would only be carried forward as a sub-component if the surface water quality baseline data and assessment reveal a potential for acidification or eutrophication in area lakes.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.4
The proponent has stated that Lands and Resource Use will not be included as a VC and their rationale is that the project will be built on Nisga'a lands. However, the proponent has stated that the majority footprint of the facility will be built on the marine environment, which is not owned in fee simple by the Nisga'a. Therefore, loss to natural resources and lands access will occur that are not private lands, and visual resources and public lands/water rights-of-way will result and should be assessed/reviewed further.	Natural resources potentially affected by the Project will be addressed in the Marine Resources VC and potential effects associated with a change in access to or use of marine resources will be assessed in the Marine Use VC. Change in visual quality is an indicator for the Marine Use VC.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Sections 7.9 and 7.11

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The proponent has not included drinking water quality and soil quality in the VC assessment of human health. Surface water changes will impact GW/drinking water, introduce chemicals to soils from runoff produced by the facility footprint. The changes to surface water and soil quality will also extend beyond acidification and eutrophication and should be assessed further in Lax Kw'alaams view in respects to the human health impacts. The proponent states that there are not any human inhabitant areas within the vicinity to justify further investigation, however, future land uses of the area are undetermined and could result, therefore, protection of surface water and groundwater source wells should be incorporate into the assessment.	The Human Health VC will examine the potential for the Project to introduce chemical contaminants to the air, surface water, groundwater, soil, sediment, and country foods. The consideration of surface water, groundwater, and soil are already listed. Following Health Canada's human health risk assessment guidance for environmental assessments, the Human Health VC and the supporting human health technical data report will provide a rationale to describe whether the Project has the potential to affect human health from various exposure pathways (e.g., drinking surface water/groundwater, inhalation of air, consumption of country foods). The types of Project changes to groundwater and surface water quality (i.e., Indicators to Evaluate Potential Effects to Surface Water and Indicators to Evaluate Potential Effects to Groundwater) are not chemical contaminants. Surface water indicators include total suspended solids, turbidity, specific conductance, pH, alkalinity, sulphur, nitrogen, dissolved oxygen, and chlorophyll a. Groundwater indicators include electrical conductivity and groundwater levels. These water quality indicators are not chemical contaminants, and there are no health-based drinking water quality guidelines for these parameters. This rationale also applies to soil quality, where the Project is not expected to be a source of chemical contamination to the surrounding soil.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.13

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
The proponent has not included culture as a VC. Lax Kw'alaams questions this evaluation and wonders why the proponent in the rationale only includes information pertaining to the rights and interests of Nisga'a as explained earlier the project footprint is mainly positioned on land not owned in fee simple by the Nisga'a and the project and all of its components directly traverse and sit within Lax Kw'alaams traditional territory, and direct and indirectly impact members FSC, traditional, cultural and spiritual rights.	It is acknowledged that the Project has the potential to affect Lax Kw'alaams culture. Culture, as referenced in the VC selection table, can be in relation to both Indigenous and non-Indigenous beliefs, customs, arts etc. Potential effects of the Project on Lax Kw'alaams culture will be assessed in the effects assessment on the Lax Kw'alaams Band (see Section 12 of the dAIR).	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 12
Figure 1, air quality local and regional assessment areas. It is not acceptable to stop assessment at Triple Island for Air Quality, the marine shipping route is much more elaborate and encompasses a broader area of impact than is being proposed by the proponent. Currently, the proposed marine transportation route shows shipping that will encompass not just the proposed RSA but will surround Dundas Island and there will be impacts to air quality from these vessels throughout Lax Kw'alaams marine territorial waters and these impacts will have substantial effect to Lax Kw'alaams. Therefore, Lax Kw'alaams requires assessment of air quality across the entire projected shipping route within Lax Kw'alaams traditional territory.	Ksi Lisims is currently waiting on direction from the BC EAO and IAAC on the extent of the marine shipping LAA. The spatial boundaries for air quality will be updated, as appropriate once this direction is shared.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.11 Figure 6.2-11 DPD Figure 2.4
The proponent needs to evaluate/assess impacts along the entire shipping route for any vessels associated with the project throughout the entire traditional territory of Lax Kw'alaams traditional territory. The Marine RSA must be expanded to include the shipping around the Dundas Island Conservancy, as this is considered the breadbasket for Lax Kw'alaams and impacts here will be devastating to members.	The Project is currently waiting on direction from the BC EAO and IAAC on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate once this direction is shared. The potential shipping route to the north of Dundas Island as shown in the IPD has been dropped from the DPD. Only the southeastern route is being carried forward. This is the route typically followed by vessels traveling to Stewart, BC.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.11, Figure 6.2-11 DPD Figure 2.4

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Figure 2 acoustic local and regional assessment area, please expand RSA boundary to include the community of Lax Kw'alaams. This is one of the closest communities to the project and noise will impact the community directly. The current boundary falls short of the community and by not including the community in the study area will result in impacts from noise on the community not being captured. The acoustic regional assessment should also go around Dundas Island and cover the entire shipping lane within side Lax Kw'alaams traditional territory.	Ksi Lisims is currently waiting on direction from the BC EAO and IAAC on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate once this direction is shared.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.11, Figure 6.2-11 DPD Figure 2.4
Figure 4 and Figure 13 surface water and groundwater assessment RSA are different. Please explain why this is the case. Surface water infiltration should be assessed in areas where groundwater assessment is to occur in Lax Kw'alaams perspective.	The RAA for groundwater is the area in which potential interactions with other past, present, or future activities or projects that may affect groundwater are estimated to occur as a result of groundwater withdrawal for potable water supply. The resulting potential interactions may not be limited to the watershed where the groundwater wells are installed, but are unlikely to extend more than 3 km, the current extent of the groundwater RAA, from the Project Footprint. Potential infiltration from surface water will be assessed by monitoring groundwater levels where appropriate (as based on the results of potential groundwater exploration efforts).	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.5, Table 7.4 and Figure 6.2-4

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Figure 5/6. Since there is such a tight association between terrestrial wildlife and vegetation and wetlands it is Lax Kw'alaams biological perspective that the LSA and RSA for these two components be identical.	The Project agrees that there is a tight association between terrestrial wildlife and vegetation and wetlands because wildlife habitat is comprised of vegetation and wetlands. However, it is the Project's position that the Wildlife and Wildlife Habitat VC and the Vegetation and Wetlands VC should be assessed using boundaries that are appropriate to the indicators of those respective VCs. Potential direct effects on vegetation and wetlands are largely limited to the immediate Project area, and indirect effects are largely limited to within 120 m of direct effects to account for edge effects or hydrological changes. Potential effects on vegetation and wetlands associated with air emissions will be assessed in the larger acidification and eutrophication LAA and RAA. Effects on wildlife relating to physical changes in habitat are largely limited to the immediate Project area. Indirect effects on terrestrial wildlife occur when wildlife perceive sensory disturbance (e.g., noise or human activity) and use otherwise suitable habitat less often than if those indirect effects were absent. Though the LAA and RAA boundaries for the Wildlife and Wildlife Habitat VC are larger than for the Vegetation and Wetlands VC, TEM produced for the Project will cover the terrestrial wildlife LAA. Publicly available TEM and Vegetation Resources Inventory data will be used to characterize vegetation in the RAA. The TEM and Vegetation Resource Inventory data sources are widely used to assess habitat suitability for wildlife over relatively large areas.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Sections 7.2, 7.6, 7.7, Table 7.1, Figures 6.2-1, 6.2-5 and 6.2-6

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Figure 6 wildlife LSA and RSA only covers Pearse Island, meaning that the proponent assumes that terrestrial mammals do no migrate or travel and won't be impacted if not directly on Pearse Island? Lax Kw'alaams requests that the terrestrial study area for wildlife is expanded to include main land areas outside of Pearse Island and the transmission lines for power electricity and pipeline that intend to be built to supply the project in the regional area.	Direct and indirect effects of the Project terminal and facilities on terrestrial wildlife are expected to be limited to the terrestrial wildlife LAA and RAA. The RAA is used to assess the Project residual effects cumulatively with similar residual effects from other projects. Extending the RAA to include portions of the BC mainland and Alaska is not expected to change the effects assessment as there are no known current or proposed projects in those additional areas. The effects of the transmission line and pipeline are not included in the scope of the Project and will be assessed separately.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.7
Figure 6a wildlife – marine terminal LSA/RSA, the RSA of this area is not sufficient to address full potential impacts in the marine environment should the facility experience a catastrophic failure. This boundary needs to be expanded further down the Nass towards the Ocean to at least encompass the potential impacts to marine wildlife and a potential interaction with food availability to the bears in the Khutzemateen Bear Sanctuary.	Direct and indirect effects of the Project terminal on wildlife is expected to be limited to the marine terminal LAA and RAA. The effects of potential spills, along with other accident or malfunction scenarios, will be assessed in the Malfunctions and Accidents chapter of the EA.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Sections 7.7, 7.9, Figures 6.2-7, 6.2-10 and Section 9
These bears in Khutzemateen rely on salmon and other fish species throughout the year and if a failure happens at the proposed project location, these bears could be profoundly impacted by loss of food availability. This must be examined as part of the assessment.	Potential Project effects on wildlife will be evaluated and assessed in the EA-IA using methods described in the dAIR. Grizzly bear will be assessed as an indicator of the Wildlife and Wildlife Habitat VC and will include an assessment of effects on habitat, including the food resources that the species depends upon. The effects of accidents and malfunctions will be assessed in the Malfunctions and Accidents chapter of the EA.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.7, Section 9

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Figure 6b wildlife – marine shipping LSA/RSA, the RSA of this VC needs to be expanded to surround the full Dundas Island Conservancy. This is the breadbasket of Lax Kw'alaams and the proponent in the project summary states and depicts in figure 3 that the anticipated shipping travel route would surround Dundas Island Conservancy. Therefore, there are massive potential impacts to marine shipping to the abundant marine wildlife in this region and to assess the impacts to Lax Kw'alaams rights and interests this boundary must be extended.	The Shipping LAA/RAA assessment boundaries for Wildlife were selected to encompass the area within which a suitable context for identifying potential interactions between Project activities and past, present and reasonably foreseeable future projects and activities are assessed. These areas include portions of Pearse Canal, Portland Canal, Observatory Inlet, Nass Bay, and Portland Inlet. The marine shipping RAA captures a large portion of the Dundas Island Conservancy area, including the eastern shorelines of the main islands and islets. Potential effects of Project related shipping are expected to be mitigated through pilotage via the BC Coast Pilots. The shipping LAA/RAA are thought to be sufficient at their current extent; however, Ksi Lisims is currently waiting on direction from the BC EAO and IAAC on the extent of the marine shipping assessment area. Based on direction received, the shipping components of the above referenced spatial boundaries may be revised.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.11, Figure 6.2-11,

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Figure 7 and 7a, please see Lax Kw'alaams comments on figure 6a and 6b. These boundaries need to be expanded to allow for a fulsome evaluation of the potential impacts to Lax Kw'alaams marine resource impacts.	The LAA/RAA assessment boundaries for Marine Resources were selected to encompass the area within which a suitable context for identifying potential interactions between Project activities and past, present and reasonably foreseeable future projects and activities are assessed and include portions of Pearse Canal, Portland Canal, Observatory Inlet, Nass Bay, and Portland Inlet. They are believed to be sufficient at their current extent. However, Ksi Lisims is currently waiting on direction from the BC EAO and IAAC on the extent of the marine shipping assessment area. Based on direction received, the shipping components of the above referenced spatial boundaries may require revision.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.11, Figures 6.2-10 and 6.2-11,
Figure 10, 11 and 12 the RSA includes a study area that encompasses an area past Triple Island and North and East of Dundas Island. Lax Kw'alaams wonders why the proponent cannot include this regional assessment area into other areas of the project for the RSA such as marine shipping and air quality and so on. The shipping route clearing transverses the northern and eastern parts of Dundas Island but Figure 7a for example which assesses marine resources shipping does not include this area? Lax Kw'alaams does not agree with this RSA determination by the proponent.	The Project is currently waiting on direction from the BC EAO and IAAC on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate once this direction is shared. The potential shipping route to the north of Dundas Island as shown in the IPD has been dropped from the DPD. Only the southeastern route is being carried forward. This is the route typically followed by vessels traveling to Stewart, BC.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Sections 7.10, 7.12 and Figures 6.2-12, 6.2-13, 6.2-14
Baseline studies need to be conducted during all 4 seasons for each of the proposed VC to develop a comprehensive understanding of the biological environment within each of the VCs in a spatial and temporal nature.	Where seasonal data is necessary to understand use of the area it is being collected. This is described in the Baseline Study Update (November 2021).	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	Baseline Study Update – Nov. 2021

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Lax Kw'alaams have concerns that many of the sampling areas do not include the RSA areas. Information gathered within the LSA cannot necessarily be extrapolated into the RSA.	The LAAs encompass the areas where potential Project effects may occur. These effects are assessed using Project specific data collected in this area. The RAAs provide context for understanding potential Project specific effects and is the area within which cumulative effects are likely to occur and rely on various data sources including regionally available data sets, previously completed effects assessments and grey and peer-reviewed literature.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 6
Please provide raw data including all species surveyed and abundances to Lax Kw'alaams technical staff for review and consideration of impacts to Lax Kw'alaams rights.	Data collected during baseline data collection programs will be included in the technical data reports. The Project can work with Lax Kw'alaams to discuss other means of sharing data.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7, VCs 7.2 – 7.14 as appropriate
In addition, since the LSA and RSA are not finalized, the proponent will need to add additional sampling sites as the boundaries proposed within the DAIR have been requested to be modified by Lax Kw'alaams to be able to complete a comprehensive assessment of Lax Kw'alaams rights.	LAAs and RAAs presented in the AIR Package are drafts and may require revisions. If this is the case, the need for additional data collection will be assessed.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 6

Table 7.1 – Lax Kw'alaams Band Issues and Concerns

Concern	Response	Source	DPD dAIR Section
Please provide Lax Kw'alaams a complete methodology for each survey for review and assurance of quality of study. This will allow Lax Kw'alaams to identify fits and gaps and limitations of each study when looking at the analysis of each component. Where the proponent has quoted some standards, this is not acceptable for review by Lax Kw'alaams, a full written methodology does not reference a protocol, please also include what abiotic data (light, temperature, etc.) will be collected with each study.	The Project shared the Project Baseline Study program, which included information on proposed methods, in May 2021, to the area's Indigenous Nations to request their review and input. In order to begin data collection and secure a year's worth of data, and meet the Project's regulatory schedule, baseline data programs were developed and implemented based on advice from NLG, their environmental consultants and those Indigenous Nations that chose to provide input in May 2021. An update on Baseline Study progress was completed and provided to all Participating Indigenous Nations in November 2021. The dAIR will further describe Project baseline socio-economic information inputs, data sources and data collection methods with further input from Lax Kw'alaams, and other area Indigenous Nations.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7, VCs 7.2 – 7.14 as appropriate
For fish sampling, Lax Kw'alaams does not support the use of electrofishing for sampling of fish, as the use is inconsistent and electrical impulses can impact fish through the lateral line system and in some cases can lead to fish mortality. Lax Kw'alaams' preference for fish sampling is the use of fish traps.	Electrofishing has been conducted for the Project and was primarily used as a fish sampling method in locations where fish had not been captured using other methods (e.g., minnow trapping) and above barriers to fish access. Electrofishing has been completed in accordance with applicable fish collection permit terms and conditions.	06-Jan-2022 – Lax Kw'alaams Comments – dAIR component package	dAIR Section 7.8

Preamble:

The Project's response to the Indigenous Nations Issues and Concerns in this document cover all engagement with the specific Indigenous Nation. They are being provided to each Participating Indigenous Nation for review and comment as the Indigenous Nation issue and concern and the Project's response to it is an EA-IA requirement.

The DPD reference is general and-or specific (as necessary, depending on the issue or concern raised). Occasionally there is a reference to a Section, Table or Figure in the dAIR. If there is a "n/a" in the DPD reference column, then there is no direct reference to the issue or concern in the DPD.

Draft Project responses to comments on the dAIR components received from Metlakatla in December 2021 are included.

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Concerned about Project impacts to Coast Tsimshian waters (overlapping with the marine shipping route) and Pearse Island. From Metlakatla First Nation perspective the Project is within their Coast Tsimshian traditional territory and subject to their Aboriginal rights and title.	April 9, 2021 – Letter correspondence from NLG President to Mayor Lax Kw'alaams Band and Chief Councilor Metlakatla First Nation confirming that the Site is on Category A lands held in fee simple by the Nisga'a Nation pursuant to the Nisga'a Treaty and is a former Nisga'a reserve.	17-Mar-21 – Ksi Lisims LNG Project Email	Section 7.3.2
Terrestrial Harvesting ▪ Site clearing resulting in permanent removal of vegetation, wetlands, timber and wildlife habitat. ▪ Changes in air (dust) and water quality resulting in potential decreased quality and quantity of valued vegetation and wildlife. ▪ Noise, visual changes and increased human activity resulting in increased sensory disturbance, decreased wildlife abundance. ▪ Accidents or malfunctions could lead to the contamination of vegetation or wildlife.	The Project will evaluate and assess potential Project effects to Metlakatla identified VCs with respect to Metlakatla terrestrial harvesting from those Project related components and activities listed left in the EA-IA using methodologies described in the dAIR.	05-Oct-2021 – Preliminary Description of Metlakatla Rights and Interests and Project Interactions	Section 5 – all, Section 9

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Marine Harvesting ▪ Site clearing resulting in sedimentation and riparian clearing resulting in changes to fish quality and abundanceand marine bird abundance and distribution. ▪ Marine infrastructure resulting in change in fish, marine mammal and marine bird abundance and distribution, and loss of marine andintertidal harvesting sites. ▪ Vessel transit, berthing, terminal operations and shipping activities resulting in change in fish, marine mammal and marine bird abundance and distribution, and interference with harvesting activities. ▪ Jetty construction resulting in permanent removal of marine vegetation. ▪ Accidents or malfunctions could lead tothe contamination of marine resources. ▪ Project hiring resulting in increased recreational marine users and increased competition for marine resources.	The Project will evaluate and assess potential Project effects to Metlakatla identified VCs with respect to Metlakatla marine harvesting from those Project related components and activities listed left in the EA-IA using methodologies described in the dAIR.	05-Oct-2021 – Preliminary Description of Metlakatla Rights and Interests and Project Interactions	Section 5.3.3
Sense of Place ▪ Vegetation clearing and infrastructure development resulting in loss or alteration of cultural and spiritual sites. ▪ Industrial disturbance resulting from construction (site clearing, lighting, noise, infrastructure development), operations (shipping, lighting, noise, loading activities etc.).	The Project will evaluate and assess potential Project effects to Metlakatla identified VCs with respect to Metlakatla “sense of place” from those Project related components and activities listed left using methodologies described in the dAIR.	05-Oct-2021 – Preliminary Description of Metlakatla Rights and Interests and Project Interactions	Section 5

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Access and Travel ▪ Site clearing, jetty construction, marine shipping and anchorages resulting in interference with terrestrial and marine access and travel. ▪ Restricted access to land and shoreline and marine areas surrounding Project infrastructure.	The Project will evaluate and assess potential Project effects to Metlakatla identified VCs with respect to Metlakatla traditional access and travel from those Project related components and activities listed left using methodologies described in the dAIR.	05-Oct-2021 – Preliminary Description of Metlakatla Rights and Interests and Project Interactions	Section 5
Governance and Decision Making ▪ Industrialization of land and increased marine traffic.	Project will evaluate and assess potential Project effects to Metlakatla identified VCs to address Metlakatla concerns with respect to "industrialization" and Project related increase in "marine traffic" using methodologies as described in the dAIR.	05-Oct-2021 – Preliminary Description of Metlakatla Rights and Interests and Project Interactions	Section 5.3.5
Health and Safety ▪ Construction and operation activities resulting in water, land and air pollution and noise. ▪ Project related restrictions in resource harvesting and land use. ▪ Project-related alteration to cultural landscapes. ▪ Potential for shipping transport accidents and malfunctions resulting in stress and anxiety. ▪ Increased marine traffic resulting in increased potential for marine collisions. ▪ Project hiring resulting in increased potential violence to women and girls. ▪ Project hiring resulting in population influx and increased burden on local health care system and social services.	The Project will evaluate and assess potential Project effects to Metlakatla identified VCs to address Metlakatla concerns with health and safety from those Project related components and activities listed left using methodologies described in the dAIR.	05-Oct-2021 – Preliminary Description of Metlakatla Rights and Interests and Project Interactions	Section 5

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Economic Development ▪ Project development resulting inrestricted access to and reduced availability of commercially harvested resources and trade items. ▪ Alienation of lands that could be used for economic development purposes by Metlakatla. ▪ Project hiring resulting in increased recreational marine users and increased competition for marine resources.	The Project will evaluate and assess potential Project effects to Metlakatla identified VCs with respect to Metlakatla broader economic development concerns from those Project related components and activities listed left using methodologies described in the dAIR.	05-Oct-2021 – Preliminary Description of Metlakatla Rights and Interests and Project Interactions	
Cultural Identity ▪ Site clearing and access restrictions resulting in loss of a cultural landscape and reduced opportunity to maintain and transmit knowledge. ▪ Construction and operation of marine facilities and marine shipping resulting in reduced opportunity to maintain and transmit knowledge.	The Project will evaluate and assess potential Project effects to Metlakatla identified VCs with respect to Metlakatla traditional cultural identity concerns from those Project related components and activities listed left using methodologies described in the dAIR.	05-Oct-2021 – Preliminary Description of Metlakatla Rights and Interests and Project Interactions	Section 5.3.5
Physical Heritage Project clearing resulting in loss and alteration of archaeological, historical, spiritual and cultural sites.	The Project will evaluate and assess potential effects to Metlakatla identified VCs with respect to Metlakatla physical heritage from those Project related components and activities listed left using methodologies described in the dAIR.	05-Oct-2021 – Preliminary Description of Metlakatla Rights and Interests and Project Interactions	Section 4.6.4, Sections 5.3.4 and 5.3.5

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Metlakatla (MSS) Review of IPD			
Vii – Executive Summary - Info Request: Can the Agency and BC EAO provide information regarding EA review process and the implications of the Nisga'a Treaty? How does the Nisga'a Treaty change or add to the EA process?	Noted. The three regulatory bodies meet routinely to coordinate environmental assessment processes as required under the Nisga'a Treaty. The Project is not involved in these meetings and therefore the clarification is better addressed to these three parties.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 6.1.1
Vii – Executive Summary – Info Request: What is the scope of carbon emissions being counted to ensure net zero? E.g., are pipeline emissions included, or will Ksi Lisims requiretheir pipeline provider to also be net zero? Does Ksi Lisims include the shipping emissionsin the calculation? Please provide these details in the subsequent project description.	The Project will be estimating, evaluating and assessing the effects of GHG emissions as guided by the Environment and Climate Change Canada SACC Technical Guidance document. The details will be included in the DPD and dAIR.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Sections 2.9, 6.3.5
Viii – Executive Summary – Info Request: Please provide additional information on requirements from Chapter 10 of the Nisga'a Treaty. What elements of the assessment will be different or in addition to the review beingcarried out through BC EAO and the Agency legislation?	The dAIR will include a section completely dedicated to the evaluation of potential effects to Nisga'a Treaty Rights as these are defined in Chapter 10 Section 8e and 8f of the Nisga'a Treaty – a dAIR section completed by the NLG and Nisga'a Nation consultants.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Sections 5.3.5.1 and 6.1.1
1. Introduction – Info Request: What is the breakdown of project ownership by partner?	The formal business entity – Ksi Lisims LNG is still in the process of forming a Canadian limited company. This information will be known for the Application.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	n/a

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
1. Introduction – Info Request: MFN would like to understand the full requirements for achieving the needed power from BC Hydro. ▪ What work is needed to be done to accomplish this? ▪ What permits will be sought? ▪ Which BC Hydro substation will theinterconnection be constructed to? ▪ Does existing transmission infrastructure leading to New Aiyansh need upgrading?	A third party service provider is engaged with BC Hydro to discuss all attributes of securing transmission capacity and then designing and building a connecting power line through Nisga'a lands and then through the marine waters to the Site. The new power line is not within the care and control of the Project. The third party service provider will secure the necessary authorizations from NLG and BC and potentially federal authorities for their project. The BC Hydro sub-station connection location is not fully known but is anticipated to be on Nisga'a lands near New Aiyansh. The degree to which BC Hydro will require system enhancements to meet the Project's demand is not yet known, however, the third party service provider is engaging BC Hydro on this matter.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 2.3.16
1. Introduction – Info Request: Which investigative licenses, permits and authorizations have been secured from BC and Canada? Please elaborate.	The NLG, provincial and federal investigative permits are described and listed in the Project's October 2021 Baseline Study update. In summary, investigative permits were secured from NLG, DFO, and BC ENV. A FLNRORD archaeology investigation permit is in the permit application adjudication phase and anticipated in early 2022.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	n/a

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
2. Project Overview – Info Request: Ksi Lisims notes that the project is on fee simple lands, however, the concept includes a floating LNG as well as berthing for ships. Please provide the full jurisdiction of the project area in question. Do the Category A lands extend into the marine waters? Can the province provide details of consultation process for water lot portion of the project?	The Category A lands only extend to the high water mark and do not extend into Portland or Pearse Canals. The proposed Water Lot will contain all marine Project infrastructure. The NLG, as the upland owner, is the only entity that can secure the proposed Water Lot lease from BC OGC (using their Land Act responsibilities under the *Oil and Gas Activities Act*) for those portion of Portland Canal marine waters riparian to DL 5431. The NLG will then enter into a Water Lot lease to the Project. The new EA process has a new step after the "Readiness Decision" that addresses permits needed for the Project to proceed after a positive decision from BC EAO, the Agency and NLG. It is a Regulatory Coordination Plan. That plan will address the Water Lot lease and the other permits necessary to construct and operate the Project. Applications for some of these major permits will – informed by FEED - be started before there is an EA decision as they take time to adjudicate. With that said, the permits cannot be issued until there is a positive EA-IA decision from BC EAO, the Agency and NLG. Marine infrastructure in the Water Lot will be under an LNG Facility permit issued and administrated by the BC OGC. Authorizations to construct and maintain Project marine infrastructure within the Water Lots will need to be acquired from DFO and TC (Navigable Waters). Any treated effluent and its outfall infrastructure in the marine environment will be required to be authorized by BC ENV under registration (a form of permit).	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Figure 4.7, Section 4.4.3

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
2.2 Project Activities and Components – Info Request: If dredging is required, full details should beincluded in DPD. When does the proponent anticipate knowing about potential dredgerequirements?	The Project is avoiding dredging and at this time no dredging is proposed.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 2.1
2.2.2 Permanent Components. Detailed information should be supplied with respect to handling and management of waste streams (condensates etc.) in the DPD.	The preliminary management proposed for condensate is more fully described in the DPD and the potential effects of condensate management will be detailed in the DPD and in the EA-IA.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 2.8
2.2.4 FLNG and LNG Production – Info Request: Request to understand the details of condensate loading and export (size, frequency), the risk to marine life, the shipping route and end fate.	The preliminary management proposed for condensate is more fully described in the DPD and the potential effects of condensate management will be detailed in the DPD and in the EA-IA.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Sections 2.3.8, 2.5 and Section 9
2.2.6 Powerline Connection – Info Request: When would Ksi Lisims know which substation is preferred? MFN would like to understand the benefits and risks associated with each option. Request to see the System Impact Study referenced in Section 2.2.6.	A third party service provider is engaged with BC Hydro to discuss all attributes of securing transmission capacity (including the System Impact Study referenced in the IPD) and then designing and building a connecting power line through Nisga'a lands and then through the marine waters to the Site. The new power line is not within the care and control of the Project. The third party service provider will secure the necessary authorizations from NLG and BC for their project. The BC Hydro sub-station connection location is not fully known but is anticipated to be on Nisga'a lands near New Aiyansh. The degree to which BC Hydro will require system enhancements to meet the Project's demand is not yet known however, the third party service provider is engaging BC Hydro on this matter.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 2.3.16

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
2.2.8 Third Party Power Transmission: Full details are requested in the DPD.	See above.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 2.3.16
2.3.2 Construction Workforce: News articles written about the project with information provided from Nisga'a indicate that the "*construction workforce would number in the thousands and extensive accommodationfacilities would be required, much like the one for the LNG Canada workforce. Preliminary plans call for workers on site, at a camp on the mainland near Gingolx or located in Terrace or Prince Rupert. Approximately 200 people wouldbe needed once the facility begins operating*." Clarification at early stages is required to understand peak construction workforce, number of years of construction and the operation workforce. Understanding accommodations and travel to the site will be key information for MFN to understand potential impacts to rights.	Construction workers will be housed at the Site in a floatel. Land-based permanent workforce accommodation (operations) is currently planned for the Site for operations staff. Construction and operations workers will transit to the Site from either Prince Rupert or from Gingolx or from both locations. Transportation is likely by vessel. Preliminary construction workforce estimates will be forthcoming in the DPD with improved estimates in the EA-IA. Preliminary construction time estimates will be in the DPD and improved upon in the EA-IA.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Sections 2.4.3, 5.3.4.1
2.5 LNG Shipping: There are sensitive environmental areas along this route as well as substantial marine mammal activity. Key mitigations and commitments would be required during specific times of year.	Potential Project effects to Metlakatla marine use and marine resources such as marine mammals will be evaluated and assessed in the EA-IA with methodologies described in the dAIR.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 2.5, Section 5.3.5
2.6 Decommissioning – Info Request: There has been mention of LNG infrastructure being repurposed to Hydrogen export infrastructure at several forums. Is the proponent undertaking any investigation of this?	Not at this time.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	n/a

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
2.7.1 Construction - Info Request: Where are the listed waste products being proposed to be stored?	Construction wastes may be incinerated at the Site or be barged to the mainland and trucked to a regulated and approved landfill. One land fill option under consideration is the Nisga'a Regional landfill.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 2.8
2.7.2 Operations – Info Request: Will the project still be advanced if BC Hydro power is not available for the project? It is unclear if two assessments will take place: anassessment assuming BC Hydro power is provided and an assessment to understand impacts associated without hydro power provisions. Please clarify.	The Project is to be 100% electrified. Only the BC Hydro grid can provide the electricity necessary to achieve that objective. The timing of acquiring the necessary electricity form the BC Hydro grid remains uncertain (see below). The Project will have the temporary ability to use its own feed gas to create on-site electricity for the shortest period of time possible. Once BC Hydro is connected, the ability to self-generate power will be removed from the Site. A third party service provider is engaged with BC Hydro to discuss all attributes of securing transmission capacity (including the System Impact Study referenced in the IPD) and then designing and building a connecting power line through Nisga'a lands and then through the marine waters to the Site. The new power line is not within the care and control of the Project. The third party service provider will secure the necessary authorizations from NLG and BC for their project. The BC Hydro sub-station connection location is not fully known but is anticipated to be on Nisga'a lands near New Aiyansh. The degree to which BC Hydro will require system enhancements to meet the Project's demand is not yet known however, the third party service provider is engaging BC Hydro on this matter.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Table 2.13, Sections 2.3.16, 2.9, 2.13,

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
2.8 Land and Water Use: Given MFN's experience on the Nexen/AuroraLNG project, it will be key to understand the options early on for fresh water on Pearse Island. For the Nexen project, there was not sufficient fresh water supply on the island – this issue was ignored until a later date in the EA and then it was determined a desalination plant was required late in the process leading to several issues. MFN is requesting early and upfront information to understand freshwater needs and the options to supply this.	Hydrological investigations are currently underway to assess suitable streams at the Site (e.g., those perennial streams with available flow to continue to adequately support aquatic life in the stream). The DPD addresses Project water supply options. Desalination of marine water remains an option to support cooling of LNG infrastructure.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Sections 2.1, 2.10, Table 2.13
2.10.3 Preferred Site Within Nass Area – Info Request: Can the proponent please share the other short-listed sites referenced for review?	Project alternate site alternatives is addressed in more detail in the DPD.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 2.13.2
2.11.3 Electric Power Supply – Info Request: If the proponent can provide a fulsome picture of the current infrastructure available, plus any required upgrades and the associated options, that would be greatly appreciated. ▪ What is the current hydro infrastructure that exists? ▪ What are the projects needs in terms of additions or upgrades? What route options exist? ▪ What are timelines for construction of each route?	A third party service provider is engaged with BC Hydro to discuss all attributes of securing transmission capacity (including the System Impact Study referenced in the IPD) and then designing and building a connecting power line through Nisga'a lands and then through the marine waters to the Site. The new power line is not within the care and control of the Project. The third party service provider will secure the necessary authorizations from NLG and BC for their project. The BC Hydro sub-station connection location is not fully known but is anticipated to be on Nisga'a lands near New Aiyansh. The degree to which BC Hydro will require system enhancements to meet the Project's demand is not yet known however, the third party service provider is engaging BC Hydro on this matter.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 2.3.16

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
3.2 Marine Communities and Species: Large amounts of humpback whales are typical in the area around the mouth of Work Channel (along shipping lane) during certain seasons. Killer whales are also known to frequent the area. Understanding impacts from this project on such species must be key part of the assessment.	Potential Project effects to marine mammals will be evaluated and assessed in the EA-IA with methodologies described in the dAIR.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Sections 3.5, 3.5.6
3.4 Terrestrial Communities and Species: MFN looks forward to understanding how the proponent plans to assess impacts to these species.	The Project will evaluate and assess potential Project effects with respect to Metlakatla identified VCs (e.g., terrestrial communities and species) from those Project related components and activities that could potentially affect those terrestrial communities and species using methodologies described in the dAIR.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Sections 3.5, Section 5.3.3
4.1 Proximity to Communities – Info Request: Can the proponent please outline what If any approvals or permits are required from the RDKS and the process for this?	No permits required.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	n/a
4.1.1.2 Metlakatla First Nation – Specific Change Request to text in DPD: Recommend the following word changes in **bold**: *Their traditional territory extends from **west of** the coastal islands in eastern Hecate Strait to **east of** Lakelse Lake near Terrace (Figure 5). Portland Canal and Observatory Inlet mark the northern extent of the boundary, and the headwaters of the Ecstall River mark the southern borders. Metlakatla First Nation territory includes the lower portions and the mouth of the Skeena River and its tributaries.*	Change to be made in DPD.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 4.1.1.2

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Table 6 and 7 – Info Request: MFN recommends being more specific with the list of activities provided. For example: soil storage, dredge, disposal at sea, product storage, vessel berthing, routing maintenance and inspections, ancillary marine activities (tugboats) etc.	The Project's DPD and-or dAIR provides more specific Project component and activity information.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 2
5.2 Assessment Area Definitions – Info Request: Would the construction shipping corridor also capture any shipping activity related to project construction that would travel from Prince Rupert to the project site?	Yes.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	dAIR – Figure 6.2-11
5.2 Assessment Area Definitions In previous comments to the BC EAO and the Agency, MFN has highlighted that the full extent of shipping through Metlakatla Territory should be assessed. The assessment should not stop or be limited to the Triple Island Pilot boarding station.	Noted. Discussion underway with DFO, the Agency and BC EAO. Further development of area definitions will occur in the development of the dAIR.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	dAIR – Section 6, Figure 6.2-11
5.4.1 Potential Adverse Effects – Info Request: Please provide additional information. Will a fulsome TERMPOL study be carried out for the project? This seems like a key step to ensuring safe shipping operations.	A TERMPOL or a suite of TERMPOL-like analyses will be undertaken including engagement with Indigenous communities on the scope of these studies.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 9
5.4.2 Potential Socio-economic Effects In addition to the activities and associated effects listed, there is potential for the project to put a strain on the limited health care services available in northwestern BC. These effects need to be considered and fully assessed in the application.	Noted. Further development of Infrastructure and Services VC and attributes will occur in the development of the dAIR.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 5
5.4.3 Potential Heritage Effects MSS has cultural heritage policies that provide guidance around reducing impacts to archaeology. MSS will share copies of the policies with the proponent.	Noted. Nisga'a also have heritage polices that apply to the Site and area and Treaty rights to heritage artefacts found at Wil Milit.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 4.6.4, 5.3.4

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
5.4.4 Potential Health Effects In addition to the effects listed, accidents and malfunctions may also have serious adverse effects on people's mental health and well- being and the real and perceived safety of traditional resources (because of contamination) should an accident occur. These effects need to be considered and fullyassessed in the application.	Noted. Additional detail on the assessment of potential effects to health will be using methodologies described in the dAIR.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 5.3.4
5.4.5 Project-related Effects to Indigenous Peoples: It is not just the impact to marine use of Portland Canal waters that must be assessed for Metlakatla. The impact of the project activities on the following rights and interests for Metlakatla should be assessed: ▪ cultural identity ▪ terrestrial harvesting ▪ travel and access ▪ physical heritage ▪ governance and decision-making ▪ sense of place ▪ health and safety ▪ economic development	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted Aboriginal title and rights including Metlakatla rights and interests identified left using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 7.3.2, Appendix 7

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Table 10 NLG Biophysical Reports and Data – Past 5 years – Info Request: Where can the public reports be accessed? Will these reports be made available to the Technical Advisory committee and PINs? Please update the table to identify which location within the Nass Wildlife Area is targeted in the assessment.	The Project will consult NLG and their consultants to follow up on this request and investigate how to provide access to publicly available reports to TAC members. With respect to the request to update Table 10 in the IPD to identify where in the Nass Wildlife Area, as defined in the Nisga'a Treaty, what Nass Wildlife Area location do the studies listed under Topic/Title apply to? Answer: If the question is understood as re-stated, then each report would have to be reviewed to ascertain the study area boundaries. For example, could be Nass Bay, Portland Inlet, Portland Canal all three or other areas less relevant to the Project (e.g., Observatory Inlet).	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Table 3.11, Section 3.5.7
Table 11 Anticipated Permits by Project Phase MSS notes that a Fisheries Act Authorization may be required for dredging works. This potential permit should be included in the table.	Noted. The Project is avoiding dredging.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Table 6.1
7.1 Engagement with Indigenous Nations The proposed location of the project and the shipping route are wholly within Metlakatla First Nation Territory. The Metlakatla First Nation has never ceded or surrendered their territory or any of their interests or rights within their territory.	The Project appreciates portions of the Project would occur over Metlakatla territorial waters and lands and looks forward to collaborating with Metlakatla to address their issues and interests.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Figure 4.2, 7.3.2
7.2 Summary of Preliminary Engagement Activities – Info Request: MSS notes that the request for a shapefile of the project footprint and shipping lane (meeting held on April 30, 2021) has yet to be responded to or provided. This impacts MFN's ability to identify and articulate potential impacts to rights, as requested by BC EAO and the Agency.	Understood. The Project appreciates your patience. The new EA process has an IPD and a DPD. Project onshore and marine footprint determination should reflect the latest Project layout in the DPD. The DPD is currently being drafted in conjunction with Project engineering. Shape files will be provided when the DPD and dAIR is ready for Metlakatla review.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	[NEW] dAIR Study area figures provided January 10, 2022 via FTP site

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
7.3 General and Specific Issues Identified by Indigenous Nations MSS notes that additional issues exist related to project impacts that are not listed, including impacts to the land base.	Potential Project effects as identified by Metlakatla will be updated in the DPD and-or dAIR.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Section 5
7.4 Preliminary Assessment of Potential Impacts to Indigenous Nations Resulting from Project Activities and Alignment with Indigenous Nation Interests Please refer to MFN's preliminary submission of interests and rights potentially impacted by the Project. The list identified in Section 7.4 covers some but not all interests.	Understood. The JSOIE provided better information and the DPD and-or dAIR will reflect that information and Metlakatla submissions.	04-Oct-2021 – Metlakatla Stewardship Society (MSS) Review of IPD	Appendix 7 dAIR Section 13
Metlakatla Interests as summarized by BC EAO-the Agency in the Joint Summary of Issues and Engagement			
Recognition and assessment of impacts on Aboriginal rights and title.	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted Aboriginal title using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 dAIR Section 13
Cultural identity and the right to maintain cultural distinctiveness and integrity.	The Project will work with Indigenous Nations to evaluate and assess potential Project effects to their cultural identity using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 dAIR Section 13

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Right to hunt, fish, trap, gather, and harvest terrestrial and marine resources.	The Project looks forward to working with Metlakatla and other Indigenous Nations to evaluate and assess potential Project effects to Metlakatla and other Indigenous Nations abilities to carry out traditional and cultural practices such as hunting, fishing, trapping, and harvesting of terrestrial and marine resource harvesting, and land-based use values using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 dAIR Section 13
Right to access lands and waters.	Noted. The Site is private land owned by the NLG. The only access restrictions anticipated in the marine area are in the leased Water Lot where the Project's marine terminal infrastructure is located. Access will be restricted to protect public safety in zones required to be established under BC OGC regulations.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 dAIR Section 13
Right to maintain cultural and physical heritage.	Potential Project effects on Indigenous culture and physical heritage will be included in VCs identified by Metlakatla to be evaluated and assessed in the EA-IA using methodology described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 dAIR Section 13
Right to make decisions about land and marine use in accordance with governance and decision-making rights.	Project potential effects on Indigenous Nation governance and decision making rights will be included in VCs to be assessed in the EA-IA using methodology described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 dAIR Section 13
Sense of place, the right to maintain emotional and spiritual attachment to special places, and the right to peaceful enjoyment of the lands and waters.	Potential Project effects on Indigenous cultural attributes such as "sense of place" and peaceful enjoyment of lands and waters will be included in VCs identified by Metlakatla to be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 dAIR Section 13

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Health and safety, and the right to the highest attainable standard of physical, mental, and social health.	Potential Project effects on Indigenous Nations health and safety will be included in VCs to be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 dAIR Section 13
Right to derive economic benefit from land and waters.	The Project will work with Indigenous Nations to evaluate and assess potential Project effects on social and economic values as identified by Metlakatla in the EA-IA using methodologies as described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 dAIR Section 13
Impacts to species of concern to Metlakatla First Nation, including King Crab and Nass River eulachon.	Potential Project effects to both species will be evaluated and assessed in the EA-IA with methodologies as described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 3.5, Sections 5.3.3, 5.3.4, 5.3.5
Impacts to mental health, wellbeing, and the real and perceived safety of traditional resources should an accident or malfunction occur.	Potential Project effects from Project-related Accidents and Malfunctions within the Project's care and control will be evaluated and assessed using methodologies as described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 9 dAIR Section 13
Loss of income/livelihood (including trade) and loss of economic development opportunities.	Noted. The Project acknowledges Metlakatla economic objectives that could potentially be negatively effected by the Project. The Project anticipates evaluating and assessing socio-economic impacts to Metlakatla in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 5.3.4 dAIR Section 13
Metlakatla views lands and marine waters to be seamless; adverse impacts to the land will also impact the marine environment and vice versa.	Understood. The Project acknowledges Metlakatla connection to the land and ocean and terrestrial and marine resources that could potentially be negatively effected by the Project .The Project will work with Indigenous Nations to evaluate and assess potential Project effects to marine and terrestrial resources and their use in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 dAIR Section 13

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Impacts to the ability to transmit knowledge between older and younger generations and loss of place-based knowledge.	Potential Project effects to Indigenous Nations cultural values and interests such as knowledge transmission, cultural continuity, sense of place and psychosocial impacts will be evaluated and assessed using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 dAIR Section 13
Alteration of marine and intertidal harvesting sites, reduced opportunity to harvest, reduced harvesting success, and avoidance of harvestable areas due to industrial disturbance.	Potential Project effects to Metlakatla marine resource use will be evaluated and assessed in the EA-IA using methodologies as described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 3.5, Sections 5.3.3, 5.3.4, 5.3.5
Reduced quiet enjoyment of place-based activities and disturbance of cultural and spiritual sites.	Potential Project effects to Indigenous Nations cultural values and interests such as place based activities and disturbance of cultural and spiritual sites will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	dAIR Section 13
Reduced physical access to Project Area and interference with marine transportation routes.	Potential Project effects to Metlakatla use of the Water Lot and marine transport routes will be evaluated and assessed in the EA-IA using methodologies as described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 2.1, Section 3.5, Sections 5.3.4, 5.3.5
Reduced ability to exercise land and marine management functions.	Potential Project effects to Metlakatla land and marine management functions will be evaluated and assessed in the EA-IA using methodologies as described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 dAIR Section 13
Permanent removal of archaeology features – both pre- and post- 1846.	Potential Project effects with respect to disturbance and-or removal of identified Metlakatla physical heritage at the Site from those Project related components and activities will be evaluated and assessed using methodologies described in the dAIR. The Nisga'a have Treaty rights to heritage artefacts found at Wil Milit.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 4.5, 5.3.4, 5.3.5, Section 7 dAIR Section 13

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Disturbances to unmarked gravesites, petroglyphs, CMTs and other cultural and spiritual sites within and around the proposed Project footprint.	Potential Project effects with respect to disturbance and-or removal of identified Metlakatla physical heritage at the Site from those Project related components and activities will be evaluated and assessed using methodologies described in the dAIR. The Nisga'a have Treaty rights to heritage artefacts found at Wil Milit.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 4.5, 5.3.4, 5.3.5, Section 7 dAIR Section 13
Metlakatla requests the use of Metlakatla Stewardship Society cultural heritage policies to guide the proponents' assessment of impacts to archaeology and heritage.	Potential Project effects with respect to disturbance and-or removal of identified Metlakatla physical heritage at the Site from those Project related components and activities will be evaluated and assessed using methodologies described in the dAIR. The Nisga'a have Treaty rights to heritage artefacts found at Wil Milit.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 4.5, 5.3.4, 5.3.5, Section 7 dAIR Section 13
Metlakatla requests assessment of full extent of shipping through Metlakatla territory.	Potential effects to Metlakatla marine use and marine resources such as marine mammals will be assessed in the EA-IA using methodologies described in the dAIR. Discussion underway with DFO, the Agency and BC EAO. Further development of area definitions will occur with dAIR engagement	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 3.5, Sections 5.3.3, 5.3.4, 5.3.5 dAIR Sections 7.11 and 13

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Metlakatla requests clarity on the peak construction workforce, number of years construction and the operation workforce.	Construction workers will be housed at the Project site in a floatel. Permanent workforce accommodation (operations) is currently planned for operations. Construction and operations workers will transit to the site from either Prince Rupert or from Gingolx or from both locations. Transportation is likely by vessel. Preliminary construction workforce estimates will be forthcoming in the DPD with improved estimates in the EA-IA. Preliminary construction time estimates will be in the DPD.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 2.4.3, 5.3.4.1
Metlakatla requests shapefiles of project location, off-site components, and the shipping route.	Understood. We appreciate your patience. The new EA process has an IPD and a DPD. Project onshore and marine footprint determination should be reflected in the DPD. The DPD is currently being drafted in conjunction with Project engineering. Shape files will be provided when the DPD and dAIR are ready for Metlakatla review.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	All of the Study Area Figures in the dAIR and their shape file provide Jan. 10, 2022
Metlakatla Initial Comments on dAIR Component Package			
Draft VC component selection - Acoustic; page 4: Vibration is not included as a subcomponent for the Project; however, vibration in the water column due to construction and FLNG operation is included in the Marine Resources VC. Construction related effects on land will be limited due to the lack of receptors. Would a nearby marine user be qualified as a receptor for construction or operation vibration disturbance? Ifso, this should be evaluated.	A marine user is not considered to be a vibration effect receptor. Vibration energy from Project-related construction and operation (land-based) may be transmitted to water. However, the magnitude of ground-borne vibration is local and a marine user floating on the water is not expected to experience any vibration disturbance.	Draft VC component selection; acoustic page 4	dAIR Section 7.3

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft VC component selection; Wildlife; page 7: How will impacts from water and soil eutrophication be evaluated for Wildlife? Please ensure this is captured.	Acidification and eutrophication assessment areas have been added for the Surface Water, Freshwater Fish and Fish Habitat, and Vegetation and Wetlands VCs (VC). These areas will represent the largest extent of area predicted to receive sulphur and/or nitrogen deposition that may exceed the screening thresholds established by the Ministry of Environment and Climate Change Strategy. It is not anticipated that exceedances would adversely affect wildlife, however, if the Surface Water VC or Vegetation and Wetlands VC assessments indicate that wetlands may become eutrophic, those effects will be considered for the Wildlife and Wildlife Habitat VC.	Draft VC component selection; wildlife page 7	dAIR Section 7.7
Draft VC component selection;Wildlife; page 7: Proposed indicator: Habitat connectivity and spatial extent and duration of construction activities and permanent Project components. MSS is interested to understand how this indicator will be used to measure impacts to mammals, amphibians,birds, species of concern and species of indigenous cultural use.	Change in habitat will be assessed for Wildlife and Wildlife Habitat VC subcomponents and indicators for the three phases of the Project: construction, operations, and decommissioning. As part of the assessment of change in habitat, connectivity (e.g., fragmentation) will be assessed qualitatively. The assessment will consider the spatial extent and duration of Project activities and infrastructure. The assessment will be completed for key (i.e., indicator) species or species groups, including species or species groups of conservation concern or importance to Indigenous communities, and will represent potential effects of the Project on the VC and its subcomponents.	Draft VC component selection; wildlife page 7	dAIR Section 7.7

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft VC Component selection;Land and Resource Use; page 9: The public and indigenous nations may access this area, foreshore areas and surrounding areas for recreational use, hunting, gathering etc. Impacts to these uses (land alienation, sensory disturbance from noise, ambient light, and visual quality) should be evaluated.	Potential effects of the Project on wildlife, fish, vegetation and noise will be considered as part of the assessment of identified VCs. If results of these assessments suggest that there could be effects that extend beyond the Project footprint and if Indigenous Nations identify potential effects on these VC as a potential concern in relation to land use, these effects can be assessed in the Indigenous-specific effects assessments (sections 11 to 19). Effects on marine use, including Indigenous and public marine use, will be assessed in the Marine Use VC. Onshore components for the Project are located on Category A lands as defined in the Nisga'a Treaty and are owned in fee simple by the Nisga'a Nation. The Nisga'a advise that use of Pearse Island by the public is anticipated to be limited to none and therefore is not being assessed.	Draft VC Component selection; land and resource use page 9	dAIR Section 7.6, 7.7, 7.8, 7.9, 7.11, Section 13
Draft VC Component selection; Marine Resource Use; page 9: Changes in visual quality, shipping related noise and ambient light for marine users must be evaluated; LAA and RAA boundaries must be drafted to reflect this evaluation.	Changes in visual quality, shipping related noise and ambient light are indicators for the Marine Use VC, subcomponent: public and Indigenous marine use. The LAA for Marine Use reflects the spatial extent in which Project-related shipping is expected to occur and could potentially cause a direct, predictable and measurable adverse change in navigation, marine fisheries, or other uses.	Draft VC Component selection; - marine resource use page 9	dAIR Section 7.11, Figure 6.2-11

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft VC component selection; human health; page 10: In addition to evaluating AQ, noise, and quality and quantity of harvested foods, **evaluation of sensory disturbance (visual quality, industrialization of area)** must occur for project area and marine shipping route as noted in spatial boundary comments below.	The human health VC characterizes health from the perspective of physiological health from exposure to environmental contaminants. The consideration of visual resources as a subcomponent of the Land and Resource Use VC and Marine Use VC is shown in Table 5.1 of the draft Application Information Requirements (VCs and Subcomponents) with a rationale for the inclusion or exclusion of each subcomponent.	Draft VC component selection; human health page 10	dAIR Section 5, Table 5.1, Section 7.13
Draft VC component selection Culture; page 10: No cultural VC has been proposed; however, an assessment of human and community well-being will be completed that will include an assessment of the effects of the Project on existing and future economic, social and cultural well being of Nisga'a citizens who may be affected by the Project as required under Nisga'a Treaty Chapter 10 section 8(f). This Project will impact the cultural values of Metlakatla members. For example, peaceful enjoyment of lands. This should be evaluated, especially given that areas are within Metlakatla territory.	It is acknowledged that the Project has the potential to affect Metlakatla culture. Culture, as referenced in the VCs selection table, can be in relation to both Indigenous and non-Indigenous beliefs, customs, arts etc. Potential effects of the Project on Metlakatla culture will be assessed in the effects assessment on the Metlakatla First Nation (see Section 13 of the dAIR).	Draft VC component selection – culture page 10	dAIR Section 13
Interactions Table; Page 13: MSS requests to better understand the rating system used in the table. Please describe what 1/+ means. Please describe what 2+ means.	Ratings '0', '1', and '2' are associated with adverse interactions with 0 being no effect and 2 being a key interaction. The '+' symbol identifies a positive effect. When '1/+' is used it indicates that there are both potential adverse effects (1) and potential positive effects (+). The table used '2+' to indicate a key positive interaction, however, it is noted that this is not clear given the definitions in the key at the end of the table. For this reason, the '2' will be removed from positive interactions and only the '+' symbol will be used.	Interactions Table; page 13	dAIR Section 6.4, 6.4.2, Table 6.4

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Interactions Table; Page 13: Construction, site prep and clearing. MSS expected that there could be a **marine use** impact from site preparation and clearing. Please consider adding this interaction.	Site preparation and clearing is land-based and is not anticipated to interact with the marine environment or marine use. Activities in the marine environment are captured by the activity "construction of temporary and permanent marine-based infrastructure"; this activity is included as having an interaction with marine use.	Interactions Table; page 13	dAIR Section 6.4, 6.4.2, Table 6.4
Interactions Table; Page 13: Land transportation of workforce and construction materials to Gingolx or Prince Rupert (for marine transport to site). If Prince Rupert is selected, there could be impacts to the **marine resources** and **marine use** from additional shipping activity. Please consider adding this interaction.	Land transportation of workforce and construction materials is land based and is not anticipated to interact with marine use or marine resources. Potential effects to marine resources and marine use could occur when the workforce and materials are transported by vessel to the Site as is captured in the activity 'Marine transport of workforce and construction materials to the site".	Interactions Table; page 13	dAIR Section 6.4, 6.4.2, Table 6.4
Interactions Table; Page 13: On-site power generation. If there are air emissions associated with this activity, it could impact freshwater and vegetation wetlands (acidification, eutrophication). Please consider adding this interaction.	Comment noted. The interaction between on-site power generation and freshwater fish and vegetation and wetlands has been changed to a 1.	Interactions Table; page 13	dAIR Section 6.4, 6.4.2, Table 6.4
Interactions Table; Page 13: Decommissioning of Land based infrastructure. This activity could potentially impact **marine resources** (sedimentation) and **vegetation and wetlands** depending on methodology. Please consider adding this interaction.	Comment noted. The interaction between decommissioning of land-based infrastructure and vegetation and wetlands has been changed to a 1. However, given the water management infrastructure that will be in place during decommissioning no effect on marine resources is anticipated as a result of this activity; no change is made to the interaction with marine resources.	Interactions Table; page 13	dAIR Section 6.4, 6.4.2, Table 6.4

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Interactions Table; Page 14: Decommissioning of marine-based infrastructure. This activity could impact **employment and economy** in a positive way and could also impact **infrastructure and services** depending on what decommissioning activities and workforce will look like. Please consider adding this interaction.	Positive and negative effects of decommissioning on employment and economy, and infrastructure and services are captured by the decommissioning activity 'procurement of labour, goods, and services'	Interactions Table; page 14	dAIR Section 6.4, 6.4.2, Table 6.4
Physical activities inclusion list: page 16: Port of Prince Rupert. MSS is concerned with the approach Ksi Lisims is proposing for the physical activities' inclusion list. Currently Ksi Lisims intends to only consider shipping and socio-economic factors associated with PRPA development and activities. There are numerous ongoing, new or expansion projects that have destructive wetland components, infilling and fish habitat compensation, associated air emission impacts etc. These projects have the possibility of impacting vegetation, wetlands, wildlife, and air quality in a cumulative and significant way. The land-based portions of these projects should not be ignored and for the cumulative effects assessment, they should be considered. The VC interactions for ongoing and proposed PR port projects should be expanded to vegetation and wetlands and wildlife.	The regional assessment areas of vegetation and wetlands, wildlife, marine resources (terminal) and air quality are based on guidelines (e.g., ENV Dispersion Modelling Guideline), and potential zones of influence for species known to occur in the area. None of these regional assessment areas extend as far north as Prince Rupert and therefore no interaction is anticipated with activities occurring in Prince Rupert. Furthermore, the Project is not expected to induce a new or expanded project at the Port of Prince Rupert. Marine shipping and socio-economic activities, in contrast, do extend to the Prince Rupert area which is why this area is being proposed to be included in the socio-economic and marine resources shipping assessments.	Physical activities inclusion list page 16	dAIR Section 6.9, Table 6.7
Physical activities inclusion list;page 16: Port of Prince Rupert. In addition to what is listed, the following should be added - Fairview Phase 2B Northern expansion.	Fairview Expansion Phase 2B, Stage 1B, is included under 'reasonably foreseeable' as it has not yet been built. Fairview Expansion Phase 2B, Stage 1A is included under 'past and present' as it is currently being built and has an estimated completion date of Q2 2022.	Physical activities inclusion list page 16	dAIR Section 6.9, Table 6.7

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Physical activities inclusion list;page 16: Port Edward LNG. In addition to socio-economic impacts, there will be impacts to the land base, **vegetation and wetlands,** which could have a regional impact when consideredcumulatively. Please add **vegetation and wetlands** to the VC Interaction list for this row.	The location of Port Edward LNG does not interact with the regional assessment areas for vegetation and wetlands. As a result, this interaction is not included on the physical activities inclusion list. See also the response to similar comment regarding the Port of Prince Rupert.	Physical activities inclusion list page 16	dAIR Section 6.9, Table 6.7
Physical activities inclusion list; page 16: Cedar LNG. There is also the potential for interactions from shipping with **marine resources, marine use, and wildlife (marine birds)**. Please add these values to the VC Interaction list, along with socio-economic.	Shipping has been added as a potential interaction with the Cedar LNG project. Shipping effects include marine use, marine resources and marine birds.	Physical activities inclusion list page 16	dAIR Section 6.9, Table 6.7
Draft LAA Boundaries; commentre: shipping LAA for all shipping VCs and boundaries (AQ, acoustics, wildlife, marine resources, marine use); page 17. Please note that Metlakatla recommends that Project related shipping throughout the extent of the territory be included in the LAA. The shipping will not 'cease' or'commence' at Triple Island as the ships come in from and continue to Dixon Entrance. The full extent of shipping in the territory needs to be assessed for each shipping related value (AQ, Acoustic, Wildlife (marine birds), Marine Resources, Marine Use and Health).	Ksi Lisims is currently waiting on direction from the BC EAO and the Agency on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate, once this direction is shared.	Draft LAA Boundaries; commentre shipping LAA for all shipping VCs and boundaries (AQ, acoustics, wildlife, marine resources, marine use) page 17	dAIR Figure 6.2-11 VCs in Section 7
Draft LAA Boundaries; Air Quality; Page 17: Air Quality. Please extend the shipping LAA out to the extent of Metlakatla territory. The shipping through Metlakatla does not stop or begin at Triple Island.	Ksi Lisims is currently waiting on direction from the BC EAO and the Agency on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate, once this direction is shared.	Draft LAA Boundaries; Air Quality page 17	dAIR Figure 6.2-1
Draft LAA Boundaries; Acoustic; Page 17: Acoustic. Please extend the shipping LAA out to the extent of Metlakatla territory. The shipping through Metlakatla does not stop or begin at Triple Island.	Ksi Lisims is currently waiting on direction from the BC EAO and the Agency on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate, once this direction is shared.	Draft LAA Boundaries; Acoustic page 17	dAIR Figure 6.2-2

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft LAA Boundaries; surface water and freshwater fish, vegetation and wetlands and wildlife values - Page 17: Surface water, Freshwater fish, Vegetation and wetlands and Wildlife. The boundaries for impacts to surface water and freshwater fish and vegetation and wetlands and wildlife, may be much larger - more similar to the Air quality boundaries because of potential air emission impacts. This is also recognized in the VC draft component selection section at the start of the document.	Acidification and eutrophication assessment areas have been added for the Surface Water, Freshwater Fish and Fish Habitat, and Vegetation and Wetlands VCs (VC). These areas will represent the largest extent of area predicted to receive sulphur and/or nitrogen deposition that may exceed the screening thresholds established by the Ministry of Environment and Climate Change Strategy. It is not anticipated that exceedances would adversely affect wildlife, however, if the Surface Water VC or Vegetation and Wetlands VC assessments indicate that wetlands may become eutrophic, those effects will be considered for the Wildlife and Wildlife Habitat VC.	Draft LAA Boundaries; surface water and freshwater fish, vegetation and wetlands and wildlife values page 17	dAIR Figure 6.2-9, Sections 7.4, 7.6 and 7.8
Draft LAA boundaries; marine shipping; page 17. Marine Resources: Please extend the shipping LAA out to the extent of Metlakatla territory. The shipping through Metlakatla does not stop or begin at Triple Island.	Ksi Lisims is currently waiting on direction from the BC EAO and the Agency on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate, once this direction is shared.	Draft LAA boundaries; marine shipping page 17	dAIR Figure 6.2-11 Section 7.9
Draft LAA boundaries; wildlife; page 17: Wildlife Terrestrial and Marine Terminal Wildlife, Marine shipping. For wildlife, it is unclear as to why the LAA boundary would not extend out 1.5km around the Project area to be consistent with the acoustic value. For marine shipping, please extend the LAA out to the extent of Metlakatla territory. This shipping does not begin or stop at Triple Island.	The spatial extent of the Terrestrial Wildlife LAA was selected based on the extent at which potential adverse Project effects on wildlife may occur. Adverse effects of noise on wildlife are not expected to occur outside of the Terrestrial Wildlife LAA, which is defined by a 1 km buffer around the Project Area. Ksi Lisims is currently waiting on direction from the BC EAO and the Agency on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate, once this direction is shared.	Draft LAA boundaries; wildlife page 17	dAIR Figures 6.2.6, 6.2.7, 6.2.8, Section 7.7

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft LAA boundaries; employment and economy; page 17: Employment and Economy. Please provide justification for excluding the village of Metlakatla and Port Simpson. Metlakatla expects some economic impacts (positive and negative) related to the Project. Please include Metlakatla in the analysis and boundary of the LAA. The RAA study areas should be continuous, covering from Prince Rupert area east along Highway 16 and north of Terrace to capture the entire region. MSS notes that employment and economic impacts could be possible for the communities in the areas that are currently excluded (i.e., Rosswood, etc.).	The LAA for employment and economy has been amended to include Indigenous communities located near Prince Rupert and Terrace, in addition to the Nisga'a Nation. Census subdivisions associated with the following Indigenous communities have been added to the LAA for employment and economy: Metlakatla First Nation (S 1/2 Timpsean 2), Lax Kw'alaams IB (Lax Kw'alaams 1 IRI), Gitxaala Nation (Dolphin Island 1), Kitselas First Nation (Kitselas 1 IRI), and Kitsumkalum First Nation (Kitsumkalum 1). As well, Census subdivision Kitimat Stikine C (Part 1) RDA, has been added to the LAA to account for the community of Rosswood.	Draft LAA boundaries; employment and economy page 17	dAIR Figure 6.2-12 Section 7.10
Draft LAA boundaries; infrastructure and services; pages 17 and 18: infrastructure and services. With each large-scale development proposed for the region the Metlakatla community has experienced infrastructure and service pressures (housing, health services etc.). This project will likely put similar pressures on those services and the boundary should be expanded to include Metlakatla village.	The Project will not place any direct demands on infrastructure and services within the Metlakatla community because it will not be located near the community, road transportation corridors used by the Project will not pass through the Metlakatla community, and community infrastructure and services potentially required by the Project (e.g., housing, medical, emergency services) will likely be located within the Terrace and Prince Rupert population centres. For these reasons, the draft LAA boundaries for Infrastructure and Services do not include the Metlakatla community.	Draft LAA boundaries; infrastructure and services pages 17 and 18	dAIR Figure 6.2-14 Section 7.12
Draft LAA boundaries; marine use; page 18: Marine use. Please extend the shipping LAA out to the extent of Metlakatla territory. The shipping through Metlakatla does not stop or begin at Triple Island.	Ksi Lisims is currently waiting on direction from the BC EAO and the Agency on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate, once this direction is shared.	Draft LAA boundaries; marine use page 18	dAIR Figure 6.2-13 Section 7.11

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft LAA boundaries; human health; page 18: Human health. In the VC selection document, it indicated that impacts from acoustics to human health would be evaluated under human health value. Therefore, Ksi Lisims needs to include the shipping route as well in the LAA for Human health as there areanticipated impacts from noise and sense of place (including visual) from this industrial disturbance.	The LAA boundaries described in the Application Information Requirements for human health in Table 12-1 (LAA Boundaries) have been revised to include a 1.5 km zone on both sides of the marine shipping routes to account for acoustic effects. Visual resources are addressed separately from human health, under the Land and Resource Use VC and Marine Use VC of the Application Information Requirements.	Draft LAA boundaries; human health page 18	dAIR Figure 6.2-15 Section 7.13
Draft RAA boundaries; air quality; page 18: Air Quality. Please extend the shipping portion of the AQ RAA out to the extent of Metlakatla territory. The shipping through Metlakatla does not stop or begin at Triple Island.	Ksi Lisims is currently waiting on direction from the BC EAO and the Agency on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate, once this direction is shared.	Draft RAA boundaries; Air Quality; page 18	dAIR Figure 6.2-1, Section 7.2
Draft RAA boundaries acoustics; page 18: Acoustics. Please extend the shipping portion of the AQ RAA outto the extent of Metlakatla territory. The shipping through Metlakatla does not stop or begin at Triple Island.	Ksi Lisims is currently waiting on direction from the BC EAO and the Agency on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate, once this direction is shared.	Draft RAA boundaries;Acoustics page 18	dAIR Figure 6.2-2, Section 7.3
Draft RAA boundaries; surface water; freshwater fish; vegetation and wetlands and wildlife; page 18 and 19: Boundaries should be extended to the AQ boundaries to account for potential impacts on these VC from air emissions: Surface water; freshwater fish; vegetation and wetlands; and wildlife.	Acidification and eutrophication assessment areas have been added for the Surface Water, Freshwater Fish and Fish Habitat, and Vegetation and Wetlands VCs (VC). These areas will represent the largest extent of area predicted to receive sulphur and/or nitrogen deposition that may exceed the screening thresholds established by the Ministry of Environment and Climate Change Strategy. It is not anticipated that exceedances would adversely affect wildlife, however, if the Surface Water VC or Vegetation and Wetlands VC assessments indicate that wetlands may become eutrophic, those effects will be considered for the Wildlife and Wildlife Habitat VC.	Draft RAA boundaries; surface water; freshwater fish; vegetation and wetlands,wildlife pages 18 and 19	dAIR Figures 6.2-3, 6.2-5, 6.2-6, 6.2-9, Sections 7.4, 7.6, 7.7, 7.8, 7.11

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft LAA boundaries; employment and economy; page 17: Employment and Economy. Please provide justification for excluding the village of Metlakatla and Port Simpson. Metlakatla expects some economic impacts (positive and negative) related to the project. Please include Metlakatla in the analysis and boundary of the LAA. The RAA study areas should be continuous, covering from Prince Rupert area east along Highway 16 and north of Terrace to capture the entire region. MSS notes that employment and economic impacts could be possible for the communities in the areas that are currently excluded (i.e., Rosswood, etc.).	The LAA for employment and economy includes communities that are most likely to experience potential economic effects related to the proposed Project. The LAA for employment and economy has been amended to include Indigenous communities located near Prince Rupert and Terrace, in addition to the Nisga'a Nation. Census subdivisions associated with the following Indigenous communities have been added to the LAA for employment and economy: Metlakatla First Nation (S 1/2 Timpsean 2), Lax Kw'alaams IB (Lax Kw'alaams 1 IRI), Gitxaala Nation (Dolphin Island 1), Kitselas First Nation (Kitselas 1 IRI), and Kitsumkalum First Nation (Kitsumkalum 1). As well, Census subdivision Kitimat Stikine C (Part 1) RDA, has been added to the LAA to account for the community of Rosswood. The RAA is not continuous for Employment and Economy because there are no interactions between the Project and employment or economy along the highway corridors that connect Prince Rupert to Terrace, and Terrace to the Nisga'a lands.	Draft LAA boundaries; employment and economy page 17	dAIR Figure 6.2-12 Section 7.10
Draft RAA boundaries; Vegetation and wetlands and wildlife; Page 18-19: Vegetation and wetlands and Wildlife. Please note that there are concerns for cumulative impacts from projects underway and proposed in the region (i.e., industrial development happening and proposed for Prince Rupert area). These PR based projects are/will impact wetlands, foreshore environments and species at risk and wildlife from the removal and change of key habitats. The Ksi Lisims project should evaluate these impacts and how their project may contribute to these land-based impacts in the region. MSS recommends that the RAA be extended to include the surrounding region and industrial projects in	The spatial extent of cumulative effects assessment boundaries is based upon the extent to which predicted residual Project effects are expected to act cumulatively with similar residual effects from other past, present, and reasonably foreseeable projects and activities. The RAAs provide broader ecological context regarding the abundance and distribution of wetlands, ecological communities, wildlife and wildlife habitat. The Project is located entirely within the Pearse Landscape Unit, which encompasses the land mass of Pearse Island. Landscape unit boundaries are	Draft RAA boundaries; vegetation and wetlands and wildlife pages 18-19	dAIR, Figures 6.2-5, 6.2-6, Section 7.6

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Prince Rupert area. As noted previously, any shipping related boundary should not stop or begin at Triple Island and should beevaluated to the extent of Metlakatla Territory (i.e., Wildlife Shipping RAA). In addition, MSS requests more justification for the rationale of the RAA covering only the north end of Pearse Island (15km buffer). given proximity to other land bases, MSS does not expect the impacts to wildlife be isolated to Pearse Island.	established by the provincial government using watershed and other ecosystem-based principles into a management framework for forest resources and biodiversity on Crown land. There are no reasonably foreseeable terrestrial projects that overlap within the Pearse Landscape Unit. Cumulative effects on vegetation and wetlands are assessed within the Vegetation and Wetlands RAA, which is a 1 km buffer around the Project area limited to Pearse Island. Cumulative effects on terrestrial wildlife are assessed within the Terrestrial Wildlife RAA, which is a 15 km buffer around the Project area limited to Pearse Island. Project residual effects are not expected to extend outside of these RAAs. Larger assessment areas will be used for terrestrial acidification and eutrophication based on the largest extent of area predicted to receive cumulative sulphur and/or nitrogen deposition that exceeds screening thresholds, which includes some area in the Belle Bay landscape unit to the North. It is not anticipated that there will be sulphur and/or nitrogen deposition exceedances that could adversely affect wildlife; however, if the Surface Water VC or Vegetation and Wetlands VC assessments indicate that wetlands may become eutrophic, those effects will be considered for the Wildlife and Wildlife Habitat VC. Ksi Lisims is currently waiting on direction from the BC EAO and the Agency on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate, once this direction is shared.		

Table 7.2 – Metlakatla First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft RAA boundaries; marineresources; page 18: Marine resources. Please extend the shipping portion of the Marine Resources RAA out to the extent of Metlakatla territory. The shipping through Metlakatla does not stop or begin at Triple Island.	Ksi Lisims is currently waiting on direction from the BC EAO and the Agency on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate, once this direction is shared.	Draft RAA boundaries; marine resources page 18	dAIR Figure 6.2-10 Section 7.19
Draft RAA boundaries; Marine Use; page 19: Marine Use. Please extend the shipping portion of the Marine Resources RAA out to the extent of Metlakatla territory. The shipping through Metlakatla does not stop or begin at Triple Island.	Ksi Lisims is currently waiting on direction from the BC EAO and the Agency on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate, once this direction is shared.	Draft RAA boundaries; marine use page 19	dAIR Figure 6.2-13 Section 7.11
Draft RAA boundaries; HumanHealth; page 19: Human health. In the VC selection document, it indicated that impacts from acoustics to human healthwould be evaluated under the human health value. Therefore, Ksi Lisims needs to include the shipping route as well in the RAA for Human health as there areanticipated impacts from noise and sense of place (including visual) from this industrial disturbance that may act cumulatively with other projects. Please ensure to include the shipping route right out to the extent of Metlakatla territory as the shipping route does not stop or begin at Triple Island and effects are expected the west and north of Triple Island as a result of disturbances.	The LAA boundaries described in the Application Information Requirements for human health in Table 12-1 (LAA Boundaries) have been revised to include a 1.5 km zone on both sides of the marine shipping routes to account for acoustic effects. For more specific details on the Acoustic LAA boundary, refer to Table 12-1 (LAA Boundaries) of the Application Information Requirements, which also includes a description of the noise boundary associated with supply vessels from Prince Rupert. Visual resources are addressed separately from human health, under the Land and Resource Use VC and Marine Use VC of the Application Information Requirements. Ksi Lisims is currently waiting on direction from the BC EAO and the Agency on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate, once this direction is shared.	Draft RAA boundaries; human health page 19	dAIR Figure 6.2-13 Section 7.11

Preamble:

The Project's response to the Indigenous Nations Issues and Concerns in this document cover all engagement with the specific Indigenous Nation. They have been provided to each Indigenous Nation for review and comment as the Indigenous Nation issue and concern and the Project's response to it is an EA-IA requirement.

The DPD reference is general and-or specific (as necessary, depending on the issue or concern raised). Occasionally there is a reference to a Section, Table or Figure in the dAIR. If there is a "n/a" in the DPD reference column, then there is no direct reference to the issue or concern in the DPD.

Draft Project responses to comments on the dAIR components received from Metlakatla in December 2021 are included.

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Concerned about LNG Carrier transit in Chatham Sound (Triple Island area) and potential impacts on marine resources used by Kitsumkalum First Nation	Marine transit routes will be more fully developed and discussed in the IPD, DPD, dAIR and EA-IA.	12-Apr-21 – Ksi Lisims LNG Project Introductory Meeting	Section 2.5 Section 9
Concerned about LNG vessel oil capacities and fuel used by LNG carriers and concerned about impacts to marine resources if an LNG Carrier ran aground and there was a spill into the marine environment	Marine accidents and malfunctions will be assessed.	12-Apr-21 – Ksi Lisims LNG Project Introductory Meeting	Section 9
Kitsumkalum Comments on IPD and EP			
Kitsumkalum requested an edit to their territory map and their Kitsumkalum Nation description in Section 4.1.1.3.	Edit made.	30-Jun-21 – Ksi Lisims LNG Project IPD Edit Email	n/a
Seeking clarity on the 'transmission interconnection' from BC Hydro grid to the Project site scope (and assessment of potential effects).	More detail will be available on this issue in the coming months and during development of the DPD.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Section 2.3.16
Understanding of coordination, if any, between EAO/IAAC (as a likely substituted EA process) and the EA process under Chapter 10 of the Nisga'a Nation treaty.	The upcoming EA-IA process will evolve as the Nisga'a, BC EAO and IAAC collaborate and work together to define the upcoming EA-IA scope in the DPD.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Section 6

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Discussion of opportunity to shift the shipping route for the Project to North of Dundas Island to reduce risks (accidents and malfunctions) in Chatham Sound.	Project has met with BC Coast Pilots and Pacific Pilotage Authority to introduce the Project. Further engagements with them will help define safe marine transportation routes from the Triple Island area to the Project's marine terminal. Kitsumkalum will be engaged in these engagements along with others as more information becomes available in the development of the DPD and the EA-IA.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Section 2.5 Section 9 Figure 2.4
Discussion of opportunities associated with Project shipping to mitigate/reduce effects including, but not limited to, Green Marine certification and conducting a Project-specific TERMPOL review and implementing recommendations from that review.	Project is committed to conducting a TERMPOL or TERMPOL-like exercise(s) and will discuss the Green Marine suggestion with Kitsumkalum as part of EA-IA engagement.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Section 9
Understanding discussions and progression with 3rd party pipeline operators that will supply the feed of natural gas for the Project	Pipeline commercial discussions are underway and the Project will inform Kitsumkalum when deliberations are no longer confidential.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Section 2.3.4, 2.13.1.4
Clarity on the First Nation Climate Initiative (FNCI) and the linkage to the Project.	A workshop on FNCI and its applicability to the Project could be scheduled in the coming months as compliance with the draft June 2020 FNCI Principles is fundamental to the Project.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Section 7.4
Clarity on the construction temporary workforce accommodation and transportation of workers.		01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Sections 2.4, 5.3.4.1
Understanding of baseline studies associated with terminal siting (i.e., wind, weather, storm events, wave/swell height, currents) as Kitsumkalum fishers report the potential for severe weather conditions around Wil Milit. Assessing/understanding the risk for potential accidents and malfunctions given those conditions.	Project will share results and analysis of metocean parameters with Kitsumkalum and – with insights from Kitsumkalum and others – factor that information into the assessment of accidents and malfunctions related to potential Project effects from marine shipping using methodologies described in the dAIR.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Sections 3.1.1 and 3.2.1

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
The City of Terrace is the service hub for the Nass Valley (and likely for the Project), it is suggested that the level of engagement on the Project with the city should be very high. From the IPD it does not appear to give Terrace the profile for engagement that it requires (e.g., Section 4.1 does not even list Terrace as community in proximity to the Project)	City of Terrace and its importance to the Project has been expanded upon in the IPD including being described as a potential supply centre and listed as a community of importance in Section 4.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Section 4.1 Section 8 Appendix 8
Section 8.2, Accidents and Malfunctions, requires understanding of the use of Highway 113 associated with the Project and the potential for accidents and malfunctions with road transportation.	Edit to a new section 9.1.7 to address potential accidents on Highway 113.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Section 9, 9.4.7
Table 4. Proximity of the Project-related shipping route to protected and federal lands should be considered.	Will consider and discuss the inclusion of a new Table showing distances from the marine shipping route to federal and protected lands with BC EAO, IAAC, Nisga'a and Kitsumkalum in the DPD.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Section 4.3 (but does not include shipping route – Site only)
Table 8, there are no baseline studies associated with the assessment of socio-economic and community well-being effects suggested. Why?	The Baseline Study Plan lists these other studies – however the start of these studies will occur after IPD and EP is submitted and accepted. The scope of the socio-economic and community well-being studies will be refined with Kitsumkalum and others during engagement on the DPD. An update on these studies was included in the October 2021 Baseline Study Update	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Section 4.6
Table 8, there are several baseline studies (receptors) which do not include consideration of the effects (the study area) associated with shipping traffic/route to/from Triple Island (e.g., marine use, underwater acoustics, marine mammals, marine birds etc.)	The intent is to assess potential Project effects to marine birds, marine fish and mammals and marine use. Table 8 has been amended to include marine route to Triple Island.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Section 5
The Marine Shipping Assessment Area buffer may require widening given certain effects/pathways/receptors (e.g., for marine mammals).	Willing to discuss Marine Shipping Assessment Area boundaries with Kitsumkalum, IAAC, Nisga'a and BC EAO and revise as part of DPD process.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	dAIR Figure 6.2-11

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Discussion of Table 7 and potential interactions between Project activities and Social Values would be appreciated prior to the development of the dAIR.	Project commits to engaging Kitsumkalum in dAIR development.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	dAIR Section 6.4.2, Table 6.4
Section 5.4.1, the list of potential environmental effects.	New text added to elaborate on potential environmental effects.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Section 5
Unclear why Section 5.4.2 is not included in Section 4, Human and Social Setting.	Project willing to discuss 5.4.2 socio-economic, environmental and community well-being scope with greater definition for inclusion in DPD. Added Kitsumkalum IR 1 to list of communities in Section 4.1.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Sections 4 and 5
Table 11, under Kitsumkalum First Nation it likely should add that Kitsumkalum was delayed in responding to referrals during the period of May 4th to June 21st, 2021, due to an organizational level malware attack.	Understood. Edit made.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	n/a
Section 4.3 Methods, Activities, and Frequency confirmation that the intent is that an engagement protocol (i.e., methods, activities, and frequency) will form part of the collaboration / capacity funding agreement between Rockies LNG and Kitsumkalum? In this section the establishment of a protocol is stated to occur in/with “early engagement plan agreements.”	Project will address during negotiation of EA-IA capacity agreements.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Section 7.6
Understanding if Rockies LNG is viewing engagement of Nations on ‘different’ levels, as early engagement activities was listed/grouped separately (i.e., G2G early engagement was with Lax Kw’alaams and Metlakatla together, and then grouped with Gitxaała, Kitsumkalum, Kitselas and Haida together).	No - Indigenous Nations have been engaged the same way with respect to engagement on IPD and EP.	01-Jul-21 – Ksi Lisims LNG Project IPD and EP Email	Section 7 Appendix 7

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Kitsumkalum would like to re-state our concerns regarding increased traffic (both marine and vehicular) this is not just from an accidents standpoint but also impacts to sense of place, wildlife disturbances (including vehicle collisions).	The Project looks forward to working with Indigenous Nations to scope into the EA-IA potential Project effects to Indigenous Nations values and interests such as sense of place using methodologies described in the dAIR.	13-Sep-2021 – Additional Kitsumkalum comments on IPD and EP	dAIR Section 9, Section 7 VCs as appropriate Section 14
Considerations to increased populations in the north and how that increases fishing and hunting pressures in our territories.	The Project looks forward to working with Kitsumkalum and other Indigenous nations to assess Project potential effects to Indigenous Nations abilities to carry out traditional and cultural practices such as fishing, hunting, marine resource harvesting and land based use values.	13-Sep-2021 – Additional Kitsumkalum comments on IPD and EP	dAIR Sections 7.7, 7.8 and 7.11, Section 14
Strain put on Terrace resources but potentially without the taxation benefits.	Noted. The Project does not – at this time - anticipate any components in Terrace. Potential Project effects to employment and economy and infrastructure VCs will be evaluated and assessed in the EA-IA using methodologies defined in the dAIR.	13-Sep-2021 – Additional Kitsumkalum comments on IPD and EP	dAIR Sections 7.10, 7.12
The road to Greenville is narrow, and winding in many places through Kalum and Nisga'a lands. It is in need of upgrade and repair. Heavy industrial use will impact the roads, traffic, commutes, and safety of both native and non native communities along the route.	The Project has an agreement with Kitsumkalum with respect to having them undertake a study to fully understand road transportation issues and concerns related to potential Project effects to Highway 113. The Provincial MOTI also has requested collaboration and participation in the study. It is anticipated that the study results will inform the EA-IA.	13-Sep-2021 – Additional Kitsumkalum comments on IPD and EP	Section 9.4.7

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Concerns stem from the increase/influx of workers (non-resident populations, plus those that may become temporary residents). We have seen the strain put on our small town for infrastructure, services and community wellbeing (medical and social services (lack of), police (increased crime rates and types), housing (lack of and prices unaffordable whether rental or buying), employment (wage disparities, barriers to education for higher paying jobs, boom bust situation for employment, and lack of 'local first' contracting). Kitsumkalum, as a vulnerable population, can 'feel' these strains more acutely. Terrace in general has not been able to benefit directly from several of these large projects (no tax base); traffic increases have occurred (especially rail and highway) including changes to dangerous goods products being transported) wants for a greater understanding of the risks (especially since Kitsumkalum IR 1 has both the rail main line and highway running right through it) (emergency response); and, the ever increasing strain on land use (consumptive and non-consumptive) and overlap with Kitsumkalum values and stewardship of their territory.	The issues and concerns articulated left – as they may relate to potential Project effects - will be assessed in the EA-IA using methodologies described in the dAIR. Construction workers will be housed at the Site in a floatel. Land-based permanent workforce accommodation (operations) is currently planned for the Site for operations staff. Construction and operations workers will transit to the Site from either Prince Rupert or from Gingolx or from both locations. Transportation is likely by vessel. Preliminary construction workforce estimates will be forthcoming in the DPD with improved estimates in the EA-IA. Preliminary construction time estimates will be in the DPD and improved upon in the EA-IA.	26-Oct-21 Ksi Lisims LNG Project Indigenous Engagement and Regulatory Advisory Project Concerns Email	Sections 4.6.1, 4.6.3, 5.3.4.1, 5.3.4.2, 5.2.4.3
A lack of understanding of cumulative impacts to those social/economic/community wellbeing values and of the jurisdictional quagmire that they create.	The Project looks forward to working with Indigenous Nations to evaluate and assess potential Project related cumulative effects in their traditional territories in the EA-IA using methodologies as described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative cumulative effects that cannot be avoided.	26-Oct-21 Ksi Lisims LNG Project Indigenous Engagement and Regulatory Advisory Project Concerns Email	Sections 4.6.1, 4.6.3, 5.3.4.1, 5.3.4.2, 5.2.4.3

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Kitsumkalum First Nation requested Ksi Lisims Baseline Study Plan.	Baseline Study Plan (May 2021) was shared along with a Baseline Study update in November 2021.	May 26, 2021 – Ksi Lisims LNG Project Baseline Study Plan Request	n/a
Kitsumkalum Interests Captured in BC EAO-IAAC Joint Summary of Issues and Engagement			
Right to governance and self-determination.	Project potential effects on Indigenous Nation governance and decision making rights will be included in valued components to be assessed in the EA-IA using methodology described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 14
Cultural and spiritual rights.	The Project will evaluate and assess potential Project effects to Kitsumkalum identified valued components with respect to Kitsumkalum traditional cultural and spiritual concerns from those Project related components and activities using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 14
Right to practice traditional activities.	The Project will evaluate and assess potential Project effects to Kitsumkalum identified valued components with respect to Kitsumkalum practice of traditional activities in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 14
Right to transmit traditional knowledge.	Potential Project effects to Indigenous Nations cultural values and interests such as traditional knowledge transmission will be evaluated and assessed using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 14

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Stewardship of Kitsumkalum lands.	The Project acknowledges Kitsumkalum connection to Kitsumkalum lands and the terrestrial and marine resources they support that could potentially be negatively effected by the Project. The Project will work with Indigenous Nations to evaluate and assess potential Project effects to marine and terrestrial resources and their use in the EA-IA using methodologies described in the dAIR	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 14
Clean air and water.	The Project shares the objective of maintaining clean air and water.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	dAIR Section 14
Sense of place.	Potential Project effects on Indigenous cultural attributes such as “sense of place” will be included in valued components identified by Kitsumkalum to be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 14
Recognition of specific *United Nations Declaration on the Rights of Indigenous Peoples* articles.	A section on BC’s new legislation *Declaration on the Rights of Indigenous People Act* has been added to DPD.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	6.2 dAIR Section 14
Socio-economic impacts, including impacts on housing, community well-being, crime, emergency and leisure services, infrastructure, and financial disparity.	Potential effects from the Project on employment and economy, infra-structure and services and other Indigenous Nation identified socio-economic factors will be assessed in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 4 and 5 dAIR Section 14
Impacts of changes to transportation, including land transportation, and associated accidents and malfunctions in Kitsumkalum territory.	Potential effects from the Project on transportation factors will be assessed in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 5 and 9 dAIR Section 14

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Impacts of marine shipping, including impacts on seaweed harvesting, fishing, and bivalve collection.	The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project effects of marine shipping related to construction and operation of the Project on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 4 and 5 dAIR Section 14
Impacts on the ability to access and harvest resources due to changes in population densities.	The Project looks forward to working with Kitsumkalum and other Indigenous Nations to evaluate and assess potential Project effects to Kitsumkalum and other Indigenous Nations abilities to access and harvest terrestrial and marine resources in the EA-IA using methodologies as described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 14
Impacts to sense of place and wildlife from increased marine and vehicular traffic.	Potential Project effects on Indigenous cultural attributes such as “sense of place” and to wildlife from increases in marine and vehicular traffic will be included in valued components identified by Kitsumkalum to be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 14

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Kitsumkalum Initial Comments on dAIR Component Package			
Wildlife, Freshwater Fish: Kitsumkalum have witnessed an underestimation of impacts to fish, wildlife and birds. Impacts that extend beyond the projects direct footprint and these impacts are almost always missed. Due to increases in population both temporarily and permanently harvest levels in the area go up. This is extremely hard to account for with traditional methods such as number of hunting or fishing licenses sold but as an anecdotal level the local people and first nations have experienced this. Our hunting and fishing areas are becoming depleted and filled with non Kitsumkalum users. This directly impacts first nation harvest and land use.	Comment noted. The Project is not expected to adversely impact wildlife and fish resources due to increased harvesting for the following reasons: (i) the relatively small number of workers needed to construct and operate the Project, (ii) the construction workforce will be accommodated in a floating accommodation adjacent to the construction site, and (iii) between shifts non-local workers will be transported to the Terrace regional airport for transportation to their home communities. The Project looks forward to working with Kitsumkalum to better understand this issue and work collaboratively to develop an adequate methodology to evaluate and assess potential Project effects to fishing and hunting by non-Kitsumkalum recreationists in Kitsumkalum territory.	Dec. 2, 2021 letter – paragraph 2	dAIR Sections 7.7, 7.8 and 7.11, Section 14
Wildlife and Freshwater Fish: Presence of more recreation users which increases the impacts to the nation and our land base including Kitsumkalum sense of place.	Same response as above.	Dec. 2, 2021 letter – paragraph 2	dAIR Sections 7.7, 7.8 and 7.11, Section 14

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Employment and Economy: The proponent must be clear on the number of both direct and indirect workforce numbers in the project description and subsequent assessment.	The employment and economy section of the assessment will include an estimate of indirect and induced employment resulting from the Project (in addition to direct employment). Preliminary construction and operations indirect and direct workforce estimates will be forthcoming in the EA-IA. Preliminary construction time estimates will be in the DPD and improved upon in the EA-IA. Potential Project effects to the Employment and Economy Valued component will be assessed in the EA-IA using methodologies as described in the dAIR.	Dec. 2, 2021 letter – paragraph 2	Sections 2.4 2.5 Section 4, 5.3.4.1 dAIR Section 7.10, Figure 6.2-12
RAA boundaries – Travel corridor from Terrace to Gingolx: As the highway access to the Nass through the heart of Kitsumkalum territory and will be a key travel corridor, this includes shipping personnel and service providers as well as side valleys for recreational users, the travel corridor of the Kitsumkalum valley must be included in studies.	The Local Assessment Area for Infrastructure and Services has been revised to include the following Census subdivisions: Kitsumkaylum 1 and Kitimat Stikine C (Part 1), RDA, which encompass the travel corridor between Terrace and the Nass Valley. Construction and operations workers will transit to the Site from either Prince Rupert or from Gingolx or from both locations. Transportation is likely by vessel. Potential Project effects to Highway 113 and the use of that route to Gingolx, including an evaluation and assessment of vehicular accidents and malfunctions on that route will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	Dec. 2, 2021 letter – paragraph 3	dAIR Section 7.12 Figure 6.2-14, Section 14

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Wildlife and Accidents and Malfunctions: The land travel corridor will get additional use during the project lifespan. The main travel corridor to the Nass is directly through the heart of Kitsumkalum territory. The impacts along the highway do go up with increased populations.	Comment noted. The Project has agreed to work with and fund a Transportation Study – led by Kitsumkalum - with respect to potential Project effects from increases in vehicular traffic on Highway 113. Potential Project effects to Highway 113 and the use of that route to Gingolx, including an evaluation and assessment of vehicular accidents and malfunctions on that route will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	Dec. 2, 2021 letter – paragraph 4	Section 9.4.7 dAIR Section 9, Section 14
General: Several RAAs for this project should expand out to include the highway corridor between the current RAAs and Terrace with, at minimum, a similar buffer size as other transportation corridors and to the more conservative size based on VC interactions. As this is the primary route of travel to transport both workers and goods to and from the site.	Highway 113 between Terrace and Gingolx and Highway 16 between Terrace and Prince Rupert have been added to the LAA for Infrastructure and Services. As these are existing transportation routes, use of these two highways is not anticipated to result in effects on VCs other than Infrastructure and Services. Effects on Employment and Economy are anticipated to occur at the terminus of these highways and therefore is being assessed through the inclusion of Nisga'a Lands and the Prince Rupert and Terrace Census Agglomerations.	Dec. 2, 2021 letter – paragraph 5	dAIR Section 7.12 Figure 6.2-14, Section 14
Socio-economic and Infra-structure and Services; The amenities within Terrace are likely to be used by the increase of workers in the region. As is the likelihood of using Terrace for logistical planning and operating for this project, making a Terrace a hub.	The Project cannot – at this early stage confirm that Terrace will be a hub for planning and operating the Project. The Project will evaluate and assess potential Project effects to socio-economic values and infra-structure and services from those Project related components and activities in the EA-IA using methodologies described in the dAIR.	Dec. 2, 2021 letter – paragraph 5	dAIR Section 7.12 Figure 6.2-14

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Cumulative Impacts, Socio-economic, Employment and Economy: As Terrace and the region take on more development projects, the cumulative impacts on the region continue to grow and continue to be of concern for First Nation communities. The socio-economic cumulative impacts here continue to grow and unfold. Noticeable impacts range from the, at threshold strain, on the health care system to unaffordable rent and lack of housing, to increased homelessness and increases in drug and alcohol abuse, theft, etc. More workers in the region contributes to all of this. The 200+ workers from this project alongside more proposed projects (Skeena LNG, CGL, Inland Port, Terrace Hospital build) will continue to increase impacts.	Comment noted. The current Project estimate is that workers would briefly pass through Terrace via the airport and then be transported to Gingolx where a vessel would take them to the Site. Or – this may all occur from Prince Rupert. Where workers will originate from is unknown at this early stage. More information on this important attribute will be forthcoming in FEED. The Project will evaluate and assess potential Project cumulative effects to employment and economy and infra-structure and services valued components from those Project related components and activities in the EA-IA using methodologies described in the dAIR.	Dec. 2, 2021 letter – paragraph 6	dAIR Section 7.10 Figure 6.2-12 Section 7.12 Figure 6.2-14 Section 14
Marine: Kitsumkalum feels that the Proponent needs to get a better understanding of extreme weather events that unfold along both the shipping route and the floating facility location. Environment Canada historical data does not do a good job capturing things like wave heights and extreme events at a local scale. To be sure that the facility is engineered and designed properly, north coast weather needs to beproperly researched and understood. Local indigenous knowledge will help with this.	Comment noted. Initial efforts to understand weather conditions in the vicinity of the Site include installation of a weather station in District Lot 5431 and a Metocean Acoustic Doppler Current Profiler in Portland Canal adjacent to the proposed Site. Ksi Lisims will also rely on BC ENV approved prognostic weather forecast and other representative meteorological stations. Shared local Indigenous knowledge will also be used where shared.	Dec. 2, 2021 letter – paragraph 7	Sections 3.1.1 and 3.1.2

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Accidents and malfunctions: A risk assessment of accidents and malfunctions associated with shipping and road transportation should be completed to feed into the assessment of effects. Condensate management and transportation should be included in the risk assessment.	The Malfunctions and Accidents assessment is currently proposing to include an assessment of vessel grounding, collision or allisions. One of the scenarios considered could be associated with shipping of condensate, however, it should be noted that Pre-FEED estimates of condensate shipping should be limited to <10 vessels per year. FEED work will further clarify this estimate. The Project looks forward to working with Indigenous Nations, NLG, federal and provincial governments, and emergency response organizations to develop emergency management plans that mitigate and respond to potential Project related marine shipping A&M at the Site and along Project shipping routes. All of the forgoing will be addressed in the DPD, the dAIR, the EA-IA and post positive EA decision associated permitting processes. With respect to potential Project effects related to vehicular traffic A&M, the Project will collaborate with provincial MOTI and work with Kitsumkalum on a transportation study they will lead with respect to Highway 113. The results form that study will inform the EA-IA.	Dec. 2, 2021 letter – paragraph 7	Section 9 dAIR Section 9, Section 7 VCs as appropriate

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Marine Use: The current shipping route does not include the northern option around (north of) Dundas Island to/from Triple Island. With the increased shipping traffic in the region and around Triple Island it seems very likely for areas to become clogged up, as a proactive avoidance to problems like this having alternative routes will be important to consider. This also gives options during incremental weather. Lobbying the pilotage for an exchange position north of Dundas Island is not unreasonable.	Based on communication from the BC Coast Pilots it is Ksi Lisims understanding that the typical LNG carrier route followed by pilots to Stewart, BC, and hence the route that is assumed would be followed to the Site, is to the east of Dundas Island. Given the number of vessels per year being proposed for this Project and considering other projects in the area that require transport to the North, it is not anticipated that an additional route will be required. The potential Project effects of increased Project related shipping on the established shipping routes to and from the Project to Triple Island, and from Prince Rupert and-or Gingolx to the Site will be included in the EA-IA using methodologies described in the dAIR.	Dec. 2, 2021 letter – paragraph 8	Section 2.5 Section 9 dAIR Section 7.11
Marine Use – Cumulative Effects: Clogging up of areas with shipping is a likely outcome given the amount of current project proposals and developments that require shipping of goods (cumulative effects).	The cumulative effects assessment will consider cumulative effects on shipping traffic along the shipping routes. The Project looks forward to working with Indigenous Nations to evaluate and assess potential Project related cumulative effects from an increase in marine shipping in their traditional territories in the EA-IA using methodologies as described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative cumulative effects that cannot be avoided.	Dec. 2, 2021 letter – paragraph 9	Section 9 dAIR Section 7.11

Table 7.3 – Kitsumkalum Band Council Issues and Concerns

Concern	Response	Source	DPD Section
Increased shipping in the northcoast needs to be studied and the impacts to whale strikes, to marine user interactions, to fish migrations, and to salmon habitat require extra emphasis.	The environmental assessment will consider how increases in shipping may contribute to: a change in marine mammal injury or mortality risk from vessel strikes; a change in marine use of the area; and a change in fish behaviour (including migrations or habitat (including for salmon). The potential Project effects of increased Project related shipping on the established shipping routes to and from the Project to Triple Island, and from Prince Rupert and-or Gingolx to the Site will be included in the EA-IA using methodologies described in the dAIR.	Dec. 2, 2021 letter – paragraph 9	Section 9 dAIR Section 7.9

Preamble:

The Project's response to the Indigenous Nations Issues and Concerns in this document cover all engagement with the specific Indigenous Nation. They have been provided to each Indigenous Nation for review and comment as the Indigenous Nation issue and concern and the Project's response to it is an EA-IA requirement.

The DPD reference is general and-or specific (as necessary, depending on the issue or concern raised). Occasionally there is a reference to a Section, Table or Figure in the dAIR. If there is a "n/a" in the DPD reference column, then there is no direct reference to the issue or concern in the DPD.

Draft Project responses to comments on the dAIR components received from Kitselas in December 2021 are included.

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Concerned about workers travelling through Terrace to complete the Ksi Lisims LNG Baseline Studies due to rising Covid-19 cases in the region. They are interested in the Proponent's safe work practices and policies to reduce the risk of Covid-19 transmission.	More clarification to come in Project's DPD and dAIR.	19-Apr-21 - Ksi Lisims LNG Project Introductory Meeting	Section 2
Comments included questions regarding wetland surveys, freshwater streams and fish, transboundary effects, eel grass beds, spatial scope of marine facilities and suggestion to use aerial survey for marine mammals. Kitselas have an environmental services company that could support Project assessment work.	More clarification to come in Project's DPD and dAIR.	26-May-21 – Ksi Lisims LNG Project Baseline Study Plan Draft Meeting	DPD addresses all of the concerns raised
Kitselas commented on or requested more clarification on: pipeline partner, environmental benefits, GHG targets, connection to the BC Hydro grid and/or IPPs, how condensate is to be managed, shipping route assessment area definition, housing of the temporary construction workforce, RAA for shipping, potential environmental effects, potential socio-economic effects from shipping, accidents and malfunctions and mitigation and management plans.	More clarification to come in Project's DPD and dAIR.	23-Jun-21 – Ksi Lisims LNG Project IPD and EP Email	Section 2 Section 5, 5.3.4.1 Section 9

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft IPD Executive Summary – Pipeline Partner. When will the partner pipeline be selected?	Confidential commercial discussions are underway. The selection of the pipeline partner will occur before the DPD is finalized.	05-Jul-2021 Project Response to Kitselas June 23 submission	No change – both under consideration
Draft IPD Executive Summary – Net Zero strategy. Does Ksi Lisims intend to develop an official plan that details their Net Zero strategy for review during the EA-IA?	Yes, initial details on the plan will be addressed beginning with more detail in the DPD, inform the AIR and the Application.	05-Jul-2021 Project Response to Kitselas June 23 submission	Section 2.9
Drat IPD Executive Summary – Environmental benefits: To conclude that the Project will create “global environmental benefits” is premature and somewhat disingenuous, as it suggests an overall net benefit to the environment. Given the proposed Project lifespan of 30+ years, it may help Asian governments reach climate targets in the short-term, but over the long-term (i.e., the lifespan of the Project), the combustion of LNG as opposed to renewable energy will exacerbate climate change and the myriad related environmental issues. Furthermore, the upstream extraction of natural gas and transportation in pipelines results in the leakage of methane, which is 86 times stronger than CO2 at trapping heat over a 20- year period (Myhre et al, 2013). Whether the use of LNG has a net benefit on climate change depends on the leakage rate, the time frame, and several other factors.	Kitselas's perspective on the global climate change benefits of the Project are understood. The Project is consistent with the draft June 2020 policy goals of FNCI.	05-Jul-2021 Project Response to Kitselas June 23 submission	Sections 1.2, 2.9
Draft IPD 1.2 Project Objectives and Benefits - Meeting federal/ provincial/ local climate change objectives - How will the development of the project assist Canada/BC/Indigenous Nations in meeting GHG emissions targets more than if the Project was not developed?	The Project will work within the objectives set by BC/Canada and Indigenous Nations for responsible use of clean renewable power and improve the well-being of people living in the region in line with FNCI policies.	05-Jul-2021 Project Response to Kitselas June 23 submission	Section 6.3.5

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft IPD 2.2 Activities and Components – Facility power source - "It is anticipated that the transmission interconnection from the BC Hydro grid to the Site will be provided by a third party who will be responsible for the design, construction and operation of the onshore transmission line and sub-sea electricity transmission cable from the BC Hydro substation near New Aiyansh in the Nass Valley to the Site" (p.10). New Aiyansh is approximately 75km from the Project site. If new infrastructure is needed to facilitate the connection of the Project to the BC Hydro grid, the associated impacts should be assessed as part of the Ksi Lisims Project.	The Ksi Lisims team is engaged with the EAO and IAAC in discussion to determine if the connecting transmission line to BC Hydro should be included as a Project component. The Project will not have care and control of the transmission line. It is hopes that connection of Wil Milit to the BC Hydro transmission system will assist with improved electrical service reliability to Nisga'a communities.	05-Jul-2021 Project Response to Kitselas June 23 submission	Sections 2.3.15, 2.3.16, 2.13
Draft IPD 2.3 Construction – Workforce Accommodation - Where would the temporary construction workforce accommodation be located?	Information on the temporary workforce will be better understood during Pre-FEED and FEED and will inform the DPD.	05-Jul-2021 Project Response to Kitselas June 23 submission	Sections 2.4.2, 5.3.4.1
Draft IPD 2.5 LNG Shipping – Marine shipping route - Currently there are two shipping route options: Chatham Sound to Main Passage and Caamano Passage. Will the shipping route eventually be refined to one route, or does Ksi Lisims intend to maintain both route options for the Project? If the latter, please provide rationale.	The Project has engaged the BC Coast Pilots and a number of analyses will be undertaken during the Project's EA-IA to inform the assessment of shipping effects. A TERMPOL is planned as well. A Marine Shipping Assessment Area is under consideration.	05-Jul-2021 Project Response to Kitselas June 23 submission	Section 2.5, Section 9
Draft IPD 2.7.2 Operations – Condensate and hazardous waste - How much condensate is anticipated during operations and how will it be disposed of? What is "condensate blow-down"? It is Kitselas' understanding that condensate is considered a hazardous/dangerous waste – why is it not listed as such? How/where will hazardous waste (e.g., condensate) be disposed of? If it will be transported by rail through Kitselas Territory, Kitselas expects to have those potential resulting impacts considered in the EA.	Information on the current plan for management of operations condensate has been added to the IPD. Currently there are no plans to transport condensate by rail through the community of Kitselas. Details on quantities and additional refinement on management will be developed as part of FEED and updated in the DPD. Condensate blowdown is a component of a particular liquification process.	05-Jul-2021 Project Response to Kitselas June 23 submission	Section 2.3.8 Section 9

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft IPD 2.11.3 Electric power supply – Electric vs. gas power supply - “Once connected to the BC Hydro transmission system, the self- generation facilities would be used for backup power in the event of insufficient supply and transmission capacity interruptions, and or providing redundant generation for increased system reliability for the communities of the Nass Valley.” How often is insufficient hydro power anticipated? Does “redundant generation” imply that the gas-fired power generation will always be in use (i.e., burning gas)?	The Project's fundamental concept is to power the facility using renewable energy facilitated through a connection to the BC Hydro transmission system. However, it is important to have back-up options available in the event there may be power interruptions as LNG facility emergency shut-downs are to be avoided. More detail on the use of on-site gas fired power and renewable energy from BC Hydro will be provided and inform the DPD.	05-Jul-2021 Project Response to Kitselas June 23 submission	Sections 2.3.15, 2.3.16, 2.13
Draft IPD 4.1.1.4 Kitselas First Nation – Kitselas Marine Harvest Area - “In addition to this, Kitselas First Nation has previously stated that it has traditional harvesting areas in coastal areas of the Prince Rupert Port area, the lower Skeena River and its estuary, and in the Nass River.” Please revise this to more accurately state that “Kitselas First Nation’s Marine Harvest Area encompasses the coastal waters from the southern tip of Banks Island to the northern tip of Pearse Island.”	Text in section 4.1.1.4 has been revised with the suggested Kitselas revision.	05-Jul-2021 Project Response to Kitselas June 23 submission	7.3.4, Section 7 and Appendix 7
Draft IPD 5.1 Potential Project Interactions – Table 6 - Kitselas agrees with the statement that “the interaction ratings presented here are considered interim” as these are subject to change depending on how marine birds are classified (e.g., sometimes within the terrestrial VC, sometimes within the marine VC), where workforce accommodation will be located, the results of baseline studies, etc.	Comment acknowledged.	05-Jul-2021 Project Response to Kitselas June 23 submission	Section 5.1, 5.3.4.1

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft IPD 5.2 Assessment Area Definitions – MSAA and CSSC - Why is there a separate Marine Shipping Assessment Area and Construction Support Shipping Corridor? Wouldn't these areas be incorporated into the LAAs and RAAs for each applicable valued component?	Decisions on whether to capture construction and operations based vessel activity in stand-alone assessment areas or as part of VC specific LAAs and RAAs is still being determined, will be discussed with regulators, and Indigenous Nations as part of development of the DPD. The IPD has been revised to address this issue.	05-Jul-2021 Project Response to Kitselas June 23 submission	Section 5.2, and a dAIR Figure 6.2-11
Draft IPD Potential Environmental Effects – Vegetation clearing and GHGs - It should also be noted that vegetation clearing and removal, particularly within a wetland, will also affect GHG emissions and sequestration.	Project team acknowledges the comment. This type of information and analysis will be more fully captured in the DPD.	05-Jul-2021 Project Response to Kitselas June 23 submission	Section 2.9, Section 5
Draft IPD 5.4.1 Potential Environmental Effects – Accidents and malfunctions and effects on the environment - Effects of the environment on the Project and potential accidents and malfunctions will also have an environmental impact and should be added to the list.	Comment noted. Details on accidents and malfunctions and effects of the environment on the Project area captured in section 9.1 and section 10, respectively.	05-Jul-2021 Project Response to Kitselas June 23 submission	Section 5 Section 9
Draft IPD 5.4.2 Potential Social and Economic Effects – Socio-economic effects - Temporary workers, shipping activities, and potential accidents and malfunctions all have the potential to impact community well-being and other Indigenous Interests.	Comment noted. Edit made with respect to accidents and malfunctions.	05-Jul-2021 Project Response to Kitselas June 23 submission	Section 5.3.4
Draft IPD 6.9 Compliance with BC – Third party renewable energy - "[…] the Project intends to engage with third parties to explore options to supply local renewable power from independent power projects." Would these sources supplement power from BC Hydro, or would it only be sought/used if connecting to the BC Hydro grid was no longer a viable option? What types of renewable power sources are being explored (e.g., wind, solar, micro-hydro, etc.)?	Details on renewable power and the potential for the use of IPPs will be provided in the DPD, feasibility studies and be informed by a BC Hydro System Impact Study.	05-Jul-2021 Project Response to Kitselas June 23 submission	Sections 2.3.15, 2.3.16, 2.13

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft IPD 7.4 Preliminary Assessment of Potential Impacts to Indigenous Groups Resulting from Project Activities – Management plans - "Mitigation measures and appropriate management plans will be developed based on comments received from Indigenous Nations through the EA-IA process." For future reference, Kitselas expects that management plans will be substantially developed and provided for review and comment during the EA-IA if they are to be considered as mitigation measures to reduce or eliminate residual effects.	Comment acknowledged. Project will engage with Indigenous Nations, government agencies, stakeholders and the public on development of mitigation plans.	05-Jul-2021 Project Response to Kitselas June 23 submission	Section 5
Draft Engagement Plan 2.2 Project proximity to local communities – Kitselas Marine Harvest Area - "Kitsumkalum First Nation and Kitselas First Nation are also known to use the marine waters of Portland Inlet and Portland Canal." As above, please revise this to more accurately state that "the marine waters of Portland Inlet and Portland canal are within Kitselas First Nation's Marine Harvest Area."	Project team acknowledges the comment and has edited text in 2.2 accordingly.	05-Jul-2021 Project Response to Kitselas June 23 submission	n/a
Draft Engagement Plan 3.1 Engagement principles – Consensus seeking - Consider adding "consensus seeking" as a principle of engagement.	A new objective has been added to section 3.1 to reflect this request.	05-Jul-2021 Project Response to Kitselas June 23 submission	n/a
Draft Engagement Plan 3.3 Tracking and incorporating feedback - Kitselas emphasizes the importance of the Proponent providing an appropriate rationale for not incorporating feedback and recommendations from interested groups (e.g., Kitselas).	Comment acknowledged. Edit made.	05-Jul-2021 Project Response to Kitselas June 23 submission	n/a
Draft Engagement Plan Table 1 – Chief Councilor – Please note that as of June 10, 2021, Kitselas First Nation Chief Councilor is Glenn Bennett	Comment acknowledged.	05-Jul-2021 Project Response to Kitselas June 23 submission	n/a
Draft Engagement Plan 4.5.2.1 Reconciliation Agreements - Kitselas also signed a Reconciliation Agreement with the Province in 2017. Please add Kitselas to this list.	Comment noted and section 4.5.2.1 has been revised accordingly.	05-Jul-2021 Project Response to Kitselas June 23 submission	n/a

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Final IPD - 2.2 Activities and Components - At the least, Kitselas expects the BC Hydro connection project to be included in Ksi Lisims cumulative effects assessment.	Confirmed in Project Inclusion list in dAIR	22-Sep-2021 Kitselas final additional comments on final IPD	dAIR Section 6.9.1, Table 6.7
Final IPD – 2.11.3 – Electric vs gas power - Kitselas would like to see more detail on the use of on-site gas fired power and renewable energy in the Detailed Project Description.	Information is forthcoming in DPD and dAIR.	22-Sep-2021 Kitselas final additional comments on final IPD	Sections 2.3.15, 2.3.16, 2.13
Final IPD - 5.2 – Assessment area definitions - Kitselas is concerned that creating stand-alone assessment areas such as the Marine Shipping Assessment Area and Construction Support Shipping Corridor may diminish the assessed impacts of the Project as a whole. Kitselas would like to discuss the rationale behind the consideration of the stand-alone assessment areas further.	The rationales for assessment area definitions have been shared with Kitselas for review and comment.	22-Sep-2021 Kitselas final additional comments on final IPD	dAIR Section 6
Final IPD - 5.4.2, 5.4.4, 5.4.5 – Potential socio and economic effects – minor change from “other indigenous interests” to “and Indigenous Peoples.”	Changes incorporated into DPD.	22-Sep-2021 Kitselas final additional comments on final IPD	Section 5.3.5
Kitselas Interests Captured in BC EAO-IAAC Joint Summary of Issues and Engagement			
Governance and self-determination rights, including rights to participate in decision-making in matters which would affect Kitselas’ rights in the Project area.	Project potential effects on Indigenous Nation governance and decision making rights will be included in valued components to be assessed in the EA-IA using methodology described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 15
The right to implement Kitselas laws, customs, and protocols.	The Project will evaluate and assess potential Project effects to Kitselas identified valued components with respect to Kitselas traditional laws, customs, and protocols from those Project related components and activities using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 15

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Stewardship rights and responsibilities.	Potential Project effects to Kitselas stewardship functions will be evaluated and assessed in the EA-IA using methodologies as described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 15
Rights to clean air, water, lands and resources within Kitselas territory, and the right to peacefully enjoy them.	Potential Project effects on Indigenous cultural attributes such as clean air, water, lands and resources and peaceful enjoyment of same will be included in valued components identified by Kitselas to be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR 15
Rights to access the lands and resources that Kitselas has traditionally owned, occupied or otherwise used or acquired.	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted aboriginal title and rights including resource harvesting and the overall health of the ocean and its resources using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 15
Rights to determine and develop strategies for the development or use of Kitselas territory, and the water, lands and resources therein.	Potential Project effects to Kitselas land and marine management functions will be evaluated and assessed in the EA-IA using methodologies as described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 15
Harvesting rights, including the right to make decisions on harvesting timing, locations and limits.	The Project looks forward to working with Kitselas and other Indigenous Nations to evaluate and assess potential Project effects to Kitselas and other Indigenous Nations abilities to access and harvest terrestrial and marine resources in the EA-IA using methodologies as described in the dAIR	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 15

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Cultural and spiritual rights, including Kitselas' rights to protect and access areas of cultural and spiritual importance.	Potential Project effects to Indigenous Nations cultural values and interests such as place based activities and disturbance of cultural and spiritual sites will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 15
Rights to revitalize, develop, and transmit to future generations Kitselas' traditional knowledge, histories, oral traditions, and place names relating to the Project area.	Potential Project effects to Indigenous Nations cultural values and interests such as traditional knowledge transmission will be evaluated and assessed using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 15
Economic development and socio-economic rights, including Kitselas' rights to improve their social and economic conditions.	The Project will work with Indigenous Nations to evaluate and assess potential Project effects on social and economic values as identified by Kitselas in the EA-IA using methodologies as described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 15
Kitselas First Nation requests the opportunity to review and comment on management plans during the assessment.	The Project can confirm collaborating with Indigenous Nations on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7 dAIR Section 15
Kitselas Initial Comments on dAIR Component Package			
VC - Acoustic Environment - The rationale for this VC considers the impact that changes to the acoustic environment could have to wildlife behaviour, which implies that a broader set of receptors will be considered than just occupied dwellings and residences. Please confirm.	The Acoustic Environment VC focuses on human receptors. Results from the assessment of effects on the acoustic environment will be considered in the Wildlife VC where appropriate, but wildlife specific receptors will not be used.	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Section 7.3

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
VC - Vegetation and Wetlands - The rationale for this VC recognizes the potential for the quality/condition of vegetation to be affected by air emissions, and/or eutrophication and acidification. However, only change in abundance is listed as a potential project effect for each subcomponent (with the exception of wetland function). Please revise to consider change in quality/condition.	For ecological communities of interest, which includes ecological communities of conservation concern, old forest, and ecological communities identified as sensitive to air emissions), the potential Project effect has been changed to "Change in abundance or condition of ecological communities of interest". An indicator in Table 6.3 is "Change in condition of ecological communities as a result of high atmospheric concentrations of SO_2 or NO_2, exceeding critical levels, or soil acidification or eutrophication."	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Section 7.6

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
VC - Wildlife – (1) Why is qualitative change in available habitat only considered as an indicator and/or measurable parameter for Wolverine and not the other key species? (2) How and why were these species selected as indicators for the Habitat subcomponent? What species will be considered as indicators in the assessment of the migratory and non-migratory birds, species of conservation concern, species of indigenous cultural use and value, mammal, and amphibian subcomponents?	Change in habitat will be assessed qualitatively for wolverine because information on the species' seasonal habitats using Terrestrial Ecosystem Mapping (TEM) data are not well understood. Therefore, the information necessary to develop a TEM-based model is considered insufficient. Wolverine is a habitat generalist and uses a broad range of structural stages on a daily, seasonal, and annual basis; broadly, higher elevation habitats tend to be selected for. The remaining indicators, which will be assessed quantitatively for change in habitat, are: ▪ Grizzly bear ▪ American marten ▪ Western screech-owl ▪ Northern goshawk ▪ Marbled murrelet ▪ Old forest bird community ▪ Young forest bird community ▪ Wetland bird community ▪ Western toad It is understood that a given indicator may represent more than one subcomponent within the Wildlife and Wildlife Habitat Valued Component. These indicators represent species or species groups of conservation concern or importance to Indigenous communities and collectively will be used to represent potential effects of the Project on the Wildlife and Wildlife Habitat Valued Component and its subcomponents.	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Section 7.7

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Interactions Table – Construction Site preparation and clearing – could interact with Marine Use VC Marine transport of workforce/construction materials – interacts with Employment and Economy VC Land transportation of workforce/construction materials – interacts with Employment and Economy VC and Marine Use VC Waste Management – interacts with Marine Use VC (unless all transportation of waste occurs on land)	▪ Site preparation and clearing is land based and is not anticipated to interact with the marine environment. Activities in the marine environment are captured by the activity "construction of temporary and permanent marine-based infrastructure". ▪ Effects on employment and economy associated with transportation of the workforce is captured under 'Procurement of labour, goods and services' ▪ Table 6.4, Potential Project Interactions with Valued Components, has been updated to include the potential interaction between waste management and the Marine Use VC. ▪ Effects on employment and economy associated with transportation of the workforce is captured under 'Procurement of labour, goods and services'. Land transportation of the workforce/construction materials is not anticipated to interact with the Marine Use VC.	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Section 6.4.2
Interactions Table – Operations Waste management – as above, interacts with Marine Use VC (unless all l transportation of waste occurs on land) On-Site power generation – interacts with vegetation and wetlands	Table 6.4, Potential Project Interactions with Valued Components, has been updated to include the potential interaction between waste management and the Marine Use VC and between temporary on-site power generation and the Vegetation and Wetlands VC.	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Section 6.4.2

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Interactions Table – Decommissioning Decommissioning of land-based infrastructure -- may interact with Vegetation and Wetlands VC, Infrastructure and Services VC, and Marine Use VC (depending on methods for decommissioning). Waste management – as above, interacts with Marine Use VC (unless all transportation of waste occurs on land)	Table 6.4, Potential Project Interactions with Valued Components, includes an interaction between decommissioning of land-based infrastructure and vegetation and wetlands. Decommissioning of land-based infrastructure is not anticipated to interact with Marine Use, however, Marine Use is anticipated to interact with marine transport of decommissioned infrastructure and decommissioning of marine-based infrastructure. Table 6.4, Potential Project Interactions with Valued Components, has been updated to include the potential interaction between waste management and the Marine Use VC.	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Section 6.4.2
Physical Activities Inclusion List – Present or In Progress Kitselas is concerned that only socio-economic and/or shipping impacts from present or in progress projects within the Port of Prince Rupert are being considered in the cumulative effects assessment. It is Kitselas' perspective that impacts to air quality, vegetation and wetlands, and human health may interact cumulatively with those from Ksi Lisims LNG.	The regional assessment areas (RAAs) for the Vegetation and Wetlands, Terrestrial Wildlife, Marine Resources (terminal) and Air Quality Valued Components are based on guidelines (e.g., ENV Dispersion Modelling Guideline), and potential zones of influence for species known to occur in the area. These RAAs do not extend to Prince Rupert and therefore no interaction with activities occurring in Prince Rupert is anticipated for these VCs. Marine shipping and socio-economic activities, in contrast, do extend to the Prince Rupert area; this area is therefore included in the assessment of Marine Use.	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Section 6.4.2

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Physical Activities Inclusion List – Reasonably Foreseeable Project Given recent communication with the Prince Rupert Port Authority, Kitselas would like to flag the Fairview 2B Northern Expansion as another reasonably foreseeable project that may interact cumulatively with the Ksi Lisims LNG project. Additionally, many of the reasonably foreseeable Port of Prince Rupert projects will have impacts to wildlife and vegetation (not just socio-economic and shipping impacts) that may interact cumulatively with the Ksi Lisims project. Last, the Cedar LNG facility's shipping activities may interact cumulatively with Ksi Lisims shipping activities beyond the Triple Island marine pilot boarding station, depending on Ksi Lisims shipping route for waste and materials.	▪ Fairview Expansion Phase 2B, stage 1B is included under 'reasonably foreseeable' as it has not yet been built. Phase 2B, Stage 1A (southern expansion) is included under 'past and present' as it is in the process of being built. ▪ The regional assessment areas for the Vegetation and Wetlands, Terrestrial Wildlife, Marine Resources (terminal) and Air Quality Valued Components are based on guidelines (e.g., ENV Dispersion Modelling Guideline), and potential zones of influence for species known to occur in the area. These RAAs do not extend to Prince Rupert and therefore no interaction with activities occurring in Prince Rupert is anticipated for these VCs. Marine shipping and socio-economic activities, in contrast, do extend to the Prince Rupert area; this area is therefore included in the assessment of Marine Use. ▪ Shipping has been added as a potential interaction with the Cedar LNG project. Shipping effects include marine use, marine resources and marine birds.	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Section 6.9.1

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft Study Areas – Rationale – Surface Water The Valued Component Selection table indicated that "Changes in surface water quantity or quality (including acidification and eutrophication) could affect freshwater biota." This seems to indicate that the LAA for Surface Water should include all freshwater sources within the Air Quality LAA. Similarly, the RAAs for the two VCs should also correspond.	Acidification and eutrophication assessment areas have been added for the Surface Water, Freshwater Fish and Fish Habitat, and Vegetation and Wetlands valued components (VC). These areas will represent the largest extent of area predicted to receive sulphur and/or nitrogen deposition that may exceed the screening thresholds established by the Ministry of Environment and Climate Change Strategy. The Surface Water and Freshwater Fish RAAs are the same (i.e., entirety of all watersheds intersected by the Project).	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Sections 6.2, 7.4 Figure 6.2-3
Draft Study Areas – Rationale – Freshwater Fish As for the Surface Water VC, the Freshwater Fish LAA should also extend to streams, lakes, and ponds that fall within the Air Quality LAA, due to potential for acidification and eutrophication resulting from air emissions. Similarly, the RAAs for the two VCs should also correspond.	Acidification and eutrophication assessment areas have been added for the Surface Water, Freshwater Fish and Fish Habitat, and Vegetation and Wetlands valued components (VC). These areas will represent the largest extent of area predicted to receive sulphur and/or nitrogen deposition that may exceed the screening thresholds established by the Ministry of Environment and Climate Change Strategy. The Surface Water and Freshwater Fish RAAs are the same (i.e., entirety of all watersheds intersected by the Project).	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Sections 6.2, 7.8 Figure 6.2-9

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft Study Areas – Rationale – Marine Resources The Marine Resources LAA and RAA may need to be extended depending on the shipping route that Ksi Lisims will use for waste disposal. The Marine Resources LAA should also include the Marine Use LAA, as the two VCs are inherently connected.	No disposal at sea is planned. The Marine Shipping LAA (for Marine Mammals and Sea Turtles) covers the same shipping routes extent as the Marine Use LAA, but with a reduced buffer (2 km vs 6 km) to focus on potential change in injury or mortality risk as a result of Project-related movements (i.e., along the shipping routes itself). The Marine Use LAA includes vessels routes between Wil Milit and Prince Rupert and Wil Milit and Gingolx. These, in addition to the main shipping route, also included in the Marine Use LAA, are anticipated to be the routes that marine vessels transporting waste materials from Wil Milit for land-based disposal are likely to take.	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Sections 6.2, 7.9 Figures 6.2-10 & 11
Draft Study Areas – Rationale – Vegetation and Wetlands Wetlands may be impacted by air emissions, as with surface water. Kitselas suggests extending the LAA to include the Air Quality LAA (over land). Furthermore, depending on advice from ECCC, the RAA may need to include the reasonably foreseeable developments in the Prince Rupert Harbour area in order to consider regional loss of rare wetland habitats and plant communities.	Acidification and eutrophication assessment areas have been added for the Surface Water, Freshwater Fish and Fish Habitat, and Vegetation and Wetlands valued components (VC). These areas will represent the largest extent of area predicted to receive sulphur and/or nitrogen deposition that may exceed the screening thresholds established by the Ministry of Environment and Climate Change Strategy. The Air Quality RAA is a 50 x 50 km domain sized to include encompass predicted concentrations greater than or equal to 10% of the air quality objectives (AQO) on a Project-alone basis. There are no reasonably foreseeable emissions sources that could act cumulatively with Project emissions within this boundary. Ksi Lisims does not anticipate the need to include developments in the Prince Rupert Harbour area.	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Sections 6.2, 7.6 Figure 6.2-5

Table 7.4 – Kitselas First Nation Issues and Concerns

Concern	Response	Source	DPD Section
Draft Study Areas – Rationale – Wildlife The Valued Component Selection table indicated that, in regard to acoustics, "Changes to the acoustic environment could affect human health and wildlife behaviour in the vicinity of the Project." As such, the Wildlife assessment areas should be extended to include the Acoustics assessment areas.	The spatial extent of the Terrestrial Wildlife LAA was selected based on the extent at which potential adverse Project effects on wildlife may occur. Effects of noise on wildlife are not expected to occur outside of the Terrestrial Wildlife LAA, which is a 1 km area around the Project Area, limited to Pearse Island.	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Sections 6.2, 7.7 Figure 6.2-6
Draft Study Areas – Rationale – Employment and Economy The Kitselas on-Reserve community of Gitaus has experienced similar effects as Terrace, if not more, as a result of major projects in the region. Please include Gitaus in the employment and economy LAA and RAA.	The community of Gitaus, as represented by Census subdivision Kitselas 1, has been included into the employment and economy LAA and RAA.	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Sections 6.2, 7.10 Figure 6.2-12
Draft Study Areas – Rationale – Marine Use As with the Marine Resources, the Marine Use assessment areas may need to be extended depending on the shipping route that Ksi Lisims will use for waste disposal.	The Local Assessment Area of Infrastructure and Services has been revised to include the following Census subdivisions: Kitsumkaylum 1 and Kitimat Stikine C (Part 1), RDA, which encompass the travel corridor between Terrace and the Nass Valley.	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Sections 6.2, 7.11 Figure 6.2-13
Draft Study Areas – Rationale – Infra-structure and Services The LAA and RAA should include the highway from Terrace to Gingolx to account for vehicle traffic associated with the Project.	The Local Assessment Area of Infrastructure and Services has been revised to include the following Census subdivisions: Kitsumkaylum 1 and Kitimat Stikine C (Part 1), RDA, which encompass the travel corridor between Terrace and the Nass Valley.	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Sections 6.2, 7.12 Figure 6.2-14
Draft Study Areas – Rationale – Human Health Why is the RAA for human health the same as the LAA?	The RAA for the human health VC has been adjusted in the Application Information Requirements to match the air quality and acoustics VC RAA. The LAA and RAA for human health are no longer the same.	06-Dec-2021 – Kitselas comments on Oct. 28 dAIR component package	dAIR Section 6.2, 7.13 Figure 6.2-15

Preamble:

The Project's response to the Indigenous Nations Issues and Concerns in this document cover all engagement with the specific Indigenous Nation. They have been provided to each Indigenous Nation for review and comment as the Indigenous Nation issue and concern and the Project's response to it is an EA-IA requirement.

The DPD reference is general and-or specific (as necessary, depending on the issue or concern raised). Occasionally there is a reference to the dAIR ("dAIR issue" - under development) as the detailed EA-IA methodologies in that document may best address the specific issue and concern building on what is generalized in the DPD. If there is a "n/a" in the DPD reference column, then there is no direct reference to the issue or concern in the DPD.

Draft Project responses to comments on the dAIR components received from Gitxaala in December 2021 are included.

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Concerns about the Big Bay Pacific herring population and whether the species will be considered as an important marine resource value by the Project.	Will be considered.	15-Apr-21 - Ksi Lisims LNG Project Introductory Meeting	Section 4.4.4.2
Concerns regarding references in IPD and EP to Gitxaała Nation requests as a Tsimshian Nation. Gitxaała Nation requests Nation does not consider itself a Tsimshian Nation. The correct terminology to use to refer to Gitxaała Nation requests Nation in a broader grouping is a Smal'gax speaking nation.	Noted.	30-Jun-21- Ksi Lisims LNG/ Gitxaała Nation Virtual Meeting	n/a
Concerns about GHG effects and is seeking to understand all GHG emission sources associated with the Ksi Lisims LNG Project, including the building of barges overseas, and how net zero will be achieved during all phases of Project.	The net zero concept for the Project is grounded in the First Nation Climate Initiative (FNCI). At this time (Pre-IPD) commitment has not been made to reach net zero during construction and that the Project may use offsets.	30-Jun-21- Ksi Lisims LNG/ Gitxaała Nation Virtual Meeting	Section 2.9
Concerns with lack of reference in IPD to Federal GHG management policies.	Included in detail in the DPD.	30-Jun-21- Ksi Lisims LNG/ Gitxaała Nation Virtual Meeting	Section 6.3.5.1

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Concerns regarding the marine shipping corridor and any cumulative effects on Gitxaała Nation requests waters.	Noted. Marine shipping potential effects will be addressed in EA-IA, the scope of which confirmed in the dAIR.	30-Jun-21- Ksi Lisims LNG/ Gitxaała Nation Virtual Meeting	dAIR issue
Concerns with dredging (incl. disposal at sea and contamination) and would like to better understand the Project's potential dredging plans.	The Project has evaluated dredging and believes, based on present engineering information that it not required.	30-Jun-21- Ksi Lisims LNG/ Gitxaała Nation Virtual Meeting	Section 2.1
Gitxaała Nation requests Nation requests a minimum of four weeks for document review.	Noted.	30-Jun-21- Ksi Lisims LNG/ Gitxaała Nation Virtual Meeting	n/a
Concerns regarding transportation of condensate via rail.	Condensate from the Project will be shipped to ports farther south. No Project-related rail transportation in Northwest BC.	30-Jun-21- Ksi Lisims LNG/ Gitxaała Nation Virtual Meeting	Section 2.3.8
Gitxaala Comments on IPD and EP			
IPD - Introduction & Overview, p. vii – Info Request: Please clarify if carbon offset opportunities have been identified?	None to date – however the concept of offsets is part of the Project's net zero plan and will be outlined in the DPD and/or dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.9
IPD - Project Benefits, p. vii Any pipeline benefits should not be considered in any estimation of project benefits as they are being treated as separate projects.	The Project feels that the construction and operation of the pipeline will generate benefits for regional and Indigenous communities.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 1.2
IPD - Project Benefits, p. vii – Info Request: What opportunities for Indigenous community equity participation in the pipeline are being looked at? What about the facility?	Pipeline community equity participation – this is the responsibility of the pipeline provider. Facility equity participation. This aspect of engagement with Indigenous Nations may be addressed later and follow after EA capacity agreements.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 7.6
IPD - Project Benefits, p. viii – Info Request: This section must include references to support these claims. More information is needed about how the Proponent reached the global carbon emission reduction numbers.	DPD includes references.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 1.2, 2.9

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
IPD - Regulatory and Policy Context, p. viii Gitxaala Nation is not involved in the First Nations Climate Initiatives and as such is not aware of the policy objectives.	Noted. Information on FNCI can be provided on request.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 7.4
IPD – Indigenous Nations…, p. viii This section should record the Indigenous Nations that engagement has been initiated with, instead of the statement "Participating Indigenous Nations will be identified as per applicable legislation and provincial and federal guidance"	Noted. Corrected in DPD.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 4.1.1, Section 7 Appendix 7
1. Introduction- Info Request: How will the project ensure the continued growth and vitality of other Indigenous groups as stated?	This statement reflected input from the Nisga'a Nation. The Project believes other area Indigenous Nations can benefit from the Project.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 1
1. Introduction – Info Request: What is the MTPA total of full build out? Please confirm the Ksi Lisims assessment will look at the largest scale option I.e., four trains?	12 MPTA and two FLNGs.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2
1. Introduction – Info Request: More information is needed from the Proponent about how the Net Zero goal is proposed to be achieved and further how it will be factored in to the assessment? GTMA staff would also be interested to review the assumptions used to support the Net Zero target. And does Net Zero consider the full project stream, e.g., including GHG emissions from shipping?	The Project will be estimating, evaluating and assessing the effects of GHG emissions as guided by the Environment and Climate Change Canada Strategic Assessment for Climate Change Technical Guidance document. The details will be included in the DPD and dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Sections 2.9, 6.3.5.1 and 6.3.5.2
1. Introduction It should be noted in the Introduction that both pipeline options will require substantial amendments to their certificates.	Correct, EAC amendments will be necessary.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.3.4

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
1.1 Proponent Information – Info Request: What entity will be responsible for leading engagement as the project develops after the creation of the separate corporate entities?	The Ksi Lisims LNG Canadian corporate entity.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 1.1
1.2 Project Objectives & Benefits While the global offset of fossil fuel sources to LNG represents an improvement to global GHG emissions, a new LNG export facility, and it's associated shipping and pipeline activities do not assist provincial, federal or local communities, including Gitxaala, in meeting GHG emissions targets.	The Project will not compromise provincial or federal GHG emission targets. Further information in DPD and-or dAIR. The Project will be estimating, evaluating and assessing the effects of GHG emissions as guided by the Environment and Climate Change Canada Strategic Assessment for Climate Change Technical Guidance document. The details will be included in the DPD and dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Sections 2.9, 6.3.5.1 and 6.3.5.2
1.2 Project Objectives & Benefits Again, it must be noted that the benefits to First Nations listed here does not at present represent any economic benefit to Gitxaala Nation.	Potential Project economic effects to Gitxaala will be evaluated and assessed in the EA-IA using methodologies as described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 4 Section 5
2.1 Location – Info Request: How will the Water Lot lease change jurisdictional oversight in the marine environment?Please include a map showing the full extent of Pearse Island between pages 6-8.	It won’t change jurisdictional oversight. The proposed Water Lot will contain all marine Project infra-structure. The NLG – as the upland owner – is the only entity that can secure the proposed Water Lot lease from BC OGC (using their Land Act responsibilities under the Oil and Gas Activities Act) for those portion of Portland Canal marine waters riparian to DL 5431. The NLG will then enter into a Water Lot lease to the Project.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 4.4.3 Figure 4-7 Table 6-1 Figure 4-8

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
2.1 Location – Info Request (cont'd)	The new EA process has a new step after the "Readiness Decision" that addresses permits needed for the Project to proceed after a positive decision from BC EAO, IAAC and NLG. It is a Regulatory Coordination Plan. That plan will address the Water Lot lease and the other permits necessary to construct and operate the Project. Applications for some of these major permits will – informed by FEED - be started before there is an EA decision as they take time to adjudicate. With that said, the permits cannot be issued until there is a positive EA-IA decision from BC EAO, IAAC and NLG. Marine infra-structure in the Water Lot will be under an LNG Facility permit issued and administrated by the BC OGC. Authorizations to construct and maintain Project marine infra-structure within the Water Lots will need to be acquired from DFO and TC (Navigable Waters). Any treated effluent and its outfall infrastructure in the marine environment will be required to be authorized by BC ENV under registration (a form of permit). A new figure showing most of Pearse island is included in Section 4 of the DPD.		

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
2.2 Activities and Components Gitxaala is interested in all planned activities and components, with an emphasis on those related to the marine footprint, marine infrastructure, and shipping activities stemming from all stages of the project.	Noted.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	
2.2 Activities and Components – Info request: What are the "supporting infrastructure and facilities" referenced in key components?	The "supporting (now named “Other”) infrastructure and facilities" are better described in the DPD.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.3.3
2.2 Activities and Components Not only will the proposed pipeline EACs need to be amended to facilitate connection to the site, but they will also need to be rerouted considerably from their currently permitted location. This should be referenced.	The proposed re-routing of the pipeline at the Site will be depicted in the DPD. The amendment of the pipeline EAC is the responsibility of the pipeline service provider.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Figure 2.2
2.2 Activities and Components – Info Request: Has BC Hydro confirmed that it is able to supply the facility with the required power? If a feasibility study is required, more information about this, it's timing and how it will be factored in the assessment should be included.	A third party service provider is engaged with BC Hydro to discuss all attributes of securing transmission capacity and then designing and building a connecting power line through Nisga’a lands and then through the marine waters to the Site. The new power line is not within the care and control of the Ksi Lisims LNG Project. The 3rd party service provider will secure the necessary authorizations from NLG and BC and potentially federal authorities for their project. The BC Hydro sub-station connection location is not fully known but is anticipated to be on Nisga’a lands near New Aiyansh. The degree to which BC Hydro will require system enhancements to meet the Project’s demand is not yet known, however, the third party service provider is engaging BC Hydro on this matter.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.3.16

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
2.2 Activities and Components – Info Request: How and to what degree will this backup onsite power generation be included in the assessment?	Fully included in the effects assessment. The Project will be estimating, evaluating and assessing the effects of GHG emissions as guided by the Environment and Climate Change Canada Strategic Assessment for Climate Change Technical Guidance document. The details will be included in the DPD and dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.13.1.3 Table 2.11
2.2 Activities and Components The third party sub-sea transmission interconnection should be considered within the scope of the assessment as it is a requirement of the project to proceed as proposed.	A third party service provider is engaged with BC Hydro to discuss all attributes of securing transmission capacity and then designing and building a connecting power line through Nisga'a lands and then through the marine waters to the Site. The new power line is not within the care and control of the Ksi Lisims LNG Project.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.3.16
2.3 Construction Gitxaala is particularly interested in plans for any dredging in Portland Canal and at the Project site. All dredging options must be includedin the assessment.	Project is avoiding any dredging.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.1
2.3 Construction Please clarify if there are contaminated sediments present in and around the water lot. If this is unknown, please provide additional information about how and when this will be determined in the assessment.	Not to our knowledge though there are plans to conduct sediment sampling in the proposed Water Lot in 2022.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Table 3.10
2.3 Construction It should be noted that due to the construction of the FLNGs being done overseas limits the local direct and indirect economic benefits, aswell as limits engagement and training and employment opportunities for Gitxaala.	Noted.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.13.1.1

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
2.3 Construction Info Request: How will carbon leakage, from overseas construction, be included in the assessment?	The Project will be estimating, evaluating and assessing the effects of GHG emissions as guided by the Environment and Climate Change Canada Strategic Assessment for Climate Change Technical Guidance document. The details will be included in the DPD and dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.9
2.3 Construction – Info Request: Will both options for housing the construction workforce be explored in the assessment? Gitxaala notes there will be no on-site effluent discharge into the marine environment during construction. Where are potential sewage treatment facilities? Will this component be included in the assessment? Including the barging effects? Will these emissions be offset?	No – construction workers will be housed at the Project site in a floatel. No construction treated effluent discharges are planned into the marine environment. Details of how the stored sanitary sewage from the floatel will be barged away for disposal in a waste water treatment plant on the mainland are not yet in hand so contributions to Project GHG emissions from the tugboats towing any barges are unknown. These emissions, once better understood, will be factored into effects assessment. Permanent workforce accommodation (operations) is currently planned to have a waste water treatment plant and there will be treated effluent discharges into Portland Canal. This component will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Sections 2.1, 2.4, 5.3.4.1
2.3 Construction – Info Request: Will local landfills be utilized for construction? If so, which ones and will they be included in the assessment?	On-site incineration of construction wastes is under consideration, the potential effects of which would be evaluated and assessed in the EA-IA using methodologies described in the dAIR. The Nisga'a manage a regional landfill on their lands that is likely to be used – however early days for that to be confirmed.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.8

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
2.5 LNG Shipping Vessel traffic is understood to have myriad potential effects, including noise effects on marine mammals and potential impediments to traditional harvesting. It is imperative that all sources of vessel traffic, including tugboats, be included meaningfully in the shipping portion of the assessment.	Potential Project effects to marine resources and Gitxaala marine use such as marine mammals will be evaluated and assessed in the EA-IA with methodologies described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section4 Section 5 dAIR issue
2.6 Decommissioning – Info Request: Will emissions related to decommissioning and construction be offset as well?	The Project will be estimating, evaluating and assessing the effects of GHG emissions as guided by the Environment and Climate Change Canada Strategic Assessment for Climate Change Technical Guidance document. The details will be included in the DPD and dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.9
2.7 Emissions, Discharges and Wastes – Info Request: What are “single cargoes?	A “single cargo” in this reference means a cargo of LNG – in a single LNG carrier – that has the LNG produced in a manner that, combined with the LNG producer buying carbon offsets, can be considered a net zero LNG cargo. Statement no longer in DPD.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.8
2.7.2 Operations Gitxaala is particularly interested in plans for any liquid or hazardous discharges into the marine environment during operations.	The Project can confirm there will be no “hazardous” discharges into the marine environment. Hazardous has a specific definition under BC and federal waste management legislation and regulation. As indicated earlier, there will be treated effluent discharges and these can only be discharged under a permit in BC. The effects will be thoroughly assessed.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.8
2.8 Land and Water Use Gitxaała has concerns with the release of brine from desalination units into the marine environment.	Desalination is only one option under consideration for the Project’s operational water supply. If it is necessary, potential Project effects with respect to the management, use or disposal of brine will be evaluated and assessed in the EA-IA using methodologies as described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.10

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
2.9 Schedule Gitxaala does not agree with the statement that "there are no known seasonal activities in the region that would impact the Project schedule" and suggests the Proponent include considerations of location-based bird, fish and wildlife spawning and migratory seasonalityin all Project scheduling.	Understood. Edited text in the DPD.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.11
2.11.2 Marine Terminal Design Gitxaala is particularly interested in, and concerned about, plans for any dredging and construction in all marine areas.	Dredging has been under consideration until better engineering information was made available. It – at present – is not part of the Project. Potential Project effects from marine construction will be evaluated and assessed in the EA-IA using methodologies as described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.1
2.1.1.3 Electric Power Supply Gitxaała is concerned with marine disturbance caused by sub-sea electricity transmission cable and strongly recommends the electrical transmission cable route options be included in the assessment.	Noted. The Project's electricity from the BC Hydro grid is to be provided by a third party not under the care and control of the Project. Is the Project's view that potential effects from a subsea electrical cable from the mainland to Wil Milit (and then back to Gingolx to serve Nisga'a electricity reliability objectives) will be subject to a different effects assessment process led by the 3rd party electricity service provider.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.3.16
2.11.4 Pipeline Gitxaala is particularly interested in reviewing seafloor route options for the gas transmission pipeline to the Site during the review process.	The 3rd party Project feed gas provider is required to amend their EAC. The process to amend an EAC is well understood and will include engagement with Indigenous Nations.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.3.4
3.2 Marine Communitiesand Species Minimization of impacts to eulachon and salmon spawning routes and habitat are priorities for the Gitxaala Nation to ensure continued access to marine resources and support food security.	Potential Project effects to marine resources will be evaluated and assessed in the EA-IA using methodologies as described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Sections 3,4 and 5

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
3.2 Marine Communities and Species While there may not be notable concentrations of cetaceans in the Project vicinity, there is certainly a strong likelihood that individuals or groups may be encountered, given their documented usage of the surrounding area. This includes some SARA listed and provincially red/blue listed species such as Harbour purpose, Northern Resident killer whale and Northern Transient Killer whales. This section should be reworded so that cetacean and marine mammal area usage is reflected. This level of acknowledgement was provided for sea turtles, which are less likely to encounter, so it is unclear why this was not applied to cetaceans and marine mammals.	Potential Project effects to marine resources will be evaluated and assessed in the EA-IA using methodologies as described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Sections 3,4 and 5
3.6 Biophysical Data and Reports Gitxaala strongly recommends against relying on outdated (>5 years) secondary sources for the purposes of this EA/IA and expects specific baseline data will be collected to ground the Proponents understanding of current biophysical marine conditions and trends.Please clarify if the field studies for WCGT and PRGT were completed in 2014, or just the finalization of the reports?	The Project and the Nisga'a and their biological consultants are of the view that both pipeline EA's and their supporting publicly available background information conducted for PRGT and WCGT in 2014-15 provided valuable and useful information at that time and is still useful today. The Project has undertaken marine resource baseline studies that will continue into 2022.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Sections 3.3 – 3.5
4.1 Project Proximity to Communities – Info Request: Please clarify if the ferry that is expected to run for Gingolx to the project will be included in the assessment?	Transportation of construction workers or operations workers to the Project site will be either from Gingolx and-or Prince Rupert. Potential Project effects from ferrying workers to the Site will be evaluated and assessed in the EA-IA using methodologies as described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
4.1 Project Proximity to Communities The last paragraph of this section indicates Gitxaala members "may... come into these marine waters in pursuit of recreational, commercial, and Indigenous fisheries". This is not an accurate representation of Gitxaala's ongoing access and use of these waters in the exercise of section 35 rights, please update the language to reflect this fact.	Edit made as requested in DPD.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 4.1
4.1.1.5 – Gitxaala Nation Please clarify where this map was obtained from.	The Gitxaala territory map was obtained from publicly available sources.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Figure 4.5
4.2 Land and Marine Use Planning This section should also include reference to and consideration of the 2016 Great Bear Rainforest Land Use Objectives Order for theprotection of Old Forest and red and blue-listed plant communities.	Noted. However, the Old Growth Order does not apply to Nisga’a owned Treaty lands.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 4.2
4.4 Land and Water Use Gitxaala suggests an addition to this section regarding the vital importance of the Nass Area for food, social and ceremonial fisheries of all local Indigenous Nations, not only the Nisga'a Nation. Gitxaala is particularly interested in monitoring increases to medium to large vessel traffic throughout Gitxaala territorial waters, and the potential cumulative effects of increased vessel traffic from ongoing development at the Port of Prince Rupert.	The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project effects of marine shipping related to construction and operation of the Project on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 5

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
4.4.3 Past and Present Marine Use – Info Request Gitxaala would like to understand what jurisdictional implications the proposed Water Lot will have for ongoing monitoring and management over the life of the project. For example, what would the terms of the lease be and does a water lot lease grant the lease holder the right to restrict public access?	The terms of the proposed Water Lot lease are not yet known. However, if the Project is approved, constructed and in operation it will not be safe for any public use of the Water Lot. Access will be restricted to facility personnel as required by the BC OGC *Emergency Planning Regulation* whereby emergency planning and hazard zones are delineated. The proposed Water Lot will contain all marine Project infra-structure. The NLG – as the upland owner – is the only entity that can secure the proposed Water Lot lease from BC OGC (using their Land Act responsibilities under the Oil and Gas Activities Act) for those portion of Portland Canal marine waters riparian to DL 5431. The NLG will then enter into a Water Lot lease to the Project. Marine infra-structure in the Water Lot will be under an LNG Facility permit issued and administrated by the BC OGC. Authorizations to construct and maintain Project marine infra-structure within the Water Lots will need to be acquired from DFO and TC (Navigable Waters). Any treated effluent and its outfall infrastructure in the marine environment will be required to be authorized by BC ENV under registration (a form of permit).	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.10
5.1 Potential Project Interactions Gitxaala looks forward to the DPD to review and provide feedback on the methodology and rationale used to determine the interim interaction ratings provided in Table 6.	The draft Project Interactions Table has been shared for review and comment.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	dAIR issue

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
5.2 Assessment Area Definitions – Info Request: Does the MSAA include anchorages for waiting to offload or leave?	Assessment area definitions will be discussed with Indigenous Nations as part of the dAIR process.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	dAIR issue
5.3 Baseline Studies – Table 8 Anything that may be impacted by marine shipping should be included and marine mammals should include the MSAA. Underwater acoustics, metocean and marine use - does this extend all the way to triple? Based on this list it is unclear what studies utilize the MSAA	Assessment area definitions will be discussed with Indigenous Nations as part of the dAIR process.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Tables 3.9 and 3. Sections 3.5.6 dAIR issue
5.4.1 Potential Environmental Effects – Info Request: Where is the list of projects that will be considered for CE assessment? Why is GHG not mentioned but air quality is? Project operations on the FLNG may result in increased acoustic disturbance in water - this should be included.	Draft Project Inclusion list has been shared for review and comment	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	dAIR issue
5.4.2 Potential Social and Economic Effects Further, the project has the ability to increase pressure on resources and places vital to indigenous Nations. Gitxaala recommends the Proponents commit to collaboration, rather than simply engagement, with impacted Indigenous Nations throughout the lifecycle of the Project. Such a commitment would increase the confidence of the Nation that any potential project effects on the Gitxaala Nation will bemeaningfully and adaptively managed to their satisfaction.	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted aboriginal title and rights including resource harvesting and the overall health of the ocean and its resources using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 5.4, 5.3.5
5.4.3 Potential Heritage Effects Note this section ends with a typo "…change find procedures" should be "chance find procedures"	Noted. Correction made in DPD.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 5.3.4.5

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
5.4.4 Potential Health Effects Gitxaala recommends a Health Impact Assessment approach be considered within the EA/IA process to evaluate the public health consequences of the Project, in addition to potential human health impacts.	Noted. Potential Project effects to human health will be evaluated and assessed in the EA-IA using methodologies as described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 5.3.4.4 dAIR issue
5.4.5 Potential Effects to Indigenous People – Info Request: Gitxaała is interested to understand more about the methodology of the Chapter 10 assessment of the Project and if/how the results ofthat assessment will be extended to potential project effects on other Indigenous Nations. For example, will the VCs listed in Table 9 be applied for assessments on project effects on other Indigenous Nations?	Effects to Nisga'a Treaty Rights are being assessed as required by the Nisga'a. The EA-IA methodology will be described in the dAIR in a distinct Chapter. Application of this Nisga'a Treaty potential effects assessment methodology to other Indigenous Nations is not planned at this time.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 5.3.5.1 Section 6.1
5.4.5 Potential Effects to Indigenous People – Info Request: Please clarify why is eulachon not also included in the "marine" fish VC in Table 9?	Noted. Potential Project effects to eulachon will be evaluated and assessed in the EA-IA using methodologies as described in the dAIR	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Table 5.2
5.5 Potential effects – Requirements of the IAA – Info Request: This sections indicates DFO and ECCC will need to be involved as expert federal authorities in the IA, what about Transport Canada?	Noted. Can confirm that TC is included on the TAC and will be engaged as necessary through the EA-IA.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 5.4 Section 8 Appendix 8
6 Legislative and Regulatory Context Gitxaala is uncertain how the 3 assessment processes (Nisga'a, provincial and federal) will interrelate and which authorities have ultimate jurisdiction for the oversight and management of project effects after the project has been approved (i.e., during construction, operation and decommissioning).	Noted. The three regulatory bodies meet routinely to coordinate environmental assessment processes as required under the Nisga'a Treaty. The Project is not involved in these meetings and therefore the clarification is better addressed to these three parties.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	n/a
6.2 Provincial EA – Info Request: Please explain why the Project does not meet the trigger for an "offshore oil or gas facility" under Part 4 - Energy Projects of the 2019 *EAA* Reviewable Projects Regulation (RPR).	The Project is not an "offshore oil and gas facility" as those projects are defined provincially in the RPR. The Project is not "producing" natural gas.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	n/a

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
6.4 Bio-physical Data – Info Request How will the reports included in Table 10 that are listed as "NLG-Confidential" be factored into the assessment or will other baseline studies be completed in lieu of publicly releasing sensitive community information?	The information is owned by the Nisga'a Nation and will be used by their consulting environmental consultants to inform their review of EA-IA products. The Project does not have this information at this time.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Table 3.11
Table 9 – Anticipated Permits – Info Request: Would a Licence to Cut (LoC) also be required (from FLNRORD) for upland clearing during Phase 1? Why is the water lot lease included in Phase2, not Phase 1, in Table 11? Gitxaala understands a permit from Canada Energy Regulator (CER) is also required to export LNG from Canada.	An LoC would be only required from NLG. The Water Lot lease will not be applied for until the Project has a Regulatory Coordination Plan, after the "Readiness Decision". The Project's Ksi Lisims Canadian business entity (to be formed) will be applying for the CER LNG export licence.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Table 6.1
6.7 Agreements with Indigenous Nations The federal Reconciliation Framework Agreement for Bioregional Oceans Management and Protection signed by the Government of Canada and 14 First Nations including Gitxaala should be referenced given linkages to Proactive Vessel Management, among others. (https://pm.gc.ca/en/news/backgrounders/2018/06/21/reconciliation-framework-agreement-bioregional-oceans-management	Noted. The list was provincial in the IPD. Will consider for DPD and dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 6.1.2
6.7.2.3 Natural Gas Benefit Agreements Please note Gitxaala Nation and the Province of BC have signed the following agreements: Gitxaala Natural Gas Pipeline Benefits Agreement (PRGT, 2014) Gitxaala Natural Gas Pipeline Benefits Agreement (WCGT, 2014)	Noted. Will correct in DPD as necessary.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 6.1.1

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
6.9 Compliance with BC and Federal Government GHG Management Policies – Info Request. Please explain why the Project GHG emissions are considered under the "industry" sectoral targets and not the "oil and gas" sectoral targets. Note the final paragraph of this section includes an error, the *GHG Reduction Targets Act* was retitled the *Climate Change AccountabilityAct* in 2007, not the *Greenhouse Gas Accountability Act* as stated on p. 66.	Noted (correction suggestion). Section re-written in DPD. Potential Project GHG effects will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.9 Section 6.3.5 Section 2.9 Section 6.3.5
7.4 Preliminary Assessment of Potential Impacts to Indigenous nations Please add "and waters" to the second bullet listing potential project impacts to Indigenous Nations as a result of changes to environment. Gitxaala would prefer to see a commitment to collaborative development of mitigation measures and management plans, as opposed to development based on comments received. Gitxaala respects the constitutionally protected treaty rights of the Nisga'a Nation and notes that Gitxaala also has constitutionally protected section 35 rights that must be respected.	Noted. The Project acknowledges Gitxaala connection to the ocean and marine resources that these values could potentially be negatively effected by the Project and looks forward to collaborating on developing mitigation, management and monitoring plans to address potential Project negative effects that cannot be avoided.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	
7.5 IPD Alignment With Other Indigenous nation interests Gitxaała Nation has not been party to the policy development of the FNCI, as such the Nation is not aware of the detailed content of any relevant policies or protocols, including the "Net Zero" GHG target for new LNG/gas projects and any protocols for domestic carbon offsets. Gitxaala is interested to understand how FNCI policies fit within existing provincial and federal policies. How is the Project "achieving local...climate change targets"?	A briefing on FNCI is available upon request. The question Gitxaala raise is best addressed to one of the FNCI Indigenous Nation technical representatives.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 7.4

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
7.6 Summary of Planned Engagement Activities with Indigenous nations Please see comments on "Engagement Plan" tab.	Please refer to Section 7 and Appendix 7 of DPD.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 7 Appendix 7
9.1 Safety Philosophies Human health assessments should consider the broader social determinants of health and thus be completed for all potentially impacted First Nations, regardless of proximity to facilities. Gitxaała notes that baseline monitoring of country foods in the zone of influence of the marine infrastructure should meet RISC standards and the raw data should be made available to the Nation.	Noted. Potential Project effects to human health will be evaluated and assessed in the EA-IA using methodologies as described in the dAIR	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 5.3.4
9.1 Safety Philosophies Exclusion zones should be noted in the IPD where relevant as they essentially extend the project footprint via limiting access.	"Exclusion Zones" have been renamed "Emergency Planning Zones" for LNG facilities as defined in Regulation (OGAA – Emergency Planning Regulation).	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 9
9.1 Safety Philosophies Will Gitxaała receive a copy of the Quantitative Risk Assessment for review?	Noted – however – cannot commit to that right now. The Project pans to collaborate with Indigenous Nations on defining the scope of the QRA.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 9
9.2 Accidents and Malfunctions In Gitxaała' s experience, this section, which represents the most significant of potential effects, is often overlooked and the assessment of accidents and malfunctions is routinely underrated and/or ignored. Gitxaala requests that all worst-case scenarios, must be included in a Project risk assessment.	The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project marine shipping related accidents and malfunctions (A&M) and potential Project effects of marine shipping A&M on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 9

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
9.2 Accidents and Malfunctions Any and all potential incidents from project-related marine activities, at the project site and along the marine shipping route, should be considered for a complete assessment of accidents and malfunctions. Gitxaala requests that Accidents and Malfunctions related to shipping (e.g., groundings, collisions, etc.) must be assessed specifically for relevant VCs (e.g., terrestrial wildlife, marine birds, human health, marine habitat, marine fish, etc.).	The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project marine shipping related accidents and malfunctions (A&M) and potential Project effects of marine shipping A&M on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 9 dAIR issue
9.2 Accidents and Malfunctions Inciting incidents may lead to a domino effect, such that one accident may precipitate another. Gitxaala requests this section indicate whether domino effects (as considered in assessing product storage associated with the Trans Mountain Expansion project) have been considered. If so, what are they? If not, what is the rationale for excluding them.	The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project marine shipping related accidents and malfunctions (A&M) and potential Project effects of marine shipping A&M on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 9
9.2 Accidents and Malfunctions Gitxaała community members are especially concerned with the lack of jurisdictional response in the event of a major accident. In our experience, more time and money are spent trying to attribute blame than in remediating that actual effects. Gitxaala recommends the Proponent be required to provide an environmental fund/bond to finance clean-up measures in the event of a spill etc. This should be based on a 'worst-case' scenario, and the requirement should be outlined in the review process.	The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project marine shipping related accidents and malfunctions (A&M) and potential Project effects of marine shipping A&M on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 9

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
9.2 Accidents and Malfunctions Gitxaala request this section include the intention to consider seasonal and lunar/tidal windows, where appropriate. Special attention should be paid to these windows when planning for Accidents or Malfunctions. Particular attention should be placed on times when critical life cycle or harvesting windows may be affected by the proposed project.	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects including from Project-related Accidents and Malfunctions (A&M) on species important to the Indigenous Nation, associated resource harvesting and the overall health of the ocean and its resources using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 9 dAIR issue
10 Effects on the Environment Weather-related events should be included in considerations and planning for accidents & malfunctions, particularly with respect to the marine shipping route.	Same as above. A meteorological station is active at the Site. The Project may consider retaining the weather station at the Site with real time data access to meteorological data for all marine users.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 9 and Section 10
EP – 1 Introduction The objectives for the EP listed at the bottom of page 1 should also include the identification of key issues of concern during earlyengagement.	The Project has been cataloging issues raised by Indigenous Nations, government agencies, the public and stakeholders to date.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Appendix 7 Appendix 8
EP – 2.1 Project Description Please include a map of the shipping route described on p. 3.	BC Coast Pilots have advised the route they take from their Boarding Station at Triple Island to Stewart, a voyage that takes them right past Wil Milit.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 2.6 Figure 2.4
EP 2.1 Project Description Figures 1 – 3 Please include a map with an extent showing all of Pearse Island, i.e., a more applicable extent between Figure 1 and Figures 2/3.	Revised figures are in DPD..	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Figure 2.1 Figure 4-8

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
EP 2.2 Project proximity to Local Communities Gitxaala Nation also has unceded section 35 aboriginal rights in the vicinity of the Project.	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted aboriginal title and rights including resource harvesting and the overall health of the ocean and its resources using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 4.1.1 Section 7 Appendix 7
EP 3.1 Engagement Principles “Support” Gitxaala is of the view that a consideration of capacity funding for participation in ongoing adaptive monitoring and management throughout the full lifecycle of the Project, not limited to the EA/IA Process.	Noted. The Project is engaged with Gitxaala with the objective of concluding an EA and Regulatory Process Funding agreement.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 7.6
EP 3.4 Inclusive Engagement, 3.4 Inclusive Engagement, non-Englishspeakers – Info Request: Has there been consideration of providing engagement material in Sm'algyax?	Yes, for some informational Project materials. The Project would like more discussion on this suggestion with Participating Indigenous Nations.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 7 Appendix 7
EP 4.2.2 Indigenous nations Gitxaala Nation also has unceded section 35 aboriginal rights in the vicinity of the Project.	The Project will work with Indigenous Nations, federal and provincial governments to implement an EA-IA that will evaluate and assess potential Project effects on asserted aboriginal title and rights including resource harvesting and the overall health of the ocean and its resources using methodologies described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative effects that cannot be avoided.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 4.1.1 Section 7 Appendix 7

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
EP 4.5.2.3. Natural Gas Benefit Agreements Please note Gitxaala Nation and the Province of BC have signed the following agreements: Gitxaala Natural Gas Pipeline Benefits Agreement (PRGT, 2014) Gitxaala Natural Gas Pipeline Benefits Agreement (WCGT, 2014)	Noted. Will correct in DPD as necessary.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	Section 6.1.1
4.6.1.3 Next Steps Gitxaala welcomes the opportunity to work with the Proponent to identify a Gitxaala-specific assessment approach for potential project effects on the Nation.	Noted. The Project looks forward to collaborating with Gitxaala.	21-Sep-2021 – Gitxaala submission to EAO-IAAC on IPD and EP	n/a
Gitxaala Interests Captured in BC EAO-IAAC Joint Summary of Issues and Engagement			
Concerns regarding Project lifecycle effects on the marine environment.	Potential Project effects to marine resources and marine use will be evaluated and assessed in the EA-IA using methodologies described in in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	dAIR issue
Concerns regarding route options for electrical and natural gas transmission lines to the site and associated impacts.	The Proponent's view is that the pipeline providing the natural gas to the Site and the electricity being provided to the Site from the BC Hydro grid is not under the care and control of the proponent. Third parties will provide these services to the Project under commercial agreement. The third parties will need to address Indigenous engagement within the regulatory processes for both the third party pipeline and the third party powerline.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 2.3.4 and 2.3.16
Concerns regarding the plan to reach the Net Zero emissions target.	The Project intends to meet the net zero targets of government(s). Further details can be found in the DPD and dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 2.9

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Concerns regarding local direct and indirect economic benefits, engagement, training, and employment opportunities related to the construction of the Project.	Potential Project effects to regional employment and economy will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 4 Section 5
Concerns regarding how the three assessment processes (Nisga'a, provincial and federal) will interrelate, and which authorities have ultimate jurisdiction for the oversight and management of Project should it be approved i.e., during construction, operation, and decommissioning.	Noted. The three regulatory bodies meet routinely to coordinate environmental assessment processes as required under the Nisga'a Treaty. The Project is not involved in these meetings and therefore the clarification is better addressed to these three parties.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 6
Concerns regarding plans for effluent, liquid, or hazardous discharges into the marine environment.	The Project will require the ability to treat liquid effluents and to discharge them under permit into the receiving environment meeting all required water quality thresholds. No hazardous discharges are planned for the marine environment.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 2.1 and 2.8 Sections 4 and 5
Concerns regarding impacts to Gitxaala food security.	The Project looks forward to working with Gitxaala and other Indigenous Nations to evaluate and assess potential Project effects to Gitxaala and other Indigenous Nations abilities to carry out traditional and cultural practices such as hunting, fishing, trapping, and harvesting of terrestrial and marine resource harvesting, and land based use values using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 4 and 5 dAIR issue

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Concerns regarding impacts of marine shipping, including noise effects on marine mammals and impediments to traditional harvesting.	The Project looks forward to working with Indigenous Nations to determine how to optimally evaluate and assess potential Project effects of marine shipping related to construction and operation of the Project on Indigenous Nation identified social, environmental and cultural values in the EA-IA using methodologies as described in the dAIR. Potential Project effects that could be an outcome of marine shipping related to the Project will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 4 and 5 dAIR issue
Concerns regarding impacts to eulachon and salmon spawning routes and habitat.	Potential Project effects to marine resources will be evaluated and assessed in the EA-IA using methodologies described in the dAIR.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 4 and 5 dAIR issue
Concerns regarding impacts of dredging and construction in the marine environment.	The Project requires marine infra-structure so there will be construction in inter-tidal and sub-tidal areas of the proposed Water Lot. Potential Project effects to marine resources from that construction will be evaluated and assessed in the EA-IA using methodologies described in the dAIR. Dredging is not proposed at this time.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 4 and 5 dAIR issue

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Concerns regarding cumulative effects of increased vessel traffic in Gitxaała Nation requests territorial waters.	The Project looks forward to working with Indigenous Nations to evaluate and assess potential Project related cumulative effects from an increase in marine shipping in their traditional territories in the EA-IA using methodologies as described in the dAIR. This will include collaborating on the development of mitigation, management and monitoring plans to address potential negative cumulative effects that cannot be avoided.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Sections 4 and 5 dAIR issue
Gitxaała Nation requests development of a Gitxaała - specific approach to assess potential Project effects on the Nation.	The Project will engage with BC EAO Gitxaala on this request.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	dAIR issue
Gitxaała Nation requests capacity funding for Gitxaała participation in ongoing adaptive monitoring and management throughout the full lifecycle of the Project, including the collaborative development of mitigation measures and management plans.	The Project is engaged with Gitxaala with the objective of concluding an EA and Regulatory Process Funding agreement.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7.6
Gitxaała Nation requests development of engagement material in Sm'algyax.	Potentially for some informational Project materials. The Project would like more discussion on this suggestion with Participating Indigenous Nations.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 7 Appendix 7
Gitxaała Nation requests an environmental fund/bond from the proponents to finance clean-up measures in the event of a spill or accident.	Noted. The Project requires a permit to construct and operate a floating LNG facility from the BC OGC. Permit holders are required to have insurance.	JSOIE - Table 1: Preliminary Understanding of Indigenous Interests	Section 9

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Gitxaala Comments on Baseline Studies			
Marine Permits - Where is the referenced contamination and what type of contaminants are present? Info Request: Please provide information regarding the nature, location, and extent of contamination? Will contaminants be remobilized through construction or operations? How will this be determined/assessed?	The "contamination" is with reference to "red tide," natural contamination. The terminal is situated in an undeveloped location with no currently known areas of marine contamination. Further, no seabed dredging is currently planned as part of the Project. If the need for marine dredging changes, a sediment sampling program will be conducted to confirm the quality of marine sediments and the potential impacts of this activity on fish and fish habitat will be included in the environmental assessment.	08-Dec-2021 – Gitxaala Comments – Info Requests on Baseline Studies	n/a

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Marine Mammals – Study Areas - Gitxaala is concerned with the reliance on data collected for the othernamed projects. Data gathered for these projects are now more than 5 years old (some sets are almost 10 year old) and, given the pronounced effects of climate change already being experienced at high latitudes, cannot be considered to be representative of current conditions. Consistent with expectations for climate-related changes, Gitxaala's experience suggests that species distribution and abundance is changing dramatically in the vicinity of Triple Island. Further Gitxaala is concerned that the current schedule for marine mammal field studies may fail to capture the seasonal usage patterns of some species, e.g., Northern Resident Killer whales. Info Request: Gitxaala requests that additional field studies of marine mammal presence and distribution be conducted for the shipping routes from Triple Island to Portland Inlet at appropriate intervals to capture seasonal usage along the shipping route. Without current information for these areas,the assessment will contain uncertainties regarding current conditions that will reduce the reliability of the assessment.	The primary objective of the marine mammal vessel and aerial surveys is to characterize the observed presence of marine mammals adjacent to the marine terminal and along the marine shipping routes. The resulting data will be used to supplement data collected in support of other projects. It is also important to note that the environmental assessment will operate from the conservative assumption that marine mammal species that could be in the area, will be in the area at the time of Project activities (i.e., assumes interaction), even though many species, and individuals, will have only seasonal or transient potential for overlap. The deployed hydrophones will collect underwater noise levels, existing anthropogenic activity, and cetacean calls over a period of 12-months at two locations, and this additional information will also improve our understanding of seasonal occurrence of vocalizing species (including northern resident killer whales). The Project and NLG and their biological consultants believe there is adequate publicly available information to describe marine resources in Northern Chatham Sound. Marine mammal visual surveys have been underway in Portland Inlet, Nass Bay and Portland and Pearse Canals in 2021 and will continue in 2022.	08-Dec-2021 – Gitxaala Comments – Info Requests on Baseline Studies	Section 3 dAIR issue

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Marine Fish – Study Methods - Gitxaała is concerned with the absence of marine fish surveys along the shipping route. Info Request: Please provide the rationale for not completing marine fish surveys along the shipping route.	Marine fish surveys are not planned along the shipping routes due to the low level and highly transient nature of potential effects related to shipping. A list of fish species potentially inhabiting the waters along the marine shipping routes will be generated using a combination of literature review and Project-specific fish surveys conducted within the marine terminal LAA. The literature review is expected to generate a comprehensive list of fish species that may occur throughout the shipping routes, particularly for highly migratory species that may only transit through the area for relatively short periods of time and can be challenging to catch (e.g., eulachon).	08-Dec-2021 – Gitxaala Comments – Info Requests on Baseline Studies	Section 3 dAIR issue
Breeding Birds – Onlooker Tool - We are unfamiliar with onLOOKer as a data collection tool. Info Request: Please provide information regarding onLOOKer. We are interested to understand how the collected data will be presented for review and how QA/QC for the data occurs.	onLOOKer is a proprietary piece of software developed and owned by Stantec. Stantec uses this software on a digital tablet to undertake point count surveys for birds. The software is a digital form that is equivalent to a standard paper datasheet, but improves data collection efficiency, quality, and accuracy by standardizing and/or automating specific data fields and using a satellite image for the background. Data collected with onLOOKer can be exported to standard spreadsheet software (e.g., Excel). Quality review occurs in a similar way as it would for data collected using traditional paper methods. The use of onLOOKer does not change how the data will be presented in the wildlife technical data report.	08-Dec-2021 – Gitxaala Comments – Info Requests on Baseline Studies	Section 3 dAIR issue

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Breeding Birds – Timing – Schedule - We are somewhat concerned regarding the timing of the surveys and the fact that only one survey was conducted at each location – in general, RIC standards require two surveys separated by several weeks. We are also concerned that songbirds that are using the site as a migratory stopover will be under represented. Info Request: Please provide information regarding the dates in June on which the surveys were conducted. Please provide a rationale for conducting a single survey. Please advise how migratory species are accounted for in this methodology.	Breeding bird point-count surveys targeting songbirds were completed from June 9 – 18, 2021 to coincide with the primary songbird nesting period. The point-counts were completed using a presence/not detected single-season (breeding) approach. Additional surveys for birds have been or will be completed for other groups (e.g., owls, northern goshawk, marine birds, shorebirds). Non-target species detected during these other surveys will be recorded as incidentals. Collectively, Project-specific bird data in combination with data from publicly available sources (e.g., eBird, BC Wildlife Species Inventory) will be used to characterize baseline conditions for birds.	08-Dec-2021 – Gitxaala Comments – Info Requests on Baseline Studies	Section 3 dAIR issue
Amphibians – Gitxaala is interested to know if there is suitable habitat for Coastal tailed frog within the project LSA? Given climate change and the northward movement of many species, coupled with the general concern regarding Coastal tailed frog, Gitxaala is concerned that the project might foreclose in-migration opportunities for this species. Info Request: Please indicate how many sites within the LSA would be suitable for Coastal tailed frog in order for Gitxaala to be ableto gauge this potential effect.	Based on provincial and federal distribution mapping, coastal tailed frog is not expected to occur on Pearse Island. The species' documented northern range ends at the Nass River and Portland Canal (Dupuis et al. 2000; COSEWIC 2011). There are few coastal records north of Prince Rupert. Further, coastal tailed frog does not occur on offshore islands and infrequently on nearshore islands. Marine water barriers are expected to prevent the species from becoming established on Pearse Island.	08-Dec-2021 – Gitxaala Comments – Info Requests on Baseline Studies	Section 3 dAIR issue

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Habitat Suitability Assessment – Focal Species - The choice of focal species is important not only as a means to assessimpact to the focal species themselves, but also as a proxy for other important species with similar habitat requirements. Wolf are culturally important to Gitxaala. Info Request: Please explain if/how focal species habitats are sufficiently representative to assess effects to wolf.	Grey wolf in coastal British Columbia is a landscape-level carnivore that uses a variety of habitats such as old forest, young forest, riparian areas, and intertidal/shoreline to satisfy its daily, seasonal, and annual life requisites. It feeds on a wide range of food items obtained through predation and scavenging, including important foods such as salmon and deer. Grizzly bear will be used as an indicator of potential Project effects on gray wolf as the two species share similar traits and life requisites (e.g., landscape-level carnivore; habitats; foods). Grizzly bear was selected as an indicator because of its conservation status, its role a keystone carnivore in the ecosystem, its importance to Indigenous communities, and its use of seasonal habitats and sensitivity to anthropogenic development and activity.	08-Dec-2021 – Gitxaala Comments – Info Requests on Baseline Studies	Section 3 dAIR issue
Human Health – Traditional Country Foods - This section suggests that a specific Human Health Risk Assessment (HHRA) will be done. HHRAs generally use national averages to estimate consumption-based exposure; Indigenous communities in the region consume significantly more seafood than the national average. Gitxaała is working with the Proponent to reach agreement on a workplan that will support the development of a Gitxaala Use Study and a Gitxaala Community Health and Well-Being Report with the expectation that these reports will inform the development of the Ksi Lisims LNG Application. Infor Request: Please indicate how country food consumption will be calculated for impacted communities? Have community-specific diet data been collected?	If the Human Health VC and human health risk assessment report concludes that Project-related contaminants are in country foods, the quantification of regional consumption rates of these foods will follow Health Canada's guidance on evaluating country food risks in an environmental assessment. Specifically, published national averages or regional averages will be used as the default information source. If country food consumption information is provided by Gitxaala or other Nations, that data will be used instead of literature data. At this time, community-specific diet data has not been collected.	08-Dec-2021 – Gitxaala Comments – Info Requests on Baseline Studies	Section 3 dAIR issue

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Marine Use – Data Sources - Gitxaała is working with the Proponent to reach agreement on a workplan that will support the development of a Gitxaala Use Study and a Gitxaala Community Health and Well-Being Report with the expectation that these reports will inform the development of the Ksi Lisims LNG Application.	The Project is engaged with Gitxaala with the objective of concluding an EA and Regulatory Process Funding agreement.	08-Dec-2021 – Gitxaala Comments – Info Requests on Baseline Studies	Section 7.6
Gitxaala Comments on dAIR Component Package			
VC Selection Table – AQ Parameters - NO2 and SO2 do not represent all oxides of Nitrogen and Sulphur; it is common to use NOx and SOx as the appropriateindicators to capture all oxides. Please revise the parameters to ensure modeling for all oxides (NOx and SOx).	Total oxides of both nitrogen and sulphur are modelled, however the assessment considers only those oxides that have health effects (SO2 and NO2). Total oxides of sulphur are essentially all in the form SO2. NO2 will be calculated from NOx predictions using the ozone limiting method (OLM).	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.2
VC Selection Table – AQ – Human Health - Please explain how construction and operational emissions will be incorporated into human health VC if it is not being assessed in the Air Quality VC.	The Project phase with the highest emissions is typically the phase that is assessed as part of the human health VC. Determining the phase with the highest emissions will be based on the Air Quality VC's emission inventory. The phase with the highest emissions will be assessed in the human health VC, with the understanding that other phases with lower emissions are reasonably expected to result in a lower degree of health risk.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.2, 7.13, 16

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
VC Selection Table – AQ – Odour - Given the essentially pristine AQ in the project LAA/RAA and the effect of unwanted /unpleasant / anthropogenic odours on experience, Gitxaala would like to ensure that odours is assessed. In particular, Gitxaala would like to be able to receive information on potential qualitative changes to odour, particularly in Portland Canal. This information is critical to an understanding of impacts that must be assessed pursuant to IAA and to Gitxaala's understanding of potential impacts to Gitxaala's Interests. Please include odour in the assessment and indicate how it will be assessed. Gitxaala understands that odour is a notoriously difficult effect to assess and will be please to work with the Project to explore the best means to do this.	Odour is not included as a subcomponent because the Project will be using 'sales quality natural gas' where only a small concentration of reduced sulphur compounds, including H2S, will be present. Therefore, the potential for odour off the facility is anticipated to be negligible.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.2, 16
VC Selection Table – AQ – Odour - Marine vessels have the potential to contribute to odour based on the type of fuel they use/carry. Will LNG vessels be LNG powered or will they use bunker fuel whileunderway? Similarly, will vessels be provided with shore power and will this be generated using LNG?	LNG carriers are anticipated to be powered by LNG "boil off gas" while they are calling on, or departing loaded from, the Project's marine terminal. Shore power (cold ironing) will not be employed for vessels adjacent to the FLNGs.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.2, 16
VC Selection – Acoustic Environment - In order to facilitate the understanding of potential impacts to the soundscape, please ensure that model results are presented as soundisopleths around the facility and vessels (carriers and tugs). Please identify the 55dB isopleth and 40dB isopleth to understand day and nighttime effects along the shipping route.	The prediction model results will be presented as noise contours or sound isopleths format for both the daytime and nighttime period. The 40 dBA and 55 dBA isopleths will be included.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.3, 16

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
VC Selection – Acoustic Environment - How will be "change in percent highly annoyed" be assessed? Will it account for annoyance experienced by Gitxaała harvesters due to noise from marine shipping?	The change in percent highly annoyed (%HA) is based on methods prescribed in the Health Canada noise guidance. Annoyance can be described as noise effect that most people are aware of. The consideration of community annoyance due to noise can create a negative effect. The calculated %HA provides information on how an average community responds to a noise level. Health Canada uses the change in %HA as an appropriate indicator of noise-induced human health effects from exposure to Project operational noise and to long-term construction noise exposure. Noise sensitive receptor selection is based on the BC Oil and Gas Commission (OGC) noise guideline and Health Canada noise guidance. The BC OGC noise guideline is applicable to permanent or seasonal residences; mobile and temporary usage locations (e.g., fisherman or woman, harvester) are not included. Health Canada noise guidance has broader recommendations for receptors, including Indigenous communities, potential Indigenous land use areas, permanent and seasonal residences, places of worship, recreation areas, school, and hospital locations. The %HA is not applicable to locations with short-term use (e.g., fishing, harvesting, hunting, or trapping sites). Therefore, fishermen or women and harvesters are not included in the assessment. However, noise contour map results provide information on predicted noise level over water. Predicted noise level at any over water locations within the assessment area can be extrapolated from the noise contour maps.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.3, 16

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
VC Selection – Acoustic – Human Health - Please explain how noise modelling will be incorporated into human health VC if it is not being assessed in the Acoustic VC.	The acoustic environment VC will conduct noise modeling for the construction and operation phases of the Project. The noise model will provide predictions of noise in the acoustic LAA/RAA and compares the prediction results to noise thresholds recommended by Health Canada. The human health VC will use the acoustic prediction results to determine whether there are potential human health effects from Project noise at specific locations (e.g., residential homes, recreational sites, traditional use sites). The type of location will determine the type of potential effect that is applicable. For example, residential homes near the Project would be assessed for potential sleep disturbance and annoyance effects. Recreational sites and traditional use sites (e.g., food harvesting locations) may be assessed for annoyance effects.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.3, 7.13, 16
VC Selection – Marine-Sediment WQ - The Rationale for excluding the Marine Water and Sediment Quality VC does not reference potential effects to marine water quality due to shipping. Please confirm potential effects to marine water quality from project-related traffic along the shipping route will be considered in theMarine Resources VC.	With the exception of a discussion of ballast water exchange, potential effects to marine water quality due to shipping will not be included in the Marine Resources VC. Vessels in Canadian waters will be required to follow the Canada Shipping Act and conventions adopted by the International Maritime Organization (e.g., MARPOL); both of which aim to prevent or limit pollution from ships. As such, impacts to marine water quality are not expected as part of the routine shipping component of this Project. The potential for environmental effects (including marine water quality) tied to vessel grounding, collision, or allisions will be discussed in Chapter 9 (Malfunctions and Accidents).	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.9, 16

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
VC Selection – Unique Geologic Land Forms - Glass sponge reefs are understood to be well represented in the region and potential impacts to them need to be considered (if only to rule them out from further study). Please indicate where / how glass sponge reefs will be considered. (Glass sponges are biotic formations; this comment may be more appropriately considered in the discussion on the Marine ResourcesVC; it may be moved to that section as the Project sees fit.)	Glass sponge reef presence in the Marine Terminal LAA will be described in the Marine Resources valued component. Potential impacts to these sponges from Project activities will be included as part of the environmental assessment. A remotely operated vehicle (ROV) survey within the Marine Terminal LAA has been included as part of the Project-specific baseline fish and fish habitat surveys.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.9, 16
VC Selection – Marine Resource – Marine Mammals - Please ensure that the definition of "change in behaviour" includes an assessment of "changes in distribution" since relative abundance in different areas may have impacts on harvesting and governance; these data are required to properly assess the significance of these effects.	The assessment of change in behaviour will include consideration of potential for habitat avoidance (i.e., localized changes in distribution) in response to Project-related sensory disturbances.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.9, 16
VC Selection – Employment and Economy – Employment - Please update rationale to indicate that all Indigenous Governments in the region will want to understand potential pressures and benefits of the Project.	The rationale for the selection of the Employment and Economy VC in Table 5.1 has been amended to include: "Other Indigenous governments".	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.10, 16
VC Selection – Visual Resources - The absence of standards does not remove the necessity of understanding the nature of the potential effect. The presence of infrastructure at Wil Milit (particularly infrastructure that will possess nighttime lighting visible as sky glow from Nass Bay) is of concern. Please include "visual resources" as a VC for assessment. Please include daytime viewscape and nighttime lighting as subcomponents for assessment. Please develop visual mock-ups to assist with assessment of effects to viewscapes; please use skyglow as the measurable parameter for nighttime effects. *Note that nighttime lighting should also be considered as a contributor to increased fish predation and therefore included in the assessment of changes to fish mortality.*	Change in visual quality and ambient light are included as indicators for changes in marine fisheries and other uses (see Table 7.10).	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.11, 16

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
VC Selection – Human Health - The rationale provided does not indicate increases in air and noise emissions related to shipping will be considered. Please update rationale to include shipping related increases in air and noise emissions that may affect Gitxaała marine harvesters.	The human health VC sections of the Application Information Requirements has been updated to include noise effects along the shipping routes. Air quality along the marine shipping routes is not assessed for human health because the emissions associated with a moving vessel along the shipping routes is not expected to have a substantial effect on the airshed where towns and communities are comparatively more distant. The assessment of air quality at the Project facility includes supporting marine vessels and LNG carriers moored at the Project Area for LNG loading. The emissions from these stationary vessels combined with emissions from the Project facility provide sufficient context and information to infer on potential air quality health effects along the shipping routes.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.13, 16
VC Selection – Human Health - Gitxaała is concerned with the absence of consideration of potential wake effects from project-related shipping on the Heritage VC. Please update Heritage VC rationale and LAA/RAA to assess potential effects due to shipping.	Marine shipping is not anticipated to result in effects to the heritage valued component. Results from publicly available wake effects studies indicate that wake generated by Project shipping traffic will be less severe than wakes created naturally by weather. Intertidal beaches are constantly interacting with rising and lowering tides and related wave action. Based on the previous studies, Project shipping traffic is not anticipated introduce any new wave-induced erosion effects on heritage and archaeological resources along the marine shipping routes As a result, the heritage (archaeological) assessment will focus on areas where interactions are anticipated.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.13, 16

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
VC Selection – Culture - Please refer to previous comments regarding qualitative change to the sensory environment (notably the soundscape,daytime viewscape, and nighttime impacts from skyglow). Collecting data regarding these VCs will be critical for Gitxaalato be able to assess impacts to Gitxaala interests. Please clarify how potential impacts to Gitxaała Nation from the project and project-related shipping will be assessed, i.e., harvesting,cultural identity, important places, peaceful enjoyment?	Changes in visual quality, shipping related noise and ambient light are indicators for the Marine Use VC, subcomponent: public and Indigenous marine use and will include information that can be used to understand potential effects on Gitxaala interests. Potential impacts of the Project on the Gitxaala Nation will be assessed in the Gitxaala specific effects assessment (see Section 16).	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.11, 16
Interactions Table - Please provide a listing of any project activities and/or physical works that were excluded from this table (if any), due to an expectation of no interactions with proposed VCs.	No Project activities or physical works were intentionally excluded from Table 6.4 Potential Project Interactions with Valued Components.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 6.4, Table 6.4
Interactions Table - The table indicates no effects/interactions between waste management at all project stages and the Marine Use VC. We understand treated sanitary waste will be discharged into Portland Canal, which could result in avoidance behaviors of marine harvesters, i.e., potential adverse interactions betweenproject waste management and marine use. Please update the table to indicate at least the potential for adverse effects ('1') in interactions between waste management and Marine Use.	Table 6.4 has been amended to include an interaction between waste management and the Marine Use VC. This interaction has been rated "1" (potential adverse effect requiring additional mitigation; warrants further consideration).	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 6.4, Table 6.4
Project Inclusion List - As previously indicated at the Nov. 18/2021 TAC meeting, Gitxaała is concerned the PRPA - VC Interactions are limited to socio-economic and shipping impacts. Gitxaała disagrees with limiting PRPA interactions due to the concern that the cumulative effects of past Port construction and operations activities, including experimental fish habitat offset projects, will not be considered in relation to CE interactions with Ksi Lisims biophysical VCs.	Ksi Lisims understands Gitxaala's concerns around cumulative effects. However, Project residual effects associated with construction and operation of the marine terminal are not expected to interact with the residual effects occurring from activities that are 80 km from the Site as would be the case for activities occurring in Prince Rupert.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 6.9, 6.9.1, Table 6.7

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Project Inclusion List - Gitxaała notes the VC Interactions are limited to socio- economic. However, depending on the full extent of the marine shipping route, for both LNG and condensate, there may be additional shipping-related VC interactions with LNG Canada carriers, e.g., marine use, marine resources, birds, acoustic. Please confirm the full extent of the marine shipping route to determine the VC interactions with shipping from LNG Canada.	The VC Interaction column of Table 6.7, Preliminary Project and Physical Activities Inclusion List, where appropriate, has been updated to include shipping related effects, including marine use, marine resources, wildlife (marine birds), acoustics and air quality. Ksi Lisims is currently waiting on direction from the EAO and IAAC on the extent of the marine shipping assessment area. Spatial boundaries will be updated, as appropriate once this direction is shared.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 6.9, 6.9.1, Table 6.7
Project Inclusion List - Please update the VC Interaction column to account for the potential shipping-related VC interactions, e.g., marine use, marine resources, birds, acoustic.	The VC Interaction column of Table 6.7, Preliminary Project and Physical Activities Inclusion List, where appropriate, has been updated to include shipping related effects, including marine use, marine resources, wildlife (marine birds), acoustics and air quality.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 6.9, 6.9.1, Table 6.7
Draft LAA boundaries – Marine Resources – Marine Shipping LAA: Please confirm Marine Fish will also be assessed using the Marine Shipping LAA/RAA.	Potential impacts to fish within the marine shipping LAA as a result of underwater noise will be considered as part of the Marine Resources VC.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR 7.9, Figures 6.2-10, 6.2-11

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Figure 1 (Air Quality RAA); **Figure 2** (Acoustic RAA);**Figure 6b** (Wildlife LAA/RAA - Shipping)/**Figuree 7a** (Marine Resources LAA - / RAA - Shipping): Gitxaała has significant concerns with the lack of information the proponent has provided to date regarding the marine shipping route west and/or south of Triple Island. Gitxaała must understand these routes to ensure that the study areas encompass all potential effects. Further Gitxaala notes the 2019 TERMPOL Guidance states "The TERMPOL review...does not examine potential environmental effects that may result from the project, including those caused by accidents, malfunctions and cumulative environmental effects". Gitxaała requires more information about the shipping routes, particularly in light of the Project's plan to ship condensate to Cherry Point, Washington. What route will these vessels take south from Triple Island?	Ksi Lisims is currently waiting on direction from the EAO and IAAC on the extent of the marine shipping LAA. Spatial boundaries will be updated, as appropriate, once this direction is shared. The route(s) to be taken by NGL vessels (e.g., condensate carriers) from Triple Island south to USA ports are not yet known.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR Figures 6.2-1. 6.2-8, 6.2-11
Figure 1 (Air Quality LAA); **Figure 2** (Acoustic LAA); **Figure 7** (Marine Resources RAA -Terminal) **Figure 8** (Human Health LAA/RAA): Gitxaala requests these boundaries be extended to capture the full extent of Gitxaała territory in Nass Bay.	The RAAs for the Marine Resources, Air Quality, Human Health and Acoustic VCs were selected to encompass the area within which a suitable context for identifying potential interactions between Project activities and past, present and reasonably foreseeable future projects and activities are assessed and include portions of Pearse Canal, Portland Canal, Observatory Inlet, Nass Bay, and Portland Inlet. It is believed to be sufficient at its current extent. However, Ksi Lisims is currently waiting on direction from the EAO and IAAC on the extent of the marine shipping assessment area. Based on direction received, the shipping components of the above referenced spatial boundaries may require revision.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR Figures 6.2-1, 6.2-2, 6.2-10, 6.2-15

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Figure 7a (Marine Resources LAA /RAA): Gitxaała disagrees these are functional boundaries for marine resources, fish and mammals. Gitxaała requests confirmation from relevant federal authorities (i.e.,DFO, TC) that these boundaries are ecologically relevant for assessments of impacts to marine resources, including underwater noise.	Underwater noise for marine mammals and sea turtles will be assessed within a 30 km buffer centred on the LNG carrier shipping route between Wil Milit and the pilot boarding location at or near Triple Island Pilotage Station, and the supply vessel shipping routes between Wil Milit and Prince Rupert and between Wil Milit and Gingolx. These boundaries encompass the full width of the channels that will be transited by Project-related vessels and are thus considered appropriate in capturing potential impacts to marine resources, including underwater noise. Underwater noise exposure to fish will be considered within the Marine Terminal LAA and RAA as well as the Marine Shipping LAA.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR Figure 6.2-10
Figure 9 (HeritageLAA/RAA): Please see comment dAIR1-GTMA14. VC Selection – Human Health - Gitxaała is concerned with the absence of consideration of potential wake effects from project-related shipping on the Heritage VC. Please update Heritage VC rationale and LAA/RAA to assess potential effects due to shipping. Gitxaała is concerned with the absence of a shipping related RAA for the assessment of impacts to Heritage. Please revise Heritage RAA to include the shipping route.	Marine shipping is not anticipated to result in effects to the heritage valued component. Results from publicly available wake effects studies indicate that wake generated by Project shipping traffic will be less severe than wakes created naturally by weather. Intertidal beaches are constantly interacting with rising and lowering tides and related wave action. Based on the previous studies, Project shipping traffic is not anticipated introduce any new wave-induced erosion effects on heritage and archaeological resources along the marine shipping routes. As a result, the heritage (archaeological) assessment will focus on areas where interactions are anticipated.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR Figure 6.2-16

Table 7.5 – Gitxaala Nation Issues and Concerns

Concern	Proponent Response	Source	DPD Section
Figure 11 (Employment &Economy LAA and RAA/**Figure12** (Infrastructure& Services LAAand RAA): The Project's Sep. 8/2021 presentation to the TAC indicated "benefits extend across the region, including entrepreneurial, employment, contracting and training opportunities". Please add Lach Klan/Kitkatla and the transportation corridors between Terrace and Prince Rupert to LAA/RAA given potential benefits and impacts to the region.	The LAA for employment and economy has been amended to include Indigenous communities located near Prince Rupert and Terrace, in addition to the Nisga'a Nation. Census subdivisions associated with the following Indigenous communities have been added to the LAA for employment and economy: Metlakatla First Nation (S 1/2 Timpsean 2), Lax Kw'alaams IB (Lax Kw'alaams 1 IRI), Gitxaala Nation (Dolphin Island 1), Kitselas First Nation (Kitselas 1 IRI), and Kitsumkalum First Nation (Kitsumkaylum 1). As well, Census subdivision Kitimat Stikine C (Part 1) RDA, has been added to the LAA to account for the community of Rosswood. Thus, the LAA incorporates all the populated areas within the Project vicinity that could reasonably be anticipated to experience economic impacts from the Project.	08-Dec-2021 – Gitxaala Comments – dAIR component package	dAIR Figures 6.2-12, 6.2-14

Preamble:

The Project's response to the Indigenous Nations Issues and Concerns in this document cover all engagement with the specific Indigenous Nation. They have been provided to each Indigenous Nation for review and comment as the Indigenous Nation issue and concern and the Project's response to it is an EA-IA requirement.

The DPD reference is general and-or specific (as necessary, depending on the issue or concern raised). Occasionally there is a reference to a Section, Table or Figure in the dAIR. If there is a "n/a" in the DPD reference column, then there is no direct reference to the issue or concern in the DPD.

Table 7.6 – Gitga'at Nation Issues and Concerns

Concern	Response	Source	DPD Section
As of March 31, 2022, the Proponents have not received any issues and concerns from the Gitga'at except those received during review of a draft of this DPD which are provided in Appendix 11.		n/a	n/a

Preamble:

The Project's response to the Indigenous Nations Issues and Concerns in this document cover all engagement with the specific Indigenous Nation. They are being provided to each Indigenous Nation for review and comment as the Indigenous Nation issue and concern and the Project's response to it is an EA-IA requirement.

The DPD reference is general and-or specific (as necessary, depending on the issue or concern raised). Occasionally there is a reference to a Section, Table or Figure in the dAIR. If there is a "n/a" in the DPD reference column, then there is no direct reference to the issue or concern in the DPD.

Table 7.7 – Haida Nation Issues and Concerns

Concern	Response	Source	DPD Section
As of March 31, 2022, the Proponents have not received any issues and concerns from the Haida Nation.		n/a	n/a

Preamble:

The Project's response to the Indigenous Nations Issues and Concerns in this document cover all engagement with the specific Indigenous Nation. They have been provided to each Indigenous Nation for review and comment as the Indigenous Nation issue and concern and the Project's response to it is an EA-IA requirement.

The DPD reference is general and-or specific (as necessary, depending on the issue or concern raised). Occasionally there is a reference to a Section, Table or Figure in the dAIR. If there is a "n/a" in the DPD reference column, then there is no direct reference to the issue or concern in the DPD.

Table 7.8 – Métis Nation British Columbia Issues and Concerns

Concern	Response	Source	DPD Section
As of March 31, 2022, the Proponents have not received any issues and concerns from the Métis Nation British Columbia.		n/a	n/a

APPENDIX 8 – RECORD OF FEDERAL, PROVINCIAL, MUNICIPAL AND OTHER STAKEHOLDER ENGAGEMENT

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Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Dates and Brief Description
Federal Ministries	
Crown-Indigenous Relations and Northern Affairs Canada (CIRNA)	March 3, 2021 – Project briefing with Minister's Office and key senior Project officials at the request of the Minister's Office.
Environment and Climate Change Canada	September 7, 2021 – Comment received on IPD with a focus on effects of the Project on the environment.
Employment and Social Development Canada	November 26, 2021 - Comments received on Project dAIR VCs (e.g., Employment and Economy and Infrastructure and Services) and Project Inclusion List.
Fisheries and Oceans Canada	August 30, 2021 - Comment received on IPD with a focus on effects of the Project on the environment. December 2, 2021 - Comments received on Project dAIR components focusing on Marine Resources and Freshwater Fish and Fish Habitat VCs.
Health Canada	August 19, 2021 – Comments received on IPD regarding health, traditional foods, air and water quality, noise, and cumulative effects. December 3, 2021 – Comments received on Project dAIR components, focusing on noise and water quality.
Innovation, Science and Economic development Canada	September 17, 2021 – Comments received on IPD with a focus on economic impacts and viability and Innovation impacts.
Impact Assessment Agency of Canada	November 12, 2020 – Discussion about the new Agency IA process, early issue identification, GHG assessment, etc. March 10, 2021 – Phone conversation with the Agency Pacific Region team as the Project was announced to external parties on this date May 13, 2021 – Project introduction meeting May 31, 2021 – Phone call between the Proponent and the Agency to discuss the IPD June 4, 2021 – Email correspondence to BC EAO and the Agency with suggested agenda for June 8, 2021 meeting June 4, 2021 – Confirmation email from the Agency confirming agenda for June 8, 2021 meeting June 8, 2021 – The Agency provide Conformity Review Checklist of Project IPD with their Table of Concordance June 8, 2021 – Virtual meeting with BC EAO and the Proponent to review draft IPD June 11, 2021 – Review of the Agency comments on IPD and process to addressing the Agency comments to IPD June 24, 2021 – Discussion with the Agency and BC EAO regarding draft IPD, process workplan, and steps forward July 6, 2021 – Project team provides a response to June 15, 2021 version of Project Conformity Review checklist July 6, 2021 – The Agency confirm receipt of IPD and IPD Summary in both official languages July 13, 2021 – Email correspondence from the Agency requesting edits to IPD and IPD Summary July 14, 2021 – Email correspondence from the Proponent to the Agency including revisions to IPD and IPD Summary

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Dates and Brief Description
Impact Assessment Agency of Canada (cont'd)	July 15, 2021 – Email correspondence confirming receipt of revised IPD Summary July 16, 2021 – The Project team, BC EAO, and the Agency meet jointly to discuss next steps in process after BC EAO-Agency decision on IPD and EP July 20, 2021 – Email correspondence from the Agency requesting edit to French language title to IPD Summary. Project responds with edit as requested July 21, 2021 – Written correspondence to Project team from the Agency accepting IPD and IPD Summary in both official languages July 21, 2021 – The Agency correspond with all Indigenous groups advising them of the Project and potential for participant funding. Project team copied on letters July 23, 2021 – BC EAO provides a "Readiness Decision" workplan spreadsheet to the Project team August 6, 2021 – BC EAO write the Agency – Ottawa requesting "substitution" August 11, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency August 13, 2021 – BC EAO issue Section 13 (3) Fee Order August 18, 2021 - Weekly meeting with the Project team, BC EAO, and the Agency September 1, 2021 – Pre-Virtual Information session, weekly meeting with the Project team, BC EAO, and the Agency September 8, 2021 – BC EAO and the Agency hosted Virtual Project Information Session September 8, 2021 – BC EAO and the Agency hosted TAC meeting introducing the Project September 8, 2021 – Post-Virtual Information session, weekly meeting with the Project team, BC EAO, and the Agency September 9, 2021 – BC EAO and the Agency hosted Virtual Project Information Session September 15, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency September 22, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency September 29, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency October 6, 2021 - Weekly meeting with the Project team, BC EAO, and the Agency October 12, 2021 – The Project team, BC EAO, and the Agency meet to discuss general AIR-TISG document for Substituted Energy Projects October 13, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency October 14, 2021 – BC EAO and the Agency issue JSOIE October 20, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency October 27, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency October 29, 2021 – The Agency write each of the Indigenous groups advising them of the acceptance of the Project's Time Extension request. Project team copied on letters November 3, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency November 10, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency November 17, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency November 18, 2021 – TAC Meeting November 24, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Dates and Brief Description
Impact Assessment Agency of Canada (cont'd)	December 1, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency December 8, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency December 15, 2021 – TAC Meeting December 20, 2021 – the Project team, BC EAO, and the Agency have a meeting to discuss Triple Island marine shipping area boundary January 12, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency January 17, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency January 19, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency January 26, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency February 2, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency February 14, 2022 - Virtual Meeting with IAAC, the EAO and the Proponent to discuss the dAIR edits and timeline. February 15, 2022 - Email correspondence from the Proponent to IAAC and the EAO to provide IAAC meeting minutes from a previous meeting February 16, 2022 - Email correspondence from IAAC with the EAO in copy to the Proponent and Haida Nation and Métis Nation British Columbia, regarding the draft DPD. IAAC provided a copy of the draft DPD to Haida Nation and Métis Nation British Columbia and requested Haida Nation and Métis Nation British Columbia to review and comment on the document. IAAC summarized the next steps for impact assessment determination. IAAC noted they would follow up with Haida Nation and Métis Nation British Columbia to convey the outcome and how comments from Haida Nation were taken into account. February 16, 2022 - Email correspondence from IAAC to the Proponent regarding meeting minutes from a previous meeting February 17, 2022 - Email correspondence from the Proponent to IAAC and the EAO regarding final meeting minutes from a previous meeting February 23, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency March 2, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency March 08, 2022 - Email correspondence with the Proponent, BC EAO, and IAAC regarding meeting minute finalization and submission. March 08, 2022 - Email correspondence with the Proponent, BC EAO, and IAAC regarding the dAIR and a request for a clean copy. March 9, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency March 09, 2022 - Email correspondence with the Proponent, BC EAO, and IAAC regarding Gitaxaala Nation's comments on the draft DPD. March 16, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency March 23, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency March 30, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency
IANA, NRCan, CIRNA (Federal Ministries)	March 3, 2021 – Virtual meeting to provide a Project update
Indigenous Services Canada	August 31, 2021 – Comments received on IPD with a focus on effects of the Project on nearby Indigenous communities, location of the Project, Project components, baseline data, cumulative effects, etc. November 17, 2021 – Comments received on Project dAIR Surface Water and Infrastructure and Services VCs and Project Activities and Physical Works Activity List

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Dates and Brief Description
Natural Resources Canada	August 31, 2021 – Comments received on IPD with a focus on effects of the Project on climate change, cost and benefits to BC and Canada, seismic hazard assessment, etc.
Transport Canada	July 28, 2021 – Early engagement with TC contact to discuss TERMPOL and designated shipping routes from Triple Island to Stewart and therefore past the Wil Milit site August 5, 2021 – TC provided information related to conducting a TERMPOL or proceeding without one September 10, 2021 – Comments received on IPD with a focus on marine shipping, air emissions, rail implications, and navigation. November 10, 2021 – Engagement continues with TC regarding marine shipping assessment and emergency response to Project related marine accidents and malfunctions November 19, 2021 – TC provided contact for TERMPOL initiation and information was provided on the status of the federal Oceans Protection Plan March 16, 2022 - Email correspondence between the Proponent and Transport Canada to arrange a TERMPOL review process initiation phone call March 21, 2022 - Email correspondence between the Proponent and Transport Canada, following up on the request to have a TERMPOL review process initiation phone call March 25, 2022 - Email correspondence from Transport Canada to the Proponent providing a meeting invite for March 29, 2022 to discuss interest in TERMPOL. March 29, 2022 - Virtual meeting between the Proponent and Transport Canada to discuss the Proponent's interest in TERMPOL. Transport Canada informed the Proponent that a Navigation Safety Assessment would be required. April 4, 2022 – Email correspondence from Transport Canada to the Proponent with Navigation Safety Assessment requirements.
Women's and Gender Equality Canada	August 31, 2021 – Comments received on the IPD with a focus on GBA+.
Federal Agencies	
BC Coast Pilots	May 11, 2021 – Virtual meeting to introduce the Project September 23, 2021 – Email correspondence confirming BC Coast Pilots route from Triple Island to Stewart, BC November 24, 2021 – Email correspondence between BC Coast Pilots and Project Team with respect to tug support for vessels carrying LNG and/or NGL products.
Coast Guard (TC)	August 31, 2021 – Comments received on IPD with a focus on vessel movements, navigational support, accidents, emergencies, and malfunctions, and exclusions zones.
Pacific Pilotage Authority	May 12, 2021 – Virtual meeting to introduce the Project
Prince Rupert Port Authority	September 20, 2021 – Telephone and email communication to set up a Project introduction meeting with PRPA staff September 24, 2021 – Virtual meeting to introduce the Project

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Dates and Brief Description
BC Provincial Ministries and Agencies	
BC Environmental Assessment Office	October 28 and 29, 2020 – Early discussions on tentative EA timelines and the new EA process November 23, 2020 – Further discussions on early engagement, the new EA process, timelines, anticipated issues, etc. March 10, 2021 – Phone conversation with ADM of BC EAO as the Project was announced to external FNCI parties on this date March 31, 2021 – Full virtual briefing with BC EAO team April 30, 2021 – Project Introduction meeting with ADM and supporting BC EAO team to discuss of Indigenous Nation Early Engagement efforts, Métis Engagement, and IPD/EP review timing. May 18, 2021 – Email correspondence regarding land title and fee simple ownership Wil Milit May 20, 2021 – Email correspondence from BC EAO responding to the Project engagement questions May 21, 2021 – Email correspondence regarding funding of Indigenous Nation participation and post IPD submission acceptance engagement May 31, 2021 – Phone call between the Proponent and the Agency to discuss the IPD June 3, 2021 – Email exchange with BC EAO with respect to the use of an Executive Summary in an IPD including a discussion on the Agency requirement for an "Initial Project Description Project Summary" to be provided in both official languages June 4, 2021 – Email correspondence to BC EAO and Agency with suggested agenda for June 8, 2021 meeting June 8, 2021 – Review of draft IPD and EP at joint meeting with the Agency June 11, 2021 – Review of BC EAO comments on draft IPD and EP and process to addressing BC EAO comments to IPD and EP June 17, 2021 – The Project team's response to first round of BC EAO comments of Project draft IPD and EP June 23, 2021 – Project team "spreadsheet tabular" response to BC EAO comments on EP June 24, 2021 – The Project team, BC EAO, and the Agency have a joint meeting regarding the draft IPD and EP and process workplan July 5, 2021 – Email correspondence from BC EAO confirming receipt of IPD and EP July 9, 2021 – Email correspondence from BC EAO regarding Project Media Plan parameters July 9, 2021 – Email correspondence from BC EAO with respect to timing of BC EAO IPD and EP approval decision and notification of Indigenous Nations including those living in Alaska July 13, 2021 – Email communication from BC EAO that included requested edits from BC EAO and the Agency to the Project IPD and EP July 14, 2021 – Email communication from BC EAO notifying the to Project team that they had received the edited IPD and EP July 16, 2021 - Written correspondence from BC EAO approving IPD and EP July 16, 2021 – BC EAO issue Section 13 (3) (a) Order – approving IPD and EP

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Dates and Brief Description
BC Environmental Assessment Office (cont'd)	July 16, 2021 – The Project team, BC EAO, and the Agency meet to discuss next steps in process after BC EAO-Agency decision on IPD and EP July 23, 2021 – BC EAO provides a "Readiness Decision" workplan spreadsheet to the Project team August 6, 2021 – BC EAO write the Agency – Ottawa requesting "substitution" August 11, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency August 13, 2021 – BC EAO issue Section 13 (3) Fee Order August 18, 2021 - Weekly meeting with the Project team, BC EAO, and the Agency September 1, 2021 – Pre-Virtual Information session, weekly meeting with the Project team, BC EAO, and the Agency September 8, 2021 – BC EAO hosted Virtual Project Information Session September 8, 2021 – BC EAO hosted TAC meeting to introduce the Project September 8, 2021 – Post-Virtual Information session, weekly meeting with the Project team, BC EAO, and the Agency September 9, 2021 – BC EAO hosted Project workshop with potential participating Indigenous Nations September 15, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency September 22, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency September 29, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency October 6, 2021 - Weekly meeting with the Project team, BC EAO, and the Agency October 12, 2021 – The Project team, BC EAO, and the Agency meet to discuss general AIR-TISG document for Substituted Energy Projects October 13, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency October 14, 2021 – BC EAO and the Agency issue JSOIE October 20, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency October 27, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency November 3, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency November 10, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency November 17, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency November 18, 2021 – TAC Meeting November 24, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency December 1, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency December 8, 2021 – Weekly meeting with the Project team, BC EAO, and the Agency December 15, 2021 – TAC Meeting December 20, 2021 – The Project team, BC EAO, and the Agency meet to discuss Triple Island Marine Resources assessment boundary January 12, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency January 17, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency January 19, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency January 26, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency February 2, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency February 15, 2022 - Email correspondence from the Proponent to IAAC and the BC EAO to provide IAAC meeting minutes from a previous meeting.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Dates and Brief Description
BC Environmental Assessment Office (cont'd)	February 16, 2022 - Email correspondence from IAAC with the EAO in copy to the Proponent and Haida Nation and Métis Nation British Columbia, regarding the draft DPD. IAAC provided a copy of the draft DPD to Haida Nation and Métis Nation British Columbia and requested Haida Nation and Métis Nation British Columbia to review and comment on the document. IAAC summarized the next steps for impact assessment determination. IAAC noted they would follow up with Haida Nation and Métis Nation British Columbia to convey the outcome and how comments from Haida Nation were taken into account. February 23, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency March 2, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency March 08, 2022 - Email correspondence with the Proponent, BC EAO, and IAAC regarding meeting minute finalization and submission. March 08, 2022 - Email correspondence with the Proponent, BC EAO, and IAAC regarding the dAIR and a request for a clean copy. March 9, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency March 09, 2022 - Email correspondence with the Proponent, BC EAO, and IAAC regarding Gitaxaala Nation's comments on the draft DPD. March 16, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency March 23, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency March 23, 2022 - Email correspondence between the Proponent and BC EAO forwarding comments on the dAIR from FLNRORD. March 30, 2022 – Weekly meeting with the Project team, BC EAO, and the Agency
BC Ministry of Environment and Climate Change	April 13, 2021 – Virtual Meeting with Climate Action Secretariat to discuss LNG Benchmarking and GHG September 22, 2021 – Comment received on IPD September 24, 2021 – Comment received on IPD September 24, 2021 – Climate Change Secretariat comments received on IPD with a focus on GHGs, mitigation measures, and effects of the environment on the Project. December 1, 2021 - Comments received on Project dAIR VCs. BC ENV provided additional guidance documents
BC Ministry of Energy, Mines and Low Carbon Innovation	March 2, 2021 – Phone meeting with ADM to provide a Project update
BC Ministry of Forests, Lands and Natural Resource Operations and Rural Development	May 17, 2021 – the Ministry requested a Project briefing May 27, 2021 – Project introduction meeting with DM and ADM May 31, 2021 – Virtual meeting with ADM to discuss Archaeology permit review process on Nisga'a lands September 13, 2021 – Comments received on IPD with a focus on effects of the Project on heritage resources.
BC Ministry of Indigenous Relations and Reconciliation	February 24, 2021 – Telephone conversation with Minister September 28, 2021 – Comments received on IPD with a focus on Treaty requirements, Aboriginal rights and title, and interactions with other area Indigenous nations
BC Ministry of Transportation and Infrastructure	September 15, 2021 – Comments received on IPD regarding the Traffic Assessment.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Dates and Brief Description
Multi-Ministry - BC IRR, BC ECC and BC EMLCI	February 26, 2021 – Virtual meeting with Deputy Ministers to provide a Project update
BC Oil and Gas Commission	May 27, 2021 – Virtual meeting to introduce the Project
Member of the Legislative Assembly – MLA for Skeena	May 21, 2021 – Project introduction meeting May 28, 2021 – Discussion of engagement with area Indigenous Nations
Northern Health	September 20, 2021 – Comment received on IPD December 3, 2021 - Comments received on Project dAIR components, including Air Quality and Human Health VCs, Draft Project Interaction Table, Draft Project and Physical Activities Inclusion List, and Draft Study Area Boundaries and Rationale
Regional and Municipal Government	
City of Terrace	May 14, 2021 – Written correspondence to Terrace introducing the Project and requesting an opportunity to present it virtually June 29, 2021 – Virtual meeting to introduce the Project September 23, 2021 – Comments received on IPD regarding Terrace not having capacity to fully participate in the EA-IA or TAC, and general concerns with potential Project indirect social effects on Terrace.
City of Prince Rupert	June 7, 2021 – Letter reaching out to offer a Project introductory virtual meeting September 21, 2021 – Email correspondence to Prince Rupert requesting opportunity for the Proponent to present the Project. Subsequent phone calls between Project team and Prince Rupert unsuccessful in securing a meeting date
District of Stewart	September 23, 2021 – Email correspondence with the District of Stewart to arrange a meeting for the Proponent to introduce the Project October 4, 2021 – Virtual meeting to introduce the Project.
North Coast Regional District (NCRD)	June 7, 2021 – Letter reaching out to offer a Project introductory virtual meeting September 20, 2021 – Email correspondence from Project team confirming a presentation to NCRD Board on October 15, 2021 October 15, 2021 – Virtual meeting to introduce the Project December 1, 2021 – Comments received on draft dAIR components regarding an anchorage site in Whiskey Bay.
Regional District of Kitimat-Stikine (RDKS)	May 28, 2021 – Virtual meeting to introduce the Project September 20, 2021 – Email correspondence to RDKS requesting opportunity for the Proponent to present the Project September 23, 2021 – Comments received on IPD with a focus on socioeconomics and construction of Project components. October 15, 2021 – Email correspondence from RDKS confirming the Proponent can introduce the Project to the RDKS Board on October 22, 2021 October 22, 2021 – Virtual meeting to introduce the Project

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Dates and Brief Description
United States of America	
Environmental Protection Agency	September 22, 2021 – Comments received on IPD with a focus on effects of the Project on the environment, climate change, GHGs, mitigation measures, and accidents, emergencies, and malfunctions.
Alaska – Department of Natural Resources	September 21, 2021 – No substantive comments on IPD. Confirmation that Alaska Department of Natural resources will participate in the EA-IA and serve on the TAC September 23, 2021 **–** Email correspondence from Project team to Alaska DNR to organize Project introduction meeting September 24, 2021 – Virtual meeting to introduce the Project

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APPENDIX 9 – PROJECT RECORD AND RESPONSE TO FEDERAL, PROVINCIAL, MUNICIPAL AND OTHER STAKEHOLDER COMMENTS RECEIVED TO DATE

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Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
Federal Ministries		
Crown-Indigenous Relations and Northern Affairs Canada (CIRNA)	March 3, 2021 – Minister's Office advises key senior Project officials that they would like a briefing on the Project.	Senior Project advisors notified key federal agency contacts (including CIRNA representative) that the Project was going to start the EA-IA early engagement process in the second week of March 2021.
Environment and Climate Change Canada (ECCC)	September 7, 2021 – Comments on IPD with a focus on: ▪ Potential air quality effects; potential for transboundary effects to Alaska ▪ GHG and Climate Change ▪ Net Project GHG emissions ▪ Upstream GHG emissions ▪ Carbon Sinks ▪ Water Quality and Quantity ▪ Wildlife, SAR and Habitat ▪ Migratory birds including any SAR and their habitat ▪ Wetlands ▪ Environmental emergencies	The Project acknowledges the issues, values and concerns ECCC raised as a result of their review of the IPD. All of the issues raised by ECCC are to be addressed in the EA-IA using VCs and assessment methodologies as described in the dAIR (Section 7 – Marine Use, Freshwater Fish and Fish Habitat, Vegetation and Wetlands, Wildlife and Wildlife Habitat, Marine Resources VCs) and in Section 9 Accidents and Malfunctions. The Project's GHG emission assessment will be completed as described in the ECCC SACC Technical Guide as described in the dAIR (Section 8) and in Section 2.9 of the DPD.
Employment and Social Development Canada (ESDC)	November 26, 2021 - Comments on Project dAIR components summarized as follows: ▪ VC – Employment and Economy – general - no mention of GBA+ analysis methodology in the Project dAIR documents reviewed – identification of under-represented groups and data collection requirements to undertake GBA+ analysis ▪ VC – Employment and Economy – general - need to further emphasize employment training opportunities, recommend Project engage with; Indigenous Skills and Employment Training, the BC Skills and Partnership Fund, Aboriginal Community Career Employment Services Society, Kyah Wiget Education Society	The Project acknowledges the issues, values and concerns ESDC raised as a result of their review of the IPD. ESDC has developed and shared recommendations for the amendment of the Employment and Economy VC (dAIR Section 7.10). These recommendations will be considered and responded to as the engagement between the Project and the TAC on the dAIR continues. GBA+ analysis overview has been added to Section 8 of the DPD and the application of this analytical tool will be described in the dAIR (e.g., Section 6 and in applicable VCs). ESDC has developed recommendations for the amendment of the Infrastructure and Services VC (Section 7.12 dAIR). These recommendations will be considered and responded to as the

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	▪ VC – Employment and Economy – Local and regional employment: potential Project effects do not reflect potential socio-economic changes to economic opportunities for under-represented groups (e.g., "employment equity") – an example given was direct employment benefits to Nisga'a citizens ▪ VC – Employment and Economy – Local and regional employment – Project should consider the following indicators; employment rates, poverty rates, mean and median income, job vacancies, education level and proxy indicators for skill level ▪ VC – Employment and Economy – Local and regional employment – industrial and training needs assessment - request specifics on disaggregation detail (ESDC require 3 digit NCAIS and 2 digit NOC at the minimum) ▪ VCs – Infrastructure and Services and Community and Services – Project should consider identifying the number of workers in each phase of the Project ▪ VCs – Infrastructure and Services and Community and Services – Project should consider adding specificity about the characteristics of the availability, affordability and appropriateness of child care as part of the measurement of the change in infrastructure and services ▪ VC – Employment and Economy – Economy - consider replacing existing wage levels from the Change in Regional Business Potential Project Effect, and adding an indicator such as consumer expenditures (an induced effect of the Project)	engagement between the Project and the TAC on the dAIR continues. The Project's Nisga'a Treaty effects assessment is being developed in collaboration with NLG and will be described in Section 11 of the dAIR.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	▪ VC – Employment and Economy and Nisga'a Treaty effects assessment 8 (f) - depending on proportions of workforce (by occupation) that are expected to be hired from outside the Nisga'a Nation, the Proponent may consider adding more indicators that would describe the migration and population effects in the Nisga'a Nation communities, potentially under a new VC that exists solely for the Nisga'a Nation Social Interests ▪ Project Physical Activities Inclusion List and Employment and Economy VC LAA boundaries - although the selected Census Subdivisions and Census Agglomerations seem reasonable following review, it is unclear as to why certain surrounding Regional District Electoral Areas are not considered to have 'greatest potential' to experience positive and adverse effects related to the Project (e.g., Kitimat-Stikine RDA C, and Skeena-Queen Charlotte RDAs)	
Fisheries and Oceans Canada (DFO)	August 30, 2021 - Comments on IPD with a focus on: ▪ Fish and fish habitat – death of fish, HADD from Project construction & operation ▪ Marine Mammals – effects of shipping, death of MM, HADD ▪ SAR - destruction of critical habitat for SAR aquatic species, death, harm, harassment or destruction of residence to SAR aquatic species December 2, 2021 - Comments on Project dAIR components summarized as follows: ▪ VC – Marine Resources - The potential impacts of the Project, mitigations, assessment methods, local and regional assessment areas, and conclusions will likely be different for marine fish and marine mammals. As such, DFO suggests that the Marine Resources VC be split into a Marine Mammals VC and a Marine Fish and Fish Habitat VC	The Project acknowledges the issues, values and concerns DFO raised as a result of their review of the IPD. The DPD (Sections 3 and 5) summarizes potential Project effects to freshwater and marine fish and fish habitat and the measures being undertaken to establish adequate baseline information both already existing and new information. NLG Fish and Wildlife and their consulting biologists will be providing their expertise to guide the scope of the effects assessment and the development of any necessary mitigation measures. The Project will be engaging other area Indigenous Nations on EA-IA scope definition, technical data reports, the effects assessment and the development of mitigation measures. The dAIR Sections 7.8 and 7.9 (Freshwater Fish and Fish Habitat and Marine Resources respectively) summarizes methodologies for the Project effects assessment for these values.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	▪ A good indicator should suggest what the measurable parameters would be. DFO recommends that the proponent determine the indicator and measurable parameters for each VC ▪ Examples of good VCs, subcomponents, indicators and measurable parameters are listed below: o Candidate VCs - Freshwater Fish and Fish Habitat - Marine Mammals - Marine Fish and Fish Habitats o Subcomponents of the VCs - Marine Mammals: Steller Sea Lions, Killer Whale, Harbour Porpoise, Humpback Whale, etc. - Marine Fish and Fish Habitat: salmon (coho, chinook, etc.), forage fish (Pacific Herring, Eulachon, etc.), rockfish, ground fish, benthic invertebrates, rearing habitat, spawning habitat etc. - Freshwater Fish and Fish Habitat: resident trout, salmon (coho, chum, etc.), spawning habitat, rearing habitat, etc. o Indicators - Marine Mammals: acoustic environment, availability of prey, vessel strikes, etc. - Marine Fish and Fish Habitat: Habitat availability, prey availability, acoustic environment, water quality, fish productivity, etc. - Freshwater Fish and Fish Habitat: Habitat availability, water quality, habitat quality, fish productivity, etc. o Measurable Parameters - Acoustic environment: level, frequency, and duration of underwater noise - Availability of prey: quantity and quality of prey - Productivity: biomass, density, etc. - Water Quality: TSS levels, temperature, etc. - Habitat availability: area of habitat by habitat type,	DFO has made recommendations for amendments to the Marine Resources VC. These recommendations will be considered and responded to as the engagement be tween the Project and the TAC on the dAIR continues.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	habitat use by fish, etc. - Habitat quality: density of eelgrass, suitability of spawning habitat, productivity contribution to the food web, etc. ▪ VC - Freshwater Fish - The Freshwater Fish LAA should include watercourses where water is removed from the watercourse, and watercourses where water is diverted into the watercourse. The Freshwater Fish LAA should also include all areas of a watercourse that are affected by the Project, including upstream areas that are indirectly affected by Project effects located downstream ▪ Marine Resources VC - More rationale is needed for the local and regional assessment areas for the marine resources VC. A good local assessment boundary would encompass the direct and indirect effects of the Project, including marine shipping on marine mammals. Given a mechanism for potential effects to marine mammals is underwater noise, the local assessment area should encompass the area where potentially detrimental levels of underwater noise could result from Project components ▪ Marine Resources VC - Potential impacts could occur from marine shipping associated with the Project beyond the pilotage station at Triple Islands. Beyond Triple Islands, Project vessels would travel through Dixon entrance and though or near important areas for Stellar Sea Lion, listed as Special Concern under SARA; Eastern North Pacific grey whale, listed as Special Concern under SARA; Humpback whale, listed as Special Concern under SARA; Fin Whale, listed as Threatened under SARA; Northern Resident Killer Whale, listed as Threatened under SARA; eastern north Pacific blue whale, listed as Endangered under SARA; the Pacific population of sei whale, listed as Endangered under SARA; Leatherback Sea Turtle, listed as Endangered under SARA; and the Sperm whale.	

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
Health Canada (HC)	August 19, 2021 – Comments on IPD with a focus on: ▪ Health Setting ▪ Health Impact Assessment ▪ Traditional Foods ▪ Air Quality ▪ Water Quality ▪ Noise ▪ Cumulative effects – inclusion of ancillary infrastructure; power transmission line and pipeline December 3, 2021 - Comments on Project dAIR components summarized as follows: ▪ VC – Low frequency noise (**LFN**) - It is important to note that there are off-duty workers proposed to be residing near the project site (as indicated in the proponent's initial project description dated July 2, 2021), who may be impacted by project-related noise. Given that LFN can be associated with the introduction of noticeable vibrations in some structures, HC suggests that the proponent clarify what will be assessed in the context of LFN. HC also recommends that the proponent's statement regarding "the lack of receptors on land" be corrected or a rationale provided as to why the off-duty workers are not included as receptors on land.	The Project acknowledges the issues, values and concerns HC raised as a result of their review of the IPD. All of the HC interests, values and concerns are being addressed as the Project finalizes the DPD (e.g., Section 4.6.5 baseline studies, Section 5.3.4 potential Project effects and mitigations and in the dAIR (Section 7.13) and other VCs as appropriate. HC has developed and shared recommendations for changes to some of the dAIR components shared for review and comment in November 2021. These recommendations will be considered and responded to as the engagement between the Project and the TAC on the dAIR continues.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	▪ VC – Recreational Water Quality - Recreational water quality was not included as a sub-component of the human health VC, and HC recommends that a rationale be provided for the exclusion. HC recommends that the proponent clarify whether there are recreational activities (e.g., swimming, canoeing, fishing) near the project site and whether there are concerns with recreational water quality. This clarification could be provided in the detailed project description to support the rationale for the exclusion of recreational water quality	
Innovation, Science and Economic Development Canada (ISEDC)	September 17, 2021 – Comments on IPD with a focus on: ▪ Economic impacts and viability: The economic impacts of this project should be considered in order to determine employment and welfare effects on the affected populations ▪ Innovation impacts: It should be determined if this project employs or introduces any innovative technologies or processes which would add to Canada's knowledge capital	The Project acknowledges the issues, values and concerns ISEDC raised as a result of their review of the IPD. The Project can confirm that potential Project effects to Employment and Economy will be a VC with effects assessment methodologies described in Section 7.10 in the dAIR.
Impact Assessment Agency of Canada (the Agency)	November 12, 2020 – Discussion about the new Agency IA process, early issue identification, GHG assessment, etc. March 10, 2021 – Phone conversation with the Agency Pacific Region team as the Project was announced to external parties on this date May 13, 2021 – Project introduction meeting May 31, 2021 – Phone call with the Agency to discuss progress on IPD review, should IPD authors be expanded upon, provide notice to Indigenous Nations regarding IPD review and confirm proposed filing date for IPD and EP June 4, 2021 – Email correspondence to BC EAO and the Agency with suggested agenda for June 8, 2021 meeting June 4, 2021 – Confirmation email from the Agency confirming Agenda for June 8, 2021 meeting	The Project has been engaged with the Agency since late 2020 and continues to engage weekly on integrating the IA process with the BC EA process and collaborating on the Project's EA-IA. A number of key Impact Assessment steps have been completed with more to follow. These key steps are: ▪ Project files an IPD and IPD Summary – the latter in both official languages – in early July 2021 The Agency accepts the IPD documents filed and posts them on the Agency IA portal on July 21, 2021 The Project collaborates with the Agency and BC EAO on public engagement activities from late July through to mid October 2021

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	June 8, 2021 – The Agency provide Conformity Review Checklist of Project IPD with their Table of Concordance June 8, 2021 – Virtual meeting with BC EAO and the Project team to review draft IPD June 11, 2021 – Review of the Agency comments on IPD and process to addressing the Agency comments to IPD June 24, 2021 – Discussion of draft IPD and process workplan and steps forward - jointly with BC EAO July 6, 2021 – Project team provides a response to June 15 version of Project Conformity Review checklist July 6, 2021 – The Agency confirm receipt of IPD and IPD Summary in both official languages July 13, 2021 – Email correspondence from the Agency requesting edits to IPD and IPD Summary July 14, 2021 – Email correspondence from the Project team to the Agency including revisions to IPD and IPD Summary July 15, 2021 – Email correspondence confirming receipt of revised IPD Summary July 16, 2021 – Project-BC EAO-Agency meet jointly to discuss next steps in process after BC EAO-Agency decision on IPD and EP July 20, 2021 – Email correspondence from the Agency requesting edit to French language title to IPD Summary. Project responds with edit as requested July 21, 2021 – Written correspondence to Project team from the Agency accepting IPD and IPD Summary in both official languages July 21, 2021 – The Agency correspond with all of the Indigenous groups advising them of the Project and potential for participant funding. Project team copied on letters July 23, 2021 – BC EAO provides a "Readiness Decision" workplan spreadsheet to the Project team	▪ The Project requests that BC EAO request "substitution" from the federal Minister responsible for impact assessment in early August 2021 The Agency collaborate with BC EAO and develop a JOSIE and provide this key document to the Proponent on October 14, 2021 ▪ The Proponent cannot prepare an adequate DPD within the IA time permitted and asks for a Time Extension request. This request is granted in late October 2021 (e.g., the "clock" stops at day 96) The Project continues to engage the Agency as the Project works towards the "Readiness Decision" in 2022.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	August 6, 2021 – BC EAO write the Agency – Ottawa requesting "substitution" August 11, 2021 – Project-BC EAO-Agency weekly meeting August 13, 2021 – BC EAO issue Section 13 (3) Fee Order August 18, 2021 - Project-BC EAO-Agency weekly meeting September 1, 2021 – Pre-Virtual Info session Project-BC EAO-Agency weekly meeting September 8, 2021 – BC EAO – Agency hosted Virtual Project Information Session September 8, 2021 – BC EAO – Agency hosted TAC meeting – Project introduction September 8, 2021 – Post-Virtual Info session Project-BC EAO-Agency weekly meeting September 9, 2021 – BC EAO - Agency hosted Virtual Project Information Session September 15, 2021 – Project-BC EAO-Agency weekly meeting September 22, 2021 – Project-BC EAO-Agency weekly meeting September 29, 2021 – Project-BC EAO-Agency weekly meeting October 6, 2021 - Project-BC EAO-Agency weekly meeting October 12, 2021 – Project-BC EAO-Agency meet to discuss general AIR-TISG document for Substituted Energy Projects October 13, 2021 – Project-BC EAO-Agency weekly meeting October 14, 2021 – BC EAO-Agency issue JSOIE October 20, 2021 – Project-BC EAO-Agency weekly meeting October 27, 2021 – Project-BC EAO-Agency weekly meeting October 29, 2021 – The Agency write each of the Indigenous groups advising them of the acceptance of the Project's Time Extension request. Project team copied on letters November 3, 2021 – Project-BC EAO-Agency weekly meeting November 10, 2021 – Project-BC EAO-Agency weekly meeting November 17, 2021 – Project-BC EAO-Agency weekly meeting	

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	November 18, 2021 – TAC Meeting November 24, 2021 – Project-BC EAO-Agency weekly meeting December 1, 2021 – Project-BC EAO-Agency weekly meeting December 8, 2021 – Project-BC EAO-Agency weekly meeting December 15, 2021 – TAC Meeting December 20, 2021 – Project-BC EAO-Agency Meeting – regarding Triple Island marine shipping area boundary	
IANA, NRCan, CIRNA (Federal Ministries)	March 3, 2021 – Virtual meeting - Project update	Senior Project advisors notified key federal agency contacts that the Project was going to start the EA-IA early engagement process in the second week of March 2021.
Indigenous Services Canada (ISC)	August 31, 2021 – Comments on IPD with a focus on: ▪ Acknowledgement that the Project is on Nisga'a lands ▪ Potential effects to other nearby Indigenous communities ▪ More information requested on FNCI ▪ Technical comments and questions related to Project components, baseline data ▪ Potential addition of "culture" in description to direct, indirect and cumulative effects ▪ Nisga'a Treaty and related effects assessment ▪ Potential effects to other area Indigenous communities ▪ Safety philosophies ▪ Socio-economic impact assessment guidance November 17, 2021 – Comments on Project dAIR components summarized as follows: ▪ VC – Surface Water – water navigability, reduction in stream flows if water used by Project from stream at Site ▪ VC – Infrastructure and Services – potential disproportionate effects to sub-populations ▪ Project Activities and Physical Works Activity List – Construction - inclusion of ancillary works	The Project acknowledges the issues, values and concerns ISC raised as a result of their review of the IPD. The values, issues and concerns are addressed in the DPD and dAIR in a number of Sections. ISC has developed recommendations for amendments to dAIR components. These recommendations will be considered and responded to as the engagement between the Project and the TAC on the dAIR continues.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	▪ Project Activities and Physical Works Activity List– Decommissioning – inclusion of site restoration activities associated with decommissioning ▪ Project Activities and Physical Works Activity List - VC – Human Health – recommend including the Human Health VC for physical activities that may have potential impacts on Human Health (construction, shipping activity, traffic)	
Natural Resources Canada (NR Can)	August 31, 2021 – Comments on IPD with a focus on: ▪ Overall cost and benefits to BC and Canada ▪ Potential for Project to displace countries using coal for electricity and resulting global reduction in GHG emissions ▪ Seismic hazard assessment ▪ Sea level rise to at least the year 2120 ▪ Marine geoscience and Tsunami Risk Assessment	The Project acknowledges the issues, values and concerns NR Can raised as a result of their review of the IPD. All of the issues raised are being addressed as described in Sections 1.2, Section 2.9, Section 6.3.5, Section 9, Section 10 of the DPD and in Sections 1.7, 8, 9, and 10 and various applicable VCs (Section 7) of the dAIR.
Transport Canada (TC)	July 28, 2021 – Early engagement with TC contact to discuss TERMPOL and designated shipping routes from Triple Island to Stewart and therefore past the Wil Milit site August 5, 2021 – TC provided information related to conducting a TERMPOL or proceeding without one September 10, 2021 – Comments on IPD with a focus on: ▪ Marine shipping operations – Project related vessel movements ▪ Air emissions and potential mitigations for emissions from Project vessels ▪ Rail implications – confirmation of no Project related rail implications ▪ Navigation – marine construction and infra-structure details; cumulative effects assessment November 10, 2021 – Engagement continues with TC regarding marine shipping assessment and emergency response to Project related marine Accidents and Malfunctions	The Project considers whether to proceed with a TERMPOL after the Readiness decision or proceed with the analysis required for marine shipping without a specific TERMPOL The Project acknowledges the issues, values and concerns TC raised as a result of their review of the IPD. The Project's associated marine shipping may have potential effects on a number of values and Indigenous groups have raised this issue many times over the past months. Potential Project effects from marine shipping is a key issue for the Project to assess in the EA-IA. Marine shipping is necessary for the Project to export LNG via LNGC to its buyers in Asia markets and potentially elsewhere. The process produces NGL liquids (e.g., condensate) that will also require less regular shipping of these products to markets far to the south. Construction and operations will require vessels to transit between Prince Rupert and or Gingolx to the Site.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	November 19, 2021 – TC provided contact for TERMPOL initiation and information was provided on the status of the federal Ocean's Protection Plan	Project shipping is highlighted in Section 2 of the DPD and in Section 5 where potential effects and mitigations are discussed. The dAIR has a Marine Use VC (Section 7.11) and methodologies for the Marine Use effects assessment are defined in that section. Project related potential marine shipping Accidents and Malfunctions background and regulatory context are described in Section 9 of the DPD and Section 9 of the dAIR. The Project can confirm there are no rail related implications.
Women's and Gender Equality Canada (WGEC)	August 31, 2021 – Comments on the IPD with a focus on: ▪ GBA+ - an analytical tool, implementation ▪ Assessing current realities – identifying groups, barriers to inequality ▪ Analysis of impacts – local context, disproportionate effects to some groups, historical gaps and perceptions ▪ Culturally-sensitive engagement ▪ Distribution of investments across different groups ▪ Mainstreaming equality – Project business practices (e.g., anti-harassment, equality), workforce training	The Project acknowledges the issues, values and concerns WGEC raised as a result of their review of the IPD. The Project has added a sub-section in Section 8 of the DPD to discuss the application of GBA+ analysis to the Project's EA-IA. GBA+ analysis overview has been added to Section 8 of the DPD and the application of this analytical tool will be described in the dAIR (e.g., Section 6 and in applicable VCs).
Federal Agencies		
BC Coast Pilots (BCCP)	May 11, 2021 – Virtual meeting - Project Introduction September 23, 2021 – Email correspondence confirming BC Coast Pilots route from Triple Island to Stewart, BC November 24, 2021 – Email correspondence between BC Coast Pilots and Project team with respect to tug support for vessels carrying LNG and/or NGL products. Two BC Coast Pilots Notices to Industry 02-2019 and 07-2019 shared with Project team	The Project acknowledges that a marine terminal risk assessment will need to be completed for the Project's marine terminal after FEED. The Project accepts the BC Coast Pilots marine transit route they take from Triple Island Pilot Boarding Station to Stewart, BC, a route that goes directly past the Project site at Wil Milit on Portland Canal. This route is included in the DPD. The Project will continue to engage BC Coast Pilots as necessary throughout the EA-IA.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
Coast Guard	August 31, 2021 – Comments on IPD with a focus on: ▪ Vessel movements, operational workforce transits to the Site ▪ Lack of navigation support and emergency response infrastructure at Site and along vessel routes ▪ Exclusion zones at the marine terminal, accidents and malfunctions ▪ Potential marine spills and general emergency response ▪ Known extreme winter weather conditions	The Project acknowledges the issues, values and concerns Coast Guard raised as a result of their review of the IPD. The Project has addressed many of these issues in Section 9 of the DPD. Accidents and Malfunctions are also addressed in Section 9 of the dAIR. The Project developed a marine shipping emergency response presentation and presented to the TAC on December 15, 2021.
Pacific Pilotage Authority (PPA)	May 12, 2021 – Virtual meeting - Project introduction	The Project acknowledged the role of the Pacific Pilotage Authority, potential for amended legislation for the Pacific Pilotage Authority and the role Pacific Pilotage Authority may take in any TERMPOL process. The Project committed to including both the Pacific Pilotage Authority and BC Coast Pilots on EA-IA activities going forward.
Prince Rupert Port Authority (PRPA)	September 20, 2021 – Record of a phone call and email communication to set up a Project introduction meeting with PRPA staff September 24, 2021 – Virtual meeting – Project introduction	PRPA requested information with respect to LNGC's stopping in Prince Rupert harbour before proceeding to the Site. Project responded – unlikely but not sure yet. The Project committed to keeping the PRPA informed of key steps in the EA-IA with a focus on any potential Project effects to PRPA operations.
BC Provincial Ministries and Agencies		
Environmental Assessment Office (BC EAO)	October 28, 2020 and Oct 29, 2020 – Early discussions on tentative EA timelines and the new EA process November 23, 2020 – Further discussions on early engagement, the new EA process, timelines, anticipated issues, etc. March 10, 2021 – Phone conversation with ADM of BC EAO as the Project was announced to external FNCI parties on this date March 31, 2021 – Full virtual briefing with BC EAO team	The Project has been engaged with the BC EAO since late 2020. Meetings have been "as necessary" in the pre-IPD filing stage to now more regular weekly meetings as the Project moves from BC EAO acceptance of the IPD in early July 2021, through early engagement activities on the IPD, the receipt of the JSOIE to the "Readiness Decision" in 2022.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	April 30, 2021 – Project Introduction meeting with ADM and supporting BC EAO team Discussion of Indigenous Nation Early Engagement efforts, Métis Engagement, and IPD/EP review timing. Joint meeting with BC EAO and Agency proposed; to be scheduled after BC EAO review of IPD/EP. May 18, 2021 – Email correspondence regarding land title and fee simple ownership Wil Milit May 20, 2021 – Email correspondence – BC EAO response to the Project engagement questions May 21, 2021 – Email correspondence regarding funding of Indigenous Nation participation and post IPD submission acceptance engagement May 31, 2021 – Phone call with BC EAO to discuss progress on IPD review and discuss if IPD authors table needs to be expanded upon, provide notice to Indigenous Nations regarding IPD review, confirm proposed filing date for IPD and EP, engagement with Alaska and the Haida June 3, 2021 – Email exchange with BC EAO with respect to the use of an Executive Summary in an IPD including a discussion on the Agency requirement for an "Initial Project Description Project Summary" to be provided in both official languages June 4, 2021 – Email correspondence to BC EAO and Agency with suggested agenda for June 8, 2021 meeting June 8, 2021 – Review of draft IPD and EP at joint meeting with the Agency June 11, 2021 – Review of BC EAO comments on draft IPD and EP and process to addressing BC EAO comments to IPD and EP June 17, 2021 – The Project team's response to first round of BC EAO comments of Project draft IPD and EP June 23, 2021 – Project team "spreadsheet tabular" response to BC EAO comments on EP June 24, 2021 – Project-BC EAO-Agency joint meeting redraft IPD and EP and process workplan	The Project has secured the support of the BC EAO for that agency to request "substitution" of the federal IA Process from the federal Minster responsible for the IAA. That request occurred in early August 2021. Numerous draft documents concerning steps in the BC EAA 2018 EA process have been shared between the parties as they collaborate on the Project's EA-IA with the Agency and the Participating Indigenous Nations identified by BC EAO. BC EAO hosted Virtual Information Sessions in early September to inform the public and stakeholders about the Project. BC has hosted three TAC meetings in 2021: September 8, November 18 and December 15. The Project is collaborating with BC EAO and the TAC on the development of the DPD and the draft dAIR that accompanies that document. Formal submission of both documents are planned in Q1 2022.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	July 5, 2021 – Email correspondence from BC EAO confirming receipt of IPD and EP July 9, 2021 – Email correspondence from BC EAO regarding Project Media Plan parameters July 9, 2021 – Email correspondence from BC EAO with respect to timing of BC EAO IPD-EP approval decision and notification of Indigenous Nations including those living in Alaska July 13, 2021 – Email communication from BC EAO that included requested edits from BC EAO and the Agency to the Project IPD and EP July 14, 2021 – Email communication from BC EAO to Project team that the edited IPD and EP have been received by BC EAO July 16, 2021 - Written correspondence from BC EAO approving IPD and EP July 16, 2021 – BC EAO issue Section 13 (3) (a) Order – approving IPD and EP July 16, 2021 – Project-BC EAO-Agency meet jointly to discuss next steps in process after BC EAO-Agency decision on IPD and EP July 23, 2021 – BC EAO provides a “Readiness Decision” workplan spreadsheet to the Project team August 6, 2021 – BC EAO write the Agency – Ottawa requesting “substitution” August 11, 2021 – Project-BC EAO-Agency weekly meeting August 13, 2021 – BC EAO issue Section 13 (3) Fee Order August 18, 2021 - Project-BC EAO-Agency weekly meeting September 1, 2021 – Pre-Virtual Info session Project-BC EAO-Agency weekly meeting September 8, 2021 – BC EAO hosted Virtual Project Information Session September 8, 2021 – BC EAO hosted TAC meeting – Project introduction	

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	September 8, 2021 – Post-Virtual Info session Project-BC EAO-Agency weekly meeting September 9, 2021 – BC EAO hosted Project workshop with potential participating Indigenous Nations September 15, 2021 – Project-BC EAO-Agency weekly meeting September 22, 2021 – Project-BC EAO-Agency weekly meeting September 29, 2021 – Project-BC EAO-Agency weekly meeting October 6, 2021 - Project-BC EAO-Agency weekly meeting October 12, 2021 – Project-BC EAO-Agency meet to discuss general AIR-TISG document for Substituted Energy Projects October 13, 2021 – Project-BC EAO-Agency weekly meeting October 14, 2021 – BC EAO-Agency issue JSOIE October 20, 2021 – Project-BC EAO-Agency weekly meeting October 27, 2021 – Project-BC EAO-Agency weekly meeting November 3, 2021 – Project-BC EAO-Agency weekly meeting November 10, 2021 – Project-BC EAO-Agency weekly meeting November 17, 2021 – Project-BC EAO-Agency weekly meeting November 18, 2021 – TAC Meeting November 24, 2021 – Project-BC EAO-Agency weekly meeting December 1, 2021 – Project-BC EAO-Agency weekly meeting December 8, 2021 – Project-BC EAO-Agency weekly meeting December 15, 2021 – TAC Meeting December 20, 2021 – Project-BC EAO-Agency Meeting – regarding Triple Island Marine Resources assessment boundary	
BC Ministry of Environment and Climate Change (BC ENV)	April 13, 2021 – Virtual Meeting with Climate Action Secretariat to discuss LNG Benchmarking and GHG September 22, 2021 – Comments on IPD – IPD Sub-section 5.4.1 - Potential Environmental Effects Indirect effects of air emissions on aquatic and terrestrial ecosystems should be listed as potential environmental effects	The Project acknowledges the issues, values and concerns BC ENV raised as a result of their review of the IPD. Project components are described in Section 2 of the DPD including temporary back-up power necessary and LNG outputs. Potential Project effects from climate change are addressed in Section 10 of the DPD and Section 10 of the dAIR.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	September 24, 2021 – Comments on IPD – questions with respect to total LNG product (e.g., how many trains) and amount of backup power needed September 24, 2021 – Climate Change Secretariat comments on IPD with a focus on: ▪ Include a high level outline of direct GHG emissions ▪ Include proposed mitigation measures and-or project design changes; estimate direct emission from multiple Project scenarios ▪ GHG reporting (e.g., GGERR) ▪ Effect of predicted sea level rise, storm surges ▪ Mitigations for stormwater management, flood mitigation, drought effecting water supplies ▪ Implications of heat waves on ability of BC Hydro to provide necessary power December 1, 2021 - Comments on Project dAIR components summarized as follows: ▪ VC – Water Quality – Proponent advised to consider using Acid Neutralizing Capacity in addition to PH as it tends to be a more reliable indicator. Critical load assessment for acidification and eutrophication of surface water should be included ▪ VC – Vegetation and Wetlands - Critical load assessment for acidification and eutrophication of soils should be included. Consider expanding "species sensitive to air emissions" to species that are acid-sensitive and-or acid-tolerant. The direct effects of SO_2 and NO_x on vegetation should be assessed to thresholds in ICP Mapping Manual (2004)	All of the issues raised by BC ENV after their review of the IPD are to be addressed in the EA-IA using VCs and assessment methodologies as described in the dAIR and in Section 9 Accidents and Malfunctions and Section 10 Effects of the Environment on the Project. The Project's GHG emission assessment will be completed as described in the ECCC SACC Technical Guide as described in the dAIR (Section 8) and in Section 2.9 of the DPD. The Project can confirm it is well informed on assessing potential acidification of freshwater, soils and vegetation and that this specific effects assessment will be included in the EA-IA as described in the dAIR.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	▪ VC – Surface Water – LAA Boundaries and Rationale. BC ENV recommends that spatial boundaries for water resources take modelled S and N deposition into consideration. In addition, consider adjusting the spatial boundaries based on the results of air dispersion modelling as required ▪ VC – Vegetation and Wetlands – LAA Boundaries and Rationale - BC ENV recommends that spatial boundaries for water resources take modelled Sulfur and Nitrogen deposition into consideration. In addition, consider adjusting the spatial boundaries base don the results of air dispersion modelling as required ▪ Guidance provided by BC ENV: o *British Columbia Ministry of Environment Air Emissions Impact Assessment for Liquefied Natural Gas Export Terminal Facilities, Critical Load Screening Guidance for Acidification and Eutrophication of Terrestrial Ecosystems, November 21, 2014* o *British Columbia Ministry of Environment Air Emissions Impact Assessment for Liquefied Natural Gas Export Terminal Facilities, General Guidance for Conducting Environmental and Human Health Effects Assessments, November 21, 2014* o *British Columbia Ministry of Environment Air Emissions Impact Assessment for Liquefied Natural Gas Export Terminal Facilities, Guidance for Assessment of Acidification and Eutrophication of Aquatic Ecosystems, June 25, 2015*	
BC Ministry of Energy, Mines and Low Carbon Innovation (EMLCI)	March 2, 2021 – Phone meeting with ADM - Project update	Project notified the Ministry representative with respect to publicly entering the EA-IA process in the second week of March 2021.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
BC Ministry of Forests, Lands and Natural Resource Operations and Rural Development (FLNRORD)	May 17, 2021 – Senior officials at FLNRORD requested a Project briefing May 27, 2021 – Project virtual introduction meeting with DM and ADM May 31, 2021 – Virtual meeting with ADM - Archaeology permit review process on Nisga'a lands September 13, 2021 – Comments on IPD with a focus on: ▪ Archaeological impact assessment, Chance Find Protocols ▪ Potential Project effects on fossils and historic places	The Project has engaged the Ministry's Archaeology Branch several times over the past six months trying to secure the necessary archaeology permit on the Nisga'a owned Site. The Project acknowledges the issues, values and concerns FLNRORD raised as a result of their review of the IPD. Heritage Values are a VC and the methodologies for assessing Heritage resources are described in Section 7.14 in the dAIR. The Nisga'a Treaty has defined procedures for the collection and management of heritage resources on Nisga'a lands.
BC Ministry of Indigenous Relations and Reconciliation (IRR)	February 24, 2021 – Telephone conversation with Minister September 28, 2021 – Comments on IPD with a focus on: ▪ Alignment with Nisga'a Treaty requirements ▪ Transparency for other area Indigenous nations ▪ Interactions between Treaty Rights and asserted Aboriginal rights and title	The Project acknowledges the issues, values and concerns IRR raised as a result of their review of the IPD. Nisga'a Treaty effects assessment requirements are described in the DPD and in Section 11 of the dAIR.
BC Ministry of Transportation and Infrastructure (MOTI)	September 15, 2021 – Comment on IPD focused on Section 9.2.7 (Traffic Assessment). MOTI support the Project undertaking a traffic assessment	The Project acknowledges the issues, values and concerns MOTI raised as a result of their review of the IPD.
Multi-Ministry - BC IRR, ECC and EMLCI	February 26, 2021 – Virtual meeting with Deputy Ministers - Project Update	Project notified the three Ministry representatives with respect to publicly entering the EA-IA process in the second week of March 2021.
BC Oil and Gas Commission (BC OGC)	May 12, 2021 – BC OGC requested information with respect to the Project engaging with Alaska tribes May 27, 2021 – Virtual meeting - Project introduction	The Project has not engaged with Alaska tribes as the BC EAO has undertaken that step with no response. The Project was advised in the May 27, 2021 meeting that they recommend that the Project not conflict with BC reaching its publicly communicated GHG reduction targets.
Member of the Legislative Assembly – MLA for Skeena	May 21, 2021 – Project introduction meeting May 28, 2021 – Discussion of engagement with area Indigenous Nations	The Project discussed general Indigenous engagement with the MLA.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
Northern Health (NH)	September 20, 2021 – Comment on IPD with a focus on: ▪ Project workforce characteristics ▪ Project workforce accommodations ▪ Human Health – screening Human Health Risk Assessment (HHRA) ▪ Community health and wellbeing ▪ Health and medical service planning ▪ Socio-economic effects management planning including GBA+ analytics ▪ Accidents and Malfunctions ▪ Northern Health permits required for the project if it is approved ▪ Potential effects to human health guidance including how to access baseline health data December 3, 2021 - Comments on Project dAIR components summarized as follows: ▪ Draft VCs – Air Quality - Human Health – "Results from modelling construction and operational emissions with respect to effects on human health will be assessed under the Human Health VC." Northern Health recommend using BC Guidance for Prospective HHRA. Please ensure that any decisions regarding contaminants of potential concern are explained/articulated in the human health section. There may be contaminants which do not have provincial objectives included in the HHRA	The Project acknowledges the issues, values and concerns Northern Health raised as a result of their review of the IPD. Human health values are now described in more detail in Section 4.6.5 of the DPD with potential effects and mitigations described in Section 5.3.4. Indigenous Nations-Groups have also raised potential human health issues and these are described in Section 7 and Appendix 7 of the DPD. The Project has established that Human Health is a VC. All of the Northern Health interests, values and concerns are being addressed as the Project finalizes the DPD (e.g., Section 4.6.5 baseline studies, Section 5.3.4 potential Project effects and mitigations and in the dAIR (Section 7.13) and other VCs as appropriate. Northern Health has developed and shared recommendations for changes to some of the dAIR components shared for review and comment in November 2021. These recommendations will be considered and responded to as the engagement between the Project and the TAC on the dAIR continues.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	▪ Draft VC – Human Health - Drinking water quality, recreational water quality and soil/sediment quality cannot be excluded from the multi-media human health risk assessment until a screening level HHRA is completed - Incomplete pathways do not need to be carried forward, but rationale for their exclusion must be provided including references to site-specific evidence. Exposure pathways cannot be excluded on the basis of the Project contribution being insignificant, unless conservative predictions indicate releases will not result in a measurable increase in COPC concentration as defined in section 2.3 - BC Guidance for Prospective HHRA If any impact pathways are not operable based on the assessment, this needs to be identified at the time of the application in the problem formulation phase and justified with a detailed rationale, with the opportunity for Northern Health to review, provide feedback, ask questions and clarify assumptions ▪ Draft Project Interaction Table - These tables are not particularly suitable for considering the broad range of issues which may impact health and/or community wellbeing. Waste management has the potential to impact human health. The Procurement of labour, goods, and services should have broad applicability in terms of the economic and social impacts associated the various phases of the Project ▪ Draft Project and Physical Activities Inclusion List - The major mining projects in northwest BC should be captured in this list since service hubs like Terrace are used for those projects, Coastal Gaslink also uses service networks in the northwest of BC	

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	▪ Draft Study Area Boundaries and Rationale - For Employment and Economy and Infrastructure and Services, the RAA boundaries should span a broader contiguous area which relies on the major service hub of Terrace for community services and personnel ▪ Draft Study Area Boundaries and Rationale – Study Areas for the "socio-economic and infrastructure and services impacts" - Key Topic Areas should include larger service centre(s) as well as smaller surrounding communities that may be impacted (either directly or indirectly) by the project, recognizing that many Northern communities are interconnected and frequently share services. For instance, for health services, larger service centres, such as Terrace, Prince George and Fort St. John offer specialty services, higher acuity care and/or regional services and should generally be included in the spatial boundary. Based on international best practices, we also recommend that the spatial boundaries include not only the project impacts but also impacts of project related infrastructure (e.g. ports, transmission lines) and traffic corridors. Northern Health Standard Working Group Comments and Recommendations for Provincial EAs in Northern BC 2015	
Regional and Municipal Government		
City of Terrace	May 14, 2021 – Written correspondence to Terrace introducing Project and requesting an opportunity to present it virtually June 29, 2021 – Virtual meeting - Project introduction September 23, 2021 – Comments on IPD with a focus on: ▪ Terrace not having capacity to fully participate in the EA-IA ▪ General concern with potential Project indirect social effects on Terrace ▪ Terrace advises BC EAO that they will not be participating on the TAC	Project acknowledges Terrace's request to not be very involved in the Project's EA-IA. With that said, the Project will reach out to Terrace at key junctures and seek their engagement on Project EA-IA components where potential Project effects may be experienced in Terrace.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
City of Prince Rupert	June 7, 2021 – Letter reaching out to offer a Project introductory virtual meeting September 21, 2021 – Email correspondence to Prince Rupert requesting opportunity for the Project team to present the Project. Subsequent phone calls between Project team and Prince Rupert unsuccessful in securing a meeting date	The Project has not been successful engaging Prince Rupert to date. With that said, the Project will reach out to Prince Rupert at key junctures and seek their engagement on Project EA-IA components where potential Project effects may be experienced in Prince Rupert.
District of Stewart	September 23, 2021 – Email correspondence with the District of Stewart to arrange a meeting for the Project team to introduce the Project October 4, 2021 – Virtual meeting – Introductory presentation	The Project has successfully engaged a representative of Stewart. No issues or concerns of note. Ongoing Project EA-IA engagement will continue with Stewart.
North Coast Regional District (NCRD)	June 7, 2021 – Letter reaching out to offer a Project introductory virtual meeting September 20, 2021 – Email correspondence from Project team confirming a presentation to NCRD Board on October 15, 2021 October 15, 2021 – Virtual meeting – Project introduction presentation to NCRD Board. Presentation and meeting notes available December 1, 2021 – Comment on draft dAIR components. "There is currently an anchorage site in Whiskey Bay that is valuable for emergency use. NCRD would like to see impacts to the use of this site included in the assessment.	The Project has successfully engaged a representative of Stewart. No issues or concerns except a referenced to public use of a safe anchorage in Whiskey Bay at the Site. The Project does not plan to construct infrastructure in its to be leased Water Lot in Whiskey Bay or block access to it except if there are valid public safety reasons. Ongoing Project EA-IA engagement will continue with NCRD.
Regional District of Kitimat-Stikine (RDKS)	May 28, 2021 – Virtual meeting - Project introduction presentation to RDKS at Board Meeting September 20, 2021 – Email correspondence to RDKS requesting opportunity for the Project team to present the Project September 23, 2021 – Comments on IPD with a focus on: ▪ Economic opportunities, including recruiting locally ▪ Acknowledgement of the RDKS Economic Development Strategic Plan	The Project acknowledges the issues, values and concerns RDKS raised as a result of their review of the IPD. At this early stage of the Project**,** RDKS issues cannot be addressed in great detail, however, the Project can confirm they will be addressed in the EA-IA. No material issues raised as a result of the presentation to RDKS.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
	▪ Waste management – any potential effects to RDKS waste management facilities ▪ Construction of Project components not at the Site, more detail requested October 15, 2021 – Email correspondence from RDKS confirming the Project team can introduce the Project to the RDKS Board on October 22, 2021 October 22, 2021 – Virtual meeting – Project introduction presentation to RDKS Board	
United States of America		
United States Environmental Protection Agency (EPA)	September 22, 2021 – Comments on IPD with a focus on: ▪ Acknowledgement that BC EAO had reached out to Alaskan tribes to notify them of the project ▪ Potential effects to Alaskan air quality and identification of mitigation measures (e.g., state of the art controls) in consultation with the EPA if potential negative effects are realized ▪ Accidents and malfunctions related to potential release of air contaminants due to a seismic event ▪ Incorporating climate change into engineering design ▪ Advice on estimating and quantifying GHG emissions including those from Project related vessels and Project construction (e.g., Construction Emissions Mitigation Plan) ▪ Marine water quality – could be potentially effected by an accident or malfunction ▪ Coordination between Canada and US officials in any marine emergency response	The Project acknowledges the issues, values and concerns US EPA raised as a result of their review of the IPD. The Project can confirm the issues and concerns raised will be addressed in the EA-IA using methodologies as described in the dAIR. The Project's DPD acknowledges Canada-USA air quality agreements.

Federal, Provincial Municipal and Regional Government and USA	Early Engagement – Comment or Issue Raised	Project Response and-or Action Taken
Alaska – Department of Natural Resources (DNR)	September 21, 2021 – No substantive comments on IPD. Confirmation that Alaska Department of Natural resources will participate in the EA-IA and serve on the TAC September 23, 2021 **–** Email correspondence from Project team to Alaska DNR to organize Project introduction meeting September 24, 2021 – Virtual meeting – Project introduction presentation to Alaskan Department of Natural Resources representative	The Project has successfully engaged DNR. Ongoing engagement at key milestones will continue with a focus on potential Project effects to air quality in Alaska.

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APPENDIX 10 – PROJECT RESPONSE TO JOINT SUMMARY OF ISSUES AND ENGAGEMENT TABLE 2 COMMENTS

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JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
Accidents, Malfunctions, and Public Safety			
1. Potential for adverse environmental and human health effects from accidents and malfunctions, including those caused by weather related- events and seismic events. This includes spills of hazardous substances, marine incidents, pipeline leakages, road failures, on-site problems, and domino effect- accidents	Qualitative assessment of the risks associated with accidents and malfunctions (e.g., spills and marine incidents) as well as the effects of the environment on the Project (e.g., extreme weather and seismic events and tsunamis) will be completed for the EA-IA. A preliminary review of this assessment is provided in the DPD. The Proponent will complete risk assessment studies during FEED to inform design and the EA-IA.	The Proponent has engaged Indigenous groups and there is a common view that marine shipping associated with the Project poses a potential risk to marine resource and marine use. The Proponent proposes to work with federal authorities and Indigenous groups to undertake a TERMPOL or TERMPOL-like analyses to analyze the potential Project marine shipping risks and use those studies to inform the EA-IA for the Project. FEED level engineering is required – at considerable Proponent expense to design the Project's marine terminal. This level of engineering will not be available to inform the DPD.	9, 9.4.3, 9.4.5, 9.4.7, 9.4.8, 10.2, 10.3
2. Concern regarding unreliable or incomplete coverage for remote monitoring of maritime trafficand distance to, and availability of Canadian Coast Guard support	Marine emergency response capabilities in the Wil Milit area rely on the Canadian Coast Guard with support from the Western Canada Marine Resource Corporation (**WCMRC**), as warranted, and, as available, from the NLG, Enforcement and Emergency Services department. The Proponent understands the lack of VHF communications and limitations in radar coverage in the Wil Milit area. These two critical marine safety variables will be addressed in a Project TERMPOL or TERMPOL-like analyses. NLG engaging Coast Guard on emergency preparedness with Transport Canada (**TC**).	Engagement with Indigenous groups confirms that there is a concern with respect to marine emergency response. Marine safety variables will be addressed in a Project TERMPOL or TERMPOL-like analyses.	9, 9.1, 9.2.4, 9.2.5
3. Concern regarding the monitoring and enforcement of "exclusion zones" around the marine terminal during FEED	The Proponent will establish EPZs and HPZs, as these are integral to the BC OGC LNG Facility Permit - a permit that only be adjudicated if the BC EA decision is positive and the Project is approved to go forward. EPZs and HPZs are an outcome of analyses (e.g., risk assessment, "as low as reasonably practicable" (**ALARP**), HAZID, etc.) that support an application for the LNG Facility permit. Monitoring and enforcement will be the responsibility of the marine terminal operator, the Proponent.	Indigenous groups have expressed concern about being excluded from marine areas in the Project's proposed Water Lot. Exclusion will be necessary due to safety issues; an active marine terminal for involve LNGCs or NGL product carriers will not be safe for any other users.	9, 9.2.3
4. Details on the existing emergency response mechanisms and arrangements with Response Organizations within the spatial extent of marine shipping associated with the Project	Project will work with TC, NLG and other agencies to improve Emergency Planning at the Site and along shipping routes. Ksi Lisims LNG plans to join WCMRC prior to construction starting.	Indigenous groups have also expressed concerns with respect to marine emergency response. Critical marine safety variables will be addressed in a Project TERMPOL or TERMPOL-like analyses. Project Emergency response is addressed in FEED, however, that response will not be ready to include in the DPD. It will inform the EA-IA.	9, 9.2.4, 9.2.5, 9.3
5. Concern regarding the proponents' role for executing and/or financing of clean-up measures inthe event of a spill or other accidents/malfunctions	LNG carriers and other vessels calling on the LNG facility are owned and operated by third parties. They are regulated by International Marine Organization and TC legislation and must carry adequate insurance. The LNG facility must have permit to operate by the BC OGC and must have approved Emergency Response plans and insurance in place.	Indigenous groups have requested that the Proponent fund clean-up measures with respect to spills. Emergencies that result in marine spills at the Project's marine terminal would be addressed as required by the Proponent as required by provincial and federal legislation and regulations supported by other mechanisms (e.g., WCMRC). Marine accidents that involve LNGCs and NGL product carriers who are under the care and control of others (e.g., BC Coast Pilots, the Ship's Master) away from the Project's marine terminal are not the responsibility of the Project.	9, 9.1, 9.2.3
6. Information on emergency management and response should be available in local Indigenous languages	The Project will take the comment under advisement and consult with the NLG initially, and the other Indigenous groups, to see if emergency management and response information in their language would be helpful.	Indigenous groups have commented that marine emergency response information should be in an Indigenous language. The Project will carefully consider this request in consultation with the Indigenous group.	Not applicable

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
7. Consideration of seasonal and lunar/tidal windows, critical life cycle windows, and harvesting windows when planning for accidents and malfunctions	Seasonal and lunar/tidal windows, critical life cycle windows, and harvesting windows will be considered in risk assessment studies that will inform the overall accidents and malfunction potential effects analysis for the Project.	The Proponent has engaged Indigenous groups and there is a common view that marine shipping associated with the Project poses a potential risk to marine resource and marine use. Seasonal and lunar/tidal windows, critical life cycle windows, and harvesting windows will be considered in risk assessment studies that will inform the overall accidents and malfunction potential effects analysis for the Project. The Proponent proposes to work with federal authorities and Indigenous groups to undertake a TERMPOL or TERMPOL-like exercise to analyze the potential Project marine shipping risks and use those studies to inform the EA-IA for the Project. FEED level engineering is required – at considerable Proponent expense to design the Project's marine terminal. This level of engineering will not be available to inform the DPD.	5.3.3.4
8. Accidents or malfunctions related to shipping should be assessed specifically for relevant valued components, such as terrestrial wildlife, marine birds, human health, marine habitat, and marine fish	The Project will consider potential effects as applicable to the Project's applicable proposed VCs when accidents and malfunctions related to marine shipping are assessed.	The Proponent has engaged Indigenous groups and there is a common view that marine shipping associated with the Project poses a potential risk to marine resources, marine use and potentially to human health.	5.3.3.2, 5.3.3.4 5.3.4.2 5.3.4.4
9. Protection of tributaries from accidents enroute to the Project	The protection of tributaries into marine environments from marine accidents enroute to, or leaving the Project's marine terminal, will be addressed in Emergency Response planning (e.g., accidents where spills of contaminants could potentially affect marine ecosystems) and shipping operations procedures applicable to the Project's marine terminal.	The Proponent has engaged Indigenous groups and there is a common view that marine shipping associated with the Project poses a potential risk to marine resources and marine use with a further risk to important marine (e.g., Work Channel) or freshwater rivers and streams and the fishery resource. Potential marine shipping accidents and malfunctions to tributaries to marine waters and freshwater rivers and streams on the marine shipping route will be assessed in the EA-IA informed by TERMPOL, TERMPOL-like analyses and Project Emergency planning.	9.4.3, 9.4.4, 9.4.5, 9.4.8
10. Concern regarding extreme winds in the Portland Canal, how this impacts the safety of transporting LNG via this route, and potential anchoring and refuge options	Winds are being measured at the Site. Extreme winds will be factored into berthing simulations during FEED. Safe anchorages will be analyzed when marine terminal downtimes are analyzed. Information will be included in the proposed Marine Use VC effects assessment.	The Proponent has engaged Indigenous groups and there is a common view that the Site is in an area of occasional extreme weather. Meteorological and metocean equipment has been deployed at the Site to establish baseline information and this information is informing engineering design and the EA-IA.	10.1, 10.2, 5.3.3.2
Acoustic Environment (Terrestrial)			
11. Inclusion of a noise assessment in accordance with Health Canada's guidance which identifies anddescribes sensitive human receptors, and considers effects of noise disturbance, including the potential for sleep disturbance to local residents	A noise assessment in accordance with Health Canada's guidance which identifies and describes sensitive human receptors, and considers effects of noise disturbance, including the potential for sleep disturbance to residents, will be undertaken. Noise modelling will be undertaken to confirm the range of noise that may exceed established thresholds. Noise at the facility will be regulated by the BC OGC under the LNG Facility permit.	The Proponent has engaged Indigenous groups and there is a view that potential noise from the Project needs to be assessed. The Project is assessing potential Project effects from noise and is engaged on the scope of the proposed Acoustic VC with Indigenous groups.	3.5.2, 5.3.1.3, 5.3.4.2

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
Alternative Means of Carrying Out the Project			
12. Consideration of GHG emissions as a criterion in the evaluation and selection of Project design alternatives and/or proposed mitigation	GHG effects assessment will be undertaken as required by the Environment and Climate Change Canada's SACC and using methodologies described in the SACC Technical Guidance document, August 2021. Project is seeking lowest possible GHG emissions through connection to renewable power from BC Hydro.	Some Indigenous groups have expressed a concern with respect to Project GHG emissions and how these are to be assessed in the EA-IA. The Project has adopted the guidance in the technical memo to the SACC and that analysis framework has been incorporated into the DPD. The Project has already adopted the best achievable technology to power the LNG facility. It will be 100% electric with a new connection to the BC Hydro grid.	2.9,2.9.5, 5.3.1.2, Tables 2.7, 2.9 and 2.14
13. Additional information on alternative approved LNG project site locations	Alternative LNG Project site locations are summarized in the DPD.	Indigenous groups have asked for more information on Project siting. The Site has been selected by the Nisga'a Nation as appropriate for an LNG facility. They are the landowners. The DPD includes a brief description of other sites considered.	2.14.2, 2.14.2.2, Table 2.14
Atmospheric Environment			
14. Use of the most stringent Canadian Ambient Air Quality Standards to undertake an assessment of existing baseline, project-only, and future (baseline + project), and cumulative effects	Air Quality is a proposed VC and the effects assessment will be undertaken using methodologies in the final AIR and, if necessary, in the Tailored Impacts Statement Guidelines **(TISG)**. Air modelling will be undertaken when FEED level information is available using established methodologies.	Indigenous groups have advised the Proponent that they have concerns about potential Project effects to air quality. Effects to air quality will be evaluated and assessed in the EA-IA using methodologies confirmed in the final AIR and, if necessary, in the TISG.	3.1.1, Table 3.3, 3.5.1, 5.3.1
15. Effects on air quality from construction and operation, including activities associated with combustion (e.g., LNG carriers, marine vessels, truck, rail and compression stations), and from accidents and malfunctions	Air Quality is a proposed VC and the effects assessment will be undertaken using methodologies in the final AIR and if necessary, in the TISG. Air modelling will be undertaken when FEED level information is available using established methodologies. Potential effects to air quality from construction and operations, including activities associated with combustion and potential accidents and malfunctions will be assessed. Potential air quality effects from feed gas pipeline compression stations have already been assessed in the environmental assessment for either of the two potential feed gas pipelines. Air quality effects from trucks will be included in the EA-IA, however their potential for meaningful effects to air quality are considered low due to the nature of this "island" Site. There is no rail component to this EA-IA.	Indigenous groups have advised the Proponent that they have concerns about potential Project effects to air quality. Effects to air quality will be evaluated and assessed in the EA-IA using methodologies confirmed in the final AIR and, if necessary, in the TISG.	2.8.1, 2.8.2, 3.1.1, 3.5.1, 5.3.1.1
16. Consideration of NO_X, So_X, CO, VOCs, PAHs, $PM_{2.5}$ and PM_{10} in air quality assessment, as well as the carcinogenic and non-carcinogenic health impacts from diesel particulate matters.	Air Quality is a proposed VC, and the effects assessment will be undertaken using methodologies in the final AIR. Air modelling will be undertaken when FEED level information is available using established methodologies confirmed in the final AIR and if necessary, in the TISG. NO_x, SO_x, CO, VOCs, PAHs, PM2.5 and PM10 generated from fuel consumption will be assessed in the air quality assessment.	Indigenous groups have advised the Proponent that they have concerns about potential Project effects to air quality. Effects to air quality will be evaluated and assessed in the EA-IA using methodologies confirmed in the final AIR and if necessary, in the TISG.	3.1.1, 3.5.1, 5.3.1.1
17. Recommend that emission estimates assume the maximum anticipated number of LNG carriers and support vessels per year, including during construction	GHG emissions from FEED-level estimates of the maximum estimated number of Project related vessels (e.g., LNGCs, NGL product carriers, tugboats, etc.) calling upon the marine terminal will be estimated for operations and construction.	Indigenous groups have advised the Proponent that they have concerns about potential Project effects to air quality. Effects to air quality will be evaluated and assessed in the EA-IA using methodologies confirmed in the final AIR, and if necessary, in the TISG.	2.8.2, 3.1.1, 3.5.1, 5.3.1.1

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
18. Effects on air quality from the Project, resulting in impacts to sensitive aquatic and terrestrial ecosystem receptors, contamination of nearby land and waterbodies, and effects on plants, wildlife, fish and fish habitat, and human health	Air Quality is a proposed VC and the effects assessment will be undertaken using methodologies outlined in the final AIR. Air modelling will be undertaken when FEED level information is available using established methodologies. Potential effects from the Project on air quality resulting in impacts to sensitive aquatic and terrestrial ecosystem receptors, contamination of nearby land and waterbodies, and effects on plants, wildlife, fish and fish habitat, and human health will be assessed.	Indigenous groups have advised the Proponent that they have concerns about potential Project effects to air quality. Air Quality is proposed as a VC and assessment will be undertaken using methodologies outlined in the final AIR, and if necessary, in the TISG. Air modelling will be undertaken when FEED level information is available using established methodologies. Potential effects from the Project on air quality resulting in impacts to sensitive aquatic and terrestrial ecosystem receptors, contamination of nearby land and waterbodies, and effects on plants, wildlife, fish and fish habitat, and human health will be assessed.	2.8.1, 2.8.2, 3.1.1, 5.3.1.1
19. Consideration of best available technologies, best environmental practices, and robust mitigation measures to reduce air emissions related to construction, storage tanks, terminal operations, and marine shipping components of the Project	Alternatives analyses of the LNG facility's and marine shipping's potential effects from air emissions will be undertaken with a focus on material GHG and air emission reduction measures that are informed by FEED information.	Indigenous groups have advised the Proponent that they have concerns about potential Project effects to air quality. Effects to air quality will be evaluated and assessed in the EA-IA using methodologies confirmed in the final AIR, and if necessary, in the TISG.	2.9,2.9.5, Tables 2.7, 2.9 and 2.14, 5.3.1.1, 5.3.1.2
Archaeological Sites			
20. Impacts to Indigenous sacred sites and other cultural and heritage-sensitive areas	Archaeology and Heritage Resources is proposed as a VC. Potential Project effects to the VC will be assessed as described in the final AIR, and if necessary, in the TISG. Archeological investigations will be conducted at the Site supported by the Nisga'a and the application of their archaeological policies on their lands. The Nisga'a Treaty has specific provisions with respect to archeological resources on Nisga'a lands. Archaeological investigations on Nisga'a Category A Treaty lands will be governed by the Heritage Conservation Act Archaeological Investigation Assessment Permit issued by the FLNRORD. Archaeological investigations in the inter-tidal will be governed by the BC Heritage Conservation Act Archaeological Investigation Assessment Permit issued by MFLNRORD.	Indigenous groups have expressed concerns with respect to potential Project effects to heritage values. Archaeology and Heritage Resources is proposed as a VC. Potential Project effects to the VC will be assessed as described in the final AIR and if necessary, in the TISG.	4.6.4, 5.3.4.5, Appendix 7
21. Effects to historic, heritage and fossil resources, and mitigation measures established to avoid orreduce potential impacts, including the development of a chance find protocol	The Project has incorporated a Nisga'a Chance Find Protocol to guide archaeological field investigation on their land at the Site. Their Change Find Protocol is informed by an alternative but similar Chance Find Protocol advanced by another Indigenous group for inter-tidal archaeological investigations. Archaeological investigations in the inter-tidal will be governed by the Heritage Conservation Act Archaeological Investigation Assessment Permit issued by FLNRORD.	Indigenous groups have expressed concerns with respect to potential Project effects to heritage values. Heritage is proposed as a VC. Potential Project effects to the VC will be assessed as described in the final AIR and if necessary, in the TISG	6.4, 5.3.4.5, Appendix 7
Climate Change and Greenhouse Gas Emissions			
22. Clarity on the anticipated direct and indirect GHG emissions, the scope of activities included in GHG estimates (including incidental physical activities), and descriptions of the methodologies and assumptions used for the quantification of GHG emissions from each activity	The Project's GHG effects assessment in the EA-IA will be undertaken consistent with the SACC Technical Guidance document – August 2021.	Indigenous groups have expressed concerns with respect to potential Project effects from GHG emissions. The Project has already adopted the best achievable technology as the facility will be 100% electrified. The Project's GHG effects assessment in the EA-IA will be undertaken consistent with the SACC Technical Guidance document – August 2021.	2.9

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
23. Consideration of best available technologies, best environmental practices, and mitigation and offset measures to reduce GHG emissions, including the effectiveness and costs of potential carbon capture and sequestration	The Project is to be a net-zero facility and will incorporate offsets to essentially reduce Project GHG emissions to zero. Electricity is to be provided to the LNG facility from the BC Hydro grid.	Indigenous groups have expressed concerns with respect to potential Project effects from GHG emissions. The Project has already adopted the best achievable technology as the facility will be 100% electrified. Net zero will be achieved through the purchase of necessary offsets. The Project's GHG effects assessment in the EA-IA will be undertaken consistent with the SACC Technical Guidance document – August 2021.	2.9, 2.14
24. Clarity of the type of activities that would result in impacts on carbon sinks by ecosystem type, including GHG emissions caused by wildfires	The potential GHG effects from potentially burning biomass resulting from clearing at the Site will be assessed but is anticipated to not be material due to the small area being cleared.	Indigenous groups have expressed concerns with respect to potential Project effects from GHG emissions. The Project's GHG effects assessment in the EA-IA will be undertaken consistent with the SACC Technical Guidance document – August 2021.	2.9
25. Clarity on how the goals set out by the FNCI and the Net Zero goal will be met	FNCI goals are to support LNG development in FNCI Indigenous participant territories using electricity supplied by BC Hydro. The Project is being designed to be net-zero by 2050 and intends to use electricity from the BC Hydro grid as the power source. To achieve net-zero there will be a small quantity of emissions annually that will need to be offset. The Project plans to buy carbon credits to offset these emissions. One potential source for the credits is from Nisga'a lands as they are in the planning stages of developing a carbon project to develop carbon credits. From conservation and enhanced forest management on their lands.	Indigenous groups have expressed concerns with respect to potential Project effects from GHG emissions. The Project has already adopted the best achievable technology as the facility will be 100% electrified. Net zero will be achieved through the purchase of necessary offsets.	2.9, 6.3.5, 7.4
26. Consideration of upstream and downstream climate impacts related to the Project's life cycle emissions, including carbon leakage from overseas construction and fugitive emissions from processing, transport and final combustion of gas	The Project's GHG effects assessment will be undertaken consistent with the SACC Technical Guidance document – August 2021.	Indigenous groups have expressed concerns with respect to potential Project effects from GHG emissions. The Project has already adopted the best achievable technology as the facility will be 100% electrified. Net zero will be achieved through the purchase of necessary offsets. The Project's GHG effects assessment will be undertaken consistent with the SACC Technical Guidance document – August 2021.	2.9, 5.3.1.1
27. Concern regarding climate change effects from the combustion of LNG, as opposed to other fossil fuels and renewable and sustainable energy, over the lifespan of the Project	The Project believes that the export of LNG to countries dependent on using coal to supply power provides opportunities to use LNG instead of coal ultimately lowering global GHG emissions. Using LNG may also be a feedstock for making hydrogen fuel which is even cleaner.	Indigenous groups have expressed concerns with respect to potential Project effects from GHG emissions. The Project takes the view that providing LNG to countries dependent on other fossil fuels (e.g., coal) to produce electricity will ultimately lower global GHG emissions and address Internationally agreed to Climate change global GHG reduction targets. The Project's GHG effects assessment will be undertaken consistent with the SACC Technical Guidance document – August 2021.	1.2, 6.3.5.1, 6.3.5.2
28. Inclusion of climate modeling in the operational design	Potential climate change effects on the Project will be assessed in the operational design.	Indigenous groups have expressed concerns with respect to potential Project effects from climate change. The Project will be modelling climate change effects on the project and that information will inform the EA-IA.	9.2.1, 9.2.2, 10.1. 10.2, 10.6
29. Contribution of the Project's emissions on Canada's environmental commitments on climate change (including consideration of the Paris Accords and the latest United Nations IPCC report), and how this could impact provincial and federal targets	The Project's GHG effects assessment will be undertaken consistent with the SACC Technical Guidance document – August 2021.	Indigenous groups have expressed concerns with respect to potential Project effects on provincial and federal GHG reduction targets-objectives. This issue will be assessed in the EA-IA and due to the nature of this 100% electrified LNG facility, there is very low risk that the Project will materially negatively impact these objectives.	6.3.5.1

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
Cultural			
30. Effects on Indigenous knowledge transmission, cultural continuity, sense of place, and psychosocial impacts	Potential Project effects to Nisga'a culture will be assessed as required in Chapter 10 of the Nisga'a Treaty and described in a specific Nisga'a effects assessment section in the final AIR. Potential Project effects to the expressed cultural values of other area Indigenous Nations will be assessed as described in the final AIR, and if necessary, in the TISG.	Indigenous groups have expressed substantive concerns with respect to the Project having potential effects to their culture. Potential Project effects to Nisga'a culture will be assessed as required in Chapter 10 of the Nisga'a Treaty and described in a specific Nisga'a effects assessment section in the final AIR. Potential Project effects to the expressed cultural values of other area Indigenous Nations will be assessed as described in the final AIR and if necessary, in the TISG.	6.1.1, Appendix 7
31. Impacts on human cultural heritage off the north coast	Potential Project effects to Nisga'a culture will be assessed as required in Chapter 10 of the Nisga'a Treaty and described in a specific Nisga'a effects assessment section in the final AIR. Potential Project effects to the expressed cultural values of other area Indigenous Nations will be assessed as described in the final AIR and, if necessary, in the TISG.	Same as above	6.1.1, Appendix 7
Cumulative Effects			
32. Cumulative effects to Indigenous communities and the exercise of section 35 rights due to significant oil, gas, forestry and mining development activities over the past several decades	Potential cumulative effects to Indigenous interests are to be addressed in each of the applicable Proponent proposed VCs. Indigenous interests will also be assessed in each nation's sections of the Application. Some may be unique to a nation and a cumulative effects analysis may be required if residual effects are found for that interest in that nation's section. Potential cumulative effects to Nisga'a culture will be assessed as described in the final AIR and, if necessary, in the TISG Chapter regarding Nisga'a Treaty 8f assessment.	Indigenous groups have expressed substantive concerns with respect to the Project having potential cumulative effects to the exercise of their Section 35 rights. Potential cumulative effects to Indigenous interests are to be addressed in each of the applicable Proponent proposed VCs. Indigenous interests will also be assessed in each nation's sections of the Application. Some may be unique to a nation and a cumulative effects analysis may be required if residual effects are found for that interest in that nation's section. Potential cumulative effects to Nisga'a culture will be assessed as described in the final AIR and, if necessary, in the TISG Chapter regarding Nisga'a Treaty 8f assessment.	5.3.5, 6.1.1, Appendix 7
33. Cumulative effects from increased vessel traffic, pipeline construction and operation, and the ongoing development at the Port of Prince Rupert	Potential cumulative effects to Indigenous interests are to be addressed in each of the applicable Proponent proposed VCs. Indigenous interests will also be assessed in each nation's sections of the Application. Some may be unique to a nation and a cumulative effects analysis may be required if residual effects are found for that interest in that nation's section. Potential cumulative effects to Nisga'a culture will be assessed as described in the final AIR and, if necessary, in the TISG Chapter regarding Nisga'a Treaty 8f assessment. In addition, potential cumulative effects associated with the Project at the Port of Prince Rupert will be assessed for effects on the economy and employment, infrastructure and services, marine use, marine resources, acoustics and air quality.	Indigenous groups have expressed substantive concerns to the Proponent with respect to the Project having potential cumulative effects to the exercise of their Section 35 rights. Their interests can be summarized in the following Proponent proposed VCs: Economy and Employment, Infrastructure and Services, Marine Use, Marine Resources, Acoustics and Air Quality Potential cumulative effects to Indigenous interests are to be addressed in each of the applicable Proponent proposed VCs. Indigenous interests will also be assessed in each nation's sections of the Application. Some may be unique to a nation and a cumulative effects analysis may be required if residual effects are found for that interest in that nation's section. Potential cumulative effects to Nisga'a culture will be assessed as described in the final AIR and, if necessary, in the TISG Chapter regarding Nisga'a Treaty 8f assessment. In addition, potential cumulative effects associated with the Project at the Port of Prince Rupert will be assessed for effects on the economy and employment, infrastructure and services, marine use, marine resources, acoustics and air quality.	5.3.5, 6.1.1, Appendix 7

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
34. Inclusion of cultural considerations in cumulative effects assessments	Potential cumulative effects to Indigenous interests are to be addressed in each of the applicable Proponent proposed VCs. Indigenous interests will also be assessed in each nation's sections of the Application. Some may be unique to a nation and a cumulative effects analysis may be required, if residual effects are found for that interest in that nation's section. Potential cumulative effects to Nisga'a culture will be assessed as described in the final AIR and, if necessary, in the TISG Chapter regarding Nisga'a Treaty 8f assessment. Potential cumulative effects assessments will incorporate the cultural considerations expressed by other Indigenous groups.	Indigenous groups have expressed substantive concerns with respect to the Project having potential cumulative effects and that their cultural considerations need to be factored into cumulative effects assessments. Potential cumulative effects assessments will incorporate the cultural considerations expressed by other Indigenous groups. Potential cumulative effects to Indigenous interests are to be addressed in each of the applicable Proponent proposed VCs. Indigenous interests will also be assessed in each nation's sections of the Application. Some may be unique to a nation and a cumulative effects analysis may be required. if residual effects are found for that interest in that nation's section. Potential cumulative effects to Nisga'a culture will be assessed as described in the final AIR and, if necessary, in the TISG Chapter regarding Nisga'a Treaty 8f assessment.	5.3.5, 6.1.1, Appendix 7
35. Cumulative effects on climate change from various LNG development projects in the province	The Project has already adopted the best achievable technology as the facility will be 100% electrified. Net zero will be achieved through the purchase of necessary offsets.	Indigenous groups have expressed concerns with respect to potential Project cumulative effects on climate change from GHG emissions. The Project has already adopted the best achievable technology as the facility will be 100% electrified. Net zero will be achieved through the purchase of necessary offsets.	2.9
Current and Future Generations			
36. Project impacts on future generations due to climate change and environmental degradation	The Project will provide jobs, resources, tax revenue etc. that can be used to improve the environment and mitigate climate change impacts for future generations. Potential Project effects to the proposed Employment and Economy and Infrastructure and Services VCs will be assessed as described in the final AIR and as necessary, in the TISG.	Indigenous groups have expressed a concern that potential Project effects could negatively impact climate change mitigation efforts and degrade the environment potentially result in impacts to future generations. Potential Project effects to the proposed Employment and Economy and Infrastructure and Services VCs will be assessed as described in the final AIR and as necessary, in the TISG.	5.3.4, 5.3.5, 6.1.1
Differential Impacts upon Diverse Persons and Groups			
37. Use of a GBA plus approach throughout the assessment to understand the differential impacts and experiences of risk, benefits and impacts of the Project on men, women, gender diverse persons and people from a range of groups and communities	A GBA plus approach will be tailored to the uniqueness of this Project (e.g., isolated Site with workers confined to the Site during construction and operations) used in the effects assessment to understand risk, benefits and impacts of the Project on men, women, gender diverse persons and people from a range of groups and communities.	Note: GBA plus assessment has not been raised with the Proponent by Indigenous groups. Comment left is applicable to the provincial and federal requirements.	8.3.3
38. Use of disaggregated baseline information (at a minimum, by sex, gender, age and ethnicity, and where possible, by other factors such as Indigeneity or education and income levels and inclusion of descriptions of data gaps, where applicable	Disaggregated baseline information where available and applicable to the unique circumstances of this Project will be used in the assessment.	Note: GBA plus assessment has not been raised with the Proponent by Indigenous groups. Comment left is applicable to the provincial and federal requirements.	8.3.3
39. Ensure inclusiveness in consultation by engaging diverse subgroups to identify different needs, providing language and information materials that are accessible to all, considering the decision-making abilities of individuals or groups, and mitigating barriers to participation	The Project will strive to ensure inclusiveness in Project engagements as described in the Project's Engagement plan.	Note: GBA plus assessment has not been raised with the Proponent by Indigenous groups. Comment left is applicable to the provincial and federal requirements.	8.3.3
40. Inclusion of gender-based violence (e.g., sexual harassment, violence against women, and human trafficking) in scoping, assessment and mitigation measures and identification of vulnerable groups among women (e.g., Indigenous and younger women)	The Project will include gender-based violence in scoping, assessment and mitigation measures, and identification of vulnerable groups among women.	Note: GBA plus assessment has not been raised with the Proponent by Indigenous groups. Comment left is applicable to the provincial and federal requirements.	8.3.3

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
41. Inclusion of qualitative insights from studies, consultations, and other sources to complement quantitative information	The Project will include qualitative insights from studies, consultations, and other sources to complement quantitative information as appropriate.	Note: GBA plus assessment has not been raised with the Proponent by Indigenous groups. Comment left is applicable to the provincial and federal requirements.	Not applicable
42. Project hiring resulting increased potential violence to women and girls	Project hiring policies have yet to be developed and due to the isolated nature of the Project's workforce will consider potential for increased violence against women at the Site.	Note: GBA plus assessment has not been raised with the Proponent by Indigenous groups. Comment left is applicable to the provincial and federal requirements.	Not applicable
Economic Conditions			
43. Effects of the Project on the local and regional economy (including tourism, fishing, responsible logging and small business)	Potential Project effects on the local and regional economy (including tourism, fishing, forestry and small business) will be assessed under the proposed Employment and Economy VC and, as applicable, the Nisga'a Treaty Chapter 10, sub-section 8f effects assessment as described in the final AIR and, as necessary, in the TISG.	Indigenous groups have raised concerns about the potential effects of the Project and regional economy. Potential Project effects to the local and regional economy will be evaluated and assessed under the proposed the Employment and Economy VC and, as applicable, the Nisga'a Treaty Chapter 10, sub-section 8f effects assessment as described in the final AIR and, as necessary, in the TISG.	4.4, 4.4.1, 4.4.4, 4.6.1, 4.6.2, 4.6.3, 5.3.4
44. Effects of the Project on local job creation, recruitment, retention, welfare and long-term job opportunities	Potential effects of the Project on the local and regional economy (including tourism, fishing, forestry and small business) will be assessed under the proposed Employment and Economy VC and, as applicable, Nisga'a Treaty Chapter 10, sub-section 8f as described in the final AIR and, as necessary, in the TISG.	Indigenous groups have raised concerns about the potential effects of the Project and regional economy – specifically jobs. Potential Project effects to the local and regional economy and employment will be evaluated and assessed under the proposed the Employment and Economy VC and, as applicable, the Nisga'a Treaty Chapter 10, sub-section 8f effects assessment as described in the final AIR and, as necessary, in the TISG.	5.3.4, Appendix 7
45. Information on whether the Project employs or introduces any innovative technologies or processes which would add to Canada's knowledge capital	Information regarding the introduction of innovative technologies and/or processes which would add to Canada's knowledge capital will be added into the assessment as appropriate. The use of floating LNG is a relatively new technology with limited proposed implementation in Canada.	Comment same as left	1.2
46. Consideration of the global market for LNG and LNG prices	Consideration of the global market for LNG and LNG prices will be included in the assessment.	Comment same as left	1.2, 5.3.4
47. Consideration of how this Project can promote an efficient and inclusive labour market	Consideration of how this Project can promote an efficient and inclusive labour market will be assessed in the proposed Employment and Economy VC as described in the final AIR and, as necessary, in the TISG.	Comment same as left	5.3.4
48. Information on the overall costs and benefits of the Project to the province and Canada	Information on the overall costs and benefits of the Project to the province and Canada will be assessed in the proposed Employment and Economy VC as described in the final AIR and, as necessary, in the TISG.	Comment same as left	1.2, 5.3.4
Ecosystems			
49. Effects of the Project on aquatic (e.g., Kispiox, Nass, and Skeena Rivers) and forest ecosystems	Potential effects of the Project on aquatic and forest ecosystems will be assessed under a number of proposed environmental VCs as described in the final AIR and, as necessary, in the TISG.	Indigenous groups have expressed concerns that the Project may have potential effects to regional ecosystems. Potential effects of the Project on aquatic and forest ecosystems will be assessed under a number of proposed environmental VCs as described in the final AIR and, as necessary, in the TISG.	3.3.5, 5.1, 5.3.3

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
50. Effects on keystone species such as Chinook and Coho salmon, Black and Brown (and Kermode) bears, and sea otters	Potential effects of the Project on keystone (e.g., "focal") species will be assessed under a number of proposed environmental VCs as described in the final AIR and, as necessary, in the TISG.	Indigenous groups have expressed concerns that the Project may have potential effects to keystone species. Potential effects of the Project on keystone (e.g., "focal") species will be assessed under a number of proposed environmental VCs as described in the final AIR and, as necessary, in the TISG.	3.5.6, 5.1, 5.3.3
51. Impacts to sensitive environmental areas along the proposed LNG carrier route, and the associated mitigations and commitments that would be required during specific times of the year	Potential effects to sensitive environmental areas along the proposed LNG carrier route will be evaluated and assessed under the proposed Marine Resources and Marine Use VCs as described in the final AIR and, as necessary, in the TISG. Potential mitigations to negative effects and who is the accountable organization or entity, and the timing of any mitigations will be included in the EA-IA.	Indigenous groups have expressed concerns that the Project may have potential effects to sensitive environmental areas along the LNGC shipping route. Potential effects to sensitive environmental areas along the proposed LNG carrier route and other shipping routes will be evaluated and assessed under the proposed Marine Resources and Marine Use VCs as described in the final AIR and, as necessary, in the TISG. Potential mitigations to negative effects and who is the accountable organization or entity, and the timing of any mitigations will be included in the EA-IA.	3.5.6, 4.6.2, 5.1, 5.3.2, 5.3.3
Effects of the Environment on the Project			
52. Effects of the environment on the Project such as earthquakes, climate change, extreme weather events and sea-level rise	The potential effects of the environment on the Project such as earthquakes, climate change, extreme weather events and sea-level rise will be assessed as described in the final AIR, and as necessary in the TISG.	Indigenous groups have expressed concerns that the Project may have potential effects to sensitive environmental areas from climate changes and sea level rise and from seismic induced tsunamis at the Site. The Proponent will be undertaking modelling to predict sea level rise and potential effects from an earthquake induced tsunami and this will inform Project engineering and the EA-IA.	10.1 – 10.4 inclusive
53. Recommend incorporating adaptive design components to adapt to anticipated changes in the Project area due to climate change	Project design will incorporate predicted climate change where appropriate.	Comment same as left	10.1
Environmental and Impact Assessment Processes			
54. Clarity on the scope of impact assessment, including effects from marine shipping, ferry service, power transmission system, workforce accommodations and backup onsite power generation	Potential Project effects from marine shipping, workforce transportation and accommodations and backup onsite power generation, as described in the DPD will be assessed as described in the final AIR and, as necessary, in the TISG.	Indigenous groups have expressed a need for clarity on the scope of impact assessment, including effects from marine shipping, ferry service, power transmission system, workforce accommodations and backup onsite power generation. All of the above are clearly described in the DPD, Potential Project effects from marine shipping, workforce transportation and accommodations and backup onsite power generation, as described in the DPD will be assessed as described in the final AIR and, as necessary, in the TISG.	5.1, 5.2, 5.3
55. Concern regarding the use of stand-alone assessment areas, including the Marine Shipping Assessment Area and Construction Support Shipping Corridor, and their potential to diminish the assessed impacts of the Project as a whole	The proposed Study areas have been under discussion with Indigenous groups for the past few months and have been revised. They remain "proposed" and will not be confirmed until the final AIR and, as necessary, in the TISG, is approved.	Indigenous groups have expressed a concern regarding the use of stand-alone assessment areas, including the Marine Shipping Assessment Area and Construction Support Shipping Corridor, and their potential to diminish theassessed impacts of the Project as a whole. The proposed Study areas have been under discussion with Indigenous groups for the past few months and have been revised. They remain "proposed" and will not be confirmed until the final AIR and, as necessary, in the TISG is approved.	5.1, 5.2, 5.3
56. Consideration of how this Project compares to other proposed LNG projects in Northwest BC	The Project Interaction List for cumulative effects includes Cedar LNG and Port Edward LNG.	The project Interaction List is "proposed" and will not be confirmed until the final AIR and, as necessary, in the TISG is approved.	5.1

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
Fish and Fish Habitat			
57. Effects on fish mortality, quality, resilience and productivity (including salmon, eulachon, herring, anadromous species, shellfish and crustaceans)	Potential Project effects on fish mortality, quality, resilience and productivity (including salmon, eulachon, herring, anadromous species, shellfish and crustaceans) will be assessed in the proposed Freshwater Fish and Marine Resources VCs as described in the final AIR They remain "proposed" and will not be confirmed until the final AIR and, as necessary, in the TISG is approved.	Indigenous groups have expressed concern that the project could potentially have negative effects on fish mortality, quality, resilience and productivity (including salmon, eulachon, herring,anadromous species, shellfish and crustaceans). Potential Project effects on fish mortality, quality, resilience and productivity (including salmon, eulachon, herring, anadromous species, shellfish and crustaceans) will be assessed in the proposed Freshwater Fish and Marine Resources VCs as described in the final AIR and, as necessary, in the TISG.	5.3.3
58. Effects on fish habitat and spawning routes through harmful alteration, disruption and destruction of habitat during construction and operation	Potential Project effects on fish habitat and spawning routes through harmful alteration, disruption and destruction of habitat during construction and operations will be assessed in the proposed Freshwater Fish and Marine Resources VCs as described in the final AIR and, as necessary, in the TISG.	Indigenous groups have expressed concern that the Project could potentially effect fish habitat and spawning routes through harmful alteration, disruption anddestruction of habitat during construction and operation. Potential Project effects on fish habitat and spawning routes through harmful alteration, disruption and destruction of habitat during construction and operations will be assessed in the proposed Freshwater Fish and Marine Resources VCs as described in the final AIR and, as necessary, in the TISG.	5.3.3
General – Project Description			
59. Clarity and additional information on the following Project components and activities:	Not applicable	Not applicable	
a. Exclusion zones;	A Project marine terminal safety component that follows a positive EA-IA decision and forms part of the BC OGC Facility permit – informed by a number of analyses such as risk assessment, Emergency Planning and Hazard zone boundary definition, ALARP and HAZID.	Indigenous groups have expressed concern about being excluded from marine areas in the Project's proposed Water Lot. Exclusion will be necessary due to safety issues; an active marine terminal for LNGC and NGL product carriers will not be safe for any other users.	9.2.3
b. Potential of having contaminated sediments in and around the Water Lot during construction;	The seabed within the Water Lot is expected to be in a natural condition. Seabed sediment sampling analysis within proposed disturbed areas of the marine infrastructure footprint may be undertaken as informed by Project geo-technical work in the inter-tidal and sub-tidal marine footprint in the Water Lot.	Comment same as left.	3.3.4, 3.5.6, 4.4, 4.6.5, 5.3.3
c. Potential sewage treatment facilities (location, components, potential barging effects, and options for emission offset);	As described in the DPD; potential sewage treatment and its discharge is under design. Project wastewater management, including collection, composition, treatment, effluent pipeline, outfall and diffuser into Portland Canal will be assessed in the EA-IA as defined in the final AIR and, as necessary, in the TISG. Other post-EA-IA authorizations are required before effluent can be released into marine waters.	Indigenous groups have expressed concerns with respect to how the Project intends to handle Project wastewaters (e.g., sewage). Project wastewater management, including collection, composition, treatment, effluent pipeline, outfall and diffuser into Portland Canal will be assessed in the EA-IA as defined in the final AIR and, as necessary, in the TISG. Other post-EA-IA authorizations are required before effluent is released into marine waters.	2.1, 2.3.3, 2.4.2, 2.8.1, 2.8.2

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
d. Power supply by BC Hydro;	As described in the DPD. The Project plan is to be 100% electric with the lowest possible GHG emissions. Power to be supplied by connection to BC Hydro provided by a third party. The third party will work with BC Hydro to engage in studies, secure the necessary transmission capacity, design the mainland and subsea connection to a sub-station at the Site, seek the authorizations necessary from NLG and BC to build the connection and operate the new power line connection. The provision of BC Hydro grid electricity to the Project is not under the care and control of the Proponent.	Indigenous groups have expressed concerns with respect to how the Project is powered. The Project plan is to be 100% electric with the lowest possible GHG emissions. Power to be supplied by connection to BC Hydro provided by a third party. The third party will work with BC Hydro to engage in studies, secure the necessary transmission capacity, design the mainland and subsea connection to a sub-station at the Site, seek the authorizations necessary from NLG and BC to build the connection and operate the new power line connection. The provision of BC Hydro grid electricity to the Project is not under the care and control of the Proponent.	2.3.14. 2.4.2 2.14
e. Size of the natural gas-fired power plant;	As described in the DPD. If the BC Hydro power connection is delayed, the Project will use temporary power barges to temporarily produce the power necessary for facility operation until the BC Hydro connection is in place. The temporary power barges will then be removed from the Site. Power requirements are estimated to be up to 600 MW but not more electricity than a 287 KV line can safely transmit.	Comment same as left.	2.4.1, 2.14
f. Portion of onshore facility that would be constructed at an offsite location;	This information is not available for the DPD. Project onshore construction, and those Project components constructed elsewhere and transported to the Site will be determined in FEED and provided in the EA-IA.	Comment same as left.	2.3.3, 2.4.4
g. Use of landfill during construction;	As described in the DPD. Construction waste that cannot be safely managed on site (e.g., combustible in high temperature incinerator located at the Site) may be transported by barge and then truck to an approved landfill for disposal (e.g., Nisga'a Regional Landfill). An overburden storage area will also be developed at the Site.	Comment same as left.	2.8
h. Design and purpose of the refrigerant cooling systems;	As described in the DPD. Final design information will be generated in FEED and provided in the EA-IA.	Comment same as left.	2.3.9
i. Decommissioning plan for sub-sea floor pipelines;	Not a Project component. Decommissioning of the pipeline is under the care and control of the third-party pipeline service provider.	Not applicable	Not applicable
j. Purging process involved in the removal of residual gas;	Not a Project component. Decommissioning of the pipeline is under the care and control of the third-party pipeline service provider.	Not applicable	Not applicable
k. Freshwater needs of the Project and supply options;	As described in the DPD. A number of water source options are under consideration and study. The final decision with respect to the source of Project water will be based on water availability and quality at the potential source as well as an assessment of reliability and cost of all potential sources including surface water, precipitation catchment, groundwater and desalination.	Indigenous groups have asked for clarification on water needs and sources of water for the Project. As described in the DPD. A number of options are under consideration. The final decision with respect to the source of Project water will be based on water availability and quality at the potential source as well as an assessment of reliability and cost of all potential sources including surface water, precipitation catchment, groundwater and desalination.	2.1, 2.11, 4.4.2

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
l. Condensate loading and export (size and frequency);	As described in the DPD. The volume of condensate created and the number of shipments (e.g., early estimate less than 30,000 m3 in volume and less than 10 shipments per year) is expected to be small in number, however, finalization of volumes and number of marine shipments cannot be finalized for the DPD and will be included in the EA-IA. Marine shipping routes are expected to be south from Triple Island to potential buyers on the USA west coast or directly west to commercial buyers in Asia from Triple Island.	Indigenous groups are concerned about the Project's condensate by-product and the marine shipping of that product through their territories. As described in the DPD. The volume of condensate created and the number of shipments (e.g., early estimate less than 30,000 m3 in volume and less than 10 shipments per year) is expected to be small in number, however, finalization of volumes and number of marine shipments cannot be finalized for the DPD and will be included in the EA-IA. Marine shipping routes are expected to be south from Triple Island to potential buyers on the USA west coast or directly west to commercial buyers in Asia from Triple Island.	2.3.11, 2.5, 2.6
m. The handling and management of waste streams such as condensates, biomass waste, excavated overburden, hazardous waste and organic material;	As described in the DPD. Handling and management options will be assessed for effects and proposed mitigations presented in the EA-IA. The Project is likely to develop management plans that will employ adaptive management during construction and operation.	Indigenous groups have expressed concern with respect to how the Project intends to manage its wastes. As described in the DPD. Handling and management options will be assessed for effects and proposed mitigations presented in the EA-IA. The Project is likely to develop management plans that will employ adaptive management during construction and operation.	2.8, 2.3.11
n. The peak construction workforce, number of years of construction, and the operational workforce.	Preliminary information is as described in the DPD. Improved estimates are expected to be an outcome of FEED and will be provided in the EA-IA.	Indigenous groups have expressed interest in the number of workers and their origin during construction and operations. This Project is in an isolated location with a construction workforce confined to the Site. Project Operations staff will likely be transported by vessel from either Gingolx or potentially Prince Rupert although the latter is a much longer voyage (5 times longer). Preliminary information is as described in the DPD. Improved estimates are expected to be an outcome of FEED and will be provided in the EA-IA.	2.4.3
60. Clarity on whether the Water Lot lease will change jurisdictional oversight in the marine environment and the implications it may have on the ongoing monitoring and management of the Project	The Water Lot lease is a lease by the Province to the Nisga'a. The Nisga'a subsequently lease the Water Lot to the Ksi Lisims LNG Project. Enforceable permits would be issued potentially by NLG but certainly from BC OGC, Department of Federal Fisheries and Oceans **(DFO)** and TC Navigation Protection Branch. Environmental monitoring plans would form part of follow up activities.	Indigenous groups have expressed concern with respect to jurisdiction of the Water Lot. The Water Lot lease is a lease by the Province to the Nisga'a. The Nisga'a subsequently lease the Water Lot to the Ksi Lisims LNG Project. Enforceable permits would be issued potentially by NLG but certainly from BC OGC, DFO and TC Navigation Protection Branch. Environmental monitoring plans would form part of follow up activities.	2.11 and 6.3.3
61. Clarity on anticipated baseline sampling sites, including the justification for their selection and the level of sampling effort	The Baseline Monitoring Plan was finalized in May 2021. Nisga'a and another area Indigenous Nation provided review and edit. The plan was shared in draft to the area's Indigenous Nations in May 2021 with a Baseline Program Update provided in October 2021. Comments have been received on the plan and update from some Nations including Nisga'a. Participating Indigenous Nations are offered the opportunity to participate in appropriate baseline sampling programs.	Sone Indigenous groups have expressed concern that they have had no involvement in the design and implementation of the Project's baseline study plan. The Baseline Monitoring Plan was finalized in May 2021. Nisga'a and another area Indigenous Nation provided review and edit. The plan was shared in draft to the area's Indigenous Nations in May 2021 with a Baseline Program Update provided in October 2021. Comments have been received on the plan and update from some Nations including Nisga'a. Participating Indigenous Nations are offered the opportunity to participate in appropriate baseline sampling programs.	3.5, Tables 3.9, 3.10, 3.11

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
62. Baseline Field Program should include Indigenous knowledge-based indicators of health or quality, and anticipated sampling sites should be shared in advance	Where Indigenous knowledge-based indicators of health or quality, and anticipated sampling sites have been provided (e.g., Nisga'a recommendations on their land and in marine areas (e.g., environmental surveys consistent with annual eulachon run) they have been incorporated into the Baseline Study plan.	Some Indigenous groups have recommended that the Baseline Field Program should include Indigenous knowledge-based indicators of health or quality, and that anticipated sampling sites should be shared in advance. Nisga'a Nation biological consultants provided substantive input and guidance into the Project's Baseline Study program and the Baseline Study Update report. Recent Indigenous group input has led to revision of several local and regional study areas and different biological monitoring strategies and opportunities for marine and heritage resources.	3.5, Tables 3.9, 3.10, 3.11 Appendix 5 Appendix 6
Geology, Geochemistry, and Geological Hazards			
63. Inclusion of a seismic hazard assessment and effects related to seismic activity	Seismic hazard will be considered in the effects of the environment on the Project. The Project is required to conduct this analysis and effects assessment in order to secure a construction and operating permit for the BC OGC LNG Facility permit. Seismic hazard assessment and effects on the Project is a FEED component that will also inform the EA-IA.	Comment same as left.	9.2.3, 10.3
64. Inclusion of a Tsunami hazard assessment, including from both seismic and landslide generated sources	Tsunami hazard will be considered in the effects of the environment on the Project. The Project is required to conduct this analysis and effects assessment in order to secure a construction and operating permit for the BC OGC LNG Facility permit. Tsunami hazard assessment and potential effects on the Project is a FEED component that will also inform the EA-IA.	Comment same as left.	9.2.3, 10.3
65. Effects of Project activities (such as geotechnical investigations, pile driving and dredging) on tidal land coastal geomorphic environments, including increased sedimentation on the foreshore and wake effects	Potential effects from Project construction and operation of marine infrastructure on marine resources is briefly described in the DPD and will be assessed using methodologies described in the final AIR for the proposed Marine Resource VC. New baseline sediment sampling may be undertaken in 2022 informed by engineering geophysical assessment for inter-tidal and sub-tidal marine footprint areas in the Water Lot. Sediment movement may need to be modelled supported by Water Lot acoustic doppler current profiler **(ADCP)** information. Dredging is no longer a Project component.	Indigenous groups have raised concerns with respect to potential Project from geotechnical investigations, pile driving and dredging) on tidaland coastal geomorphic environments, including increased sedimentation on the foreshore and wake effects. Potential effects from Project construction and operation of marine infrastructure on marine resources is briefly described in the DPD and will be assessed using methodologies described in the final AIR and, as necessary, in the TISG for the proposed Marine Resource VC. New baseline sediment sampling may be undertaken in 2022 informed by engineering geophysical assessment for inter-tidal and sub-tidal marine footprint areas in the Water Lot. Sediment movement may need to be modelled supported by Water Lot ADCP information. Dredging is no longer a Project component. Dredging is no longer a Project component.	Table 3.9, 3.3.4, 5.3.3.4
Human Health and Well-Being			
66. Inclusion of the locations of all potential human receptors (including closest permanent public structures, known recreational trails, workforce accommodations, sites used for hunting, fishing, trapping, berry picking, and ceremonial or other uses) and the distance between them and the Project	Gingolx is the closest community, 15 km east of the Site. Other publicly known area land users are few but are provided in the DPD, all more than 15 km away from the Site. Transitory marine users may be closer to the Site from time to time. The potential effects to the proposed Health VC are using methodologies as described in the final AIR. Nisga'a potential effects assessment to the health of Nisga'a citizens is as described in the final AIR and, as necessary, in the TISG (e.g., Nisga'a Treaty Chapter 10 8f assessment).	Comment same as left.	4.6.5, 5.3.4.4

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
67. Inclusion of a detailed Health Impact Assessment that considers physical, mental, and social well-being, differential impacts on subgroups, public health consequences, broader social determinants of health for all potentially impacted Indigenous groups, and other community concerns	The Proponent does not believe a Health Impact Assessment is necessary due to the unique nature and isolated location of the Site, however the need for a Human Health assessment will be evaluated. The potential effects to the proposed Health VC are assessed using methodologies as described in the final AIR. Nisga'a potential effects assessment to the health of Nisga'a citizens is as described in the final AIR, and as necessary in the TISG (e.g., Nisga'a Treaty Chapter 10 8f assessment).	Indigenous groups have advocated that the Project undertake a Human Health Assessment. The Project will undertake a Human Health Risk Assessment. The Proponent will evaluate whether a Human Health "Impact" Assessment is necessary. The potential effects to the proposed Health VC are assessed using methodologies as described in the final AIR and, as necessary, in the TISG. Nisga'a potential effects assessment to the health of Nisga'a citizens is as described in the final AIR, and as necessary in the TISG (e.g., Nisga'a Treaty Chapter 10 8f assessment).	4.6.5, 5.3.4.4
68. Inclusion of a screening level Human Health Risk Assessment in which no potential contaminants of concern, pathways or receptors are eliminated, and all potential emissions are considered. The assessment should be conducted when elevated levels of contaminants of potential concern are identified in environmental media, and when there are possible exposure pathways to humans	The potential Project effects to the proposed Health VC are assessed using methodologies as described in the final AIR. Nisga'a potential effects assessment to the health of Nisga'a citizens is as described in the final AIR, and as necessary in the TISG (e.g., Nisga'a Treaty Chapter 10 8f assessment).	Comment same as left. The Proponent will be conducting a Human Health Risk Assessment.	4.6.5, 5.3.4.4
69. Positive and negative impacts on human health from upstream and downstream activities, including marine shipping, and proposed ancillary infrastructure such as the electric transmission line and natural gas pipeline)	The powerline and pipeline are under the care and control of two distinct third parties. They are not components of this Project, however, will be included in the cumulative effects Project Inclusion list. Marine Use is a proposed VC and the methodologies for assessing potential effects to marine use are described in the final AIR and, as necessary, in the TISG.	Indigenous groups have expressed interest and concerns with potential Project negative effects on human health from the third-party powerline and feed gas pipeline, and marine shipping. The powerline and pipeline are under the care and control of two distinct third parties. They are not components of this Project, however, will be included in the cumulative effects Project Inclusion list. Marine Use is a proposed VC and the methodologies for assessing potential effects to marine use are described in the final AIR and, as necessary, in the TISG.	4.6.5, 5.3.4.4
70. Potential changes to the quality of water sources used by residents in the area and the need to confirm adherence to applicable water quality standards or guidelines (e.g., Guidelines for Canadian Drinking Water Quality)	Water quality is a proposed VC and the methodologies for assessing potential effects to water quality are described in the final AIR and, as necessary, in the TISG. The risk of contamination of water used by area residents is estimated to be very low. Air dispersion modelling – informed by FEED information – will be undertaken to model the dispersion of air contaminants and their potential to impact any water sources used by Nisga'a citizens on their land and surrounding lands within the Study area.	Indigenous groups have expressed concerns about potential Project effects to water quality. Water quality is a proposed VC and the methodologies for assessing potential effects to water quality are described in the final AIR and, as necessary, in the TISG.	4.6.5, 5.3.4.4
71. Effects on traditional foods consumed by residents in the area from the release of contaminants of potential concern into the environment (air and water)	Water and Air quality are both proposed VCs and the methodologies for assessing potential effects to water and air quality are described in the final AIR and, as necessary, in the TISG. Results from these studies will also inform the Human Health Risk Assessment as necessary. Air dispersion modelling – informed by FEED information – will be undertaken to model the dispersion of air contaminants and their potential to impact any air and water that could impact traditional food sources used by Nisga'a citizens on their land.	Indigenous groups have expressed concern with Project potential effects on traditional foods consumed by residents in the area from the release of contaminants of potential concern into the environment (air and water). Water and Air quality are both proposed VCs and the methodologies for assessing potential effects to water and air quality are described in the final AIR and, as necessary, in the TISG. Results from these studies will also inform a Human Health Risk Assessment as necessary. Air dispersion modelling – informed by FEED information – will be undertaken to model the dispersion of air contaminants and their potential to impact any air and water that could impact traditional food sources used by Nisga'a citizens on their land and surrounding lands within the Study area.	4.6.5, 5.3.4.4

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
72. Effects on surface and ground water quality from sedimentation or spills, which may impact human health through dermal contact	Effects on surface and ground water quality from sedimentation or spills at the Site will be assessed under the proposed Water Quality VC and under Accidents and Malfunctions using methodologies described in the final AIR and, as necessary, in the TISG.	Comment same as left.	4.6.5, 5.3.4.4
Indigenous Peoples' Rights and Interests			
73. Impacts on the Aboriginal and/or Treaty rights of Indigenous peoples and their traditional land uses, including hunting, gathering, and marine harvesting	Potential Project effects on the Aboriginal and/or Treaty rights of Indigenous peoples and their traditional land uses, including hunting, gathering, and marine harvesting will be assessed using methodologies as defined in the final AIR and, as necessary, in the TISG. With respect to Nisga'a citizens, these same issues will be assessed as described in the final AIR for the Nisga'a Treaty Rights assessment (Nisga'a Treaty Chapter 10, Sub-section 8e).	All Indigenous groups engaged in the early engagement phase of the EA-IA of this Project have expressed concern that the Project's potential effects may negatively impact their Section 35 rights. The Proponent is engaged with Indigenous groups to optimally understand their specific concerns and collaborate with the Indigenous groups and both provincial and federal EA-IA regulatory agencies on defining the necessary methodologies to be included in the final AIR and, as necessary, in the TISG. The Nisga'a also require an assessment of the Project's potential effects to their Treaty rights.	7, Appendices 6 and 7
74. Opportunities for the continued growth and vitality of Indigenous groups and economic reconciliation through job creation, training opportunities and equitable participation in the Project	Potential Project effects that may result in opportunities for the continued growth and vitality of Indigenous groups and economic reconciliation through job creation, training opportunities and equitable participation will be assessed as described in the final AIR and, as necessary, in the TISG. With respect to Nisga'a citizens, these same issues will be assessed as described in the final AIR for the Nisga'a Treaty Rights assessment (Nisga'a Treaty Chapter 10, Sub-section 8f).	Some Indigenous groups have expressed an interest in Project economic opportunities. Potential Project effects that may result in opportunities for the continued growth and vitality of Indigenous groups and economic reconciliation through job creation, training opportunities and equitable participation will be assessed as described in the final AIR and, as necessary, in the TISG. With respect to Nisga'a citizens, these same issues will be assessed as described in the final AIR and, as necessary, in the TISG. for the Nisga'a Treaty Rights assessment (Nisga'a Treaty Chapter 10, Sub-section 8f).	7, Appendices 6 and 7
75. Direct and cumulative impacts of pipeline routes and increased vehicular and marine traffic	Submarine pipeline routes from the mainland to the Site are not the responsibility of the Proponent. They are the responsibility of the third-party pipeline service provider. The pipeline from the mainland to the Site is included on the proposed cumulative effects Project Inclusion list. Marine use is a proposed VC and the methodologies for assessing potential Project effects to Marine use will be described in the final AIR and, as necessary, in the TISG.	Comment same as left.	7, Appendices 6 and 7
76. Clarity on how the United Nations Declaration on the Rights of Indigenous Peoples will be applied to the assessment	The Project will follow guidance from BC EAO on application of BC's new UNDRIP implementation legislation in the assessment. It is already understood that certain aspects of consultation are delegated to the Proponent and the Proponent is engaged with all Indigenous groups, particularly those designated as Participating Indigenous Nations. The Proponent has established a comprehensive record of early engagement with each nation and has provided preliminary responses to the many issues, concerns, questions and suggestions made to date in writing. Engagement now continues between the Proponent and each Nation to finalize the Proponent's response or chart a path to resolution.	Comment same as left.	6.2, Appendices 6 and 7
77. Impacts to culture and places of spiritual importance	Potential Project effects to culture and places of spiritual importance will be assessed using methodologies as described in the final AIR and, as necessary, in the TISG. Potential Project effects assessment to the cultural aspects of Nisga'a Treaty rights is as described in the final AIR (e.g., Nisga'a Treaty Chapter 10, Sub-section 8f).	Indigenous groups have concerns with potential Project effects to their cultural values. The Proponent will collaborate with BC EAO, the Agency and Indigenous groups in defining methodologies for cultural effects assessment in the final AIR and, as necessary, in the TISG.	7, Appendices 6 and 7

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
78. Impacts to governance and stewardship	Impacts to Indigenous governance and stewardship will be assessed using methodologies as described in the final AIR and, as necessary, in the TISG. Potential Project effects assessment to the cultural aspects of Nisga'a Treaty rights is as described in the final AIR (e.g., Nisga'a Treaty Chapter 10, Sub-section 8f).	Indigenous groups have concerns with potential Project effects to their governance and stewardship values. The Proponent will collaborate with BC EAO, the Agency and Indigenous groups in defining methodologies for Indigenous governance and stewardship effects assessment in the final AIR and, as necessary, in the TISG.	
79. Opportunities for Indigenous groups to draft their own impacts on rights assessment	This Proponent does not oppose Indigenous groups conducting their own effects assessment; however, Participating Indigenous Nations engagement is required with BC EAO on this matter. Section 19(2) of the BC EAA 2018 allows for Indigenous groups to conduct their own effects assessment.	Indigenous groups have concerns with potential Project effects to their aboriginal rights and may choose to undertake their own effects assessment.	
80. Impacts of accidents or malfunctions on mental health, wellbeing, and the real and perceived safety of traditional resources	Potential Project effects of accidents or malfunctions on Indigenous community mental health and wellbeing will be assessed using methodologies as described in the final AIR and, as necessary, in the TISG. Potential Project effects to the health, wellbeing, and the real and perceived safety of traditional resources to Nisga'a citizens (e.g., as these issues pertain to Nisga'a Treaty rights) will be evaluated and assessed using methodologies described in the final AIR and, as necessary, in the TISG (e.g., Nisga'a Treaty Chapter 10, Sub-section 8e and/or 8f).	Indigenous groups have concerns with potential Project effects from potential accidents or malfunctions on their mental health, wellbeing, and the real and perceivedsafety of traditional resources. Potential Project effects of accidents or malfunctions on Indigenous community mental health and wellbeing will be assessed using methodologies as described in the final AIR and, as necessary, in the TISG.	
81. Restricted access and travel to harvesting sites as a result of Project activities	Restricted access and travel to harvesting sites within the Project's Water Lot will be further evaluated and defined in the BC OGC LNG facility permit through risk assessment, emergency planning and hazard zones. Non-facility personnel will not be permitted to enter these zones.	Indigenous groups have concerns with potential Project effects from restrictions to areas where they have travelled to or traditionally harvested resources. Exclusion of any other users in the Project's Water Lot will be necessary due to safety issues; an active marine terminal for LNGCs and NGL product carriers will not be safe for any other users of the Water Lot. With respect to Indigenous groups travelling to harvesting sites, that aspect will be assessed and evaluated in the proposed Marine Use VC using methodologies described in the final AIR and, as necessary, in the TISG.	
82. Effects to valued components identified by Indigenous groups	Potential Project effects to any new VCs identified by Indigenous groups will be discussed with the Indigenous groups and with BC EAO and the Agency. The assessment of potential Project effects to these VCs may be led by the Participating Indigenous Nation.	Indigenous groups have expressed concerns with respect to some of the VCs proposed by the Proponent. They have expressed the view that the VCs and-or the VC sub-components may not address their interest. Potential Project effects to any new VCs identified by Indigenous groups will be discussed with the Indigenous groups and with BC EAO and the Agency. The assessment of potential Project effects to these VCs may be led by the Participating Indigenous Nation.	

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
Infrastructure and Services			
83. Effects on regional infrastructure, including access to potable water, hospitals, emergency management, law enforcement, solid and liquid waste management facilities, roads, bridges, ferries, recreational resources, leisure services, traffic, commutes, and safety	Infrastructure and Services is a proposed VC. The methodologies to assess potential Project effects to this VC will be described in the final AIR and, as necessary, in the TISG.	Some Indigenous groups have expressed concerns that the Project may potentially affect regional infrastructure such as: access to potable water, hospitals, emergency management, law enforcement, solid and liquid waste management facilities, roads, bridges, ferries, recreational resources, leisure services, traffic, commutes, and safety. The Proponents' proposed Infrastructure and Services VC will address most of these but not access to potable water as that is not relevant to the Site. Infrastructure and Services is a proposed VC. The methodologies to assess potential Project effects to this VC will be described in the final AIR and, as necessary, in the TISG.	4.6.3, 5.3.4.3
Land and Resource Use			
84. Clarity on whether ancillary works, such as power transmission line and natural gas receiving facility, will occur on federal, provincial or Indigenous lands, and its intersection with any reserve boundaries	The third-party powerline and the pipeline are under their care and control and the Proponent asserts these are not components to be assessed as part of this Project. With that said, the third party powerline is anticipated to connect to a BC Hydro sub-station on Nisga'a lands and traverse those lands to tidewater where a sub-sea power cable will connect to the Site via Portland Inlet and Portland Canal. The powerline and cable will require its own assessment subject to Nisga'a, provincial and federal legislation, regulations and policies. The third party feed gas pipeline is also anticipated to leave the BC mainland at the head of Nasoga Gulf and follow a to be defined sub-sea route up down Nasoga Gulf and then up Portland Inlet and then Portland Canal to the Site. An EAC amendment is required for the pipeline.	Indigenous groups have asked for clarity on whether ancillary works, such as power transmission line and natural gas receiving facility, will occur on federal, provincial or Indigenous lands, and its intersection with any reserveboundaries. With that said, the third party powerline is anticipated to connect to a BC Hydro sub-station on Nisga'a lands and traverse those lands to tidewater where a sub-sea power cable will connect to the Site via Portland Inlet and Portland Canal. The powerline and cable will require its own assessment subject to Nisga'a, provincial and federal legislation, regulations and policies. The third party feed gas pipeline is also anticipated to leave the BC mainland at the head of Nasoga Gulf and follow a to be defined sub-sea route up down Nasoga Gulf and then up Portland Inlet and then Portland Canal to the Site. An EAC amendment is required for the pipeline.	2.3.4, 2.3.16
85. Clarity on the jurisdiction of the full Project area and if Category A Lands extend into the marine waters	Category A lands are confined to the Title issued to the Nisga'a Lisims Government. They do not extend below the high water mark into inter-tidal and sub-tidal areas. The NLG will be seeking tenure from the BC Government for the Water Lot.	Indigenous groups have asked for clarity with respect to Nisga'a Category A Treaty lands (e.g., the Site) and jurisdiction within the Proposed Water Lot. Category A lands are confined to the Title issued to the Nisga'a Lisims Government. They do not extend below the high water mark into inter-tidal and sub-tidal areas. The NLG will be seeking tenure from the BC Government for the Water Lot.	2.11
Marine Shipping			
86. Clarity on the operational marine shipping scenario that will be considered in the assessment, including the basis of annual shipment estimates, ranges of potential scenarios and phases, andthe feasibility and confidence in the scenarios	Operational LNGC and NGL product carrier shipping frequency estimates are provided in a preliminary manner in the DPD and will be improved as an outcome of FEED and incorporated into the EA-IA. Construction shipping frequency estimates require much more detailed engineering and will be included in the EA-IA when this information is better understood. Potential Project effects to values along the Project's marine shipping routes will be evaluated and assessed under the proposed Marine Resources and Marine Use VCs as described in the final AIR and, as necessary, in the TISG. Potential mitigations to predicted negative effects and who is the accountable organization or entity, and the timing of any mitigations will be included in the EA-IA.	All Indigenous groups engaged with the Proponent have expressed concerns that the Project may have potential effects to their values due to an increase in marine shipping along the Project shipping routes. Potential Project effects to Indigenous values along the Project's marine shipping routes will be evaluated and assessed under the proposed Marine Resources and Marine Use VCs as described in the final AIR and, as necessary, in the TISG. Potential mitigations to predicted negative effects and who is the accountable organization or entity, and the timing of any mitigations will be included in the EA-IA.	2.6, Appendices 6 and 7, 9.2.4, 9.3, 9.4.3 – 9.4.5

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
87. Risks to the coast from tankers and other ocean transport vessels	Risks to coastal areas from accidents and malfunctions from LNGCs and NGL product carriers will be assessed in Accidents and Malfunctions and in the proposed Marine Use VC as described in the methodologies included in the final AIR and, as necessary, in the TISG.	Indigenous groups have expressed concern with respect to potential Project effects to coastal environments from marine shipping associated with the Project. The Proponent proposes to work with federal authorities and Indigenous groups to undertake a TERMPOL or TERMPOL-like analyses to analyze the potential Project marine shipping risks and use those studies to inform the EA-IA for the Project. FEED level engineering is required – at considerable Proponent expense to design the Project's marine terminal. This level of engineering will not be available to inform the DPD.	2.6, Appendices 6 and 7, 9.2.4
88. Vessel traffic impacts to salmon, marine mammals, sense of place, and traditional harvesting by Indigenous peoples	Potential Project vessel traffic effects from LNGCs and NGL product carriers to salmon, marine mammals, sense of place, and traditional harvesting by Indigenous peoples are proposed to be assessed in Accidents and Malfunctions and in the proposed Marine Use VC as described in the methodologies included in the final AIR and, as necessary, in the TISG.	Indigenous groups have expressed concern with respect to potential Project effects to from increased marine shipping associated with the Project on salmon, marine mammals, sense of place, and traditional harvesting byIndigenous peoples. Potential Project vessel traffic effects from LNGCs and NGL product carriers to salmon, marine mammals, sense of place, and traditional harvesting by Indigenous peoples are proposed to be assessed in Accidents and Malfunctions and in the proposed Marine Use VC as described in the methodologies included in the final AIR. The Proponent proposes to work with federal authorities and Indigenous groups to undertake a TERMPOL or TERMPOL-like analyses to analyze the potential Project marine shipping risks and use those studies to inform the EA-IA for the Project. FEED level engineering is required – at considerable Proponent expense to design the Project's marine terminal. This level of engineering will not be available to inform the DPD.	2.6, Appendices 6 and 7, 9.2.4
89. Clarity on whether a fulsome shipping safety study would serve as a mitigation measure for the Project	TERMPOL or TERMPOL-like studies and analyses will be undertaken to fully assess construction and operations shipping safety risks related to Project marine activities and to identify mitigation measures. Information will be incorporated into the EA-IA using methodologies described in the DPD and final AIR and, as necessary, in the TISG as applicable. Response updated based on feedback from TC that construction related shipping safety risks are not required for assessment.	Indigenous groups have asked for clarity with respect to whether a fulsome shipping safety study would serve as a mitigation measure for the Project. TERMPOL or TERMPOL-like studies and analyses will be undertaken to fully assess shipping safety risks related to Project marine activities and to identify mitigation measures. Information will be incorporated into the EA-IA using methodologies described in the DPD and final AIR and, as necessary, in the TISG as applicable.	2.6, Appendices 6 and 7, 9.2.4
90. Clarity on whether the assessment would capture any shipping activity related to Project construction that would travel from Prince Rupert to the Project site	TERMPOL or TERMPOL like studies and analyses will be undertaken to fully assess construction and operations shipping safety risks related to Project marine activities and to identify mitigation measures. Information will be incorporated into the EA-IA using methodologies described in the DPD and final AIR and, as necessary, in the TISG as applicable.	Indigenous groups have asked for clarity with respect to whether shipping activity related to Project construction will be evaluated (e.g., construction shipping activity between Prince Rupert and the Site). TERMPOL or TERMPOL-like studies and analyses will be undertaken to fully assess shipping safety risks related to Project marine activities and to identify mitigation measures. Information will be incorporated into the EA-IA using methodologies described in the DPD and final AIR and, as necessary, in the TISG as applicable.	2.6, Appendices 6 and 7, 9.2.4

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
Marine Mammals			
91. Effects of shipping on marine mammals (e.g., Humpback whales and Northern Resident Killer Whales), including those related to acoustic masking, potential vessel strikes, and avoidance behaviors	Potential Project effects of Project related marine shipping on marine mammals will be assessed as described in the methodologies in the final AIR and, as necessary, in the TISG for the proposed Marine Resources VC.	Indigenous groups have expressed concerns with respect to potential Project effects to marine mammals. Potential Project effects of Project related marine shipping on marine mammals will be assessed as described in the methodologies in the final AIR and, as necessary, in the TISG for the proposed Marine Resources VC.	3.3.4, 3.5.6, 5.3.3, Appendices 6 and 7
92. Effects to marine mammals and their habitat through harmful alteration, disruption and destruction during Project construction and operation	Potential Project effects of Project related marine shipping on marine mammals will be assessed as described in the methodologies in the final AIR and, as necessary, in the TISG for the proposed Marine Resources VC.	Indigenous groups have expressed concerns with respect to potential Project effects to marine mammals. Potential Project effects of Project related marine shipping on marine mammals will be assessed as described in the methodologies in the final AIR and, as necessary, in the TISG for the proposed Marine Resources VC.	3.3.4, 3.5.6, 5.3.3, Appendices 6 and 7
Migratory Birds			
93. Additional clarity required regarding effects pathways to migratory birds, including habitat degradation due to terminal exploration, construction, operation, and decommissioning; contamination from unintentional spills or releases of hazardous substances; pollution associated with new or increased train, truck and marine traffic	Potential Project effects on migratory birds will be assessed in the proposed Wildlife VC using methodologies described in the final AIR and, as necessary, in the TISG.	Indigenous groups have expressed concerns with respect to potential Project effects to migratory birds. Potential Project effects on migratory birds will be assessed in the proposed Wildlife VC using methodologies described in the final AIR and, as necessary, in the TISG.	3.5.4,5.3.3, 5.4
94. Effects of noise, vibration and artificial lighting on migratory birds and their habitats	Potential Project effects at the Site to migratory birds from noise, light and vibration will be assessed using methodologies described in the final AIR and, as necessary, in the TISG for the proposed Wildlife VC.	Indigenous groups have expressed concerns with respect to potential Project effects to migratory birds. Potential Project effects on migratory birds will be assessed in the proposed Wildlife VC using methodologies described in the final AIR and, as necessary, in the TISG.	3.5.4, 5.3.3, 5.4
Natural Gas Extraction using Hydraulic Fracturing (Fracking) Methods			
95. Impacts of increased fracking in producing the gas to be provided to the LNG facility on Indigenous territories, fresh water, aquifer pollution, human health, geological hazards, wildlife, and GHG emissions (e.g., fugitive emissions from fracking)	Fracking is not a Project component.	An Indigenous group expressed a view that the natural gas supply for the Project will result in an increase in fracking. Fracking is regulated by the BC OGC.	Not applicable
96. Information on financing clean-up measures for the Project's by-products, including from fracking	Fracking is not a Project component. Any LNG facility by-products and any clean-up of any spills of by-products would need to be managed as per NLG requirements and applicable provincial and federal legislation. The Project's facility will be required to have Environmental Management and Emergency Response plans and insurance.	Indigenous groups have expressed a view that clean-up efforts from potential Project accidents and malfunctions, Project by-products and fracking should be part of the assessment. Fracking is not a Project component. Any LNG facility by-products and any clean-up of any spills of by-products would need to be managed as per NLG requirements and applicable provincial and federal legislation. The Project's facility will be required to have Environmental Management and Emergency Response plans and insurance.	Not applicable

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Navigation			
97. Information on the construction methodology for both the Project and any associated temporary works to determine the Project's impacts to navigation	TERMPOL or TERMPOL-like studies and analyses will be undertaken to fully assess potential Project effects on navigation during construction and operations. Post EA-IA decision authorization is required from Transport Canada's Navigable Waters Protection Program for marine works that restrict navigation.	Indigenous groups have not raised this issue with the Proponent. Comment same as left.	9.2.4
98. Details of the existing infrastructure (location, project date, project methodology, Navigation Protection Program file number for existing infrastructure) proposed for use according to the Initial Project Description	There is no known existing infrastructure (e.g., water intakes, bridges, diversions, transmission lines, pipelines) except for the project's pipeline. Cumulative effects from the pipeline will be assessed. Navigation Warning Notifications have been made for two Project hydrophones, ADCP and wave buoy deployments.	Indigenous groups have not raised this issue (e.g., cumulative effects to navigation from water intakes, bridges, diversions, transmission lines, pipelines) with the Proponent with the exception of cumulative effects from pipelines which will be assessed.	2.3.2, 2.3.3, 2.3.12, 2.3.14, 2.4
99. Information on the potential cumulative impacts to navigation in conjunction with surrounding works (e.g., water intakes, bridges, diversions, transmission lines, pipelines) in the regional study area	TERMPOL or TERMPOL-like studies and analyses will be undertaken to fully assess potential Project effects, including cumulative effects, on navigation during construction and operations.	Indigenous groups have not raised this issue with the Proponent. Comment same as left.	2.3.2, 2.3.3, 2.3.2, 2.3.14, 2.4
Other			
100. Clarity on if the proponents has investigated the option to repurpose LNG infrastructure to hydrogen export infrastructure	Repurposing the LNG infrastructure to hydrogen export infrastructure has not been investigated.	An Indigenous group asked for clarity with respect to repurposing LNG infrastructure to hydrogen export infrastructure. Not a Project component.	Not applicable
101. Concern regarding industrial disturbance resulting from construction (site clearing, lighting, noise, infrastructure development), operations (shipping, lighting, noise, loading activities, etc.)	Acoustic is proposed as a VC. Ambient light will be assessed in the proposed Marine Resources VC. The methodologies for assessing the potential effects of the Project construction (e.g., site clearing, noise, infrastructure development) and Project operations (e.g., ship berthing and loading, lighting, noise) on the proposed Acoustic, Marine Use and Marine Resources VCs is as described in the final AIR, and as necessary, in the TISG. The Site is private land notionally zoned by the governance authority (NLG) as suitable for industrial development. Large, piloted vessels sail past this site on a routine basis on an established shipping channel.	Indigenous groups have expressed concerns that the Project may have potential effects to their values from construction (site clearing, lighting, noise, infrastructure development), operations (shipping, lighting, noise, loading activities, etc.). Acoustic is proposed as a VC. Ambient light will be assessed in the proposed Marine Resources VC. The methodologies for assessing the potential effects of the Project construction (e.g., site clearing, noise, infrastructure development) and Project operations (e.g., ship berthing and loading, lighting, noise) on the proposed Acoustic, Marine Use and Marine Resources VCs is as described in the final AIR, and as necessary, in the TISG. The Site is private land notionally zoned by the governance authority (NLG) as suitable for industrial development. Large, piloted vessels sail past this site on a routine basis on an established shipping channel.	5.3.1, 5.3.3
Public and Stakeholder Engagement			
102. Clarity on the approach to engagement throughout the development and implementation of mitigation measures	Engagement throughout the development and implementation of mitigation measures will be done with the technical advisors, the BC EAO-IAAC established Technical Advisory Committee **(TAC)** after the Process Order is in place and in the EA-IA.	Indigenous groups have requested clarity on engagement with respect to the new EA process. Engagement responsibilities will be shared between the Proponent and those activities led by the BC EAO and-or the Agency.	8
103. Clarity on who will be responsible for leading engagement	Engagement responsibilities will be shared between the Proponent and those activities led by the BC EAO and-or the Agency.	Indigenous groups have requested clarity on engagement with respect to the new EA process. Engagement responsibilities will be shared between the Proponent and those activities led by the BC EAO and-or the Agency.	8

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
Purpose of and Need for the Project			
104. Consideration of how this Project meets local and provincial energy needs	The Project will benefit local and provincial energy objectives by providing BC Hydro grid connection infrastructure to the BC Northwest coast and better electricity reliability to Nisga'a Nass Valley communities.	Comment same as left.	1.2, 2.3.16
105. Contribution of the Project to displace emissions from coal and other energy sources in countries that would be expected to purchase the LNG exports, and the likely impact on global GHG emissions	The contribution of the Project's exported LNG to other countries who use coal to create electricity will provide an opportunity for coal users to switch to net-zero LNG which is expected to contribute to reduced global GHG emissions. This will be further described in the EA-IA.	Indigenous groups have questioned the Proponent's statements that the Project to displace emissions from coal and other energy sources in countriesthat would be expected to purchase the LNG exports, and the likely impact on global GHG emissions. The contribution of the Project's exported LNG to other countries who use coal to create electricity will provide an opportunity for coal users to switch to net-zero LNG which is expected to contribute to reduced global GHG emissions. This will be further described in the EA-IA.	1.2, 2.10.4, 6.3.5.2
Social Conditions			
106. Details on workforce characteristics during construction and operations, accommodation plans, food services, and camp infrastructure, including sewage disposal and drinking water source	Additional detail on workforce characteristics during construction and operations, accommodation plans, food services, and camp infrastructure, including sewage disposal and drinking water source is provided in the DPD. Further construction and operation worker Information will be developed in FEED and incorporated into the EA-IA.	Indigenous groups have requested additional detail since the IPD, specifically details on workforce characteristics during construction and operations, accommodation plans,food services, and camp infrastructure, including sewage disposal and drinking water source. Additional detail on workforce characteristics during construction and operations, accommodation plans, food services, and camp infrastructure, including sewage disposal and drinking water source is provided in the DPD. Further construction and operation worker Information will be developed in FEED and incorporated into the EA-IA.	2.1, 2.11, 2.3.3, 2.4.2, 2.4.3, 2.4.4, 2.8.1, 2.8.2, 4.4.2
107. Effects on local and regional social conditions such as: housing availability and affordability, homelessness, increased transient workers, shortage of local supplies, pressure on outdated local services, crime rates and types, community well-being, food security, and financial disparity	Potential Project effects on local and regional social conditions such as: housing availability and affordability, homelessness, increased transient workers, shortage of local supplies, pressure on outdated local services, crime rates and types, community well-being, food security, and financial disparity will be assessed as part of the EA-IA. Infrastructure and Services and Employment and Economy are proposed VCs. As applicable, information will be sufficiently disaggregated and analyzed to support the analysis of potential effects to distinct human populations as per GBA plus. Where available information presents a limitation on the ability to describe differential effects to distinct populations, this limitation will be articulated, and its implications for analysis described. The effects of the Project on the local and regional economy, infrastructure and services will be assessed using methodologies as described in the final AIR and, as necessary, in the TISG including, as applicable, an assessment on Nisga'a Treaty rights as per Chapter 10, sub-section 8f. The Project is also supporting Indigenous-led studies on some of these issues with Participating Indigenous Nations that have signed EA agreements with the Proponent.	Some Indigenous groups have concerns with potential Project effects on local and regional social conditions such as: housing availability and affordability, homelessness, increased transient workers, shortage of local supplies, pressure on outdated localservices, crime rates and types, community well-being, food security, and financial disparity. As applicable, information will be sufficiently disaggregated and analyzed to support the analysis of potential effects to distinct human populations as per GBA plus. Where available information presents a limitation on the ability to describe differential effects to distinct populations, this limitation will be articulated, and its implications for analysis described. Infrastructure and Services and Employment and Economy are proposed VCs. The effects of the Project on the local and regional economy, infrastructure and services will be assessed using methodologies as described in the final AIR and, as necessary, in the TISG including, as applicable, an assessment on Nisga'a Treaty rights as per Chapter 10, sub-section 8f. The Project is also supporting Indigenous-led studies on some of these issues with Participating Indigenous Nations that have signed EA agreements with the Proponent.	4.6.1, 4.6.3, 5.3.4.1, 5.3.5.1, Appendix 7

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
108. Effects of temporary construction camps, shipping activities, and potential accidents or malfunctions on community well-being, health, and Indigenous Peoples	Potential Project effects of temporary construction camps, shipping activities, and potential accidents or malfunctions on community well-being, health, and Indigenous Peoples will be assessed as part of the EA-IA. Infrastructure and Services and Employment and Economy are proposed VCs. The effects of the Project on the local and regional economy and infrastructure and services will be assessed using methodologies as described in the final AIR including, as applicable, an assessment on Nisga'a Treaty rights as per Chapter 10, sub-section 8f. The Project is also supporting work on these potential Project effect socio-economic issues as part of EA agreements with some Participating Indigenous Nations. The individual Nations will lead the studies. The outcomes of these studies will inform the EA-IA.	Some Indigenous groups have concerns with potential Project effects of temporary construction camps, shipping activities, and potential accidents or malfunctions on community well-being, health, and Indigenous Peoples. Potential Project effects of temporary construction camps, shipping activities, and potential accidents or malfunctions on community well-being, health, and Indigenous Peoples will be assessed as part of the EA-IA. Infrastructure and Services and Employment and Economy are proposed VCs. The effects of the Project on the local and regional economy and infrastructure and services will be assessed using methodologies as described in the final AIR and, as necessary, in the TISG including, as applicable, an assessment on Nisga'a Treaty rights as per Chapter 10, sub-section 8f. The Project is also supporting work on these potential Project effect socio-economic issues as part of EA agreements with some Participating Indigenous Nations. The individual nations will lead the studies. The outcomes of these studies will inform the EA-IA.	4.6.1, 4.6.3, 5.3.4.1, 5.3.5.1, Appendix 7
109. Concern regarding potential socio-economic impacts related to boom-bust cycles	Boom and bust cycles are an aspect of Employment and Economy – a proposed VC to be assessed using methodologies as described in the final AIR and, as necessary, in the TISG.	Some Indigenous groups have expressed Concern regarding potential socio-economic impacts related to boom-bust cycles. Economy – a proposed VC to be assessed using methodologies as described in the final AIR and, as necessary, in the TISG.	4.6.1, 4.6.3, 5.3.4.1, 5.3.5.1, Appendix 7
110. Baseline Field Program should include socio-community data on all Indigenous and non-Indigenous communities who use the area or may be employed by the Project	The Project's Baseline Field Program will include socio-community data collected from regional Participating Indigenous Nation and non-Indigenous communities who use the region or may be employed by the Project.	Indigenous groups have recommended that the Project's Baseline Field Program include socio-community data on all Indigenous and non-Indigenous communities who use the area or may be employed by the Project. The Project's Baseline Field Program will include socio-community data collected from regional Participating Indigenous Nation and non-Indigenous communities who use the region or may be employed by the Project.	3.3.5, 4.6.3,5.3.5.1, Appendix 7
Species at Risk, Wildlife and their Habitat			
111. Effects to wildlife, bird (including Marbled Murrelet and Northern Goshawk), species at risk, and their habitat in the Project area, including as a result of habitat loss, alteration or fragmentation, habitat avoidance, direct and indirect mortality, changes in predator/prey relationships, changes to migration or movement patterns, destruction or disturbance to residences, and sensory disturbance (noise, vibration, lighting, visual changes)	Potential Project effects to wildlife, birds (including Marbled Murrelet and Northern Goshawk), species at risk, and their habitat in the Project area, including as a result of habitat loss, alteration or fragmentation, habitat avoidance, direct and indirect mortality, changes in predator/prey relationships, changes to migration or movement patterns, destruction or disturbance to residences, and sensory disturbance (noise, vibration, lighting, visual changes) will be assessed as part of the proposed Wildlife VC using methodologies described in the final AIR and, as necessary, in the TISG. Nisga'a Treaty rights to specific wildlife species will be assessed as part of the Nisga'a Treaty effects assessment (e.g., Nisga'a Treaty Chapter 10, Sub-section 8e).	Indigenous groups have raised concerns with respect to potential Project effects to wildlife. Potential Project effects to wildlife, birds (including Marbled Murrelet and Northern Goshawk), species at risk, and their habitat in the Project area, including as a result of habitat loss, alteration or fragmentation, habitat avoidance, direct and indirect mortality, changes in predator/prey relationships, changes to migration or movement patterns, destruction or disturbance to residences, and sensory disturbance (noise, vibration, lighting, visual changes) will be assessed as part of the proposed Wildlife VC using methodologies described in the final AIR and, as necessary, in the TISG. Nisga'a Treaty rights to specific wildlife species will be assessed as part of the Nisga'a Treaty effects assessment (e.g., Nisga'a Treaty Chapter 10, Sub-section 8e).	3.4, 5.3.3, 5.4

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
112. Impacts to location-based bird, fish, and wildlife spawning and migratory seasonality	Potential Project effects to location-based bird, fish, and wildlife spawning and migratory seasonality will be assessed as part of the proposed Wildlife VC using methodologies described in the final AIR and, as necessary, in the TISG. Nisga'a Treaty rights to specific wildlife species will be assessed as part of the Nisga'a Treaty effects assessment (e.g., Nisga'a Treaty Chapter 10, Sub-section 8e).	Some Indigenous groups have expressed concerns with respect to potential Project effects to location-based bird, fish, and wildlife spawning and migratory seasonality. Potential Project effects to location-based bird, fish, and wildlife spawning and migratory seasonality will be assessed as part of the proposed Wildlife VC using methodologies described in the final AIR and, as necessary, in the TISG. Nisga'a Treaty rights to specific wildlife species will be assessed as part of the Nisga'a Treaty effects assessment (e.g., Nisga'a Treaty Chapter 10, Sub-section 8e).	3.3.2, 3.3.3, 3.5, 3.5.4, 3.5.6, 5.3.3
113. Concern about road or rail infrastructure, increased capacity to existing linear transportation corridors, and increases in road or rail traffic that could result increased wildlife injury and mortality	Rail infrastructure is not a Project component. Potential Project effects related to increased use of Hwy 113 will be assessed as part of the assessment of Project effects on infrastructure and services as well as the subject of an Indigenous-led transportation study. Aspects of the transportation study will inform the EA-IA.	An Indigenous group raised concern about road infrastructure, increased capacity to existing linear transportationcorridors, and increases in road traffic that could result increased wildlife injury and mortality. Potential Project effects related to increased use of Hwy 113 will be assessed as part of the assessment of Project effects on infrastructure and services as well as the subject of an Indigenous-led transportation study. Aspects of the transportation study will inform the EA-IA.	9.4.7, Appendix 7
114. Effects on federally and provincially listed aquatic species at risk and their habitats (e.g., Harbor Porpoise, Northern Resident Killer Whale and Northern Transient Killer Whales) from Project construction and operation	Potential Project effects of Project related marine infrastructure and shipping on federally and provincially listed aquatic species at risk and their habitats (e.g., harbor porpoise, northern resident killer whale and northern transient killer whale) due to Project construction and operation will be assessed as described in the methodologies in the final AIR and, as necessary, in the TISG for the proposed Marine Resources VC.	Indigenous groups have expressed concern with respect to potential Project effects federally and provincially listed aquatic species at risk and their habitats (e.g., Harbor Porpoise, Northern Resident Killer Whale and Northern Transient Killer Whales) from Project construction and operation. Potential Project effects of Project related marine infrastructure and shipping on federally and provincially listed aquatic species at risk and their habitats (e.g., harbor porpoise, northern resident killer whale and northern transient killer whale) due to Project construction and operation will be assessed as described in the methodologies in the final AIR and, as necessary, in the TISG for the proposed Marine Resources VC.	3.5, 3.5.6, 3.5.7, 5.3.3
Transboundary			
115. Consideration of the transboundary nature of carbon dioxide and methane emissions and climate change	Air quality is proposed as a VC. Potential for transboundary movement of Project emissions will be assessed using methodologies described in the final AIR and, as necessary, in the TISG.	Comment same as left.	3.5.1, 5.3.1.1, 6.3.4, 6.3.4.1

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
116. Implementation of air monitoring to determine the potential for transboundary air effects, mitigation mechanisms, and adherence to notification requirements as per the Canada-US Air Quality Agreement prior to Project decision	Engagement with Alaska Department of Natural Resources **(DNR)** has occurred with respect to air quality and will continue to occur through the EA-IA. The Project has agreed to provide Site meteorological information to DNR if requested and an engagement with respect to the modelling of Project emissions is already confirmed with DNR once that task is undertaken. Baseline air quality within the Study area is considered unaltered by anthropogenic influences at the Site and in neighboring Alaska within the Study area boundary. If modelling of Project "worst case" emissions reveals potential "material" effects that may extend into Alaska, further engagement will be necessary with DNR and Canadian regulatory agencies to explore air monitoring and other potential necessary mitigations. Further, the BC OGC LNG Facility permit is expected to require an operational air monitoring program as a requirement of the LNG facility permit. The air emissions will also be subject to another BC OGC permit issued under their responsibilities for the EMA.	Comment same as left.	3.5.1, 5.3.1.1, 6.3.4, 6.3.4.1
117. Consistent coordination of response planning between Canada, the United States Coast Guard and State and Tribal governments with jurisdiction over potentially affected waterbodies	This coordination will be part of Emergency Response planning. The Project will collaborate with the NLG, TC and potentially other organizations and coordinate with US Coast Guard on training exercises.	Comment same as left.	3.5.1, 5.3.1.1, 6.3.4, 6.3.4.1
Visual Environment			
118. Changes to visual environment from the operating facility (including light emissions) and from the natural gas transmission pipeline, thereby affecting local tourism revenue	Visual quality has not been identified as a proposed VC. The potential Project effects caused by necessary operational Project lighting is assessed under the proposed Marine Use VC using methodologies described in the final AIR and, as necessary, in the TISG.	Some Indigenous groups have expressed a concern that potential Project effects to the visual environment from Project lighting. Visual quality has not been identified as a proposed VC. The potential Project effects caused by necessary operational Project lighting is assessed under the proposed Marine Use VC using methodologies described in the final AIR and, as necessary, in the TISG.	3.3.3, 3.3.4, 3.5.6, 4.6.2, 5.3.4
Transportation (Land)			
119. Clarity on whether the Project has any rail related components	Use of railways is not a Project component.	Not applicable	Not applicable
120. Request that a traffic impact assessment be completed in consultation with government agencies and other interested parties	Potential Project effects that may result in an increase in highway traffic will be analyzed as part of a Highway 113 Transportation study completed in collaboration with Participating Indigenous Nations and assessed as part of the proposed Infrastructure and Services VC as described in the final AIR. In addition, a traffic impact assessment related to the use of Highway 113 may be completed in consultation with appropriate government agencies (e.g., MoTI) and, potentially, other interested parties as part of FEED.	An Indigenous group has requested that the Project collaborate on traffic and transportation studies with respect to the Project's use of Highway 113. Potential Project effects that may result in an increase in highway traffic will be analyzed as part of a Highway 113 Transportation study completed in collaboration with Participating Indigenous Nations and assessed as part of the proposed Infrastructure and Services VC as described in the final AIR. In addition, a traffic impact assessment related to the use of Highway 113 may be completed in consultation with appropriate government agencies (e.g., MoTI) and, potentially, other interested parties as part of FEED.	9.4.7

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
Water Quality and Processes			
121. Impacts on water quality from in-stream, upland and onsite activities during construction, closure and decommissioning, such as disturbances associated with construction of the initial temporary pioneer dock and discharge of storm water	Potential Project effects on marine water quality from upland and onsite activities during construction of the initial temporary pioneer dock and potential treatment and discharge of stormwater, if required, and will be assessed in the proposed Marine Resources VC using methodologies as described in the final AIR and, as necessary, in the TISG.	Some Indigenous groups have expressed concerns with respect to potential Project effects to water quality. Potential Project effects on marine water quality from upland and onsite activities during construction of the initial temporary pioneer dock and potential treatment and discharge of stormwater, if required, and will be assessed in the proposed Marine Resources VC using methodologies as described in the final AIR and, as necessary, in the TISG.	3.5.5, 3.5.6, 5.3.2.1, 5.3.2.2, 5.3.3.3, 5.3.3.4
122. Long-term impacts associated with Project operations from deposition of airborne particulate matter generated, discharges related to natural gas pre-treatment, maintenance dredging, stormwater management, and domestic and sanitary waste discharges	Long term potential Project effects associated with Project operations from deposition of airborne particulate matter, stormwater management, and domestic and sanitary waste discharges will be addressed after a positive post-EA-IA decision as part of: (1) the BC OGC LNG facility permit and the associated BC OGC air emissions permit. (2) The management, treatment and discharge of sanitary sewage from the Project will be assessed using methodologies described in the proposed Marine Resource VC in the final AIR and, as necessary, in the TISG. Further, BC Ministry of Environment and Climate Change **(ENV)** requires that these types of discharges be extensively studied to inform a permit issued under the Municipal Waste Management regulation under BC EMA. Off-site Gas pre-treatment and dredging are not Project components.	Indigenous groups have expressed a concern that potential Project effects associated with Project operation from deposition of airborne particulate matter generated, discharges related to natural gas pre-treatment, maintenance dredging, stormwater management, and domestic and sanitary waste discharges could be “long term.” Long term potential Project effects associated with Project operations from deposition of airborne particulate matter, stormwater management, and domestic and sanitary waste discharges will be addressed after a positive post-EA-IA decision as part of: (1) the BC OGC LNG facility permit and the associated BC OGC air emissions permit. (2) The management, treatment and discharge of sanitary sewage from the Project will be assessed using methodologies described in the proposed Marine Resource VC in the final AIR and, as necessary in the TISG. Further, BC ENV requires that these types of discharges be extensively studied to inform a permit issued under the Municipal Waste Management regulation under BC EMA. Off-site gas pre-treatment and dredging are not Project components	5.3.1, 5.3.2, 5.3.3
123. Effects on water quality from accidents or malfunctions, particularly those associated with spills during natural gas transport and storage and/or condensate loading activities	TERMPOL or TERMPOL-like studies will be undertaken to fully assess potential Project effects on water quality from potential accidents or malfunctions during LNGC and NGL product carrier loading and transport activities during operations. Potential Project effects to marine water quality from the same activities will also be evaluated and assessed as described in the final AIR and, as necessary, in the TISG.	Indigenous groups have expressed a concern that there could be potential Project effects on water quality from accidents or malfunctions, particularly those associated with spills during natural gas transport and storage and/or condensate loading activities. TERMPOL or TERMPOL-like studies will be undertaken to fully assess potential Project effects on water quality from potential accidents or malfunctions during LNGC and NGL product carrier loading and transport activities during operations. Potential Project effects to marine water quality from the same activities will also be evaluated and assessed as described in the final AIR and, as necessary, in the TISG.	5.3.3, 5.3.5, Appendix 7
124. Effects of dredging on the marine environment, including the settling of sediments and its effects on habitats for marine species	Dredging is not a Project component.	Indigenous groups expressed concerns about Project dredging. Dredging is no longer a Project component.	Not applicable
125. Effects on water consumption by salmon, bears, birds and other wildlife	Potential sources and use of freshwater by the Project is under investigation as described in the DPD. Potential Project effects on the consumption by wildlife will be assessed in the proposed Wildlife VC using methodologies as described in the final AIR and, as necessary, in the TISG.	Indigenous groups expressed concerns with respect to potential Project effects on water consumption by salmon, bears, birds and other wildlife. Potential sources and use of freshwater by the Project is under investigation as described in the DPD. Potential Project effects on the consumption by wildlife will be assessed in the proposed Wildlife VC using methodologies as described in the final AIR and, as necessary, in the TISG.	2.11, 5.3.3

JSOIE Category	Proponent Response	Engagement Summary on JSOIE Issue with Indigenous Groups	DPD Section Reference
126. Impacts of water use, including water used for cooling and for upstream hydraulic fracturing	Potential sources of and use of freshwater by the Project is under investigation as described in the DPD. Project cooling requirements are described in DPD and will be further developed in FEED to inform the EA-IA. Upstream hydraulic fracturing water use is not a Project component.	Indigenous groups expressed concerns with respect to potential Project effects of Project water use, that water needed for cooling. Potential sources of and use of freshwater by the Project is under investigation as described in the DPD. Project cooling requirements are described in DPD and will be further developed in FEED to inform the EA-IA. Upstream hydraulic fracturing water use is not a Project component.	2.11, Table 2.14, 3.2.1, Table 3.9, 5.3.2.1, 5.3.3
127. Impacts from potential effluent discharges, brine from desalination units, hazardous discharges, and heated water into the marine environment	Potential Project effects from treated effluent discharges, brine from desalination units, any hazardous discharges (none anticipated), and heated water into the marine environment, if required/identified, will be assessed in the proposed Marine Resources VC using methodologies as described in the final AIR and, as necessary, in the TISG.	Indigenous groups have concerns with potential Project effects from the discharge of treated effluents, brine and any hazardous substances into Portland Canal. Potential Project effects from treated effluent discharges, brine from desalination units, any hazardous discharges (none anticipated), and heated water into the marine environment, if required/identified, will be assessed in the proposed Marine Resources VC using methodologies as described in the final AIR and, as necessary, in the TISG.	2.9, 3.3.3, 3.3.4, 3.5.5, 3.5.6, 5.3.3
Wetlands			
128. Effects to estuarine and critical staging and foraging habitat for wildlife, such as marsh, mud flats and sand flats	Potential Project effects to critical staging and foraging habitat for wildlife will be assessed in the proposed Wildlife VC with support from the proposed Vegetation and Wetlands VC using methodologies as described in the final AIR and, as necessary, in the TISG.	Indigenous groups have concerns with potential Project effects to estuarine and critical staging and foraging habitat for wildlife, such as marsh, mud flats and sand flats. Potential Project effects to critical staging and foraging habitat for wildlife will be assessed in the proposed Wildlife VC with support from the proposed Vegetation and Wetlands VC using methodologies as described in the final AIR and, as necessary, in the TISG.	3.2.1, 3.3.2, 3.5.3, 3.5.4, 5.3.3, 5.3.3.1, 5.4
129. Changes in local geomorphological processes which may initiate erosional processes and a further loss of habitat	Potential Project effects from geomorphological changes caused by the Project that may initiate erosional processes and a loss of habitat. This will be evaluated and assessed in the proposed Wildlife VC using methodologies as described in the final AIR and, as necessary, in the TISG.	Comment same as left.	5.3.2.1, 5.3.3
130. Effects on Indigenous peoples from the loss of culturally important wetland plants including medicine plants	Potential Project effects to the traditional use of culturally important plants by the Nisga'a at their Site will be assessed using methodologies as described in the final AIR and, as necessary, in the TISG for the Nisga'a Treaty rights Chapter 10, Sub-sections 8e and 8f assessment.	Some Indigenous groups have expressed concern that the Project has the potential to effect Indigenous peoples from the loss of culturally important wetland plants including medicine plants. Potential Project effects to the traditional use of culturally important plants by the Nisga'a at their Site will be assessed using methodologies as described in the proposed Vegetation and Wetlands VC using methodologies as described in the final AIR and, as necessary, in the TISG. for the Nisga'a Treaty rights Chapter 10, Sub-sections 8e and 8f assessment.	5.3.3, 5.3.3.1, 5.3.5.1

APPENDIX 11 – TECHNICAL ADVISORS COMMENTS ON DRAFT DPD AND PROPONENT RESPONSES

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Table 11.1 – Agency DPD Conformity Review Comments and Responses

Required information	Regulations reference (Schedule 2 entry)	Comment to Proponent	Ksi Lisims LNG Response	Comment on Ksi Lisims LNG Response	Ksi Lisims LNG Round 2 Responses
Project Description is provided in a machine-readable format	*Section 6*		-	-	-
Project name, type or sector and proposed location	1		-	-	-
Proponent's name and contact information and the name and contact information of the primary representative for the purpose of the description of the project	2	Missing name and contact information of the primary representative for the purpose of the description of the project.	Agreed. This information has been added to the DPD.	-	-
Summary of and the results of any engagement undertaken with any jurisdictions or other party, including a description of how the proponent intends to address the issues raised in the summary referred to in subsection 14(1) of the Act. (*Summary of Issue*s)	3	Appendix 10 Item 79, requirements under the IAA to be included. Appendix 9: Replace "CIRNA" with "CIRNAC". Replace "Western Canada Marine Response Corporation" with "Western Canada Marine Resource Corporation". Appendix 10 - Spacing issues– eg. "trafficand" (p. 10-2).	Comments noted and edits incorporated.	-	-
A summary, and the results, of any engagement undertaken with Indigenous peoples of Canada, including: ▪ a list of the Indigenous groups that may be affected by the project, including those groups that identified themselves during the planning phase as being potentially affected; and, ▪ a description of how the proponent intends to address the issues raised in the Summary of Issues, including the perspective of Indigenous groups of any potential adverse impact that the project may have on the rights of the Indigenous peoples of Canada recognized and affirmed by section 35 of the *Constitution Act*,1982.	4	Appendix 7 has an additional column titled "DPD dAIR Section" – unclear if this is referencing a DPD or dAIR section Appendix 6 –Replace "Stakeholder Group" with "Indigenous Group	Comments noted and edits incorporated.	-	-
Any study or plan relevant to the project that is being or has been conducted of the region where the project is to be carried out, including a Regional Assessment carried out under the *Impact Assessment Act*, or by any jurisdiction including by or on behalf of an Indigenous governing body, if the study or plan is available to the public.	5		-	-	-
Any strategic assessment relevant to the project that is being or has been carried out under section 95 of the Act.	6		-	-	-
An updated statement of the purpose of and need for the project, including any potential benefits.	7		-	-	-

Table 11.1 – Agency DPD Conformity Review Comments and Responses

Required information	Regulations reference (Schedule 2 entry)	Comment to Proponent	Ksi Lisims LNG Response	Comment on Ksi Lisims LNG Response	Ksi Lisims LNG Round 2 Responses
The provisions in the schedule to the *Physical Activities Regulations* describing the project in whole or in part.	8		-	-	-

A description of all activities, infrastructure, permanent or temporary structures and physical works to be included in and associated with the construction, operation, and decommissioning of the project, including their purpose, size and capacity.	9	Provide the following information in the DPD to inform the Agency's analysis and decision on the scoping of the Project.
		▪ Anticipated shipping route for both inbound and outbound NGL product carriers
		▪ Transmission line
		  ◦ Anticipated length, routing and carrying capacity (voltage)
		  ◦ Anticipating timing of the phases (e.g., construction, operation, decommissioning, abandonment) of the transmission line relative to other project components (e.g. will the transmission line be built around the same time as the FLNG infrastructure?)
		  ◦ The level of ability to direct or influence third party (e.g. through the Nisga'a authorization process or contract requirements)
			Ksi Lisims LNG currently estimates that the same route will be used for all Project related operational shipping, including LNG carriers and NGL product vessels. The DPD will be updated to include this information.
			Transmission Line:
			▪ Additional information regarding the transmission line, as currently known, has been added to section 2.4.2 of the DPD.
			▪ Details on timing of the phases are not currently available apart from the intent for the transmission line to be operational when power is available from BC Hydro.
			▪ Ksi Lisims LNG will work with the third party, WindRiver, in so far as discussing Project needs (e.g., voltage) and timing of construction of the transmission line. The Nisga'a Nation, as the landowner, will provide direction on the transmission line route, ensuring that the line services Nisga'a communities and will take a lead role in the assessment of the transmission line under Chapter 10 of the Nisga'a Final Agreement. All other aspects of the transmission line are the responsibility of WindRiver including design, permitting, development, construction, operation and decommissioning.
				Confirm the anticipated shipping routes are applicable to both inbound and outbound NGL and LNG carriers.	Confirmed. Shipping routes discussed in the DPD are for both inbound and outbound NGL and LNG carriers.

An estimate of the maximum production capacity of the project and a description of the production processes to be used.	10				-
Anticipated schedule for the project's construction, operation, decommissioning, and abandonment, including any expansions of the project.	11				-

Table 11.1 – Agency DPD Conformity Review Comments and Responses

Required information	Regulations reference (Schedule 2 entry)	Comment to Proponent	Ksi Lisims LNG Response	Comment on Ksi Lisims LNG Response	Ksi Lisims LNG Round 2 Responses
A description of:			-	-	-
Potential alternative means of carrying out the project that the proponent is considering and that are technically and economically feasible, including through the use of best available technologies.	12a		-	-	-
Potential alternatives to the project that the proponent is considering and that are technically and economically feasible and directly related to the project.	12b		-	-	-
Its proposed geographic coordinates, including, for linear development projects, the proposed locations of major ancillary facilities that are integral to the project, and a description of the spatial boundaries of the proposed study corridor.	13a		-	-	-
Site maps produced at an appropriate scale in order to determine the project's general location and the spatial relationship of the project components.	13b	Provide NGL shipping routes.	Ksi Lisims LNG anticipates that the same shipping route will be used for all Project related operational shipping, including LNG carriers and NGL product vessels. This will be included in the DPD.	-	-
The legal description of the land to be used for the project, including, if the land has already been acquired, the title, deed or document and any authorization relating to a water lot.	13c		-	-	-
The project's proximity to any permanent, seasonal or temporary residences and proximity to the nearest affected communities.	13d		-	-	-
The project's proximity to: ▪ land used for traditional purposes by Indigenous peoples of Canada ▪ land in a reserve as defined in subsection 2(1) of the *Indian Act* ▪ First Nation land as defined in subsection 2(1) of the *First Nations Land Management Act* ▪ lands subject to a comprehensive land claim agreement or self-government agreement ▪ any other land set aside for the use and benefit of Indigenous peoples of Canada	13e		-	-	-
The project's proximity to any federal lands	13f		-	-	-

Table 11.1 – Agency DPD Conformity Review Comments and Responses

Required information	Regulations reference (Schedule 2 entry)	Comment to Proponent	Ksi Lisims LNG Response	Comment on Ksi Lisims LNG Response	Ksi Lisims LNG Round 2 Responses
A description of the physical and biological environment of the project's location, based on information that is available to the public	14		-	-	-
A description of the health, social and economic context in the region where the project is located based on information that is available to the public or derived from any engagement undertaken.	15	Explain why publicly- available information (from other EA documents, census data, etc.) is not suitable for inclusion. Replace "socio-economic" with "social and economic".	Given the remote location of the project there is limited 'regional' information available and what is available has been included in Section 4. 2021 Census data will be released in the coming months and will be included in the EA-IA. Reference to out-dated census data in the DPD has the potential to mis characterize the region given the imminent release of the 2021 data. For this reason, the preference is to delay discussion of this type of information until the EA-IA. Site-focused health, social and economic context information has been included in sections 4.2 through 4.5 of the DPD. The DPD has been updated for the missed socio-economic references.	As this is a requirement under the Regulations, the Agency suggests including the information and note that updated information will be included in the Impact Statement/Application should it become available at that time.	A new subsection 4.4 Social and Economic Setting, has been added to describe the health, social and economic context in the region
A description of any financial support that federal authorities are, or may be, providing to the project.	16		-	-	-
A description of any federal lands that may be used for the purpose of carrying out the project.	17		-	-	-
A list of the permits, licenses, or other authorizations that may be required by jurisdictions that have powers, duties or functions in relation to an assessment of the project's environmental effects.	18		-	-	-
A description of any changes that, as a result of the carrying out of the project, may be caused to the following components of the environment that are within legislative authority of Parliament:	19	Provide a description of the changes (DPD requirements), in addition to just a list (IPD requirements).	Please see response to 19a. The DPD presents additional description of changes from what was presented in the IPD in the referenced sections.	-	-
a) fish and fish habitat as defined in subsection 2(1) of the *Fisheries Act*	19a	Effects are characterized differently in section 5.4 compare to sections 5.3.3.3 and 5.3.3.4. Revise or provide a rationale why they are different.	Information in section 5.3.3.3 and 5.3.3.4 have been revised to be consistent with section 5.4.	See general comment above.	Additional detail on potential project related effects is provided in sections 5.3.3.3 and 5.3.3.4. Reference to this section has been added to section 5.4.
b) aquatic species, as defined in subsection 2(1) of the *Species at Risk Act*	19b		-	-	-
c) migratory birds as defined in subsection 2(1) of the *Migratory Birds Convention Act, 1994*	19c		-	-	-

Table 11.1 – Agency DPD Conformity Review Comments and Responses

Required information	Regulations reference (Schedule 2 entry)	Comment to Proponent	Ksi Lisims LNG Response	Comment on Ksi Lisims LNG Response	Ksi Lisims LNG Round 2 Responses
A description of any changes to the environment that, as a result of the carrying of the project, may occur, • on federal lands; • in a province other than the province in which the project is proposed to be carried out; or • outside Canada	20		-	-	-
With respect to Indigenous peoples, the description of any impact - that, as a result of the carrying out of the project, may occur in Canada resulting from any change to the environment – on: • physical and cultural heritage; • the current use of lands and resources for traditional purposes; and, • any structure site or thing that is of historical, archaeological, paleontological or architectural significance. based on information that is available to the public or derived from any engagement undertaken with Indigenous Peoples of Canada.	21	Recommend splitting section 5.3.5 up by other Indigenous groups, describing the issues that they have raised, and demonstrating how these issues tie into the effects of the Project. The effects to Indigenous groups (other than Nisga'a) are too high level and do not reflect the level of engagement that occurred.	While the Project will present the effects assessment for each Indigenous Nation separately in the EA-IA, the DPD provides a summary of the expected effects on the nations in general. This method was followed because Ksi Lisims LNG does not want to define key issues, values and potential effects on behalf the Nations, but rather would prefer that these be identified through on-going engagement. However, similar information to what you are requesting can be found in the new Nation by Nation summaries that have been added to Section 7. These summaries categorize key issues and concerns by potential effects or proposed valued components, were appropriate.	Section 7 does not provide information on the potential impacts of the project on Haida Nation or MNBC. While it is the Agency's understanding that these groups have not yet provided feedback, the DPD must still include a description of the potential impacts. As stated, this can be "based on information that is available to the public or derived from any engagement undertaken with Indigenous Peoples of Canada". Please provide a description of potential impacts of the project on these two groups.	The DPD has been updated to include summaries of interests and issues for the Haida (Section 7.3.7) and MNBC (Section 7.3.8)
A description of any change that, as a result of the carrying out of the project, may occur in Canada to the health, social or economic conditions of Indigenous peoples of Canada, based on information that is available to the public or derived from any engagement undertaken with the Indigenous peoples of Canada.	22	Recommend splitting section 5.3.5 up by other Indigenous groups, describing the issues that they have raised, and demonstrating how these issues tie into the effects of the Project. The effects to Indigenous groups (other than Nisga'a) are too high level and do not reflect the level of engagement that occurred.	Comment noted. Summary sections of issues received during engagement from each of the nations have been added to Section 7 of the DPD. Issues have been summarized to align with proposed valued components in the impact assessment, where relevant.	Section 7 does not provide information on the potential impacts of the project on Haida Nation or MNBC. While it is the Agency's understanding that these groups have not yet provided feedback, the DPD must still include a description of the potential impacts. As stated, this can be "based on information that is available to the public or derived from any engagement undertaken with Indigenous Peoples of Canada". Please provide a description of potential impacts of the project on these two groups.	The DPD has been updated to include summaries of interests and issues for the Haida (Section 7.3.7) and MNBC (Section 7.3.8)
An estimate of any greenhouse gas emissions associated with the project.	23		-	-	-
A description of any waste and emissions that are likely to be generated – in the air, in or on water and in or on land - during any phase of the project and a description of the plan to manage them.	24		-	-	-

Table 11.1 – Agency DPD Conformity Review Comments and Responses

Required information	Regulations reference (Schedule 2 entry)	Comment to Proponent	Ksi Lisims LNG Response	Comment on Ksi Lisims LNG Response	Ksi Lisims LNG Round 2 Responses
Part G - Summary					
Summary A plain-language summary of the information that is required under items 1 to 24 in English and in French.	25	Recommend sharing the DPD summary prior to formal submission, to ensure the summary would satisfy all the requirements when the DPD is formally submitted.	Ksi Lisims LNG will provide a DPD summary for Agency review prior to submission. The summary is near final.	-	-

Table 11.2 – Technical Advisors DPD Review Comments and Responses

ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
CCG-001	CCG	Highlight safety gaps/risks in service availability in the proposed project area.	Ksi Lisims is aware of safety risks in the Project area, including poor VHF and radar coverage and will work with Transport Canada and CCG to address these concerns.	-	N/A
CCG-002	CCG	Safety considerations due to the proposed project site being outside a VTS Regulatory Zone and the nearest response approximately 5 hours away.	Ksi Lisims will develop considerations for response to accidents, malfunctions and/or emergency situations during the environmental assessment and TERMPOL review process that will be completed for the Project.	-	N/A
DFO-001	DFO	Section 2.9.2.2 refers to potential federal regulatory requirements from Fisheries and Oceans Canada for Project-related discharges of treated effluent into the marine environment. Section 36(3) of the Fisheries Act is administered by Environment and Climate Change Canada and prohibits the deposition of a deleterious substance into waters frequented by fish or to any place, under any conditions, where it may enter water frequented by fish. Please replace 'Fisheries and Oceans Canada' with 'ECCC'.	Thank you. The reference has been updated.	N/A	N/A
DFO-002	DFO	Table 3.9 lists the baseline field studies for the Project. Given the presence of eelgrass within the intertidal zone, DFO recommends conducting a dedicated eelgrass survey to characterize the presence and extent of eelgrass coverage throughout the Project site. Furthermore, given the presence of a fringing band of kelp in the shallow subtidal throughout much of the Project site, DFO recommends conducting a dedicated kelp survey to characterize the presence and extent of kelp coverage throughout the Project site. DFO recommends collecting information on distribution (e.g., area, percent cover) and growth (e.g., shoot density, canopy height, health). DFO will rely on this site-specific baseline information to inform its assessment of significance of effects to marine fish and fish habitat. DFO recommends conducting these surveys in June, July, or August to overlap with the anticipated peak growing season.	Preliminary mapping of onsite eelgrass and kelp beds occurred during the intertidal field survey in July 2021. Additional analyses on the distribution, areal extent, and density of these two classes of marine vegetation will occur through a remote sensing exercise that will use high resolution photography collected for the Project. The combination of both of these data collection methods is expected to provide a good understanding of eelgrass and kelp presence throughout the local assessment area. No additional field surveys dedicated specifically to kelp or eelgrass investigation are planned currently. Details regarding these surveys and results will be provided in the EA-IA and applicable TDR.	While DFO certainly recognizes the value of remote sensing for the large-scale detection of marine vegetation, DFO also notes some limitations of remote sensing in terms of its ability to provide detailed information about the habitat being surveyed. For example, DFO is aware of difficulties using remote sensing to distinguish between different species of algae. Since different algal species can support different fish community assemblages (e.g., rockweed versus bull kelp bed), DFO recommends ground-truthing the results of the remote-sensing and describing the limitations within the EA-IA and applicable TDR. Detailed information on the distribution, spatial extent, and density of eelgrass and kelp habitat is needed to accurately characterize the potential for the Project to result in the harmful alteration, disruption or destruction of fish habitat, as defined under the Fisheries Act.	The remote sensing data will be analyzed using a supervised classification method with results from the intertidal survey serving as the ground-truthing. The methods and any associated limitations in the analysis will be described along with the results in the Marine TDR in the Application. Information from this analysis will be used to comment on the broader scale makeup and distribution of marine habitats (including marine vegetation). It is acknowledged that this technique has some limitations in its resolution (particularly in distinguishing between algal species); however, this information will be coupled with the intertidal surveys that collected quantitative data, including species resolution to the lowest practicable level from transects spread throughout the east and west side of Pearse Island in addition to Whiskey Bay. Together, these datasets are expected to provide the necessary resolution to describe marine habitats required at the EA-IA phase.

Table 11.2 – Technical Advisors DPD Review Comments and Responses

ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
DFO-003	DFO	Given the potential for prohibited effects to Northern abalone (as defined under the Species at Risk Act) associated with construction in the intertidal and shallow subtidal zones, DFO recommends completing a survey for Northern abalone using the methodology outlined in the Impact Assessment Protocol for Works and Developments Potentially Affecting Abalone and Their Habitat (Appendix IV of the Action Plan for the Northern Abalone (Haliotids kamtschatkana) in Canada [Fisheries and Oceans Canada 2012]).	Biophysical information in the marine terminal local assessment area was collected using a combination of intertidal and subtidal (remotely operated vehicle) surveys. Based on the protocols outlined in the Impact Assessment Protocol for Works and Developments Potentially Affecting Abalone and Their Habitat (Appendix IV of the Action Plan for the Northern Abalone (*Haliotis kamtschatkana*) in Canada [Fisheries and Oceans Canada 2012], Ksi Lisims LNG will be completing a phase 1 (initial survey) using the data collected during the intertidal and subtidal surveys to comment on the likelihood of northern abalone presence and will determine the extent and quality of northern abalone habitat in the assessed area. If Project infrastructure overlaps with moderate to high quality northern abalone habitat (based on the phase 1 results) then Ksi Lisims will engage DFO to discuss the need for a subsequent phase 2 survey using SCUBA divers.	The *Impact Assessment Protocol for Works and Developments Potentially Affecting Abalone and Their Habitat (Appendix IV of the Action Plan for the Northern Abalone (Haliotis kamtschatkana) in Canada* [Fisheries and Oceans Canada 2012]) states that the data collected during the Phase 1 survey is to be used to delineate abalone habitat and create a digital map. The area (m^2) of abalone habitat is then used to decide whether a Phase 2 study is necessary, as per the Decision Rule: 'If abalone habitat [...] is present and the area of the abalone habitat is > 20m^2, then the next phase is necessary to assess the abalone density at the site as well as in surrounding areas.' Hence, the requirement to conduct a Phase 2 survey for Northern abalone is not based on the *quality* of abalone habitat present. As per the protocol, please ensure the digital map, electronic file containing the GPS points, and copies of the field notes are sent to the Shellfish Data Unit, PBS, Nanaimo. Please ensure the assessor of this Project (i.e., the assessor within the DFO Fish and Fish Habitat Protection Program) is provided a copy of the Phase 1 results.	The data collected during the subtidal (ROV) survey will be mapped and shown on figures in the EA-IA. An estimate of the amount (m2) and quality of abalone habitat will also be provided based on the criteria outlined in the Fisheries and Oceans Canada (2012) guidance. A digital copy of the map can be provided to the DFO Shellfish Data Unit.
DFO-004	DFO	Section 3.5.5 notes that 'A spring 2022 survey is under consideration.' Given the use of the streams within the Project site by resident and anadromous fish, DFO recommends completing a spring 2022 survey. A spring 2022 survey would capture baseline information on habitat use that would otherwise not be captured by the baseline studies completed in June, August, and October 2021 (e.g., habitat use by recently emerged juvenile Pacific salmon).	A spring 2022 field survey will be conducted. Section 3.5.5 has been updated to reflect this.	N/A	N/A
DFO-005	DFO	DFO recommends completing Project-specific modelling to predict the extent and level of underwater noise generated during impact pile driving and berthing and transiting of vessels along the shipping route. DFO will rely on this information to evaluate potential auditory and behavioural effects to marine mammals and marine fish.	Ksi Lisims LNG is committed to completing underwater noise modelling to support the assessment of potential effects of construction and operation activities on marine mammals and fish.	N/A	N/A
DFO-006	DFO	Section 5.3.3.3 lists 'DFO's End-of-Pipe Screening Tool' as a mitigation measure to protect freshwater fish. DFO assumes the Proponent is referring to DFO's interim code of practice: end-of-pipe fish protection screens for small water intakes in freshwater, and as such, DFO recommends updating the mitigation measure accordingly.	Thank you. Reference has been updated	N/A	N/A

Table 11.2 – Technical Advisors DPD Review Comments and Responses

ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
DFO-007	DFO	Section 5.3.3.4 indicates that 'The Project will confirm marine resources, including sensitive habitats (e.g., the presence of eelgrass, kelp beds), the presence of fish, invertebrates, cetaceans (whales, dolphins and porpoises), and pinnipeds (sea lions, seals).' DFO recommends characterizing the distribution and abundance of marine resources, and not simply recording presence/absence. DFO will rely on abundance and distribution data to evaluate potential effects on marine resources.	Quantitative estimates for algae, invertebrates, and fish observed during the intertidal and marine fish surveys will include richness, distribution and abundance (density) estimates. Distribution and semi-quantitative abundance estimates will be generated from the subtidal (remotely operated vehicle) survey. Marine mammal observations will be collected during systematic vessel-based and aerial line transect surveys. Distance sampling methods will be used to estimate marine mammal density and relative abundance for species with sufficient sightings. Marine mammal data collected during the field surveys will be supplemented with publicly available information such as that available through the BC Cetacean Sightings Network and the Prince Rupert Port Authority's marine mammal sighting database. This information can be used to consider potential species presence (not absence) over a broader time period but does not account for effort. Figures showing the location of all field surveys and key findings will be provided in the TDR and EA-IA.	N/A	N/A
DFO-008	DFO	Potential effects of the project, project mitigations, effects assessment methods, local and regional assessment areas, and conclusions will be different for marine fish and marine mammals. As such, DFO suggests that effects to Marine Mammals and effects to Marine Fish and Fish Habitat be assessed separately.	Marine mammals and marine fish are separate sub-components under the Marine Resources VC and as such will be assessed independently while recognizing overlap in the baseline conditions section.	N/A	N/A
DFO-009	DFO	Section 5.3.3.4 cites 'In addition to concerns relating to underwater noise, construction of infrastructure […] has the potential to cause injury or mortality to algae, invertebrates, and fish.' Please remove the word algae, as algae are not at-risk of being injured or killed.	The DPD has been revised.	N/A	N/A
EAO-001	EAO	"targeting to be net-zero during operations" - This is quite vague. When during operations? The operational phase is estimated to be 30 years, so when during this phase does the proponent expect to become net-zero? The DPD should demonstrate alignment with provincial policies including GHG emission targets and net zero by 2050 as outlined in CleanBC.	The Project is designed to be one of the lowest carbon emitting LNG export facilities in the world. This will be achieved by the use of renewable power, GHG reducing design elements, a robust monitoring and measurement program, an operating culture focused on low emissions and through the purchase of carbon offsets. The Project is targeting to be net-zero once BC Hydro grid connection has been established, which we anticipate will be within three years of the commencement of operations. This will result in the Project being well in advance of the federal government's target of achieving net-zero by 2050 and clearly aligns it with the provincial CleanBC Plan.	Why did the text in the IPD and early DPD versions change from "within 3 years of operations" to "during operations" - especially since the response/rationale here re-refers to within 3 years. Why is that not stated in the DPD more clearly like it was in IPD?	The base case scenario assumes the Project will receive power from the BC Hydro transmission system at Project start-up (by end of 2027). Enhancements are anticipated to be limited to system transmission line upgrades at the New Aiyansh Substation and along other existing sub-stations and existing power line corridors. There is potential that BC Hydro system upgrades may be more intensive and require additional time to complete the enhancements. It is our understanding that this could delay access to power to ~2029 - 2032 timeframe. In the event of a delay in connection to the BC Hydro grid, the Project is considering alternative power supply scenarios as presented in Section 2.14.1.1 of the DPD and to be refined in the Application.

Table 11.2 – Technical Advisors DPD Review Comments and Responses

ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
EAO-002	EAO	Indigenous nations are not Stakeholders. Please remove these references to "stakeholders (including Indigenous nations and governments)" and "Indigenous nations … and other stakeholders" [emphasis added]	The DPD will be revised as per this comment.	-	N/A
EAO-003	EAO	"Project" not in acronym list	The DPD will be revised as per this comment.	-	N/A
EAO-004	EAO	Will need to have a new Principal Contact(s) for the EA. Please add	The DPD will be revised as per this comment.	-	N/A
EAO-005	EAO	The term 'Indigenous nation' is used throughout with varying uses of capitalization (i.e. Indigenous Nation, Indigenous nation, and indigenous nation). Be consistent throughout.	The DPD will be revised as per this comment.	-	N/A
EAO-006	EAO	Can the proponent please outline the total pre-production (Construction) capital costs that are anticipated. Understand there will be caveats and assumptions associated with the estimate.	The DPD will be revised as per this comment.	-	N/A
EAO-007	EAO	When does the proponent expect the BC Hydro grid connection to be established. Currently this is outlined to occur any time during the 30 year operations phase which creates a lot of uncertainty in assumptions being made about potential effects and GHG emissions.	Ksi Lisims LNG has entered into a commercial agreement with a third party to design, build and operate an independent transmission line that will connect the Project to the BC Hydro grid. The third party is engaging with BC Hydro to determine the timing and quantity of power available, along with the system enhancements and costs associated with delivering the required power to the Project at the requested point of interconnect. Once the studies are completed, we will be able to provide a reliable forecast of power availability at the point of interconnect over time. Ksi Lisims LNG looks forward to learning when BC Hydro plans to start the required system enhancements to provide power for the Project.	When does the proponent expect to have and be able to share this more detailed information? The EAO requires additional information about the transmission line in order to inform project scoping.	We are working with BC Hydro and Provincial Government to get more clarity on the timelines and expect to have an update later this year.
EAO-008	EAO	Please include the expected operational life span of the Project	Project schedule, including expected operational life span of the Project, is included in section 2.12. Ksi Lisims currently estimates an operational life of 30 years.	-	N/A
EAO-009	EAO	"The remaining refrigerants are purchased and delivered to the Site by barge approximately twice per year and then stored in dedicated tanks on the FLNGs." Where will this barge with refrigerants originate from? Prince Rupert? Internationally?	Ksi Lisims LNG is identifying potential sources of refrigerants. All refrigerant requirements of the Project may not be available in Prince Rupert. As a result, alternate sources of refrigerants may need to be identified.	Where would these alternative sources come from? Need to ensure the effects and potential shipping routes are understood to inform the EAO's scoping during process planning, should the project proceed through readiness.	Refrigerants are typically shipped in standard shipping containers. Ksi Lisims LNG expects that these containers will be transferred to the Project via the Port of Prince Rupert. Efforts are currently underway to confirm feasibility of this expectation. If it is not, alternate sources will be identified. These alternate sources are not currently known
EAO-010	EAO	Can the proponent confirm the shipping route for the condensate export will follow the same proposed shipping route as outlined in Figure 2.5 for the LNGCs. If not, please provide further information on the shipping route for the condensate.	Confirmed. The NGL product vessels will follow the same route as the LNG carriers.	-	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
EAO-011	EAO	Recognizing that a period of suspension is not part of the plan for Ksi Lisims' operations, the EAO remains interested in understanding general information about how a period of suspension could proceed (e.g., is three a base level of workforce would be required? how many people? housed on-site?).	Periods of suspended operations are not anticipated. Even major shutdowns (every 10 years) would only last 4-6 weeks and would affect one FLNG at a time. The Project will not begin construction until long term commercial agreements are in place with multiple LNG customers and gas providers.	Closed - this response is sufficient at this stage. Matters related to temporary suspensions may be raised during the EA process, at which point additional information would be required.	N/A
EAO-012	EAO	It is not clear where the DPD provides the following information: ▪ Direct emissions that are expected to be above provincial or national standards and emissions that have the potential to interact with Indigenous interests, the biophysical environment, and/or the human environment. Please be more explicit about the proponents perspective on this requirement and the potential interactions (i.e. stating if there are any exceedances predicted).	Given the remoteness of the Project, it is not anticipated that Project emissions will result in exceedances of provincial or federal standards, or that emissions will interact with Indigenous interests or the human environment. There is the potential for interactions resulting in acidification or eutrophication. Section 3.1.1 and Table 3.3 of the DPD that currently characterizes sources of air emissions. Additional information will be added to reflect the above.	-	N/A
EAO-013	EAO	How will this project align with provincial policies and targets for GHG reductions as outlined in CleanBC and the Roadmap to 2030 including targets for 2030, 2040 and net zero by 2050? How will the possibility of a delayed connection to the BC Hydro grid impact this alignment with provincial policies and the province being able to meet its GHG reduction targets?	We anticipate that the Project will be fully supplied with BC Hydro electricity by 2040 and therefore will not contribute to the 2040 and 2050 targets on a net basis. Contributions to the 2030 target will be dependent on timing of connection to the BC Hydro grid. We anticipate that BC Hydro transmission system upgrades will be completed within three years of the commencement of operations, but this will be dependent on the outcome of BC Hydro system upgrade studies.	When will these studies be available? It appears there is a possibility that this project will not align with 2030 targets if the BC Hydro connection is delayed - is this an accurate assumption?	In the event that temporary use of power barges is required, Ksi Lisims LNG is committed to working with the relevant BC Government departments and agencies, as a new industrial facility under Clean BC's Roadmap to 2030, to align with the government's 2030 GHG targets in a manner that is consistent and equitable to that of similar LNG facilities in BC.
EAO-014	EAO	How will the proponents ensure that they do not exceed provincial or national emission standards given the unpredictability around the timing of when connection with the BC Hydro grid will be established? What confidence can be provided given the uncertainty around grid connection and the impact this may have on the resulting GHG emissions over the life of the project?	The Ksi Lisims LNG will follow all applicable provincial and federal emission standards as they are developed. The Project is designed to be one of the lower carbon emitting LNG export facilities in the world. This will be achieved through the use of clean, renewable electrical power from the BC Hydro grid and the purchase of carbon offset credits. This will result in the Project achieving its target of net-zero emissions and being in alignment with the provincial CleanBC Plan. In the event the infrastructure upgrades from BC Hydro are delayed, temporary power will be provided from an alternative source (i.e., power barges). Please refer to table 2.9 for the GHG emissions differences between the Base Operations Case and the Alternative Operations Case.	The Alternative Operations Case that's discussed only outlines a delay of up to 5 years. Nothing beyond a 5 year delay. There has been no certainty provided that any delay would be no more than 5 years into operations. The worst case scenario and associated estimates should be provided. The reliance on power barges in the event of any delays would inevitably have larger contributions to the predicted emissions - would the proponent be increasing their offset contributions in this scenario?	Based on conversations held to date with BCHydro it is Ksi Lisims LNGs understanding that if system upgrades require additional time to complete this could delay access to power to ~2029 - 2032. The Project will purchase between 250,000 and 400,000 tCO2e/year of offset credits, beginning at operations start up, to fully mitigate the emissions under the base case BC Hydro Power supply scenario. In the event BC Hydro system upgrades are delayed and temporary power barges are required, the Project will purchase off-set credits equal to the base scenario.

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
EAO-015	EAO	What will happen if there is an extended delay in the connection to the BC Hydro grid (i.e. delayed further than the 5 years into Operations contemplated in Table 2.7)? What measures will be in place to address this and how will the project meet net zero and align with provincial GHG reduction targets?	Ksi Lisims LNG does not believe that an extended delay to connecting with the BC Hydro grid is likely. An agreement is in place for a third party to construct a transmission line from the Project sub-station to the BC Hydro New Aiyansh Substation and this is expected to be completed prior to the Project start-up date. The transmission line third party provider is engaging with BC Hydro to determine the system enhancements and timeline to deliver the required power to the Project. Enhancements are anticipated to be limited to system transmission line upgrades at the New Aiyansh Substation and along other existing sub-stations and existing power line corridors. Once the studies are completed, we will have a more confident timeline of BC Hydro power supply.	Would be helpful to know when these studies will be completed to provide the information and certainty around timing and feasibility.	We are working with BC Hydro and the BC Government to get more clarity on the timelines and expect to have an update later this year. It is Ksi Lisims LNGs understanding that BC Hydro is determining the expected power demand for the North Coast system, of which the Project is a component, and when system upgrades will be required to meet power demands.
EAO-016	EAO	The proponent states the Project will not proceed if there is not a connection to the BC Hydro grid. Will the proponent begin construction of the Project prior to having a commitment to power connection to the BC Hydro grid? What will occur if mid-way during construction or early on in Operations it is determined the Transmission Line will not be built?	Electrification of the project is not only a requirement to achieve governmental emission targets, it has also emerged as one of the key features of the project for its investors and customers. The project anticipates that an electricity supply agreement with BC Hydro will be one of the requirements for reaching an affirmative final investment decision and commencing construction on the project. Ksi Lisims LNG's preference is not to use power barges at any stage of the project. If the electricity supply agreement included a commitment by BC Hydro to supply sufficient electricity to the interconnect with the transmission line that will serve the Project by the commencement of operations date, the project would not plan to include power barges in the construction plan, and would commence operations using 100% renewable hydro power. In this case, if there was a delay by BC Hydro in providing power to the project, it would not be able to commence operations until the power service commenced. The only reason that the power barge alternative has been proposed is to accommodate the possibility that BC Hydro cannot supply electricity to the interconnect at the commencement of operations date. In the event BC Hydro won't have the system upgrades complete to meet the Project start date, the power barges would supply temporary power until the BC Hydro transmission system upgrades have been completed.	-	N/A
EAO-017	EAO	Please outline the estimated emissions under the different connection scenarios as a percentage of the provincial emissions.	Ksi Lisims will consider this level of assessment in the DPD, versus in the EA-IA in which it will be provided.	This would be helpful information to inform discussions and decision-making	The percentage of provincial emissions has been added to the DPD.

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
EAO-018	EAO	Thank you for providing the estimated project area (i.e. Project footprint). What is the estimated area of disturbance for the Project? This would included all temporary workspaces and disturbance necessary to construct the project.	The DPD will be revised to reflect the area of disturbance.	-	N/A
EAO-019	EAO	Appreciate the proponents are still exploring options for their proposed source of water. However, please provide a description of the anticipated water requirements for the proposed project that the eventual source of water would need to fulfill. Please outline a range of anticipated water requirements for the Project based on current assumptions.	The DPD will be revised to reflect the range of anticipated water requirements.	What are the water requirements that will be updated in the DPD?	Current water needs estimates during operations is expected to be between approximately 15 and 25 cubic meters per hour. This estimate is considered conservative as it is based on desalinization which requires more water intake to acquire the volume of water needed to meet Project needs. Water requirements for the construction phase are still being determine and will be finalized during FEED. Early water needs for construction will be supplied by a water barge and then supplemented by one or more of the water source currently being considered for operations.
EAO-020	EAO	Please provide initial information around criteria (including definitions) that the proponent will use for assessing alternative means and weighting. Please review the Early Engagement Policy for a list of what information needs to be included for each alternative means being considered.	The DPD will be revised to provide initial information around criteria that will be used for the alternatives analysis.	What criteria will be used and included in the revised DPD?	Evaluation of these alternatives will consider the following criteria when making the final Project design and siting decisions: ▪ Use of best available technology, where appropriate ▪ Technical requirements ▪ Minimizing Limiting environmental effects including those associated with GHG and other air emissions, water use and other potential biophysical effects (e.g., terrestrial footprint) ▪ Potential social and economic considerations ▪ Capital cost The text in the DPD has been updated accordingly.
EAO-021	EAO	Please provide greater clarity for the alternative means to include an indication around which elements are considered final (i.e. already decided and not flexible) and which elements remain flexible or have elements under consideration.	The DPD will be revised to reflect the requirements of the comment.	-	N/A
EAO-022	EAO	"Two traplines intersect with the Site as illustrated in Figure 4.8." This is actually Figure 4.9 - adjust reference accordingly	The Figure reference will be revised in the DPD.	-	N/A
EAO-022	EAO	"Additional information regarding the temporal assessment boundaries are presented Section 6.2 of the dAIR (see Appendix 10)." Please remove section reference to AIR.	The DPD will be revised to remove reference to the AIR.	-	N/A

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EAO-023	EAO	"The following subsections provide an overview of the preliminary potential environmental, social, economic, heritage , and health effects..." Please change reference from 'heritage' to 'cultural'. This was a change under the new Environmental Assessment Act. Please see Section 25(2)(a) of the Act. Culture is broader and includes heritage among other aspects.	The DPD will be revised as appropriate.	-	N/A
EAO-023	EAO	"For a preliminary assessment of potential effects on Participating Indigenous Nations refer to Section 0." - Update appropriate section reference	The DPD will be revised with a corrected section number as per the comment.	-	N/A
EAO-024	EAO	Reiterating previous comment: "Please outline any existing cumulative effects and any potential cumulative effects associated with this project." Recognizing that the full effects assessment process hasn't been completed, it is still possible to outline any currently existing cumulative effects in the region (prior to project) as that should be known at this stage. And a prediction of potential contribution (or lack of) to those. This request is in line with the Detailed Project Description Guidelines, which are included in Appendix 3 (see. p. 34, under Potential Project Effects)	Due to the remoteness of the Project, cumulative effects are anticipated to be limited. Section 5.3 of the DPD will be revised to reflect this.	What about cumulative effects from shipping in the area?	Shipping is an existing activity near the Project site and therefore the Project has the potential to interact cumulatively with this activity. The DPD will be updated to reflect this.
EAO-025	EAO	"The following provincial and federal and approvals and policies are applicable to the Project" - Feel like there are one too many 'ands' in the sentence. Adjust for readability	This sentence of the DPD will be revised for readability.	-	N/A
EAO-026	EAO	Please identify any aspects of, or changes to, the project that have been integrated into the DPD and/or committed to for the EA-IA based on engagement with nations. This could take the form of either a table or list with corresponding rationale.	The DPD will be revised as per this comment.	-	N/A
EAO-027	EAO	"In addition to these five, it is anticipated that the Gitga’at may also be added as a sixth Participating Indigenous Nation. " Gitga’at has been confirmed as a participating Indigenous nation - please update accordingly.	The DPD will be revised to correctly reference the Gitga'at as a Participating Indigenous Nation	-	N/A
EAO-028	EAO	"and potentially Gitga'at" - remove 'potentially' as Gitga'at is a technical advisor.	The DPD will be revised to correctly reference the Gitga'at as a Participating Indigenous Nation	-	N/A
EAO-029	EAO	"Appendix 10 provides Proponent responses to all 144 issues, including cross references to locations in the draft DPD and dAIR..." -Appendix 10 does not have reference to sections of dAIR, please remove from sentence.	The DPD will be revised to remove reference to the AIR.	-	N/A

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EAO-030	EAO	This sentence is confusing and not clear the intent or purpose it is trying to convey: "BC EAO-Agency prepared Summary of Issues and Engagement lists 131 primary issues with one issue category (e.g., 59 – Project Components) having 13 sub-issues for a total of 144 issues that need to be addressed by the Proponent."	This sentence of the DPD will be revised for readability.	-	N/A
EAO-031	EAO	The DPD does not meet the requirement to "include any proposed outreach to help Indigenous nations, governments and the public better understand the risks and mitigations." Please include.	Information in the DPD will be revised to more clearly address this comment.	-	N/A
EAO-032	EAO	The DPD does not meet the requirement to "include any proposed outreach to help Indigenous nations, governments and the public better understand the risks and mitigations." Please include.	Information in the DPD will be revised to more clearly address this comment.	Wrong comment here - missing comment about moderate to high risk scenarios	N/A
EAO-033	EAO	The quote "…[LNG or NGL Spill] … is very unlikely, and it has been estimated by other proposed LNG export facility projects that the probability of occurrence is 7.6 times in 10 million years." cannot be used without providing references to the source of the calculation. While it appears to be true that another LNG project has made this assertion, to restate it here (even while attributing it to another *unnamed* project) is problematic unless the source is provided. A reader should have an opportunity to evaluate what type of assumptions went into this.	The DPD will be revised to address this concern.	Thank you. Note: to adequately address the concern, please either delete the statement or provide a source that identifies the assumptions and calculations from which the figure was derived. Which revision will the proponent be making?	A reference will be added to the DPD.
EAO-034	EAO	Please outline references to "McCuaig. 2003" and "McIntyre et al. 1994" and other references that don't appear to be complete	The reference list will be reviewed against the document to identify missing references and updated accordingly.	-	N/A
EAO-035	EAO	The EAO requires additional details about the transmission line to inform scoping. Please provide details on the anticipated length and capacity of the proposed Transmission Line. Please also include information on if portions of the Transmission Line will be built alongside existing rights-of-way or if it will require new disturbance.	The DPD will be updated with additional detail on the transmission as reflected in this comment.	Please provide this information now for review. Want an opportunity to review the information prior to the DPD being finalized.	This information was shared in an email from Chris Cochrane dated April 4, 2022.
EAO-036	EAO	What is the anticipated length of just the sub-sea cable section needed for the Transmission Line?	This is to be determined by the third party pipeline owner.	When will this information be known? Can the proponent provide at least an initial estimate?	The final location of where the pipeline will go subsea from the mainland to the Project site is not under the care and control of the Proponent. However, based on the location of the pipeline as shared in publicly available documents it is anticipated that the subsea cable will be approximately 25km. The text in the DPD has been updated accordingly.

Table 11.2 – Technical Advisors DPD Review Comments and Responses

ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
EAO-037	EAO	Does BC Hydro have enough power to supply the needs of this project during operations? Can the proponents confirm their power needs for this Project can be met by BC Hydro via Transmission Line?	It is Ksi Lisims LNG's understanding that BC Hydro will have sufficient power available to meet Project needs when operations commence. The Project anticipates that an electricity supply agreement with BC Hydro will be one of the requirements for making a final investment decision and commencing construction on the Project, reducing uncertainty about BC Hydro's anticipated ability to provide electric service over the term. The long range capacity and demand forecasts reflected in BC Hydro's integrated resource plan point to significant uncertainty in the future supply requirements for the system. While Ksi Lisims LNG represents about a 5% increase in electric demand in B.C. at commencement of operations, uncertainty of overall demand is approximately 33%, increasing to over 55% at the end of the forecast period, pointing to the difficulty of forecasting market demand over such a long time horizon.	-	N/A
EAO-038	EAO	Appendix 6 contains the record of Indigenous Engagement. Seems like that is the place to capture the details and that 7.3 should be a higher-level summary of engagement to have a clear understanding of how the proponent is engaging with the nations. From the Joint Summary Document "The Agency and the EAO expect the proponents to engage with each of the Indigenous groups listed in section 3.0 to ensure their interests and concerns are reflected in the Detailed Project Description" this section should focus on how this was done.	Information in the DPD will be revised to more clearly address this comment.	Hard to provide any feedback without knowing or seeing how the DPD will be revised. Want to make sure the proponent is on the right track with their proposed approach to addressing this comment. Means we will have to wait until the next version of the DPD to provide comment which would be during Readiness Decision.	Draft summaries shared with EAO and the Agency April 12 for review and shared with Participating Indigenous Nations on April 13.
EAO-039	EAO	The DPD still does not provide a preliminary understanding of Indigenous interests for each Participating Indigenous nation. This is different than providing responses to Indigenous nation comments. Please review Section 2.3 and 5.2.2 of the EA User Guide for information on identifying and assessing Indigenous interests, and section 4 of the Early Engagement Policy for the goals for Indigenous nation involvement in Early Engagement.	Information in the DPD will be revised to more clearly address this comment.	See above	Draft summaries shared with EAO and the Agency April 12 for review and shared with Participating Indigenous Nations on April 13.
EAO-040	EAO	Please include for each Indigenous nation an identification of how the project will interact with Indigenous Interests and the potential effects on the identified Indigenous interests. This should be specific to each participating Indigenous nation and outline the effects to the unique concerns and interests of each nation. This should be concise and not just point to the comment and responses in Appendix 10.	Information in the DPD will be revised to more clearly address this comment.	See above	Draft summaries shared with EAO and the Agency April 12 for review and shared with Participating Indigenous Nations on April 13.

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
EAO-041	EAO	Please provide a description of how each Indigenous nations plan to work with the proponent moving forward.	The DPD will be revised to address this comment.	See above	Draft summaries shared with EAO and the Agency April 12 for review and shared with Participating Indigenous Nations on April 13.
EAO-042	EAO	Please provide a list of agreements the proponent has entered into with Indigenous nations during Early Engagement.	Please see Section 7.6. If this information is not adequate, please indicate what needs to be added.	Closed	N/A
ECCC-001	ECCC	The Proponent has stated that dredging is not a project component (p. 7.1-33); however, the Proponent also states in table 7.1,*"If the need for marine dredging changes, a sediment sampling program will be conducted to confirm the quality of marine sediments and the potential impacts of this activity on fish and fish habitat will be included in the environmental assessment*" (p. 7.1-54). ECCC recommends that the Proponent seek input from ECCC on the sediment sample program design, analytical requirements, waste audit, and alternatives assessment if dredging and disposal at sea (DAS) are being considered for the Ksi Lisims LNG Project (the Project). Information about the DAS permit process is available on the ECCC DAS website here:https://www.canada.ca/en/environment-climate-change/services/disposal-at-sea/permit-applicant-guide.html.	Ksi Lisims LNG is currently not anticipating that dredging will be required; however, if the need is identified, Ksi Lisims LNG will engage ECCC on the program design prior to conducting the sampling.	Acknowledged.	N/A
ECCC-002	ECCC	In Section 2.9.2.1 (Solid Wastes) and Section 2.9.2.2 (Liquid Wastes), it is unclear as to where water may be stored and/or discharged. This includes: Water used as a coolant or as part of the desalination process; Effluents or purification discharges from the LNG process (H2S, CO2, water, butane, propane, ethane) and condensates; and, Hydrostatic test water. In addition, there is no mention of liquid products that would be used to clean the gas stream and their management and potential discharge (e.g., glycols, solvents, amine solutions), as well as no mention of condensates/waste from the possible desalination plant. ECCC recommends that the Proponent: Identify all possible solid and liquid wastes from the Project (including from the Project site and vessels);Identify the possible locations at which solid and liquid wastes may be discharged to the environment, in particular to surface and marine waterbodies; Conduct baseline monitoring in all areas where solid and liquid wastes may be discharged to the environment; and, Incorporate mitigation measures to control the release of these possible wastes if an effect may be observed in the environment.	Comment noted. Details on the quality, storage, treatment and discharge of wastes is being determine through FEED and will be included in the effects assessment. Ksi Lisims LNG is confident that sufficient baseline information has been collected. However, should supplemental information be required, additional baseline data collection will be completed. Liquid and solid waste management will include the identification of appropriate mitigation measures.	ECCC acknowledges that specific details regarding waste storage, treatment and discharge are forthcoming and will be considered in the effects assessment. However, ECCC continues to recommend that the final DPD identify all possible solid and liquid wastes from the Project (including from the Project site and vessels) as well as their proposed discharge locations.	The best available Project details are provided in the DPD. Updated and/or additional detail will be provided in the Application, as available.

Table 11.2 – Technical Advisors DPD Review Comments and Responses

ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
ECCC-003	ECCC	ECCC notes that the Proponent proposes pile driving and floating liquefaction, storage and off-loading barge (FLNG) mooring infrastructure in subtidal areas. However, baseline sediment sampling has not occurred and is not proposed in Section 3.5 or Table 3.9. ECCC recommends that a comprehensive baseline sediment quality program be undertaken in the areas expected to be affected by project activities/infrastructure and/or future discharges, and at reference locations that have similar attributes.	A sediment sampling program will be undertaken to inform sediment transport modelling associated with pile driving. The results will be presented in the EA submission. Given the remote location of the site and assumed pristine nature of the area, a sediment quality sampling program is not currently proposed.	Please see ECCC-04.	Please see ECCC-04.
ECCC-004	ECCC	The Proponent intends to build berth structures and jetties (outlined in Table 2.1) and monitor for total suspended solids (TSS) during marine works construction (p. 124, Section 5.3.3.4); however, there is no mention of potential re-suspension of marine sediments or possibly entrained contaminants from this activity, as well as other project activities (in particular, activities during operations, e.g., marine shipping, infilling, installation of a feed gas pipeline, mooring systems, distribution piping) that may serve as a pathway for potential effects to aquatic receptors in the marine environment. ECCC recommends that: The potential impact to aquatic receptors from resuspension of contaminants (i.e., not only TSS), resulting from marine works construction, dredging, and other activities, be included in the draft Detailed Project Description (DPD);Baseline studies, in Section 3.5 and Table 3.10, include an assessment of existing contaminants in those marine sediments that will be disturbed by the Project; and, If known, existing information on contaminants in sediment within or adjacent to the Project should be acknowledged in the description of existing conditions and potential effects in the DPD.	The Project is located in a previously undeveloped location with no known major sources of pollution nearby (e.g., pulp mills, smelters, refineries). As a result, potential impacts to marine sediment quality as a result of Project activities are expected to be limited and mitigated through active management. No seabed dredging is currently planned as part of the Project. If the need for marine dredging (or other activities deemed to constitute disposal at sea) changes, a sediment sampling program will be conducted to characterize baseline conditions. Sediment sampling program is planned for 2022 to collect sediment at sites where marine infrastructure will be installed. The samples will be submitted for particle size analysis and results will be used in a scour analysis model to predict the potential scouring of the seabed associated with water movement around the new jetty pilings. Potential impacts associated with the installation of the feed gas pipeline are outside of the scope of this Project and are expected to be addressed under a separate assessment process.	The Project proposes to disturb sediment as well as discharge multiple effluent types, including sanitary wastewater, treated stormwater, open loop cooling water (potential), FLNG module deck wash and stormwater, brine from desalination, and direct discharges from vessels, over the lifetime of the Project. Baseline data are necessary to characterize background conditions to measure future effects of the Project on the receiving environment (i.e., resuspension of any naturally occurring contaminants) and to confirm that proposed Project activities and mitigation measures will be protective of the environment in its current condition. Background information on sediment chemistry is necessary in an area that is not yet disturbed. ECCC recommends that the sediment sampling program in 2022 include chemistry analysis, and that the sampling be comprehensive, including near prospective discharge locations and at reference sites. The sampling methodology should adhere to the BC Field Sampling Manual (available at https://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/laboratory-standards-quality-assurance/bc-field-sampling-manual) and the BC Marine Monitoring Guidance (available at: https://www2.gov.bc.ca/assets/gov/environment/waste-management/waste-discharge-authorization/guides/forms/2021-01-05-marine_monitoring_guidance.pdf).	Ksi Lisims LNG has revised its sampling program to include the collection of sediment samples that will be analyzed for potential contaminants of concern and will serve to establish the existing conditions onsite. Particle size will also be obtained from the sediment samples and will be input into a sediment scour model that will evaluate wave and current induced scour near the proposed pile-supported infrastructure. The two documents referenced will be used for guidance when designing the sediment sampling program. The Project continuous to not require dredging as part of the Project. As a result the sediment sampling program will not be designed to meet these more extensive criteria but rather will focus on characterizing baseline conditions.

Table 11.2 – Technical Advisors DPD Review Comments and Responses

ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
ECCC-005	ECCC	The Proponent has outlined their existing and future baseline sampling program in Section 3.5. However, it is unclear where these sampling sites are located in relation to the proposed project components. ECCC recommends that the Proponent provide maps to illustrate the locations of the baseline sampling sites relative to project components.	Section 3.5 of the DPD is not intended to provide this level of detail. The Technical Detail Reports provided as part of the Application will provide figures showing the location of the sampling sites as well as the relation of those sites to the planned Project infrastructure.	Acknowledged. ECCC notes that it is unable to comment on whether the existing and future baseline sampling programs are appropriate without information that identifies the sampling locations in relation to Project components.	Thank you for your comment. The water quality sample locations have been spread out to include data collection near the proposed in-water infrastructure (east Pearse Island) as well as the surrounding area (Whiskey Bay and west Pearse Island). The sediment sampling program has not yet been designed but will focus on the areas of proposed development (east Pearse Island). Figures showing the sample locations relative to Project infrastructure will be provided in a Technical Data Report appended to the EA-IA and will also include a summary of the methods and results. Ksi Lisims LNG would be happy to set up a call to discuss this, and other relevant programs with ECCC.
ECCC-006	ECCC	Marine water quality was collected at four locations in June and November 2021, and "*from the surface (1m) and midwater (below pycnocline) depths*" (p. 63); however, this does not capture sufficient seasonal variation and does not include deep water samples (1 m above seafloor). Additionally, no marine sediment sampling was proposed. ECCC also notes that "*Water samples were analyzed for physical parameters (hardness, pH, total dissolved solids, total suspended solids and turbidity), anions, nutrients, total and dissolved metals, as well as hydrocarbons and VOCs*" (p. 63); however, temperature, salinity, and dissolved oxygen were not mentioned. ECCC recommends that: Baseline sampling be spatially comprehensive in areas expected to be affected by future discharges and at reference locations that have similar attributes; Sampling times be biologically relevant for the marine environment (e.g., spring bloom), and cover variability in seasons, tidal cycles, and climate; Samples be taken at a minimum of three depths depending on the depth of the site and the number of water masses present; and, All relevant parameters be measured, including temperature, salinity, and dissolved oxygen.	Thank you for your comment, it is Ksi Lisims LNGs view that we have addressed the information requirements set out in this comment. Ksi Lisims LNG has conducted two water sampling events (each with four locations) as listed. In addition to the water samples collected, conductivity, temperature, depth (CTD) profiles were collected at six water quality sampling locations over four survey events using a YSI EXO2 sonde. The CTD profiles logged data continuously from the surface to 100 m depth (or seabed, whichever was shallower) and collected data across multiple seasons (June, September, November [2021] and March [2022]). Parameters measured included conductivity, temperature, depth, salinity, dissolved oxygen, turbidity, chlorophyll, and pH. The sampling locations are spread throughout the marine terminal local assessment area and a figure showing the locations will be included in the Technical Data Report appended to the EA-IA. A sediment sampling program is planned for 2022 and will be submitted for particle size analysis. Ksi Lisims LNG has not identified discharge locations. Should supplemental information be required, additional baseline data collection will be completed.	ECCC acknowledges that CTD profiles were collected four times at six stations, while water quality grab samples (from two depths) were collected at four stations on two occasions. Many parameters, such as nutrients and metals, cannot be measured using a sonde and are expected to vary seasonally. ECCC is of the view that two sampling events where water samples were collected and submitted for laboratory analysis (versus CTD profiles) are not sufficient to characterize seasonal water quality. Grab samples from two depths are also not sufficient to characterize water quality over a 100 m water column with multiple water masses. Further, the sampling timing in June and November captures freshet, but misses key events in the annual cycle such as the peak of winter mixing (mid-winter), the spring bloom (mid-spring), peak stratification (mid-summer), and the fall bloom (early fall) (e.g., Pickard 1961; Fissel et al. 2017). Therefore, ECCC recommends that the Proponent review the collected annual water quality data to determine if the data fully captures intra-annual variation, and fill data gaps as appropriate with additional sampling as necessary. Further, as all sampling locations are within the LSA, ECCC recommends that a reference station be established outside of the LSA.	If identified/required, wastewater discharges associated with the Project (e.g., sanitary wastewater) will require a wastewater discharge permit under the Environmental Management Act. The application for such a permit involves a thorough assessment of the potential for adverse effects to water quality and subsequent marine receptors. This permit application also typically involves a baseline sampling program that is specific to the location of the marine outfall and the parameters being discharged (neither of which are currently known). If identified, a baseline water quality sampling program associated with the wastewater discharge permit application will be conducted during the permitting process. The immediate needs for the current field programs are to support the EA-IA process and the information collected to date is deemed sufficient for that purpose. If ECCC still believes that this additional water quality information is required at the EA-IA phase, please provide some additional detail on why and how the information will be used and please provide formal references/guidance for requiring this information.

Table 11.2 – Technical Advisors DPD Review Comments and Responses

ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
				References: Fissel D B, Lin Y, Scoon A, et al. 2017. The variability of the sediment plume and ocean circulation features of the Nass River Estuary, British Columbia. Satellite Oceanography and Meteorology, 2(2): 316. http://dx.doi.org/10.18063/SOM.v2i2.316 Pickard, G.L. 1961. Oceanographic features of inlets in the British Columbia Mainland Coast. Journal of Fisheries Research Board of Canada, 18(6):907-999. doi: 10.1139/f61-062.	
ECCC-007	ECCC	The draft DPD states, "As part of the EA-IA, intertidal surveys will document invertebrate species richness, diversity and abundance and subtidal surveys will document species richness." (p.72). ECCC notes that Table 3.9 states that subtidal surveys were conducted by remote operated vehicle. The subtidal survey does not propose to document species diversity or abundance, and the method chosen is not in accordance with the BC Field Sampling Manual (MWLAP 2013). It is also not clear if a subtidal survey would fully encompass the potentially impacted area, as the Project is proposed to extend deeper than what would normally be considered "subtidal" (low tide to 30 m depth). ECCC recommends that more details be provided on the benthic invertebrate surveys in the dAIR, including sampling design, location and methodology. To assess Project-related effects to sediment and water quality on fish and fish habitat, ECCC recommends that: All possibly impacted areas be included in the surveys; and, Study methodology be in accordance with the BC Field Sampling Manual (MWLAP 2013). The BC Field Sampling Manual (MWLAP 2013) is available at:https://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/laboratory-standards-quality-assurance/bc-field-sampling-manual	No subtidal field methods could be found in the referenced field manual however remotely operated vehicles (ROVs) are commonly used to survey subtidal habitats in the marine environment, particularly when going to depths that are not possible with divers on SCUBA. The ROV survey for this project includes coverage throughout the marine terminal local assessment area and aims to provide a better understanding of the distribution and types of habitats present. Review of the ROV video footage will allow for comment on the biophysical conditions on site and will include a summary of the substrates present (including substrate maps), taxa richness of marine species observed (fish, invertebrates, and algae) and semi-quantitative abundance estimates of those organisms. The subtidal ROV survey consists of a series of transects perpendicular to shore that span from the seaward extent of the waterlots (maximum depth of approximately 300 m) to the shoreline (or as close as possible due to weather/vessel draft limitations) and included areas within and adjacent to the currently planned Project infrastructure.	ECCC acknowledges that ROV surveys are a tool to survey the marine environment, but have limited applicability for benthic infauna, which may not be exposed on the seafloor. The proposed Project will result in seafloor disturbance and multiple long-term discharges to the marine environment. This may cause benthic habitat loss or alteration, smothering due to increased sediment resuspension, and adverse effects from water contamination through spills, anti-fouling systems, and effluent. Benthic infauna are important indicators of marine water quality. ECCC is of the view that benthic infaunal community composition should be characterized, and that the methods used should quantify richness, abundance, and diversity. Semi-quantitative sampling does not provide adequate abundance data to detect shifts in community composition, or population trends.	The purpose of the initial subtidal survey is to inform the EA-IA by providing insight into the distribution and types of marine habitats present within the survey area. The current subtidal program does not extend to infaunal invertebrates with the exception of those for which some portion of their body breaks the surface of the seabed (e.g., bivalve siphons) and that are visible on the ROV video. Ksi Lisims LNG expects that a benthic invertebrate community composition survey may eventually be required as part of the permitting associated with a potential waste discharge authorization application under the *Environmental Management Act*. This follow-up benthic sampling program should be informed by the effluent discharge location and will occur at a later date once the engineering details have advanced (e.g., if effluents are identified for discharge, potential volumes, effluent discharge location, etc.). Any benthic sampling program will follow the BC Field Sampling Manual guidance document ECCC has referenced.
ECCC-008	ECCC	In Section 5.3.3.4, the Proponent details how site activities may impact marine resources, and notes that, "*there is potential for effects related to increased vessel traffic (e.g., vessel strikes, sensory disturbance, accidental spills, etc.) on the marine environment and those environmental valued components of marine fish, marine mammals, marine plants and marine birds*" (p. 124). In Section 5.3.2.1, the Proponent does not however, identify how potential accidental spills may impact surface water.	Recommendations noted. Sections 5.3 and 9.4 provide a preliminary review of potential effects and accident and malfunction scenarios. Additional assessment and mitigation will be provided in the EA submission.	ECCC notes that potential accidental spills were not identified in Section 5.3.2.1, which describes other potential effects to surface water (i.e., erosion and sediment loading, acidification and erosion). ECCC recommends that accidental spills be identified as a preliminary effect in Section 5.3.2.1 of the DPD, consistent with Section 5.3.3.4 of the DPD. ECCC notes that the spill response plan is not included in the preliminary mitigation measures identified in Section 5.3.3.4 and recommends reference to a spill response plan in the final DPD.	Potential effects associated with accidents and malfunctions are identified in the Accidents and Malfunctions section of the DPD (specifically Sections 9.4.3 and 9.4.4). In addition, preliminary potential mitigation for accidents and malfunctions are provided in Section 9.4.7 of the DPD. Reference to these sections has been added to Section 5.3.2.1. Reference to accidental spills has been removed from Section 5.3.3.4. This information is captured in Section 9.4.3 and 9.4.4.

Table 11.2 – Technical Advisors DPD Review Comments and Responses

ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
		In Section 9.4.3, the Proponent mentions the possibility for spills from fuel or hazardous materials and that "*A fuel or hazardous material spill would likely be contained within the Site, but a large spill could result in environmental effects on the surrounding area*" (p. 190). In neither Section 9.4.3 (Fuel and Hazardous Material Spill) nor 9.4.8 (Potential Accident and Malfunction Mitigation Measures) does the Proponent outline a spill response plan or mitigation measures to ensure that a spill "would likely be contained within the Site." ECCC recommends that the Proponent: Identify accidental spills as a potential source of contamination and effects to both surface water and marine resources; and, Identify the use of a spill response plan that uses industry best management practices and specific measures for conditions at the Site.			
ECCC-009	ECCC	On page 117, the Proponent states, "*surface freshwater sources at Wil Milit are being considered as a source of supply for the construction period and for longer term use at the permanent worker accommodation centre and potentially for other Project needs such as to support LNG process cooling requirements*." It is not clear what construction activities require water, and whether there will be discharges from construction activities to the receiving environment. ECCC recommends that the Proponent clarify which project construction activities outlined in Table 2.2 and Table 2.3 of the draft DPD may potentially cause an effect to surface water	Tables 2.2 and 2.3 of the DPD provide construction waste management and disposal. The DPD will be updated to indicate potential water use during construction includes potable water for the workforce, general construction needs such as washwater and as a component in materials.	Acknowledged. ECCC has not received a revised DPD and cannot confirm these changes are reflected in the final DPD.	N/A
ECCC-010	ECCC	It is unclear from the Proponent's draft DPD whether excavation of rock and other materials will be conducted as part of the construction of the Project, and whether excavated rock or fill materials may be brought in to the Project site to be used for project construction. The Proponent states in numerous responses to Lax Kw'alaams Band's Issues and Concerns in Table 7.1, that excavation may be conducted. For example, the Proponent states, "Infrastructure that is land-based is not anticipated to require considerable excavation below the groundwater table. If excavation below the groundwater table is required for infrastructure design, an assessment of the change in groundwater flow as a result of the excavation(s) will be completed" (p. 7.1-53). If applicable, ECCC recommends that the Proponent: Include the excavation of rock and other materials, such as overburden, as a project activity;	Comment noted, thank you. This direction will be kept in mind as Project design advances and more is known about blasting and excavation needs, and if there will be a need to bring in rock and other materials from off site.	Acknowledged. ECCC has not received a revised DPD and cannot confirm these changes are reflected in the final DPD.	N/A

Table 11.2 – Technical Advisors DPD Review Comments and Responses

ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
		Identify where possible excavation of rock and other materials may occur, and where fill or excavated materials from elsewhere may be brought in to be used for project construction; Identify whether blasting will be conducted to excavate materials; Identify where blasted or excavated materials may be stored on or off the project site; List the excavation of rock and other materials, as well as fill or excavated materials brought to the project site from elsewhere, as potential sources of contamination that may affect surface water, marine resources, and groundwater; and, To mitigate possible effects, develop a geochemical management plan as part of the Environmental Management Plan for excavated rock and materials on the project site, as well as for fill or excavated materials brought to the project site from elsewhere.			
ECCC-011	ECCC	The Proponent has not clearly identified in the draft DPD, where effluents from the Project will be discharged. For example, the effluent from LNG cooling systems, wastewater treatment plant, water desalination plant, water and wastewater facilities, and the main sub-station could affect surface water, as surface water bodies appear to be in close proximity to these facilities in the Conceptual Project Layout (Figure 2.2), but impacts to freshwater are not included in the Joint Summary of Issues and Engagement (JSOIE). The Proponent notes in JSOIE Category 127, "Impacts from potential effluent discharges, brine from desalination units, hazardous discharges, and heated water into the marine environment", that these effluents will be assessed in the proposed Marine Resources Valued Component (VC). ECCC recommends that this JSOIE Category be expanded to include both Marine Resources VC and Freshwater.	Ksi Lisims LNG will assess all relevant potential effects related to liquid discharges, as further defined during FEED, in the Marine Resources and Freshwater Fish and Fish Habitat VC sections of the EA-IA.	ECCC acknowledges that specific details regarding waste storage, treatment and discharge are forthcoming. ECCC continues to recommend that the final DPD identify all possible effluent discharge locations and associated potential effects.	The best available Project details are provided in the DPD. Updated and/or additional detail will be provided in the Application, as available.
ECCC-012	ECCC	ECCC notes that silver-haired bat and hoary bat are undergoing consideration for identification under the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). ECCC recommends migratory bat monitoring and assessment be included in the assessment in the event these species become listed during the Project review.	Bats known or likely to occur in the terrestrial wildlife assessment area will be included in the assessment. Bat acoustic surveys were completed in 2021 within the terrestrial wildlife local study area and these data will be used to inform the assessment of potential Project effects on bats.	No further comments.	N/A

Table 11.2 – Technical Advisors DPD Review Comments and Responses

ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
ECCC-013	ECCC	ECCC notes that Grizzly Bear and Red-necked Phalarope are listed as Special Concern on schedule 1 of the *Species at Risk Act*, and requests that Table 3.8 be updated with this information. The following species also have the potential to interact with the Project: Coastal Tailed Frog(*Ascaphus truei*)– Special Concern Band-tailed Pigeon(*Patagioenas fasciata*)– Special Concern Red Knot(*Calidris canutus*)- Threatened ECCC requests that these species be added to Table 3.8 and effects from the Project be assessed in the Application.	The status of grizzly bear and red-necked phalarope have been updated in Table 3.8. Coastal tailed frog is not expected to occur within the terrestrial wildlife assessment area. Dupuis et al. (2000) indicate that the current documented northern distribution of coastal tailed frog in BC ends at the Nass River. Hobbs et al. (2019) indicate that coastal tailed frog distribution extends along the Coast Mountain range to at least Kitimat. In peripheral parts of its range, populations of coastal tailed frog appear to be scattered, of low density, and limited by stream temperatures, with requirements for warm summer temperatures for larval development and snow buffers against winter freezing and summer drying (COSEWIC 2011; ECCC 2018). Band-tailed pigeon and red knot have been added to Table 3.8 and will be included in the assessment. COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2011. COSEWIC assessment and status report on the Coastal Tailed Frog *Ascaphus truei* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 53 pp. Dupuis, L. A., F. L. Bunnell, and P. A. Friele. 2000. Determinants of the Tailed Frog's Range in British Columbia, Canada. *Northwest Science* 74(2): 109-115. ECCC. 2018. Management Plan for the Coastal Tailed Frog (*Ascaphus truei*) in Canada. Species at Risk Act Management Plan Series. Environment and Climate Change Canada, Ottawa. 2 parts, 4 pp. + 49 pp. Hobbs, J., J. M. Round, M. J. Allison, and C. C. Helbing. 2019. Expansion of the known distribution of the coastal tailed frog, Ascaphus truei, in British Columbia, Canada, using robust eDNA detection methods. PLoS ONE 14(3): e0213849.	The known range of Coastal Tailed Frog is currently described as, “as far north as the Alaskan panhandle border” (COSEWIC 2011). Although the currently known, most northern occurrence of the species west of the Coast Mountains is Kitimat, it should not be assumed that they do not occur farther north. The paper referenced, Hobbs et al. (2019), did not include this area in their range expansion study, but multiple eDNA studies conducted on tailed frog (including the Hobbs et al. (2019) study) indicate that their previously known ranges are inadequate. If suitable habitat exists within the Project study area, ECCC recommends this species be included in baseline surveys and assessment of effects.	Ksi Lisims has reviewed available information on the distribution of coastal tailed frog, including surveys undertaken for the proposed Prince Rupert Gas Transmission Project. Those surveys occurred in the CWH and ICH biogeoclimatic zones from Port Edward north to Iskeenickh near the mouth of the Nass River, then northeast to near Dragon Lake. Of 35 sites visited, 21 were identified as having suitable habitat, but coastal tailed frog were not detected during presence/not detected surveys following provincial resource inventory standards. Ksi Lisims also notes that the occurrence of coastal tailed frog on offshore islands is generally unlikely based on water barriers, but with a couple of known exceptions (COSEWIC 2011). Based on the information reviewed, coastal tailed frog is unlikely to occur on Pearse Island; if coastal tailed frog is discovered, it will be documented and reviewed.
ECCC-014	ECCC	ECCC recommends that baseline surveys be designed to account for inter-annual variability of species (migratory birds and species at risk) in order to inform monitoring and follow-up programs. Furthermore, some species (e.g., bats, marine birds) will require year-round or seasonal monitoring to determine the habitat use during different life stages (e.g., hibernation/overwintering, breeding, and migration).	Baseline wildlife surveys were completed following provincial standards (i.e., Resource Inventory Standards Committee inventory standards), or following widely established survey methods for surveys where no applicable provincial standards have been developed (e.g., remote camera surveys). Baseline wildlife surveys are intended to capture species presence and use of the local assessment areas during critical timing periods, such as during breeding and migration, or during important seasonal foraging periods (e.g., eulachon run). The data from these surveys are used, in combination with data from other sources and expert opinion, to characterize existing conditions in the assessment area and to identify site-specific mitigation.	ECCC is of the view that this issue remains outstanding. Additional information is required on how the baseline surveys that were conducted meets the standards described, in particular for bats and marine birds. This information should include justification for all programs with less than two years project-specific survey data.	Detailed survey methods will be provided in a wildlife technical data report. Briefly, bat surveys will be completed using five ultrasonic acoustic recording units that will be operational for two months (from June to August). Marine bird surveys are comprised of 26 transects, stratified as near-shore (14 transects within 500 m) and offshore (12 transects more than 500 m from shore). Each transect is 2 kms long and was surveyed once during the eulachon run (March) and once during fall migration (October). Ksi Lisims adopted the marine birds survey methods from the proposed Prince Rupert Gas Transmission Project so that results from those surveys in 2013 and 2014 can be compared with results collected for Ksi Lisims.

Table 11.2 – Technical Advisors DPD Review Comments and Responses

ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
ECCC-015	ECCC	Please confirm that wetland area will be included in the field studies along with wetland occurrence, type and function, as stated on page 82. ECCC recommends that the design of wetland function assessments consider Hanson et al. 2008 and BCWF 2022. **References:** Hanson, Al, et al. 2008. Wetland Ecological Functions Assessment: An Overview of Approaches. Atlantic Region. Technical Report Series Number 497. Available at:https://publications.gc.ca/collections/collection_2010/ec/CW69-5-497-eng.pdf B.C. Wildlife Federation and B.C. Ministry of Forests, Range, Natural Resource Operations and Rural Development. 2022. Technical Guidance Document for Evaluating the Health of Wetlands (Wetland Management Routine Effectiveness Evaluation). Forest and Range Evaluation Program, B.C. Ministry of Forests, Lands, Natural Resources Operations and Rural Development, Victoria, B.C. Available at:https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/frep/frep-docs/reports/frep_wetlands_tech_guidance_supp_mar2022-v2.pdf	The DPD has been edited to clarify that wetland area, occurrence, type and function will be addressed. Design of the wetland function assessment will consider Hanson et al. 2008 and BCWF 2022; however, the field work was completed in the summer of 2021, before BCWF 2022 was released.	Acknowledged.	N/A
ECCC-016	ECCC	ECCC requests that flaring events also be considered under Change in Mortality Risk as a potential effect on wildlife, and that the Proponent provide details on what mitigation measures will be proposed to reduce these effects.	Potential effects of flaring, and relevant mitigation to reduce those effects, will be considered as part of the assessment of change in mortality risk for wildlife.	Acknowledged.	N/A
ECCC-017	ECCC	ECCC notes on page 122 of the draft DPD, that mitigation measures to avoid or limit potential effects on birds and their eggs include "*a pre-disturbance nesting bird survey*". This mitigation does not align with ECCC guidelines. To reduce risk to migratory birds, their eggs and nests, ECCC recommends avoidance of the regional nesting periods and point counts that focus on evidence of breeding in an area. Please refer to ECCC's avoidance guidelines linked below. **Reference:** Guidelines to reduce risk to migratory birds - Canada.ca, available at:https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html#toc3	As stated on page 122, clearing and vegetation disturbance during the primary nesting period will be avoided, where possible. However, if clearing or vegetation disturbance must occur during the primary nesting period a pre-disturbance nesting bird survey will be completed. This survey uses a combination of passive point-count surveys and low intensity nest searches to identify likely nest sites. Pre-disturbance nest sweeps are widely used as a means of reducing risk to nesting birds.	ECCC notes that although the proposed measures (pre-disturbance nest sweeps/low-intensity nest searches) may be considered an industry standard, it carries with it a risk of contravention of the Migratory Birds Convention Act (MBCA) and does not align with ECCC's Guidance on Avoiding Harm to Migratory Birds . Active nest surveys are not considered an avoidance measure and ECCC discourages their use. As previously noted, in most cases, active nest search techniques are not recommended to mitigate risks because: ▪ the ability to detect nests is very low while the risk of disturbing or damaging active nests is high; ▪ flushing nesting birds increases the risk of predation of the eggs or young, or may cause the adults to abandon the nest or the eggs; and, ▪ disturbing or damaging nests is still likely to occur during disruptive activities even when active nest searches are conducted prior to these activities.	Ksi Lisims LNG will avoid vegetation clearing during the primary nesting period to the extent that it is feasible to do so. If vegetation clearing must occur during the primary nesting period Ksi Lisims LNG will refer to the avoidance guidelines provided by ECCC.

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				ECCC continues to recommend these measures be revised to align with ECCC's avoidance guidelines. ECCC's Guidance on Avoiding Harm to Migratory Birds is available at: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html	
ECCC-018	ECCC	ECCC requests confirmation that effects of all accidents and malfunctions on wildlife and vegetation resources will be assessed. Furthermore, ECCC requests adding additional information to the DPD on the "*use or generation of hydrocarbon-contaminated wastewater and mercury*" as stated in section 9.4.3, as it relates to adverse impacts on migratory birds and aquatic-associated wildlife (p. 190).	Confirmed. Potential effects of the accident and malfunction scenarios will be assessed for potential biophysical effects, including effects on wildlife and vegetation resources.	No further comments.	N/A
ECCC-019	ECCC	As previously noted in ECCC's Federal Authority Advice Record (dated September 7, 2021), the Project may also require a transboundary air notification as per the *Canada-US Air Quality Agreement*, which requires notification to the US of pollution sources within 100 km of the Canada/US border. The Agreement seeks to control and reduce transboundary air pollution between Canada and the US. ECCC will follow-up directly with the Proponent on any further information required for a transboundary air notification. Further information is available at:https://www.canada.ca/en/environment-climate-change/services/air-pollution/issues/transboundary/canada-united-states-air-quality-agreement.html	Comment noted. Ksi Lisims is currently working to identify the potential for transboundary air effects and will comply with the notification requirements of the *Canada-US Air Quality Agreement*	No further comments.	N/A
ECCC-020	ECCC	ECCC notes that the Proponent will need to provide all information as outlined by the Strategic Assessment of Climate Change (SACC). The SACC (published in October 2020) provides guidance related to climate change throughout the impact assessment process. The SACC outlines information that the Proponent should provide during the impact assessment process on GHG emissions, impact of the project on carbon sinks, impact of the project on federal emissions reduction efforts and on global GHG emissions, GHG mitigation measures and climate change resilience, the circumstances in which an upstream GHG assessment would be required; and the circumstances in which a credible plan to achieve net-zero emissions by 2050 will be required.	Comment noted.	Acknowledged (from email dated April 19, 2022)	N/A

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		More details are provided in the draft *Technical Guide Related to the Strategic Assessment of Climate Change: Guidance on quantification of net GHG emissions, impact on carbon sinks, mitigation measures, net-zero plan and upstream GHG assessment* (draft Technical Guide) published in August 2021 (available at: https://www.strategicassessmentclimatechange.ca/24391/widgets/98155/documents/62220)			
ECCC-21	ECCC	N/A	N/A	ECCC notes that in Table 3.9 of the draft DPD, the Proponent lists the status of various baseline field studies, and it appears as though most studies are considered complete by the Proponent, and any additional planned studies are limited to one to four months. Further, on p. 139, Section 7.9.4 (Existing Conditions) in version 1 of the draft Application Information Requirements (dAIR v 1), the Proponent has removed the following bullet that requests at least two years of field data in the case of wildlife and wildlife habitat: "Describe the source of the data, data collection methods, and provide a rationale for any modelling approaches chosen. The baseline data must be sufficient to account for natural variability in populations (generally at least two years of field data) and have been collected by well designed studies (see Appendix 1 - Additional Guidance for Biophysical Components for more guidance on collecting baseline data)." Similarly, on p. 103, Section 7.4.4 (Existing Conditions) in dAIR v1, the Proponent has removed details regarding surface water, groundwater and sediment quality baseline characterization program, and reference to following standard procedures: "Describe the surface water, ground water and sediment quality baseline characterization program, including sampling site selection and locations, monitoring duration and frequency, sampling methodology, and analytical protocol, including quality assurance and quality control measures…. Provide local water quality data (collection following standardized practices and procedures…"	Ksi Lisims LNG confirms that the majority of wildlife surveys have been completed and were timed to occur during key timing periods (e.g., songbird surveys occurred during the breeding bird period, shorebird surveys occurred during spring and fall migration). Ksi Lisims LNG acknowledges that inter-annual variability in wildlife abundance and habitat use occurs and that in the absence of multi-year survey data it is not possible to determine if survey results from a particular year are average or not. While inter-annual variability may be important, particularly for longer-term monitoring programs, the baseline survey data collected for the Project will be used in combination with other existing data sources (e.g., PRGT 2014) to characterize existing conditions within the LAA. PRGT (Prince Rupert Gas Transmission). 2014. Application for an Environmental Assessment Certificate, Appendix P Technical Data Report.

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
				Based on the above, ECCC requests clarification from the Proponent regarding whether additional studies to support the Application/Impact Statement are planned. A minimum of two years of baseline surveys is recommended to account for seasonal and interannual variability, as described above. Any survey programs with less than two years of project-specific data should include a summary describing each of the baseline data sources used, with information on geographic area of coverage, level of effort, protocols, and methods. An analysis of data gaps should also be included with a description of how they will be addressed through Project-specific surveys	
ENV-001	ENV	Please also provide information on total suspended particulate (TSP), and diesel particulate matter (DPM) as these may be important pollutants that relate to construction emissions.	TSP and DPM (including total DPM, DPM2.5, and DPM10) will be included in the construction phase emission assessment.	Closed	N/A
ENV-002	ENV	Please also include information on TSP and DPM. CO2 is a GHG and should likely be referenced in the greenhouse gas emissions section as opposed to the air pollutants section. Would like more information on specific criteria air contaminant emissions from water-based vehicles such as LNGCs suitable for carrying LNG.	TSP and DPM (including total DPM, DPM2.5, and DPM10) will be included in the construction emission assessment for off-road equipment, on-road vehicles, and marine vessels. NOx, SO2, PM2.5 (including DPM2.5) and CO will be considered for LNG carriers at berth and while transiting along the shipping route.	Please provide an emissions inventory for an LNG carrier.	This level of detail will be provided in the Project EA-IA, if required.
ENV-003	ENV	Please include the geographical location of the weather station on your map of the site. Could you also include a list of specific instruments used to measure your meteorological data (e.g.: RM Young anemometer type XX), and where they are located on your weather station? Labelling your instruments on the picture is requested. Is this weather station set up according to correct specifications, i.e.: does the location and setup conform to Part 1 of https://community.wmo.int/activity-areas/imop/siting-classification?	The DPD will be revised to include a figure showing the location of the weather station. Information will also be added on instrumentation and their location on the weather station. The Photo 2 will be updated with labels indicating the location of the instrumentation on the weather station. The meteorological station was sited following Environment Canada's Automatic Weather Station: Sensor Siting Classification (draft version September 2012), BC ENV British Columbia Field Sampling Manual: Part B Air and Air Emission Testing (2020), World Meteorological Organization (WMO) Guide to Instruments and Methods of Observations Volumes III and V (2018), Environment and Climate Change Canada (ECCC) Manual of Surface Weather Observation Standards (2021), United States Environmental Protection Agency (U.S. EPA) Meteorological Monitoring Guidance for Regulatory Modeling Applications (2000) as applicable to meteorological monitoring for environmental baseline studies. Guidance was followed as much as practical given the site-specific topographical setting and surface vegetation cover. The site was	Closed	N/A

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			cleared of trees and vegetation as best as possible to comply with sitting guidelines.		
ENV-004	ENV	First line you mention Table 3.4, I think you mean to refer to Table 3.2	Thank you. The DPD has been revised with the corrected reference.	Closed	N/A
ENV-005	ENV	Fourth line "wind speeds were most often calm or low (1-2 m/s)". The percentage of reported calm winds (one month has 37%) seems elevated considering this coastal setting. It should be noted that calm winds appear to have been classified as < 1 m/s, when, for air quality purposes, calm winds are defined as < 0.5 m/s. The wind speed histogram bins are provided in 1 m/s increments, however there are actual wind speed scales, e.g.: Beaufort scales. It is recommended that you reclassify these bins according to a scale. Given the high percentage of reported calm winds, now is the optimum time to confirm that the anemometer is operating properly. Can this be confirmed? Is there a maintenance plan for this station? When were the bearings last changed, if there are bearings in the anemometer and vane?	The criteria for calms was taken from the BC Air Quality Dispersion Modelling Guideline (2021) which refers to the anemometer starting threshold (AST) as being the threshold for defining calm wind conditions. The anemometer installed on site is a RM Young 05103AP which has an AST of 1.0 m/s. Based on the location of the meteorological station on the Project Site and the wind pattern measured there, 1 m/s bins are appropriate. Wind speed scales such as the Beaufort scale are used to describe wind condition on a large scale. The Beaufort scale describes winds up to hurricane strength. For the Project Site, on the Beaufort scale there would only be 4 levels shown, where at this location more bins are required to examine and understand the wind conditions. The meteorological station is equipped with new equipment and was deployed in September 2021. The anemometer was calibrated prior to deployment by Campbell Scientific Canada Corp. and was installed as per the manufacture instructions on the tower. The anemometer was quality checked to ensure that the measurements of wind speed and directions were recorded by the datalogger were similar to the site conditions at the time of deployment. The collected data in the DPD was quality reviewed prior to use and no abnormalities were observed. At this time there is no indication that the anemometer is not operating correctly. The location of the monitoring station is on the east side of the Project Site which is sheltered from westerly and southwesterly winds from over the Pacific Ocean by the high mountain terrain. The terrain on Pearse Island to the south and southeast of the Project Site also shelter the meteorological station. As the wind roses show (Figure 3.1), wind direction flow follows the orientation of Pearse Canal. This sheltering effect could influence the higher than expected frequency of calm winds that would be experienced at the Project Site. Collected data is continuously monitored for quality and if there are indications that the instruments are not preforming as expected then a maintenance trip would be scheduled.	Is there a technical or site specific reason why the RM Young 05103AP anemometer was chosen for monitoring? The RM Young 05305 AQ anemometer has an AST of 0.5 m/s and is more suitable for air quality modelling.	There is a site specific reason. Although the RM Young 05305AQ wind monitor has a lower starting threshold (anemometer starting threshold or “AST”) for wind speeds it is not as “tough” as the RM Young 05103AP wind monitor which is designed for alpine conditions. The RM Young 05103AP wind sensor is “stronger” and able to withstand the accumulation of rime ice. The location for the Ksi Lisims weather station is a difficult environment for wind monitoring because it has already been documented that rime ice has collected on the wind sensor and resulted in the occasional gap in wind data. The rime ice collects on the wind sensor and it is no longer able to function. It’s a temporary problem because the vibration caused by the wind knocks off the rime ice and when the air temperatures warm up the rime ice melts.

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
ENV-006	ENV	What is the time resolution of the data logger? Are data collected every second and then averaged over a minute and hour (or otherwise)?	The data logger is collecting measurements every 5 seconds, then averages over one hour and 24-hours.	Closed	N/A
ENV-007	ENV	Please include baseline data for TSP, PM10, and DPM. The stations you mention here (Kitimat Whitesail, Prince Rupert Fairview, and Smithers St. Joseph School) are urban areas and dissimilar to the pristine environment of Ksi Lisims. Using these data as a baseline may be conservative, however this will depend on the nature of why certain percentiles were used in the determination of baseline levels. Are there other data you might be able to use for this baseline e.g. passive sampling at Hartley Bay? Do you have references for the specific percentiles proposed?	Ambient monitoring data from Prince Rupert Fairview can be used to develop a baseline concentration for PM10. However ambient monitoring for TSP and DMP are not available publicly in BC. DMP is not distinguishable from PM2.5 and therefore would be captured in the measurement of PM2.5. Passive monitoring conducted at Hartley Bay and other remote locations for the LNG Canada Project (LNG Canada Appendix G, Part01) included gaseous pollutants including SO2, NO2, NOx, H2S, VOCs, and ozone. Particulate matter was not collected during this passive monitoring program. The results from the monitoring will be considered in the development of baseline. Most monitoring in BC takes place in urban areas, or near to industrial facilities. For this reason it is proposed to use a lower percentile to develop conservative baseline values. The reference to use the 50th percentile for the 1-hour and 24-hour average and the 10th percentile for the annual was based on the air quality assessment of the KGHM AJAX mine (KGHM AJAX Mine, 2015).	Closed	N/A
ENV-008	ENV	Please include information on TSP, and PM10.	Please see response to ENV-007	Closed	N/A
ENV-009	ENV	The DPD states that “sewage and grey water would be stored in tanks and then barged away for disposal at a suitable sewage treatment facility.” I would recommend that discussions with authorized treatment facilities be initiated sooner rather than later as some authorized facilities may not have the capacity to manage additional waste or may need to amend their EMA authorization to be allowed to receive waste from Ksi Lisims LNG.	Comment noted, thank you.	Closed	N/A
ENV-010	ENV	Similar as a previous comment, I would recommend that discussions with authorized treatment facilities be initiated sooner than later as some facilities may not have the capacity to manage additional waste or may need to amend their EMA authorization to be allowed to receive waste from Ksi Lisims LNG.	Comment noted, thank you.	Closed	N/A
ENV-011	ENV	Will the baseline study plan update be shared with the TAC?	The baseline study plan was shared with Indigenous groups in May 2021, and was revised and re-shared in November 2021. The DPD presents an update on the biophysical studies completed to date and that are planned for 2022 (see Section 3.5). Ksi Lisims LNG would be happy to set up a call to discuss aspects of study design that are of interest to ENV.	There are aspects of the study design that would be of interest, mainly sampling locations, frequency and list of parameters. Thank you for setting up a call to discuss this.	Acknowledged. Ksi Lisims LNG will be reaching out to members of the TA in the coming months to set up calls to discuss aspects of the EA-IA.

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ENV-012	ENV	Baseline water studies will be necessary for any future effluent discharges. The baseline collected during the EA process may not be sufficient to inform future waste discharge authorization decision.	Comment noted. Ksi Lisims LNG understands that additional data collection may be required for permitting.	Closed	N/A
ENV-013	ENV	Proponents are advised to submit a Surface Water Acidification and Eutrophication Assessment Plan to ENV for review prior to Application submission. The plan should include the description of the proposed study area, sampling program, analysis methodology, and selected critical limits to be used in the critical load calculations.	Ksi Lisims LNG is in the process of developing an Acidification and Eutrophication Assessment Plan and will be submitting it for review by BC ENV.	The Acidification and Eutrophication Assessment Plan was received on April 5. I will be sending comments on the plan by April 22nd.	Thank you!
ENV-014	ENV	You may need an EMA waste discharge authorization during site preparation to manage/discharge storm water on site.	Table 6.1 will be revised to include reference to the potential need for an EMA waste discharge authorization.	Closed	N/A
ENV-015	ENV	We have reviewed the DPD and we don't have comments from the GHG Quantification point of view since the proponent is following Federal methodologies. However, we did notice that for estimating the acquired energy emissions in the base case (assuming a connection to BC Hydro grid) they have been using the B.C. government's electricity emission factor, rather than the default B.C. grid electricity EF from the SACC Technical guide (Table 30). Not sure if this is something to flag for them, I would leave it up to our Federal colleagues to determine. Either way, the Province has reviewed and updated their methodology for determining the B.C. Electricity emission factor, which resulted in a lower emission factor for 2021 (from 40.1 tCO2e/GWh to 9.7 tCO2e/GWh). It would be good to let the proponent know as it would have implications on their acquired energy emissions estimations (they would be lower). The updated B.C. Electricity factor is available here: https://www2.gov.bc.ca/gov/content/environment/climate-change/industry/reporting/quantify/electricity	Comment noted.	NO RESPONSE RECEIVED	N/A
ESDC-001	ESDC	The listing of benefits is very broad and could be more detailed. For example, approximately how many local jobs, whether direct or indirect, would be created during the construction and operating phases of the project? How many of these jobs might go to Indigenous persons? What training and employer-sponsored training might be offered, especially to Indigenous persons and local residents? How much of the project's budget would be spent locally and in British Columbia?	Discussion and estimates of local hiring during construction and operation will be included in the EA-IA. Ksi Lisims LNG will prioritize hiring a local and diverse workforce where the necessary skill sets are available; this includes a focus on hiring women and Indigenous owned and sourced companies. Ksi Lisims LNG will also endeavor to facilitate meaningful and applicable workforce training in local and Indigenous communities to increase the local workforce pool.	-	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
ESDC-002	ESDC	It is said on page 5 that the project will likely generate $2.5 billion in annual gross domestic product, 21,000 employment opportunities, and $890 million in annual provincial and federal tax revenues. Please provide more details: - In particular, how is the figure of 21,000 employment opportunities arrived at, given that the project is only supposed to directly employ 150 to 250 people while operational (p. 29) and 600 while under construction (p. 125)? ▪ Does this figure include all persons who would be directly or indirectly employed by the project over its construction, 30+ year lifespan (page 7.4-2), and decommissioning? The number of jobs created is usually calculated annually, not over the project's lifespan, and differentiates between the different phases, including construction, operation phases and decommission. ▪ Also, how many jobs would be created in Canada, and how many would be created in other countries? One reads on page 26 that many project components would be assembled offsite and then towed to the project site; would these components be generally assembled in Canada or elsewhere?	The estimate of 21,000 employment opportunities annually is based on the Conference Board of Canada's (CBC's) *A Rising Tide: Economic Impact of B.C.'s Liquified Natural Gas Industry* (2020). This figure reflects the direct, indirect, and induced economic impacts of the LNG facility construction and operation, as well as the associated upstream, midstream, and infrastructure developments (including pipeline and power line to the Project). This figure reflects an estimated 21,000 annual employment opportunities (annual job gains; includes upstream), averaged over both the construction, operation, and decommissioning phases of the project. This is consistent with the reporting methodology of the CBC report, which did not differentiate between the different phases. Further, as noted above, this figure reflects the direct, indirect, and induced employment opportunities of the facility construction and operation as well as the associated impacts upstream of the facility. The 21,000 annual employment opportunities (includes indirect and upstream jobs) reflect Canadian job gains and does not include international job creation. This estimate was scaled to reflect that the FLNG barges will be constructed and assembled overseas (Asia) and then towed to the Project Site. Please note that the Project will undertake a Project-specific, detailed economic benefits analysis as part of the EA-IA.	-	N/A
ESDC-003	ESDC	The proponent could expand upon plans to hire and if necessary train persons living near the worksite during the construction phase, as these are quite vague.	As provided in the preliminary potential mitigation in Section 5.3.4.1, Ksi Lisims LNG is developing procurement strategies to facilitate economic participation by local and regional suppliers, contractors, service providers and members of the workforce. Ksi Lisims LNG is also interested in developing workforce training opportunities.	-	N/A

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ESDC-004	ESDC	The proponent identifies the approximate number of construction and operations workers on-site and notes that recruitment for construction workers will prioritize local communities and the region before broadening the search, however, there is no specific reference to consultation with the Indigenous Skills and Employment (ISET) Program service delivery network. The proponent would benefit from engaging with the surrounding ISET service delivery organizations to discuss their plans to encourage employment, procurement and contracting opportunities for Indigenous peoples and communities. It is recommended that engagement with the ISET service delivery network occur to ensure that federal investments in the Indigenous labour market programming are put to contribution to support local labour force development opportunities related to this project.	Comment noted, thank you.	-	N/A
ESDC-005	ESDC	Previous comments from ESDC have requested that the project consider adding specificity around the characteristics of the availability, affordability and appropriateness of child care as part of the measurement of the change in infrastructure in services. The Project acknowledges the points raised and is applying a GBA+ lens to engagement, which will include working with organizations oriented towards underrepresented populations. Organizations representing women are not specifically noted, nor are regional health authorities. The Project is encouraged to also engage with organizations of this nature. In Section 4, consideration with respect to licenced child care in the projects impacted areas will add understanding to its human, social and economic setting. Particularly, more in-depth study/baselining of the number of licenced child care spaces available, barriers to access (e.g., cost, location, etc.), related infrastructure, impacts of increased temporary/permanent population growth on services (e.g. possible pressures on existing services). Mitigation measures should also be outlined in the relevant stage of this process.	Daycare is identified in Section 7.12.5 of the dAIR as one of the infrastructure and service areas that will be addressed in the application.	-	N/A
ESDC-006	ESDC	The collection of data on "vulnerable sub-populations" could include data on groups that are underrepresented in the labour market, such as youth, women, recent immigrants, visible minorities, and persons with disabilities. Such data could be used to help plan efforts to improve their labour market outcomes or to measure improvements brought on by the project.	Comment noted. As described in the dAIR, GBA plus analysis will be incorporated in the EA-IA, which will include information on sub-populations based on available data.	-	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
ESDC-007	ESDC	Ensure the indicators of labour supply includes the availability of skilled and unskilled people, current working conditions, wages and income data. In particular, the proposal must include indicators for average and median salary, full-time and part-time employment and training, as well as gender inequalities in skilled trades, wages, and qualifications. Please ensure to account for any applicable treaty clauses pertaining to Indigenous Peoples' economic development.	Comment noted. The dAIR for the Project outlines the existing conditions that will be assessed as part of the effects assessment.	-	N/A
ESDC-008	ESDC	The Proponent has not adequately articulated the intent to support diversity and inclusion through their hiring and training strategies. It is recommended that the Proponent include indicators for poverty rates (for the community and different marginalized groups) to describe income inequality in the region. Inclusion of a hiring strategy and any efforts made towards promoting an inclusive labour market should be included, and would serve as a mitigation to the potential issue of under-representation in the sectoral workforce. Providing more details about opportunities for training will give local residents a pathway to gain the skills necessary to participate in the Project (including for Indigenous peoples and women).	As provided in the dAIR, Ksi Lisims will incorporate GBA plus considerations in the assessment of employment and economy. Where appropriate, mitigation measures that address diversity and inclusion will be identified.	-	N/A
ESDC-009	ESDC	More detail surrounding projected employment opportunities is required to adequately assess the economic benefits stemming from the Project. In future documentation, the Proponent should provide a detailed account of the following information related to local socio-economic conditions, including: ▪ The current socio-demographic characteristics of the economic sector workforce of the project; ▪ The labour force characteristics by age group and sex (if possible) of all impacted communities, including an overview of current employment rates, unemployment rates, and economic well-being in impacted communities; and ▪ Trends in the labour force and employment statistics for residents in the local and regional assessment areas, including the number of jobs (and not person-years, person-days or person-hours) that are likely to be in demand over the project's lifetime. ▪ The main economic activities in the study area; ▪ Employment barriers to participation for local under-represented groups; and	Noted. As provided in the dAIR, considerations related to Employment and Economy will be included in the EA-IA.	-	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
		▪ Details on any commitments to maximize positive socio-economic outcomes for local communities, as well as the provision of a detailed hiring strategy. Employment rates and unemployment rates would give a more complete description of the groups being examined. Employment rates, unlike unemployment rates, include people who are not in the labour force, they can be a better measure of the extent to which labour resources are being used.			
ESDC-010	ESDC	More could be said concerning the projected economic impact of the project, both locally and in the province. For example, approximately how much money will be spent locally and in the province, both during construction and operations? Can an estimate be made of how many permanent operations workers will have their principal residence near the project once construction is complete? Can an estimate be made of how many local residents will he hired as permanent operations workers?	Additional information regarding Project spending and expected workforce characteristics will be developed during FEED and as part of the social and economic assessment. This level of detail will be assessed and presented in the EA-IA.	-	N/A
ESDC-011	ESDC	The mitigation measures are vague. More details as to how mitigation measures might work would help to better describe the project and its advantages. For example, what is the meaning of "workforce strategies to train the permanent workforce to operate the FLNG facility?"	Mitigation presented in the DPD is preliminary. Additional, more specific mitigation will be provided following assessment of social and economic effects of the Project.	-	N/A
ESDC-012	ESDC	The proponent identifies the engagement activities with Indigenous communities on this project, however, there is no specific reference to consultation with the Indigenous Skills and Employment (ISET) Program service delivery network. The proponent would benefit from engaging with the surrounding ISET service delivery organizations to discuss their plans to encourage employment, procurement and contracting opportunities for Indigenous peoples and communities. It is recommended that engagement with the ISET service delivery network occur to ensure that federal investments in the Indigenous labour market programming are put to contribution to support local labour force development opportunities related to this project.	Comment noted, thank you.	-	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
ESDC-013	ESDC	The application of the GBA+ methodology is formally required through the Impact Assessment Act (2019) under paragraph 22(1)(s). This could be managed by adhering to established and public policy guidance on Gender-based Analysis Plus in Impact Assessment: https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/gender-based-analysis-plus.html	As provided in the dAIR, the Application will apply GBA Plus methodology to document how potential effects could be different for particular subgroups.	-	N/A
ESDC-014	ESDC	Additional Information related to Employment and Social Development Indigenous Skills and Employment Training (ISET) Program: ESDC's Indigenous Skills and Employment Training (ISET) Program supports a distinction-based network of skills development and training service delivery organizations across Canada, which are responsible to design and deliver job training services to First Nations, Inuit, Métis and urban/non-affiliated Indigenous people. Indigenous service delivery organizations offer a variety of employment services based on the needs and priorities of First Nations, Inuit, Métis and urban/non-affiliated Indigenous people. They work closely with employers to identify Labour Market needs. Organizations link training needs to the job market by providing skills and training required to find a job such as: a suite of skills development and job training, from essential skills such as literacy and numeracy to more advanced training for in-demand jobs. They also offer a range of wrap-around services (such as help with childcare supports and transportation) during training in order for individuals to achieve long-term career goals. Service delivery organizations are also aware of potential workers available for specific jobs: number of skilled workers in specific sectors, training history, education (Certificates/Diplomas) and Apprenticeships. In British Columbia, there are currently 23 Indigenous service delivery organizations. There could be a potential partnership between one or more of the existing Indigenous service delivery organizations related to the project activities to support local labour force participation related to the Ksi Lisims LNG.	Thank you for sharing this information.	-	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
ESDC-015	ESDC	More specifically, the following ISET agreement holders are located in or support clients in British Columbia: ▪ Cariboo-Chilcotin Aboriginal Training Employment Centre Society (CCATEC) ▪ Coast Salish Aboriginal Employment & Training Society (CSETS) ▪ Doig River First Nation ▪ Ktunaxa Nation Council ▪ Lillooet Tribal Council ▪ Lil'wat Nation ▪ Mid Coast First Nations Training Society ▪ Musqueam, Squamish, Tsleil Waututh (MST) ▪ Nisga'a Employment Skills and Training (NEST) ▪ North East Native Advancing Society (NENAS) ▪ North Vancouver Island Aboriginal Training Society ▪ N'Quatqua Nation ▪ Nuu-chah-nulth Employment and Training Program (NETP) ▪ Okanagan Training and Development Council (OTDC) ▪ Prince George Nechako Aboriginal Employment and Training Association (PGNAETA) ▪ Scw'exmx Tribal Council ▪ Sechelt First Nation ▪ Shuswap Nation Tribal Council ▪ Sto:Lo Aboriginal Skills and Employment Training (SASET) ▪ Tribal Resources Investment Corporation (TRICORP) ▪ Tsawwassen First Nation ▪ Métis Nation of British Columbia (MNBC) ▪ Aboriginal Community Career Employment Services Society (ACCESS) Website link to ISET Program service delivery network: https://www.canada.ca/en/employment-social-development/programs/indigenous-skills-employment-training/service-delivery-organizations.html	Thank you for sharing this information.	-	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
ESDC-016	ESDC	Very few pages are concerned with economic and labour market issues, which are consequently only superficially addressed. The impact assessment would benefit from a more fulsome examination and analysis of these important issues. For example, as is mentioned below, more information could be provided with respect to, among other things: ▪ Employer-sponsored training of employees and potential employees ▪ How the project would benefit members of groups that are underrepresented in the labour market ▪ Precisely how many jobs would be created ▪ How the project would benefit the local economy	As provided in the dAIR, the EA-IA will provide additional information, detail and assessment related to employment and economic effects of the Project.	-	N/A
GFN-001	Gitga'at First Nation	The Gitga'at remain concerned regarding Cumulative Effects of project activity in the North Coast of BC. Will this review include any regional assessments that include Prince Rupert and Kitimat projects? Our perspective is that if there is anything measurable it should be mitigated to prevent any ill effects on local communities and populations.	The preliminary Project Inclusion List has identified projects in Prince Rupert which may overlap spatially or temporally with the residual effects of the Project; these will be considered in the cumulative effects assessment. As currently defined, the Project regional assessment area does not overlap with Kitimat as Project effects are not expected to extend that distance.	Please continue to track this	Request noted
GFN-002	Gitga'at First Nation	The DPD needs to addresses how cumulative effects of the Project, including from marine shipping and air quality, and on our health and well-being, traditional harvesting practices and on our marine resources, will be assessed. We are already experiencing impacts from past and present development and changes, so any further stressors from the Project could be detrimental. Further, for the cumulative effects assessment to be meaningful effects must be evaluated against specific thresholds as to what impacts are allowable. Just because the site is remote doesn't mean it should be allowed to pollute more that a site located in an urban location.	Details on how the cumulative effects assessment will be completed are outlined in the dAIR. These methods are consistent with the EAO and Agency guidance. Ksi Lisims LNG looks forward to working with Gitga'at and other Indigenous Nations in developing the approach to the cumulative effects assessment.	Please continue to track this	Request noted
GFN-003	Gitga'at First Nation	Cumulative effects also applies to shipping. We understand that the LNG carriers will have standard routes but it is unclear if supply or condensate shipping will transit alternative routes. With increased use in the north could increase usage of PRPA anchorages and alternative routes like the inside passage. Please confirm if any shipping will transit the inside passage.	Ksi Lisims currently estimates that the same route will be used for all Project related operational shipping, including LNG carriers and NGL product vessels. Personnel and material supply vessels will likely originate from Gingolx or Prince Rupert and will connect up with the main shipping lane to the Project site. It is not anticipated that PRPA anchorages or the Inside Passage will be used by Project-related vessels.	Please continue to track this and provide updates if any changes area made	Request noted

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GFN-004	Gitga'at First Nation	The Gitga'at have concerns regarding not just the LNG ships to the site, we have concerns regarding supply and condensate shipping, especially when routes are not clearly defined. If there is an increase in usage of the inside passage this will significantly change how we will need to assess the projects impacts to the Gitga'at. Can you confirm if anything is expected to be shipped through the inside passage? Will the RSA be expanded if any shipments (supply or condensate) will go on the inside passage route?	Material and supply ships may originate in Prince Rupert. Other Project-related vessels are expected to transit from Triple Island to the Project Site. Based on this, no Project-related vessels are expected to transit through the Inside Passage.	Closed	N/A
GFN-005	Gitga'at First Nation	If there are any expected waits for the ships will there be anchorages set up close to the site or will they use PRPA anchorages?	Under normal operations, LNG carriers will not use anchorages. If a vessel needs to delay arrival to the Project Site it will either wait offshore or reduce its travel speed.	Closed	N/A
GFN-006	Gitga'at First Nation	Would it not make more sense to exit through Dixon Entrance rather than through Chatham Sound? Especially with the loaded vessels it would seem more efficient to exit using the most direct route.	Carriers travelling into BC waters are required to pick up a Marine Pilot who boards the vessel at a designated Pilot Boarding Station. The closest boarding station to the Project site is at Triple Island. For this reason, the LNG carrier will be required to travel to Triple Island and then go north through Chatham Sound to the Project Site.	Closed	N/A
GFN-007	Gitga'at First Nation	We understand that condensate is a by-product of your operation and is a sellable commodity but very little is shared in the DPD. Please provide more clarity on this part of the project	Condensate is a mixture of light hydrocarbons separated out of a natural gas stream and is used as a refinery feedstock to produce a variety of products. Additional details will be provided in the EA-IA.	Please continue to track this	Request noted
GFN-008	Gitga'at First Nation	Will condensate be shipped by a condensate specific ship or can this be shipped by shipping container on a barge? The Gitga'at are concerned that smaller shipments can be routed through the inside passage and would require a more extensive assessment of the entire route.	Condensate will be transported by a product vessel, not a barge and will follow the same shipping route as the LNG carriers. Travel south through the Inside passage has not been identified for Project vessels.	Please continue to track this	Request noted
GFN-009	Gitga'at First Nation	The numbers of whales on the North Coast has increased exponentially in the past 20 years. It has gone from being a rare sighting to being a daily observation. Work Channel is nearby your proposed shipping route, and is heavily used by whales, especially Humpback Whales. If the pattern of whale activity evolves like it did in Gitga'at Territory then you could start seeing increased usage of the area by Fin Whales in the coming years. Fin whales have one of the highest incidents of ship-whale strikes and we need to ensure that protocols are in place to ensure that everything that can be done to prevent ship strikes is done. It is essential that you collect new data as the numbers seems to be increasing annually and there needs to be protocols in place to ensure that whales are considered when finalizing shipping routes.	Ksi Lisims LNG is aware of the use of Work Channel by humpback whales in particular and is committed to completing marine mammal field surveys, as well as underwater noise modelling, to support the assessment of potential effects of marine transportation activities on marine mammals. Mitigation measures for increased vessel traffic will include speed restrictions for inbound and outbound LNG carriers in confined waters (Portland Inlet) as well as escort tugs for inbound vessels.	Please continue to track this, we have heard recent reports of whales near the Nass River during Oolican season which raises concerns for the Gitga'at	Request noted

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GFN-010	Gitga'at First Nation	Will there be marine based marine mammal surveys done on the entire shipping route?	Marine mammal surveys of the shipping route extend from the Site to the mouth of Portland Inlet. To address concerns from Indigenous Nations, Ksi Lisims has added aerial marine mammal surveys of Chatham Sound in 2022.	Whales move and you can't just assess one part of the route and expect things to be ok. There needs to be plans in place to address increased whale activity.	Ksi Lisims LNG acknowledges Gitga'at concerns. Marine mammal vessel surveys were intended to focus on collection of baseline data around the terminal, but their geographical coverage extends further, and covers the shipping route from the Site to Gingolx, including the upper portions of Portland Inlet. Aerial marine mammal surveys were added to include a broader area still, and were revised to include Chatham Sound and extending out past Triple Island. Ksi Lisims LNG is currently waiting on direction from the BC EAO and the Agency on the extent of the marine shipping assessment area. Spatial boundaries will be updated, as appropriate, once this direction is shared. Final scoping related to the shipping route will be made by the BC EAO and the Agency.
GFN-011	Gitga'at First Nation	What mitigations will be made during high whale season in the summer to prevent interference with whale activity in Chatham Sound/Portland Inlet?	Mitigation measures to reduce potential effects on marine mammals will include speed restrictions for inbound and outbound LNG carriers in confined waters (Portland Inlet) as well as escort tugs for inbound vessels.	See above	Comment noted.
GFN-012	Gitga'at First Nation	The Gitga'at still depend on the salmon stocks in the Skeena River specifically and Chatham Sound is an important staging area for probably both Skeena and Nass stocks. We understand that this will be assessed but will any changes to routing be made if the studies find important migration routes cross shipping lanes?	Ksi Lisims LNG acknowledges the importance of salmon stocks to the Gitga'at nation and will be assessing the potential impact of marine shipping to fish. Ksi Lisims LNG is committed to assessing all Project effects from construction and operation works and activities on marine fish.	Please continue to track this	Request noted
GFN-013	Gitga'at First Nation	Ksi Lisims plans to use the existing permit that routes the line from Nasoga Gulf to Prince Rupert. Will the connection result in a new end of the line or will it add an additional end and go to Prince Rupert as well? We need clarity on this element as this will require additional reviews	Routing for the pipeline will be completed by a third-party. Ksi Lisims does not anticipate significant influence over the final route beyond the Project footprint and connection location. Any routing information outside of the Project footprint will be the responsibility of the third-party pipeline proponent.	Please continue to track this	Request noted
GFN-014	Gitga'at First Nation	What are other GHG reducing design elements?	Greenhouse Gas reducing design elements will be further described and assessed in the Project's SACC as part of the Application.	Please continue to track this	Request noted

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GFN-015	Gitga'at First Nation	If power cannot be supplied via an inter-connection, how will the facility be powered? What are the proposed GHG reduction strategies if that is the case?	We do not anticipate a scenario where BC Hydro could not provide power through an inter-connection to the facility. An agreement is in place for a third party to construct a transmission line from the Project sub-station to the BC Hydro New Aiyansh Substation and this is expected to be completed prior to the Project start-up date. Electrification of the project is not only a requirement to achieve governmental emission targets, it has also emerged as one of the key features of the project for its investors and customers. The project anticipates that an electricity supply agreement with BC Hydro will be one of the requirements for reaching an affirmative final investment decision and commencing construction on the project.	Closed	N/A
GFN-016	Gitga'at First Nation	How will domestic waste be managed on site? How will hazardous waste be managed?	Preliminary management of domestic and hazardous waste is described in section 2.9 of the DPD. Additional waste management information will be provided in the EA-IA and other Project related documentation.	Please continue to track waste management information	Request noted
GFN-017	Gitga'at First Nation	Will there be a on site backup power system?	The facility will also have "emergency" generators that provide power for essential services (related to safety systems and personnel) in case of a failure of the connection to the BC Hydro grid or loss of power from the temporary power barges.	Closed	N/A
GFN-018	Gitga'at First Nation	Will tugs only escort the vessels or will they stay at the facility with the ship? In event of a ship breaking loose during a storm will there be sufficient tug capacity available to secure the ship?	Escort and other related vessel procedures will be developed as part of the EA-IA and TERMPOL related review process.	Please continue to track this	Request noted
GFN-019	Gitga'at First Nation	How will hazardous waste be stored?	Hazardous waste will be stored in properly contained storage tanks on Site before being barged to the mainland for disposal at a permitted hazardous materials disposal site.	Closed	N/A
GFN-020	Gitga'at First Nation	This seems like a very short amount of time to decommission and reclaim a facility in operation for a minimum of 30 years. Please justify the short time frame.	Decommissioning of the facility will involve the FLNGs being towed away. Currently, Ksi Lisims LNG is planning and designing the facility such that a portion of the infrastructure, notably the on-Site accommodation and associated infrastructure, will be left for longer-term use for non-Project purposes.	What are the non-project purposes?	Post-operation uses for the Project infrastructure will be at the direction and discretion of the Nisga'a Nation.
GFN-021	Gitga'at First Nation	Where will haz waste go? What route will be used to transport haz waste? How often will the movement of wastes occur?	Hazardous wastes will be contained, manifested, secured and barged to the mainland and then transferred to permitted hazardous materials disposal sites. An estimate for frequency of disposal will be determined through FEED.	To confirm: this will travel via the route to Prince Rupert?	That is the current intent, however, waste treatment facilities have not been identified for the Project; as such, travel routes have not been confirmed.

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GFN-022	Gitga'at First Nation	How often do these mercury beds get shipped out? What will the route be?	Shipping routes for all vessels from the Site will be consistent with those followed by the LNG carriers. Estimated frequency of shipping will be determined in FEED.	NO RESPONSE RECEIVED	Please see original response cell. Apologies - we are not sure how this response get misplaced
GFN-023	Gitga'at First Nation	In addition to any potential air quality at the site, the Gitga'at are concerned that increased shipping traffic will add to air quality issues in the area. Just because you contribute a small amount in comparison to other projects doesn't mean it won't cause a problem when the cumulative effects of shipping are considered	Thank you for your comment. The air quality effects assessment will consider marine vessel emissions from the Project cumulatively with existing and anticipated future emissions along the shipping route.	Please continue to track this commitment.	Request noted
GFN-024	Gitga'at First Nation	How will diesel be transported to site? How much diesel will be stored on site?	A marine vessel will be used to transport diesel to Site where it will be stored in a storage tank. The capacity of the diesel fuel storage tank will be calculated during FEED and included in the EA-IA.	Closed	N/A
GFN-025	Gitga'at First Nation	What if water does not meet WQ thresholds? What will the strategy be to contain it?	Liquid wastes will be managed according to appropriate management plans which will include contingency plans in the event that the primary disposal plans cannot be implemented.	What are the contingency plans?	Contingency plans will be developed prior to construction.
GFN-026	Gitga'at First Nation	What is the anticipated timeline of BC hydro hookup?	The transmission interconnection from the Project's main sub-station at the Site to the BC Hydro substation is anticipated to complete by end of 2027	Closed	N/A
GFN-027	Gitga'at First Nation	Will offsets be purchased from the initial project construction through operations and decommissioning?	The Project intends to purchase approximately 397,000 tCO2e/year of offset credits, beginning at operations start up. Purchasing of offsets will follow the relevant provincial and federal policies as required.	Closed	N/A
GFN-028	Gitga'at First Nation	what are other sources for Carbon Offsets?	Carbon offsets will be achieved primarily through the use of renewable power and the purchase of offsets from the BC Carbon Registry including potential carbon offsets through nature-based solutions. If sufficient offset credits are not available on the BC Registry, credits may be sourced from the federal offset registry, when that source becomes available, or from other sources.	Closed	N/A
GFN-029	Gitga'at First Nation	What is section 0?	This reference has been updated to Section 5.3.5.	Closed	N/A
GFN-030	Gitga'at First Nation	Where do the buffer numbers come from for nesting sites?	The bald eagle nest buffer distance is from *Guidelines for Raptor Conservation during Urban and Rural Land Development in British Columbia* (Develop with Care 2013). The great blue heron nest buffer distance is based on guidance in the *Great Blue Heron Factsheet* (Develop with Care 2014).	Closed	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GFN-031	Gitga'at First Nation	What would the mitigation be for the increased traffic?	The Marine Use valued component will assess the potential effects of increased vessel traffic on marine use. Through completion of this effects assessment and engagement with Indigenous groups potential mitigation measures will be identified.	Closed	N/A
GFN-032	Gitga'at First Nation	What mitigations would be made for a fishery opening in Portland Inlet?	The Marine Use valued component will assess the potential effects of the Project on fisheries. Through completion of this effects assessment and engagement with Indigenous groups the potential effects on marine fisheries, including marine fishery openings, will be better understood and appropriate mitigation measures identified.	Closed	N/A
GFN-033	Gitga'at First Nation	How does climate change influence the selection of potential effects and the mitigations?	The potential effects for the Marine Resources VC were selected based on recent assessments for similar projects and focus on effects that may result from the identified Project works and activities. The potential effects of climate change on the Project will be assessed as part of the EA-IA. In addition, the assessment will align with the requirements of ECCC's Strategic Assessment of Climate Change.	Closed	N/A
GFN-034	Gitga'at First Nation	Will the carbon footprint associated with transportation of employees be considered in the net zero achievement?	Typically, the transportation of workers is not included in the calculation of GHG emissions; however, given the unique nature and location of the Project Site, a portion of worker transport is being considered for inclusion. These are not expected to result in a major contribution to overall Project emissions. Please note that the direction from SACC is to include direct sources that are within the scope of the Project and to only include those sources that result in more than 1% of the total emissions.	Closed	N/A
GFN-035	Gitga'at First Nation	With an isolated workforce, why would modest demands be put on regional emergency infrastructure?	Ksi Lisims LNG is planning for the provision of basic on-site services related to, for example, security and health services; however, in the event of an emergency or extreme situation, additional support may be required from local, regional, or provincial service providers.	Closed	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GFN-036	Gitga'at First Nation	How does the project proponent intend to meet UNDRIP and DRIPA?	As described in Section 7.0 of the DPD, the Project recognizes the importance of early and meaningful engagement with Indigenous Nations and strives to establish and maintain mutually respectful relationships with Indigenous Nations engaged with the Project. Ksi Lisims LNG wishes to work with the Indigenous Nation's to seek their free, prior, and informed consent for the Project in a manner consistent with the spirit and intent of United Nations Declaration on the Rights of Indigenous peoples and the constitutionally protected rights and interests of the Indigenous Nations. Since Ksi Lisims LNG began engaging with the Indigenous Nations in 2021, we have been acting in a manner consistent with this objective. Going forward, Ksi Lisims LNG will continue to implement these same principles and looks forward to ongoing discussions with Gitga'at First Nation, and the other Indigenous Nations, according to the Nation's preferences.	Closed	N/A
GTMA-001	Gitxaała Nation	The final paragraph of the Indigenous Nations, Government, Public and Other Stakeholder Engagement sub-section of the Executive Summary indicates there was a JSOIE but does not indicate the proponent has responded, add reference to appendix 10.	The executive summary is intended to be a stand alone section. For this reason, we have refrained from referencing sections of the DPD, including the appendices.		N/A
GTMA-002	Gitxaała Nation	Please update the Proponent and Contact Information table on p. 2 to include the name and contact information for the "principal contact(s) for the environmental assessment"	The DPD will be revised as per the comment.		N/A
GTMA-003	Gitxaała Nation	This section should note that both the PRGT and the WCGT require amendments to their existing EA Certificates to service the Project	Details on the pipelines and the required amendment is included in Section 2.4.1 Pipeline.		N/A
GTMA-004	Gitxaała Nation	Gitxaala understands the Project is considering three alternatives to supply the project with temporary electric power in the event the BC Hydro connection is not available for commissioning and/or start of operations. Gitxaala notes Alternative 2 and 3 each contain within them multiple options/alternatives for the required water necessary for the system of cooling the temporary power barges, e.g. desalinated seawater or freshwater (rainfall catchment, surface or groundwater). As each of these options would result in different environmental effects please identify each option as a unique alternative.	The water options are identified separately in Section 2.14.1.3 Water Supply.		N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GTMA-005	Gitxaała Nation	Gitxaała requests additional information regarding the potential receiving points/ports and shipping routes for the export of condensate from the Project. We note the Proponents commitment that "condensate will not be off-loaded through the Port of Prince Rupert and moved inland via rail" is based on the "current planning and design". If the Project proceeds with condensate export through third party shippers this project activity could be the first instance of condensate (NGL product) carriers passing through Gitxaala Territory. For these reasons, Gitxaala has serious concerns that the DPD contains inadequate information regarding condensate management to inform the scope of the Project EA-IA.	NGL product vessels will arrive at the Site empty to load NGL and transport NGL to market. NGL product vessels will follow the same route as the LNG carriers. It is not expected that market ports will be in BC.		N/A
GTMA-006	Gitxaała Nation	This section says that the source of water and volumes for the process cooling system is being defined as part of the front-end engineering and design (FEED). This is an important project detail to inform the scoping of the EA. When will this decision be made? As local surface water sources are subject to hydrometric analysis, what is the status of these studies (when are you likely to know if these creeks are feasible candidates)?	Ksi Lisims LNG anticipates that during operations the Project will use between 15 and 25 cubic meters of water per hour. Efforts are currently underway to ascertain availability of surface and groundwater. Hydrometric meters are being deployed in surface water streams and plans to install flow meters to determine availability of groundwater are underway. Storage of rainwater from Project buildings is also being considered.		N/A
GTMA-007	Gitxaała Nation	This section indicates the final design for the required cooling for the temporary power barge is still being investigated. When will this decision be made to inform the Readiness Decision and possible Process Planning?	The final decision will be made during FEED and will be included in the effects assessment.		N/A
GTMA-008	Gitxaała Nation	We note additional mooring analysis will be performed during FEED; however, more detailed information regarding the potential FLNG and LNG/condensate carrier mooring systems is necessary to accurately identify potential impacts on the marine environment to be assessed in the EA-IA.	Details on design of the marine terminal, including mooring requirements, are underway and will be included in the effects assessment. Please let us know if there are specific items that GTMA would like to discuss.		N/A
GTMA-009	Gitxaała Nation	Additional information regarding the construction of the "two pile supported jetties and platforms" is necessary to accurately identify potential impacts on the marine environment to be assessed in the EA-IA.	Detailed design of the jetties and platforms are underway and will be included in the effects assessment.		N/A

Table 11.2 – Technical Advisors DPD Review Comments and Responses

ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GTMA-010	Gitxaała Nation	As the subsea connections of both the natural gas pipeline (s. 2.4.1) and the BC Hydro transmission line (s. 2.4.2) to Wil Milit are both necessary and critical components for the operation of the Project, Gitxaała is of the view the potential impacts of the subsea pipeline and transmission line should be included in scope for the EA-IA of the proposed Ksi Lisims LNG project.	Both pipelines being considered for the Project are owned by third parties and have current provincial EA Certificates. As a result, Ksi Lisims LNG is of the view that it is not required or appropriate to scope the pipelines into the environmental assessment of the Project. The independent transmission line that will connect the Project to the BC Hydro grid will be designed, built and operated by a third party. Along with delivering electricity to the Project, the transmission line will supply reliable electricity to Nisga'a communities. A system impact study will be completed with BC Hydro to determine upgrades required for the connection. Ksi Lisims LNG will have no ability to direct or influence the third party provider in carrying out powerline connection activities. In addition, because the transmission line will not solely be for the benefit of the Project, the powerline connectivity activity should be considered incidental and not a Project component. For these reasons, Ksi Lisims LNG is of the view that it is not necessary or appropriate to scope the transmission line into the EA-IA of the Project. It should be noted, however, that the Project will include consideration of interactions between Project effects and potential effects from the transmission line and the pipeline in the Project's cumulative effects assessment.		N/A
GTMA-011	Gitxaała Nation	In order to properly scope the EA, we need to understand how 'temporary' the power barges are likely to be (i.e., how long are they likely to operate), in the event that the transmission line is not operable upon commissioning of the LNG plant. Related to this: what is the status and expected schedule for transmission line design, approvals and construction? Currently, how does this schedule line up with the needs of the Ksi Lisims project? We're seeking to understand how likely it is that the temporary power barges will be needed and for approximately how long?	Ksi Lisims LNG's preference is not to use power barges at any stage of the project. If the electricity supply agreement included a commitment by BC Hydro to supply sufficient electricity to the interconnect with the transmission line that will serve the Project by the commencement of operations date, the project would not plan to include power barges in the construction plan and would commence operations using 100% renewable hydro power. In this case, if there was a delay by BC Hydro in providing power to the project, it would not be able to commence operations until the power service commenced. If the BC Hydro transmission system upgrades cannot be completed before commissioning, the Project will require the use of power barges to meet the power requirements of the Project. Use of the power barges will be limited to the time it takes to establish the BC Hydro grid connection. As shown in table 2.9, the use of power barges could be required for the first 1 to 5 years of operation.		N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GTMA-012	Gitxaała Nation	Please provide the total size of the onshore Project footprint in s. 2.5.1	The estimated area of the onshore Project footprint is 10 ha. See section 2.11 and table 2.12. The DPD will be revised to include the total area of disturbance which will include the Project footprint and a contingency buffer.		N/A
GTMA-013	Gitxaała Nation	Section says "Other temporary facilities may be incorporated at the Site as determined in FEED." What other facilities may be added? It seems the FEED is necessary to complete before advancing to Process Planning (scoping the EA).	Other temporary facilities may include temporary laydown areas, construction phase workshops and temporary roads. Identified temporary facilities will be included within the Project footprint.		N/A
GTMA-014	Gitxaała Nation	This section is too vague to scope these activities in the EA-IA. Gitxaala expects all potential routes for marine transport of materials, equipment and people, during construction (and operations and decommissioning) are captured within all LAA/RAAs that have a marine shipping element.	Materials and supplies will travel from Terrace to Gingolx along Hwy 113 or to Prince Rupert along Hwy 16. Both highways will be assessed as part of the Infrastructure and Services VC. From Prince Rupert and Gingolx materials and supplies will be barged to the Project Site. These transportation routes will be assessed as part of the marine related VCs.		N/A
GTMA-015	Gitxaała Nation	The DPD has indicated that a TERMPOL may be conducted. When will this decision be made?	The TERMPOL review process will start in the second quarter of 2022 and applicable study findings will be integrated into the EA-IA.		N/A
GTMA-016	Gitxaała Nation	The DPD references environmental limiting conditions will be considered to determine how many days the terminal will/will not be available. The DPD has also noted that 140-160 vessel calls each year. While this represents an average call of 1 ship every 2.2 days, the expectation is that this will vary seasonally. What is the maximum number of vessels that can be fueled and depart in a 24 hour period? This number will help understand peak traffic.	Typically ships will be at the terminal for 32 hours or more. This includes approximately 18 hours for loading. There are two FLNG but, it is unlikely that they would be used simultaneously. As a result, it is possible, but unlikely that more than one vessel would be at the facility within a 24 hour window.		N/A
GTMA-017	Gitxaała Nation	Recognizing both LNG and NGL product carriers will be "owned, insured and operated by third parties" and also that the Project's "actual marine routes and/or procedures for LNGCs may change" Gitxaała remains adamant that all potential routes for both types of carriers be included in scope for the IA-EA. In particular, this section provides no details on any potential routes for NGL product (condensate) carriers.	NGL product vessels will follow the same route as the LNG carriers. The EAO and Agency will define the scope of the effects assessment as part of Process Planning.		N/A
GTMA-018	Gitxaała Nation	As the presence and anchorage of vessels has implications for the Project's potential impacts Gitxaała requests all potential tugboat moorages and safe anchorages for vessels be included within the LAAs for both the Marine Use and Marine Resources VCs.	Tugboat moorage at the Project site will be included in the effects assessment for Marine Use and Marine Resources. There are no plans for anchorages, if a vessel needs to delay arrival it will either wait offshore or reduce travel speed.		N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GTMA-019	Gitxaała Nation	This figure identifies a single route to and from Triple Island that follows Main Passage to Portland Canal. Please confirm that vessels will not be using Caamano Passage as an alternate route. Alternatively, please add this route to the PD in this figure.	An alternate shipping route is not being proposed.		N/A
GTMA-020	Gitxaała Nation	Gitxaała notes the disposal site of solid domestic and construction wastes, sanitary wastes form the construction site, and several types of hazardous wastes are noted in Tables 2.2, 2.3 and 2.4 as "to be identified on the BC mainland", however the potential impacts on regional infrastructure and services will be assessed in the EA-IA therefore these potential locations must be identified to accurately scope the EA-IA.	Ksi Lisims LNG will address potential project impacts on infrastructure and services within the assessment area. Waste disposal may involve the use of local or regional facilities, out of regional facilities, or a combination of regional and extra-regional facilities. Facilities within the assessment area, which could be affected by increased waste disposal will be identified within the EA-IA.		N/A
GTMA-021	Gitxaała Nation	Table 2.5 indicates the disposal site for all solid waste from operations is "to be identified on the BC mainland", however the potential impacts on regional infrastructure and services will be assessed in the EA-IA therefore these potential locations must be identified to accurately scope the EA-IA.	Ksi Lisims LNG will address potential project impacts on infrastructure and services within the assessment area. Waste disposal may involve the use of local or regional facilities, out of regional facilities, or a combination of regional and extra-regional facilities. Facilities within the assessment area, which could be affected by increased waste disposal will be identified within the EA-IA.		N/A
GTMA-022	Gitxaała Nation	Table 2.6 indicates brine from (potential) desalination facilities would be disposes in a "deep ocean location". Please clarify the regulatory requirements for disposal at sea (DAS) of brine. If a DAS permit is required, please identify potential DAS locations for inclusion in the EA-IA. Gitxaala notes disposal schemes in poorly flushed areas can cause significant impacts to the structure of seagrass, corals, and soft-sediment ecosystems.	If desalinization is identified as a water source, options for disposal of the brine will be considered. One potential option is at sea disposal. If this option is carried forward Ksi Lisims LNG will confirm if a disposal at sea permit is required and will revise the DPD to reflect these requirements.		N/A
GTMA-023	Gitxaała Nation	This section should cross-reference s. 2.9.1.3 - Construction, Hazardous Waste	The DPD will be revised to reflect the correct reference as noted in the comment.		N/A
GTMA-024	Gitxaała Nation	Please confirm the Project will consider the maximum length of time the Project may be operational before the BC Hydro connection is in place as a factor in the determination of the quantity of carbon offsets to be purchased.	The Project will purchase ~397,000 tCO2e/year of offset credits, beginning at operations start up, to fully mitigate the emissions under the base case BC Hydro Power supply scenario. The Project does not intend to purchase off-set credits over and above the 397,000 tCO2e/year in the event BC Hydro transmission system upgrades are delayed and power barges are required. Under this alternative power scenario, the use of power barges are intended to be temporary and limited in use until BC Hydro upgrades are completed.		N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GTMA-025	Gitxaała Nation	The DPD indicates there are several important topics that will be developed or confirmed during the FEED process, e.g. the final onshore and marine development footprints, construction worker details and estimates, transport of construction materials, and construction waste management, among many others. As such Gitxaala Nation is concerned by the anticipated overlap between the schedule for the EA-IA and the FEED phases. It is not clear in this schedule when the FEED work will be complete in order to inform the EA-IA scoping and assessment. Please clarify how the FEED work aligns and informs the EA-IA project description.	FEED studies and deliverables are being coordinated so that the information needed to inform the EA-IA is available when needed		N/A
GTMA-026	Gitxaała Nation	provides data for the September/October 2021. Is there an intention to gather and present data for the remainder of a calendar year? A note for the dAIR process: please also provide historical data to support the assessment of "effects of the environment" - a comparison of historical and current conditions will help deepen the understanding of climate change trends.	Ksi Lisims LNG intends to collect weather information from the weather station that has been deployed on the Project Site for a minimum of one year. Data will be included in the effects assessment.		N/A
GTMA-027	Gitxaała Nation	This table provides data for NO2 and SO2. Information regarding all NOx and SOx will be needed and should be so specified in the AIR. Similarly, PM2.5 is identified. Please confirm that PM10 will also be specified for assessment in the AIR.	NOX and SO2 are included in the dispersion modelling and will be evaluated as per the Air Quality Dispersion Modelling Guideline for comparison to the BC AQO for SO2 and NO2. The NOX and SO2 modelled predictions will be provided to other disciplines to assess potential effects as mentioned in Section 5.3.2.1 TSP, PM2.5, PM10 and DPM will be included in the construction emission assessment for off-road equipment, on-road vehicles, and marine vessels. The PM emissions particle size from the combustion sources associated with the operation phase are PM2.5.		N/A
GTMA-028	Gitxaała Nation	The DPD notes that the area is remote and that "anthropogenic sounds are largely limited to marine traffic and occasional air traffic". Information about the frequency and extent of this baseline noise should specified for characterization in the AIR.	Information on marine traffic in the vicinity of the Project will be included in the effects assessment.		N/A
GTMA-029	Gitxaała Nation	This section suggests that groundwater sources are being considered for process water. Has this been investigated; and if so, where?	The Project is looking at installing flow monitors wells in the coming months to determine if there is sufficient groundwater on Site to be used by the Project. Locations have yet to be identified.		N/A
GTMA-030	Gitxaała Nation	Please confirm which species the Project will consider "focal species" for habitat suitability modelling purposes.	Details on focal species being used for the habitat suitability modelling is included in the dAIR.		N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GTMA-031	Gitxaała Nation	The DPD says "Pacific salmon occur in many of the rivers and streams at the Site." Without a map of salmon bearing stream, it is not clear where salmon habitat exists. Does the project expect to impact any freshwater salmon habitat? There is a notable gap in the description in 3.5.5 of the results of 2021 fish surveys. Please summarize the occurrence, species, timing and locations of spawning and rearing salmon.	The Project is being designed to avoid sensitive habitat where possible, including freshwater fish habitat. Details on freshwater fish habitat and species presence will be included in the EA-IA and associated TDR.		N/A
GTMA-032	Gitxaała Nation	Per above and the indication that "Pacific salmon occur in many of the rivers and streams at the Site," these watercourses should be included in the "Preliminary Identified Environmentally Sensitive Areas."	Fish surveys and assessment of results are underway. Provision of this information would be preliminary. Field survey results will be provided as part of the EA-IA and associated TDR.		N/A
GTMA-033	Gitxaała Nation	Given the acceleration of changing climate Gitxaała is of the view that technical studies completed more than 5 years ago are not sufficiently adequate sources to describe current conditions.	Comment noted. It is Ksi Lisims LNGs view that data greater than 5 years old can help to characterize species and habitat presence as well as changes in species and habitat characteristics and presence.		N/A
GTMA-034	Gitxaała Nation	When reviewing previous EAs and accompanying technical studies please ensure the regulators assessment report, including any additional technical information that was provided during Application review, are also reviewed.	Comment noted. Efforts will be made to review all relevant technical information.		N/A
GTMA-035	Gitxaała Nation	Please explain why the baseline study areas for marbled murrelet, marine birds, marine mammals ends at "the mouth of Portland Inlet" and does not include the full marine shipping route.	The Project's assessment boundaries are outlined in Tables 6.1 and 6.2 of the dAIR and include the areas within which Project residual and cumulative effects are expected to occur during all phases including the shipping route. The baseline/survey study areas were selected to support the assessment of the Project and are focused primarily on the area surrounding the marine facilities and proximal marine shipping area. Data from other sources, such as eBird, government data sources, and data from other projects will be used to assist in characterizing baseline conditions for marine birds and marine mammals in those portions of the shipping assessment area for which the Project surveys do not cover.		N/A
GTMA-036	Gitxaała Nation	Please provide the rationale for limiting the study area for underwater acoustics to Portland Canal and Inlet.	The Project's assessment boundaries are outlined in Tables 6.1 and 6.2 of the dAIR and include the areas within which Project residual and cumulative effects could occur during all phases. Behavioural effects from underwater noise will include the shipping assessment area and will be assessed in that context. In support of this broader assessment, an underwater acoustics baseline field (hydrophone) study is being undertaken to collect ambient sound levels and marine mammal vocalizations near the proposed marine terminal.		N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GTMA-037	Gitxaała Nation	The marine transport route into Prince Rupert harbour should be included in the Marine Use baseline study area.	The marine transportation route from Prince Rupert to the Project will be included in the Marine Use assessment.		N/A
GTMA-038	Gitxaała Nation	Gitxaała maintains the entirety of its territory on Nass Bay should be captured in the RAA boundaries for Air Quality, Acoustic, Marine Resources - Terminal, and Human Health to enable consideration of cumulative effects with the future construction and operation of the third-party natural gas feed pipeline	The boundaries for the cumulative effects assessment are defined in the dAIR and include the area where the Project has the potential to interact cumulatively with other past, present and reasonably foreseeable projects. The third party pipeline is included in the Project Interactions List for the cumulative effects assessment.		N/A
GTMA-039	Gitxaała Nation	Gitxaała territory has been continuously occupied as such please remove the word "traditional" from descriptions of Gitxaała's unceded territory. This section does not include a written description of the portion of Gitxaała territory on the Nass River shown in Figure 4.5.	Section 4.1.1.5 of the DPD was revised and the word "traditional" was removed from descriptions of Gitxaała Nation's territory and the following addition was made: "Gitxaała Nation territory also includes an eulachon fishing station on the Nass River (Figure 4.1)."		N/A
GTMA-040	Gitxaała Nation	Gitxaała maintains there are potential pathways of effects from project-related marine shipping that could impact heritage sites along the shores of the marine shipping route, which should be assessed in the EA-IA (see comment #GTMA-50).	The width of Portland Inlet is wider than areas studied as part of the wake assessment for LNG Canada where it was determined that potential wake effects are unlikely to affect heritage sites. As a result, effects from Project related shipping along the shores of the marine shipping route are not anticipated.		N/A
GTMA-041	Gitxaała Nation	The first bullet on p. 111 indicates "regulatory environmental assessment applications filed for other major development projects in proximity to the project" will be additional data sources for the Marine Use assessment. GTMA recommends the resulting regulatory environmental assessment reports should also be reviewed to compare the regulators' conclusions with the information put forward by the proponents in the EAC applications themselves.	Comment noted.		N/A
GTMA-042	Gitxaała Nation	Please clarify in this section that the identification of VCs remain subject to discussion during the provincial Process Planning phase until the AIR is accepted by the EAO.	The DPD will be revised to clarify that VCs are still draft until finalized by the EAO during the Process Planning phase.		N/A
GTMA-043	Gitxaała Nation	Given the uncertain timing of the connection to the BC Hydro grid Gitxaala expects the assessment of all potential atmospheric, i.e. air quality, GHG emissions and acoustic, environmental effects in the EA-IA will be based on a 'project case' scenario that assumes there will be a delay and the project will begin operations under power supplied by temporary barges	If certainty of a connection with the BC Hydro grid prior to Project operations cannot be confirmed the effects assessment will include analysis of the temporary power barges.		N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GTMA-044	Gitxaała Nation	While we understand "construction emissions are expected to be less than Project operations lifetime emissions" Gitxaała expects an assessment of potential air quality effects will be conducted for all phases of the project, and will also include an assessment of potential air quality effects from marine shipping, including all marine supply vessels/barges used for project-related transportation of materials, equipment, workers etc. Please refer to comment #GTMA-43 regarding the 'project case' for the air quality effects assessment in the EA-IA.	All phases of the Project will be assessed for effects to air quality. This includes marine vessels used in each phase. If through discussions with BC Hydro it is determined that electrification will not be available at Project start-up the effects assessment will assess the facility powered by both electricity and power barges. Currently it is estimated that the temporary power barges may be required for one to five years; however, final Information on the estimated time that the power barges will be needed will be included in the EA-IA.		N/A
GTMA-045	Gitxaała Nation	Please add reference to federal GHG emission reduction targets in this section and refer to comment #GTMA-43 regarding the 'project case' for the GHG effects assessment in the EA-IA.	Added "federal" to Section 5.3.1.2 "Potential GHG Emissions Effects and Mitigation" to indicate that the Project intends to comply with the federal emission reduction targets. The GTMA-43 comment was reviewed and we feel the text already present in Section 5.3.1.2 addresses the possibility of delayed BC Hydro connection.		N/A
GTMA-046	Gitxaała Nation	Please refer to comment #GTMA-43 regarding the 'project case' for the acoustic effects assessment in the EA-IA. Gitxaała understands the proponent's view is "construction noise effect will provide a conservative representation for the decommissioning phase". Does this mean the proponent is committing to the application of any mitigations identified for acoustic effects in the construction phase to also be applied for the decommissioning phase?	If certainty of a connection with the BC Hydro grid prior to Project operations cannot be confirmed the effects assessment will include analysis of the temporary power barges. Where activities in the construction phase are consistent with decommissioning it can be assumed that similar mitigation measures would be applied.		N/A
GTMA-047	Gitxaała Nation	Given the uncertain timing of the connection to the BC Hydro grid Gitxaala expects the assessment of all potential physical, i.e. surface water and groundwater, environmental effects in the EA-IA will be based on a 'project case' scenario that assumes there will be a delay and the project will begin operations under power supplied by temporary barges (see comment #GTMA-4). Gitxaała understands the alternatives provided in Table 2.14 each have different water requirements for potential cooling systems for the temporary power barges, please confirm the EA-IA will assess the alternative with the largest draw on available freshwater.	If certainty of a connection with the BC Hydro grid prior to Project operations cannot be confirmed the effects assessment will include analysis of the temporary power barges. The effects assessment will also include the largest anticipated on-shore footprint for the Project.		N/A

Table 11.2 – Technical Advisors DPD Review Comments and Responses

ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GTMA-048	Gitxaała Nation	Given the uncertain timing of the connection to the BC Hydro grid Gitxaala expects the assessment of all potential biological, i.e. vegetation and wetlands, wildlife, freshwater fish and marine resources, environmental effects in the EA-IA will be based on a 'project case' scenario that assumes there will be a delay and the project will begin operations under power supplied by temporary barges (see comment #GTMA-4). Gitxaała understands the alternatives provided in Table 2.14 each have different on-shore footprints, please confirm the EA-IA will assess the alternative with the largest potential onshore footprint.	If certainty of a connection with the BC Hydro grid prior to Project operations cannot be confirmed the effects assessment will include analysis of the temporary power barges. The effects assessment will also include the largest anticipated on-shore footprint for the Project.		N/A
GTMA-049	Gitxaała Nation	Gitxaała notes the comment "Marine vessels may create wave (ship wake) related effects on intertidal shorebird habitat" and consequently expects to see an assessment of potential effects to intertidal bird habitat due to shipping activities included in the EA-IA.	The marine bird terminal and marine bird shipping assessment areas extend to the high-tide mark, which encompasses the intertidal zone. Potential effects of marine shipping on intertidal zone bird habitat will be included as part of the assessment of change in habitat.		N/A
GTMA-050	Gitxaała Nation	Gitxaala notes this section does not include a specific detailing of the potential marine resource effects due to "marine shipping activity". On Jan. 14/2022 Gitxaala provided the proponent with the May 2020 CSAS Science Advisory Report titled "Science Advice for Pathways of Effects for Marine Shipping in Canada: Biological and Ecological Effects", which includes five conceptual models that represents the activities, stressors, and broad-scale effects of shipping sub-activities. In particular, Gitxaala strongly suggests the Project consider the pathway of effects model for the "Movement Underway" sub-activity (model 'd', see p. 9) and include an assessment of the three identified potential effects (change in habitat, mortality, change in fitness) in the assessment of potential effects to marine resources from shipping/marine transport along the full shipping route throughout all phases of the Project. Alternatively please provide the rationale for not carrying forward the potential effects identified in the CSAS document to the EA-IA.	Ksi Lisims LNG appreciates Gitxaala's suggestion. The technical team for marine resources is familiar with the DFO Advisory Report and will consider it when completing the effects assessment for the Project, including shipping.		N/A
GTMA-051	Gitxaała Nation	For the purposes of scoping the regional impacts on employment this section would be strengthened with the addition of any commitments the proponent is prepared to make regarding hiring strategies to reduce the need for non-local workers and prioritize hiring Indigenous people and other current residents in the region .	As provided in the preliminary potential mitigation in Section 5.3.4.1, Ksi Lisims LNG is working on procurement strategies that will facilitate economic participation for local and regional suppliers, contractors, service providers and workforce. Included in this are strategies for workforce training. Details will be included in the effects assessment.		N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GTMA-052	Gitxaała Nation	This section is focused on the construction and operation of the facility itself and does not specifically identify potential marine use effects due to shipping, please see comment #GTMA-50 regarding potential pathways of effects due to shipping. Gitxaala notes project related increases in marine shipping/vessel traffic are a key concern of Gitxaała Nation given the potential for changes to marine-based harvesting activities and changes to safe access to travel routes for Gitxaala marine users. This concern is particularly acute in the southern portion of the shipping route in proximity to the pilot boarding station and Prince Rupert. Gitxaala expects an assessment of both noted potential project-effects on marine use will be assessed in the EA-IA in relation to all project-related marine traffic along the shipping routes.	Comment noted. As provided in the dAIR, increased vessel traffic will be assessed as part of the Project EA-IA.		N/A
GTMA-053	Gitxaała Nation	While the Project is "at a remote location" for the purposes of the EA-IA it must be assumed there will be additional demands on emergency services, healthcare services and airports (Prince Rupert and Terrace) that will interact cumulatively with the demands of other industrial projects under construction or operating in the region.	Comment noted. Ksi Lisims LNG is aware of the potential increased demand that the Project would place on infrastructure and services in the region, including on emergency services, healthcare services and airports. To address these concerns, they will be assessed as part of the Infrastructure and Services VC.		N/A
GTMA-054	Gitxaała Nation	Gitxaała maintains there are potential pathways of effects from project-related marine shipping that could impact heritage sites along the shores of the marine shipping route, which should be assessed in the EA-IA (see comment #GTMA-50).	Please see response to GTMA-040.		N/A
GTMA-055	Gitxaała Nation	Gitxaala suggests shipping and marine transport related wake effects should also be assessed within the shipping route as potential impacts to Indigenous marine users including impacts to shoreline harvesting activities, cultural features and safe access to travel routes (see comment #GTMA-50)	Comment noted. The EAO and Agency will be defining Project scope as part of the Processing Planning phase.		N/A
GTMA-056	Gitxaała Nation	This section should be updated to include additional details regarding the process the federal government intends to follow to reach a decision on the substitution request from the BC EAO.	The DPD reflects the perspective of the Proponent, which includes the request for substitution by the EAO, as noted in section 6.3.2, and a substitution decision by the Agency. For additional details on the process please follow up with the Agency.		N/A
GTMA-057	Gitxaała Nation	Please clarify which alternative case identified in Table 2.14 will be used to determine the necessary amount of carbon offset credits that will be purchased (see comment #GTMA-4).	The use of carbon offset credits will be included and assessed for all options carried forward for assessment in the EA submission.		N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GTMA-058	Gitxaała Nation	Table 6.4 illustrates there is a planned overlap of the EA Readiness/Process Planning phases and the Application Development phase beginning in Q3 2022. Gitxaała has serious concerns with this overlapping EA phases and has expressed this concern to the BC EAO in previous EAs and on multiple occasions. In particular it is GTMA's view that the Application Information Requirements (AIR) must be completed prior to the proponent beginning to develop the Application in order to create space for the consensus-seeking process with Indigenous Nations and to avoid the situation where changes to the AIR result in changes to the Application that cannot be properly accommodated due to regulatory requirements to meet legislated timelines. GTMA's view of a complete AIR includes definitions of the thresholds established for the characterization of residual effects, as an example please see the proposed Vopak Pacific Canada Project's AIR	Comment noted. Ksi Lisims LNG is aware that the dAIR will not be final until the Process Order is issued and that items included in the final AIR will need to be addressed in the effects assessment.		N/A
GTMA-059	Gitxaała Nation	If Table 7.1 is intended to capture the contacts for technical engagement by the Ksi Lisims Project Team then please update to GTMA, Regulatory Affairs Manager, and remove the "First" from Gitxaała First Nation.	The DPD has been updated to reflect this comment.		N/A
GTMA-060	Gitxaała Nation	Update the final paragraph to indicate "Participating Indigenous Nations assert Aboriginal rights AND TITLE..."	The last paragraph is Section 7.1 of the DPD has been revised accordingly.		N/A
GTMA-061	Gitxaała Nation	The Project has been engaging with the Gitxaała Territorial Management Agency staff, please replace the acronym "GTS" with "GTMA".	The DPD will be revised as per this comment.		N/A
GTMA-062	Gitxaała Nation	Gitxaala notes both BC EAA (2018) and Canada's IAA (2019) include requirements that require GBA+ analytics (s. 25(s)(d) and s. 22(1)(s), respectively); however this is the only section of the DPD that mentions GBA+. Although it is critical to recognize some groups may experience barriers to participating in project-related engagement and plan accordingly; the primary purpose of GBA+ analysis in the EA-IA is to identify and assess any disproportionate project effects to subgroups of the potentially impacted population, please add a section to the DPD that describes how GBA+ will be included in the EA-IA itself.	Thank you for your comment. Ksi Lisims LNG will be incorporating requirements of GBA plus analysis throughout the effects assessment.		N/A
GTMA-063	Gitxaała Nation	This section indicates that a Quantitative Risk Assessment (QRA) and other hazard studies will be conducted for the BCOGC permit. It will be useful to have these studies completed before in the event that OGC requires substantive design changes to improve safety.	Work on the facility QRA is estimated to start in late Q2 2022 and applicable study findings will be integrated into the EA-IA.		N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GTMA-064	Gitxaała Nation	Please clarify if the intention of the Proponents is for the TERMPOL or "TERMPOL-like analyses" to be factored into the EA-IA. It will be important to understand the exclusion zones established around LNG vessels to be able to properly assess the impacts to marine use. Will information about exclusion zones be available for assessment?	The TERMPOL review process is anticipated to start in Q2 2022 and applicable study findings will be integrated into the EA submission. Information on a proposed emergency planning zones will be included in the EA submission.		N/A
GTMA-065	Gitxaała Nation	Much of the TERMPOL information - information about routing, transit times / delays, and emergency anchorages in particular - should inform the assessment. When will a decision about a TERMPOL be made? Will the results of the TERMPOL be available for inclusion in the effects assessment?	The TERMPOL review process is anticipated to start in the second quarter of 2022 and applicable study findings will be integrated into the EA-IA . Information on a proposed emergency planning zone will be included in the EA submission.		N/A
GTMA-066	Gitxaała Nation	Gitxaala Nation is extremely concerned about the impacts of increasing marine shipping through GItxaala marine territory, particularly the potential for shipping-related accidents and malfunctions given the disastrous nature of related effects on water quality, fish, shellfish, marine mammals, aquatic plants, wildlife, birds, intertidal habitat, the physical and mental health of Gitxaala people, Gitxaala's sense of place, sacred sites and continued safe access to travel routes that are used daily by Gitxaala people.	Thank you for your comment. Ksi Lisims LNG is aware of your concerns and would like to work the GTMA to address them where possible through Project design and the application of mitigation measures.		N/A
GTMA-067	Gitxaała Nation	Please clarify the difference between an "LNGC" and an "NGL product carrier." In particular, please provide information about any qualitative differences between either the product being moved or the vessel fuel. What percentage of vessels will be carrying LNG and what percentage will be carrying ethane or other NGLs? Understanding this may be important to the calculation and evaluation of risk. Consider treating LNG and NGL spills as separate accident scenarios given the different responses required in the event of either emergency.	LNGCs are LNG Carriers. All movement of LNG will be made using LNGCs. It is currently estimated that there will be between 140 and 160 LNGC vessel calls per year. NGLs are impurities that are removed from the LNG as part of the liquefaction process. It is estimated that there will be 8-10 NGL transports via NGL product carriers per year.		N/A
GTMA-068	Gitxaała Nation	The DPD identifies a number of extreme-weather-related effects on the project. Please add effects of extreme weather and temperatures on shipping. Please also add potential tsunami / seiche events on shipping in narrow passages.	Potential extreme weather effects on shipping will be assessed as part of Effects of the Environment on the Project that will be completed for the EA submission. As provided in Section 10.3, the potential effects of seismic events and tsunamis will be assessed within the appropriate regional assessment area for all Project activities and components.		N/A
GTMA-069	Gitxaała Nation	As noted in Appendix 6, Gitxaała provided the proponent DFO's Science Advice for Pathways of Effects For Marine Shipping in Canada: Biological and Ecological Effects on Jan. 14, 2022; however it is not included in the References. Please add or provide a rationale for why it has been excluded.	Thank you for sharing this document. This document has been shared with the technical team for incorporation into the EA-IA as appropriate.		N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GTMA-070	Gitxaała Nation	Further to the proponent's response, Gitxaala requests clarification as to what information will be included in the Marine Use VC, subcomponent public and Indigenous marine use, “that can be used to understand potential effects on Gitxaała Interests”. Also note that information from previous EA applications is not a valid source - as it represents another proponent’s interpretation of this information	Ksi Lisims looks forward to continuing to work with GTMA to identify studies needed to support the effects assessment and understanding potential effects of the Project on the Gitxaala.		N/A
GTMA-071	Gitxaała Nation	Gitxaala understands Ksi Lisims' view that "residual effects associated with construction and operation of the marine terminal are not expected to interact with the residual effects occurring from activities that are 80km from the Site as would be the case for activities occurring in Prince Rupert". However, in addition to shipping and socio-economic impacts, ongoing development at the Port of Prince Rupert is impacting wetlands and other habitats, including some species at risk. Guidance for mitigations and offsetting measures are considered/implemented at a regional scale. For example, ongoing habitat offsetting conversations for a Project in Prince Rupert have included potential locations such as Terrace or further afield. This Project’s cumulative effects considerations must include these impacts of Port development, along with any projects that include construction, operations and/or decommissioning events that require marine transport to/from Prince Rupert.	Thank you for your comment. Scope of the effects assessment will be defined through reviews to the dAIR.		N/A
GTMA-072	Gitxaała Nation	Gitxaała notes the DPD indicates in various sections that dredging is not currently included as part of the project. When will that decision be made? Even if construction dredging is eliminated as a project component, will maintenance dredging be required? If so, with what frequency?	Project plans do not included dredging during any stage of the Project.		N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
GTMA-073	Gitxaała Nation	-	-	However as articulated in previous comments to both regulators and the Proponent, Gitxaała Nation is seriously concerned about the lack of clarity on the full extent of project-related shipping routes, for both LNG and Natural Gas Liquids (NGL)/condensate carriers, south of the pilot boarding station at Triple Island. The Proponent's responses to date have not alleviated this concern. For Gitxaała Nation it is essential to understand if any vessels will re-enter Gitxaała's marine territory at any point south of Triple Island, and if yes, to ensure any potential effects of this increased shipping traffic are assessed within the EA. Gitxaała understands based on Proponent responses the LNG and NGL carriers will follow the same route from the Project site to Triple Island, but we also understand the Project intends to export LNG to Asian markets, whereas the Proponent has previously indicated NGL will be transported "from Triple Island south to USA ports". We heard at the April 11th TAC meeting that "No project-related vessels will transit through the Inside Passage"; however, this still does not answer the question of what route the NGL carriers will take to the American ports that will receive these shipments.	Ksi Lisims LNG understand Gitxaala's concern about shipping through Gitxaala traditional territory. As outlined in Section 2.3.7 of the DPD, condensate (NGL) export will be conducted by third party shippers who will load condensate from the Site and transport it to the Triple Island Pilot Boarding station area and then east to the east side of Haida Gwaii before travelling either south to potential receiving points in Washington State or east to ports further away via international shipping lanes. By committing to travel to the east side of Haida Gwaii carriers would not enter Gitxaala traditional territory. As outlined in Section 2.7 of the DPD, LNGCs are anticipated to enter Canadian waters from the west through Dixon Entrance north of Haida Gwaii and will pick up a BC Coast Pilot (by helicopter) at a designated location west of, but near to, Triple Island. LNGCs will be piloted between Triple Island and the Project's marine terminal by BC Coast Pilots to support the safe inbound and outbound transit of LNGCs, consistent with applicable marine navigation laws and regulations. The return trip would follow the same path and would then continue west to Asia without transecting Gitxaala traditional territory.
HC-001	HC	In Table 2.1, the "updated DPD permanent components" include a water treatment plant to provide potable water for the permanent workforce. The source for this water remains under consideration. Health Canada notes that all potable water should be treated to the Guidelines for Canadian Drinking Water Quality (GCDWQ). This includes potable water needed for the temporary construction workforce accommodation in the proposed floatel.	Comment noted, thank you.	closed (to be addressed in dAIR)	N/A
HC-002	HC	In Table 2.1, the "updated DPD permanent components" include on-site power substation(s) for BC Hydro connection and utility corridors for distribution of electricity. Health Canada suggests health effects related to maintenance of utility corridors should be considered. If concern about electric and magnetic field (EMF) effects is expressed, an assessment can be undertaken, and should include a description of measures that will be taken to mitigate potential concern over project-related EMF exposure.	Comment noted, thank you.	closed	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
HC-003	HC	In Table 2.1, the "updated DPD permanent components" include permanent moorings and two pile support jetties. As noted in HC's previous Federal Authority Advice Record (FAAR) comments, if dredging is required during Project construction and/or operation where marine sediments may be disturbed and suspended, it is necessary to identify any contaminants of potential concern (COPCs) in the sediment, and to understand the potential uptake of these COPCs into traditional foods consumed by residents in the area.	Comment noted, thank you. It is currently not anticipated that dredging would be required for the Project. However, if this changes the appropriate protocol will be followed. It should be noted that the Site is pristine so it is not anticipated that there would be any human-derived contaminants.	closed (to be addressed in dAIR)	N/A
HC-004	HC	Health Canada notes that workers will have sleeping quarters during construction (floatel) and operations (on-site accommodations). The Project is designed to operate 24 hours per day, 365 days per year. The assessment of human health impacts from project-related changes to the environment (e.g., ambient air quality, acoustics, drinking and recreational water quality, country food quality) should include off-duty workers. For example, off-duty workers may experience sleep disturbance at any time during the day or night.	Comment noted. The Project Site is remote so human health impacts are expected to be limited. As workforce accommodation is located on-Site, the health of workers from Project-related changes in the environment when off work will need to be considered in the human-health effects assessment. It is expected that only the workforce that is on-shift will be at Site.	closed (to be addressed in dAIR)	N/A
HC-005	HC	In the DPD, the Proponent has committed to assess human health risk from exposure to chemicals with a Human Health Risk Assessment. However, the Proponent has not committed to a Health Impact Assessment (HIA) as recommended in the FAAR by Health Canada. Health Canada continues to recommend an HIA given that: The Project location is remote and nearby Indigenous villages (e.g., Gingolx) may be impacted, especially if the villages become supply and service centres for the Project; Given a floatel (construction) and worker's camp (operations) are proposed for the project site, the influx of workers may result in a variety of socio-economic impacts that may affect health, including the safety of Indigenous girls and women*;Several First Nations have raised concerns related to marine shipping and spills. Cumulative effects from this Project and other nearby Projects may exacerbate potential effects, including socio-economic effects (e.g., food security);The recommendation for an HIA was also raised by the Gitxaala, a community that may be impacted by the Project (directly or indirectly).	Comment noted, thank you. Ksi Lisims LNG looks forward to discussions with the requirements of the HIA with Health Canada and Indigenous groups to better understand needs given Project design and location.	closed (to be addressed in dAIR)	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
		The Proponent states they will evaluate the need for an HIA during the development of the draft Application Information Requirements (dAIR). If an HIA is included, it will be important to include a description of methodologies and tools that will be employed to determine the positive and adverse health effects of the project. If an HIA is excluded it will be important to provide detailed justification. Health Canada continues to suggest an HIA and looks forward to participating in the dAIR stage of the review process regarding this recommendation. * Reclaiming Our Power and Place: The Final Report of the National Inquiry into Missing and Murdered Aboriginal Women and Girls, Volume 1a, ISBN: 978-0-660-29276-2, https://www.mmiwg-ffada.ca/wp-content/uploads/2019/06/Final_Report_Vol_1a-1.pdf			
ISC-001	ISC	It is recommended that the gas pipeline essential to the project be included as a project component, or a more complete rationale added as to why it should not be included.	Both pipelines being considered for the Project are owned by third parties and have current provincial EA Certificates. As a result, Ksi Lisims LNG is of the view that it is not required or appropriate to scope the pipelines into the environmental assessment of the Project. However, it is important to note that an assessment of the pipelines will be included in cumulative effects assessment section of the EA-IA.	The cumulative effects assessment will need to include any potential impacts on Indigenous rights and/or interests within the location of the supply pipeline	Comment noted.
ISC-002	ISC	Although it is indicated that no dredging activities are planned, if any dredging should occur recommend also including any pre-dredging activities that will be conducted to evaluate baseline conditions and identify and protect potentially sensitive ecological zones or species during dredging, particularly those which have social, cultural, and economic significance for Indigenous communities	Currently there are no plans to dredge as part of the Ksi Lisims LNG Project. However, should dredging be added the area that would be affected would be assessed to determine potential environmental, social, cultural, economic and health effects.	Closed	N/A
ISC-003	ISC	With regard to any clearing of vegetation from construction, storage and lay-down areas, recommend including any pre-clearing activities that would be conducted to evaluate baseline conditions and identify and protect potentially sensitive ecological zones or species during clearing, particularly those which have social, cultural, and economic significance for Indigenous communities.	Baseline information on sensitive areas is being incorporated into Project design where possible. An assessment of potential effects of the Project on baseline conditions (i.e., pre-clearing) will be completed as part of the effects assessment.	Closed	N/A
ISC-004	ISC	Recommend indicating whether there will be any consideration given to selecting an Indigenous owned and/or sourced project construction contractor.	Ksi Lisims LNG will consider qualified Indigenous owned companies when selecting its Project contractor. We will also develop procurement policies to support participation by local and Indigenous owned companies, including smaller firms.	Closed	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
ISC-005	ISC	There is no reference to land overlaps with Gitanyow and Gitxsan who have significant overlaps with Nisga'a territory, with some Gitanyow and Gitxsan lands overlapping Nisga'a Treaty Settlement Lands and others in the former Nisga'a traditional territory. Secondly the impacts seem to focus on coastal First Nations.	The Indigenous groups included in the DPD represent Nations that have identified themselves as Participating Indigenous Nations and who have territories that overlap with the Project site or the shipping route. Ksi Lisims LNG is committed to working with all Participating Indigenous Nations to understand and address concerns and impacts associated with the Project.	Closed	N/A
ISC-006	ISC	Another potential source of information that could be considered for acquiring data in support of the assessment of effects on employment and community is the Community Well-Being index (https://www.sac-isc.gc.ca/eng/1100100016579/1557319653695), which isolates data specific to Indigenous populations from the Census of Population and National Household Survey.	Thank you for sharing this information.	Closed	N/A
ISC-007	ISC	There is no indication as to whether any attempt was made to engage with Gitanyow for example, or other communities situated more inland.	The Indigenous groups included in the DPD represent Nations that have identified themselves as Participating Indigenous Nations and who have territories that overlap with the Project site or the shipping route. Ksi Lisims LNG is committed to working with all Participating Indigenous Nations to understand and address concerns and impacts associated with the Project.	Closed	N/A
ISC-008	ISC	It may be relevant to clarify whether or not nations on the US side have experience appropriate consultation efforts due to the implications we have seen recently with the RBT2 and GCT Projects. This may be an item which CIRNAC should note. Metlakatla and Ketchikan are noted but other communities located within the same area are not listed such as: Saxman, Kasaan, Hydaburg, Craig, Klawock and Wrangell. See reference: https://www.bia.gov/sites/bia.gov/files/assets/public/webteam/pdf/idc1-028635.pdf	It is Ksi Lisims LNGs understanding that the EAO has shared information on the Project with Alaskan regulators and Tribes and that they will direct Ksi Lisims LNG on additional actions that are required.	Closed	N/A
KFN-001	Kitselas First Nation	Will the jetty for the temporary floatel require pile driving and, following construction, pile removal?	The personnel dock (jetty) that the floatel will dock at during construction has a piled accessway that will require pile driving to install. The dock itself is floating. Following construction, the dock will remain to receive materials, supplies and personnel during operations.	N/A	N/A
KFN-002	Kitselas First Nation	Will dredging be required for the MOF?	No dredging is anticipated for the MOF	N/A	N/A
KFN-003	Kitselas First Nation	What surface water sources are under consideration?	Two of the larger streams at the Project Site (on Category A land) are being evaluated as a source of surface water.	N/A	N/A
KFN-004	Kitselas First Nation	How will diesel (and how much diesel) will be shipped to the Project?	Diesel will be barged to the Project Site. Details on how much will be needed will be calculated during FEED and included in the EA-IA.	N/A	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
KFN-005	Kitselas First Nation	"AGRU – removes CO2 and H2S from the feed gas and incorporates an amine storage and handling system. Process heat for this system is provided either by natural gas fired heaters supplemented by electric heaters that circulate a heating medium in a closed loop on each of the FLNGs." How else would process heat be provided (i.e., either by natural gas fired heaters supplemented by electric heaters or ...)?	Process heat is expected to be either gas fired heaters, electric heaters or a combination of both.	N/A	N/A
KFN-006	Kitselas First Nation	Kitselas expects that potential impacts associated with the shipment of condensate from the facility to the international shipping routes, including potential accidents and malfunctions, will be assessed as a component of the Project.	Shipping of NGL will be considered in the assessment of accidents and malfunctions.	N/A	N/A
KFN-007	Kitselas First Nation	What is the anticipated timeline for completion of the BC Hydro grid connection? What is the maximum time that temporary power barge(s) would be used if the BC Hydro grid connection is delayed? Kitselas expects Ksi Lisims to take a conservative approach in their assessment of potential impacts (e.g., GHG emissions) resulting from the use of the temporary power barge(s).	The Project's third party power provider is engaging with BC Hydro to determine the system enhancements and timeline to deliver the required power to the Project. Enhancements are anticipated to be limited to system transmission line upgrades at the New Aiyansh Substation and along other existing sub-stations and existing power line corridors. Once the studies are completed, we will have a more confident timeline of BC Hydro power supply. As stated in Table 2.9 in the DPD, the Project has showcased scenario range for base case and alternative case power supply. GHG impacts associated with the temporary use of gas turbines on barges will be included in the EA submission.	N/A	N/A
KFN-008	Kitselas First Nation	Will dredging be required for the MOF? If dredging is required, will disposal at sea be necessary? These are key components in the assessment and understanding of the Project's potential impacts, as well as permitting requirements.	No dredging is anticipated for the MOF.	N/A	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
KFN-009	Kitselas First Nation	Given that the BC Hydro grid connection is a key component of the environmental assessment for the Ksi Lisims Project (i.e., significantly reduces potential GHG emissions), and given that the BC Hydro grid connection is entirely dependent on the Ksi Lisims Project, it is Kitselas' conclusion that the BC Hydro grid connection be assessed as a component of the Ksi Lisims Project. Kitselas understands that the transmission line would also benefit the Nisga'a Nass Valley villages, however, this benefit is incidental and would not occur if the Ksi Lisims Project were not constructed. The fact that the transmission line would be constructed and operated by a third party does not, in Kitselas' opinion, exempt it from the scope of the Ksi Lisims EA -- marine shipping of the LNG is also conducted by a third party and is scoped into the Ksi Lisims EA.	Ksi Lisims LNG agrees that the connection to the BC Hydro grid is a key component to the success of the Project. This is based primarily on the desire to minimize Project environmental effects by reducing emissions, making the Ksi Lisims LNG Project one of the lowest, and potentially the lowest, GHG emission intensity LNG production facilities in the world. However, as outlined in Section 2.4.2 of the DPD, Ksi Lisims LNG disagrees that the BC Hydro connection should be scoped in as a component of the Project. A third party will design, build and operate the independent transmission line that will connect the Project to the BC Hydro grid. Along with delivering electricity to the Project, the transmission line will supply reliable electricity to Nisga'a communities. A system impact study will be completed with BC Hydro to determine upgrades required for the connection. The Project will include consideration of interactions between Project effects and potential effects from the transmission line in the Project's cumulative effects assessment. Ksi Lisims LNG will have no ability to direct or influence the third party provider in carrying out powerline connection activities. In addition, because the transmission line will not solely be for the benefit of the Project, the powerline connectivity activity should be considered incidental and not a Project component. For these reasons, Ksi Lisims LNG is of the view that it is not necessary or appropriate to scope the transmission line into the EA-IA of the Project.	Kitselas maintains that at least the sub-sea portion of the transmission line, that which will solely service the Ksi Lisims Project, should be scoped into the assessment of effects. As previously mentioned, marine shipping of Ksi Lisims product is also conducted by a third party, subject to the same limited influence by Ksi Lisims, but is still scoped into the Project assessment.	Ksi Lisims LNG understands Kitselas position on the transmission line. However, as outlined in Section 2.4.2 of the DPD, Ksi Lisims LNG is of the view is that the interconnection transmission line should not be scoped in as part of the Project for the following reasons: ▪ Ksi Lisims LNG will have no "direct control or influence" over the third-party, WindRiver, in carrying out the development, construction and operation of the interconnection transmission line and the related activities in respect of increased reliability of service to Nisga'a Villages ▪ the interconnection transmission line will not solely be for the benefit of the Project but will also service Nisga'a communities ▪ the interconnection transmission line is below the applicable triggers for Electricity Projects in the Reviewable Projects Regulation and the Physical Activities Regulation ▪ the majority of the interconnection transmission line will be located on Nisga'a Lands within a corridor studied under previous environmental assessments
KFN-010	Kitselas First Nation	How often will sewage and grey water (from the floatel) be barged away and to where (e.g., Prince Rupert?).	Sewage and grey water will only be barged during construction. Details regarding the management of wastes, including sewage and grey water, will be determined during FEED and will be included in the effects assessment.	N/A	N/A
KFN-011	Kitselas First Nation	Will all construction workers be required to reside in the floatel, or will workers living in nearby communities be allowed to commute to the site daily?	Ksi Lisims LNG currently anticipates that all of the construction and operation workforce will reside on-site. Any exception to this would be on an individual basis such as current resident of Gingolx for whom an exception would allow for inclusion in the Project workforce.	N/A	N/A
KFN-012	Kitselas First Nation	Kitselas expects that potential impacts associated with marine shipping will include the entirety of the route within Canadian waters, not just up to the pilot point near Triple Islands.	The EAO and Agency will be defining the Project scope, including the extent of the marine shipping assessment area, as part of the Process Planning phase.	N/A	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
KFN-013	Kitselas First Nation	Tugboats and barges used to transport construction materials, supplies, or equipment to the Site from either Gingolx or Prince Rupert will also be a source of air emissions." Kitselas expects that potential impacts associated with the shipment of construction materials by rail (an option proposed in section 2.5.5), such as air emissions, will be assessed as a component of the Project.	Tugboats and barges used for construction are typically included in the assessment of air emissions, including GHG. The assessment will consider emissions from the point where the Project assumes care and control of materials, supplies or equipment which is likely to be in Prince Rupert, Terrace or Gingolx. Transport prior to this point will not be included in the assessment.	N/A	N/A
KFN-014	Kitselas First Nation	Will disposal at sea of the brine from desalination activities require a permit from Environment and Climate Change Canada? How frequently would brine need to be disposed of?	Ksi Lisims LNG is currently evaluating the potential for desalination as a non-preferred option for sourcing Project freshwater needs. As part of this evaluation, Ksi Lisims is investigating any approval requirements including any approvals required for waste/brine disposal.	N/A	N/A
KFN-015	Kitselas First Nation	As noted in our comment on section 2.3.8.2, Kitselas expects Ksi Lisims to take a conservative approach in their assessment of potential impacts (e.g., GHG emissions) resulting from the use of the temporary power barge(s). For instance, if BC Hydro anticipates that the hydropower will be available 1-5 years after the Ksi Lisims LNG Project is operational, the assessment of residual impacts should assume that hydropower will be available 5 years after the Project is operational.	Comment noted. Ksi Lisims LNG will carry forward all assumptions for the assessment of Project effects based on the best available information and assumptions.	N/A	N/A
KFN-016	Kitselas First Nation	WCGT has an Environmental Assessment Certificate for two routes -- the northern route enters Portland Canal from Alice Arm and is in closer proximity to the Ksi Lisims LNG site than the southern route. Why is the southern route "the expected preferred route"?	The southern route transits in front of the Kitsault where there is an area of contaminated sediment. The northern route was selected to avoid potential adverse effects associated with mobilization of these contaminants.	N/A	N/A
KFN-017	Kitselas First Nation	"Kitselas IR 1 is just outside of Terrace, and Kulspai IR 6 is in the Kitselas Canyon to the east of Terrace." Please revise to state that Kitselas IR 1 is in the Kitselas Canyon and Kulspai IR 6 is just outside Terrace.	Thank you for the clarification on the Kitselas IR's the DPD will be revised.	N/A	N/A
KFN-018	Kitselas First Nation	"Kitselas First Nation traditional territory includes the watersheds of the Skeena and Kitimat rivers from Lorne Creek in the east to the Skeena and Kitimat estuaries (Figure 4.4). In addition to this, Kitselas First Nation's Marine Harvest Area encompasses the coastal waters from the southern tip of Banks Island to the northern tip of Pearse Island." Please revise to state "Kitselas First Nation traditional territory includes the watersheds of the Skeena and Kitimat Rivers from Lorne Creek to the Skeena and Kitimat estuaries, as well as the coastal waters from the southern tip of Banks Island to the norther tip of Pearse Island." Kitselas does not refer to a portion of their Traditional Territory as a "Marine Harvest Area".	Thankyou for the clarification on the Kitselas territory, the DPD will be revised.	N/A	N/A

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KFN-019	Kitselas First Nation	As above, please revise the figure to illustrate a single, undifferentiated "Kitselas First Nation Traditional Territory".	Thank you, the DPD Kitselas Territory figure will be revised	N/A	N/A
KFN-020	Kitselas First Nation	How will key informants be selected for telephone interviews? Kitselas expects key informants will include a cross-section of the potentially impacted communities (e.g., Prince Rupert, Terrace, non-Nisga'a Indigenous communities likely to experience social and economic effects related to the project, etc.).	Baseline data collection will focus on the compilation of information required to describe social and economic conditions within communities near the Project, focusing on communities most likely to experience socio-community impacts related to the Project. Baseline data collection will include telephone interviews with key informants best suited to provide specific information required to describe baseline social and economic conditions.	N/A	N/A
KFN-021	Kitselas First Nation	Environmental Assessment Applications filed for other major development projects in proximity to the project may be outdated and should not be heavily relied upon to establish a baseline for employment and economy, given the economic changes that have taken place since (e.g., the Applications listed in this section were all filed 8-9 years ago).	Comment noted. The most recent data available will be used to establish a baseline. The DPD lists a selection of projects in the vicinity, however more recent projects such as LNGC and Vopak will also be used to establish the baseline for employment and economy.	N/A	N/A
KFN-022	Kitselas First Nation	As above, Environmental Assessment Applications filed for other major development projects in proximity to the project may be outdated and should not be heavily relied upon to establish a baseline for marine use.	Comment noted. Ksi Lisims will use all appropriate publicly available information to assess potential cumulative effects.	N/A	N/A
KFN-023	Kitselas First Nation	Will the desalination plant also be a source of noise during operations?	All potential noise sources will be considered for both construction and operation noise estimates.	N/A	N/A
KFN-024	Kitselas First Nation	Are "increased use of regional transportation infrastructure (e.g., Highway 113, regional airports), temporary accommodation and meals spending within the region (e.g., Terrace and Prince Rupert)" anticipated because the floatel workforce will be accessing regional services and infrastructure on their days off? Please explain.	This statement acknowledges that a portion of the construction and operation workforce will not live locally and, instead, will likely transit through Prince Rupert, Terrace or Gingolx to access the Site. Travel to, through and from those points will result in increased traffic and local spend and may result in the need to access temporary accommodation.	Based on the TAC meetings held the week of April 11th, Kitselas understood that the workforce would be shuttled between the floatel and airports at the beginning and end of each shift via project transportation -- is this correct? Kitselas' interest in this topic relates to the negative socio-economic impacts that are inextricably linked to any positive impacts (e.g., spending) that may result from the non-local workforce accessing regional services and infrastructure on their days off.	Yes, your understanding is correct. The current intent is for the workforce to be shuttled between the Terrace airport and the Project Site at the beginning and end of each Project shift. The expectation is that the workforce would not overnight in local communities.
KFN-025	Kitselas First Nation	Note 1 states that "The Project's annual emissions assume that in 2030, the Project has access to full electrical power from the BC Hydro grid onwards." Is the 397 ktCO2e/yr the emissions that would occur if the Project was not powered by BC Hydro?	The 397 kt CO2e/year is the estimate of the total direct emissions (e.g., stationary fuel combustion) and acquired energy emissions (e.g., electricity purchase) for a year of operation. This estimate assumes that the Project is receiving electricity from BC Hydro.	N/A	N/A
KFN-026	Kitselas First Nation	Why does the Table show net Annual Emissions estimate of 0 ktCO2e/yr, while the following text states that the Project would result in some net GHG emissions within BC and Canada?	Table 6.3 shows a net-zero emissions as a result of the carbon offset credits.	N/A	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
KIT-001	Kitsumkalum First Nation	Kitsumkalum believes that all project associated 'components' should be assessed for effects under the EA/IA. This would include understanding effects from the construction/operation of a transmission line for the operational requirements of the Ksi Lisims LNG facility. Regardless of the 3rd party type arrangements, these project components require an assessment of effects (for related understanding of impacts to rights and interests) in conjunction with the assessment of effects for the Ksi Lisims facility/terminal for a complete understanding and characterization of effects and especially for understanding of cumulative effects. We required some form of understanding/characterization of effects for all 'components' that are part of the Project (i.e. the infrastructure / development that is only on the land base because of the Ksi Lisims project.	Ksi Lisims LNG agrees that the connection to the BC Hydro grid is a key component to the success of the Project. This is based primarily on the desire to minimize Project environmental effects by reducing emissions, making the Ksi Lisims LNG Project one of the lowest, and potentially the lowest, GHG emission intensity LNG production facilities in the world. However, as outlined in Section 2.4.2 of the DPD, Ksi Lisims LNG disagrees that the BC Hydro connection should be scoped in as a component of the Project. Ksi Lisims LNG has entered into a commercial agreement with a third party to design, build and operate an independent transmission line that will connect the Project to the BC Hydro grid. Along with providing electricity to the Project, the transmission line will supply reliable electricity to Nisga'a communities. A system impact study will be completed with BC Hydro to determine upgrades required for the connection. An assessment of the transmission line will also be included in cumulative effects assessment section of the EA-IA. Ksi Lisims LNG is of the view that it is not necessary or appropriate to scope the transmission line into the EA-IA of the Project. Ksi Lisims LNG will have no ability to direct or influence the third-party owner in carrying out powerline connection activities. In addition, because the transmission line will not solely be for the benefit of the Project, the powerline connectivity activity should be considered incidental and not a Project component.	Kitsumkalum continues to state that the new hydro Transmission line (connection to the BC Hydro grid), both on land and the sub-sea cable should be components of the Project and form part of the assessment of Project effects. Kitsumkalum also reiterates that the impacts associated with upgrades to existing infrastructure / new infrastructure required by BC Hydro in order to meet the capacity needs of Ksi Lisims should, at minimum, be considered in the cumulative effects assessment for the Project. Timeline for the BC Hydro supply agreement should be submitted in the DPD.	Ksi Lisims understands Kitsumkalums position on the transmission line. However, as outlined in Section 2.4.2 of the DPD, Ksi Lisims view is that the interconnection transmission line should not be scoped in as part of the Project for the following reasons: ▪ Ksi Lisims LNG will have no "direct control or influence" over the third-party, WindRiver, in carrying out the development, construction and operation of the interconnection transmission line and the related activities in respect of increased reliability of service to Nisga'a Villages; ▪ the interconnection transmission line will not solely be for the benefit of the Project but will also service Nisga'a communities; ▪ the interconnection transmission line is below the applicable triggers for Electricity Projects in the Reviewable Projects Regulation and the Physical Activities Regulation; and ▪ the majority of the interconnection transmission line will be located on Nisga'a Lands within a corridor studied under previous environmental assessments; ▪ Ksi Lisims LNG is working with BC Hydro and the Provincial Government to get more clarity on timelines and expect to have an update later this year. This information will not be available in time for inclusion in the DPD.
KIT-002	Kitsumkalum First Nation	Kitsumkalum believes that all project associated 'components' should be assessed for effects under the EA/IA. This would include understanding effects from the construction/operation of a underwater NG feed line to the LNG facility for the operational requirements of the Ksi Lisims LNG Project. Regardless of the 3rd party type arrangements, these project components require an assessment of effects (for related understanding of impacts to rights and interests) in conjunction with the assessment of effects for the Ksi Lisims facility/terminal for a complete understanding and characterization of effects and especially for understanding of cumulative effects. We required some form of understanding/characterization of effects for all 'components' that are part of the Project (i.e. the infrastructure / development that is only on the land base because of the Ksi Lisims project).	Please refer to response to KIT-001	Kitsumkalum continues to state that the NG feed pipeline, specifically the sub-sea portion of the pipeline (change in the pipeline route to meet Ksi Lisims requirements) should be component of the Project and form part of the assessment of Project effects.	Ksi Lisims LNG understands Kitsumklaum's position on the third party pipeline. However, it continues to be Ksi Lisims LNG's view that the pipeline should not be a Project component because both pipelines being considered are not under the care and control of the Proponent and have already been assessed under the provincial EA process and have existing EAs that require amendments.

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KIT-003	Kitsumkalum First Nation	Further understanding / rationale for the on shore cooling infrastructure (as opposed to cooling infrastructure on the FLNG?)	Use of air coolers for the refrigeration services on board the FLNG is currently covered by a Canadian patent that is not available to the proponent at this time.	closed	N/A
KIT-004	Kitsumkalum First Nation	further understanding of desalination plant assumed on shore location for plant?	If surface water and groundwater are not viable options for meeting Project water demands the use of a desalinization plant would be considered. The Plant would be located on land adjacent to the workforce accommodations and near the seawater intake which would likely be located at the end of the MOF. Additional details on the desalinization plant will be provide in the EA-IA if it is determined that desalinization is required as part of the Project.	clarifying in the DPD the waste discharge (brine) associated with the desalinization plant, the permitting involved, and how the impacts will assessed.	Desalinization has been identified as one potential water option for the facility. Details regarding waste and potential permitting are provided in Sections 2.9 and 6.3.3 of the DPD. Should desalinization be identified as the chosen water source option, a full assessment of effects will be provided in the EA-IA.
KIT-005	Kitsumkalum First Nation	The power sub-station on mainland should form part of the effects assessment (as should the transmission line) see comments 1.	Please refer to response to KIT-001	Please refer to comment to KIT-001	N/A
KIT-006	Kitsumkalum First Nation	understanding of back up diesel power capacity required (and difference between this capacity and the power barges (and temporary boundary of use should the transmission line / gird connection be delayed. Definition of "black start generators" required.	A "black start" generator provides the power required to start the turbines on the power barges. Therefore, the black start generator is used only when the turbines are initially started or if they are restarted after scheduled maintenance or an equipment trip. The black start generator is not part of normal operations. The facility will also have "emergency" generators that provide power for essential services (related to safety systems and personnel) in the unlikely event that results in failure of the connection to the BC Hydro grid or, if required, a loss of electrical power from the temporary power barges. Note that neither the black start generator nor the emergency generator(s) have the capacity to operate the process facility. This equipment in only used for emergency or re-start purposes.	clarify in the DPD components, use and timing of diesel power vs power barge (which is assumed to be NG burning).	The use of diesel power generation is for short-term power generation, e.g., in emergency situations. The power barges, which rely on natural gas turbines, would be used if the BCHydro transmission upgrades cannot be completed before commissioning. Under these circumstances, the use of the power barges is intended to be temporary and limited in use until BCHydro upgrades are complete. Ksi Lisims LNG has confirmed that this is presented as such in Section 2 of the DPD.
KIT-007	Kitsumkalum First Nation	capacity of diesel fuel storage tanks required for effects assessment (and understanding of accidents and malfunctions, and QRA)	This information is under evaluation as part of FEED and will be included in the effects assessment	closed	N/A
KIT-008	Kitsumkalum First Nation	further understanding of amount of effluent to be treated (to what level of treatment) and amount discharged to the marine environment (waste water)	During construction, sanitary wastewater will be stored on Site and then transferred to barges to be taken to a permitted wastewater treatment facility on the BC mainland (location to be identified). For operations, a wastewater treatment facility is proposed for use at Site and effluent will be discharged under permit to Portland Canal. Details of the treatment facility and the amount of discharge are still being developed and will be included in the EA-IA.	Ensure information / response to be put in the DPD	The DPD has been updated as necessary
KIT-009	Kitsumkalum First Nation	confirmation of condensate transportation (and route) for the assessment is required (for characterization of effects	NGL product vessels will use the same shipping route as the LNG carriers. It is currently estimated that there will be between 8 and 12 NGL product vessels per year.	Ensure information / response to be put in the DPD	The DPD has been updated as necessary

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KIT-010	Kitsumkalum First Nation	construction material, supplies and equipment are proposed to be transported both/either via Terrace or Prince Rupert via rail or truck. Both transportation type and corridors should be assessed for effects and risks (accidents malfunctions, effects to community well being and health, effects to environmental VCs).	Materials and supplies transiting through Terrace would either be transported by truck along Hwy 113 to GIngolx and then shipped to Site or by truck along Hwy 16 to Prince Rupert and then shipped to Site. Both of these routes will be assessed in the relevant VC sections of the EA-IA.	confirm that accidents and malfunctions section will include hwy transportation corridor	The highway transportation route will be included in the assessment of potential accidents and malfunctions for the appropriate scenarios.
KIT-011	Kitsumkalum First Nation	the Marine Shipping section states that the "actual marine routes and/or procedures for LNGCs may change, informed by future engagements with BC Coast Pilots, analyses and engagements with Indigenous Groups…." Kitsumkalum will reiterate that we hope to see some form of assessment / characterization of effects for an alternative route to the north of Dundas into Portland Canal form part of the Application while on-going discussions occur.	The potential shipping route to the north of Dundas is not currently being considered because this is not the route typically followed by vessels travelling past the Site to Stewart, BC.	Kitsumkalum will reiterate that characterization and potential effects assessment is required for shipping route north of Dundas / Dixon entrance. It is our understanding that the pilotage is open to discussion from that perspective if that is one of the potential barriers. It is a shorter overall shipment route.	The existing, and Project proposed, shipping route travels south from the mouth of Portland Inlet to the Triple Island Pilot Boarding Station. However, Ksi Lisims LNG will discuss the option of a shipping route travelling north of Dundas with the Pacific Pilotage Authority, TC, and BC Coast Pilots.
KIT-012	Kitsumkalum First Nation	Clarification of some water management streams e.g. discussion of water treatment and effluent discharge to environment and then also sanitary wastewater being stored and shipped of sites (clarify wastewater types and management streams).	Details on water management are still being developed and will be included in the effects assessment. During construction, sanitary wastewater will be stored on Site and then shipped to a treatment facility on the mainland. During operations, sanitary wastewater will be treated on Site to meet permit requirements and then discharged to Pearse Canal.	Ensure information / response to be put in the DPD	The DPD has been updated as necessary. The best available Project details are provided in the DPD. Updated and/or additional detail will be provided in the Application, as available.
KIT-013	Kitsumkalum First Nation	clarification of mode of transport for shipping hazardous materials offsite (e.g. mercury, biological sludge from water treatment facility [and this vs. in connection with comment 11 re: wastewater management streams). Why condensate isn't listed under this section hazardous vs noxious or other wastes?	Details on the transport method of hazardous materials will be determined during FEED but will be via barge or ship. Natural gas liquids are considered a saleable product and will be transported by a third-party product carrier to overseas customers.	Ensure information / response to be put in the DPD	The DPD has been updated as necessary. The best available Project details are provided in the DPD. Updated and/or additional detail will be provided in the Application, as available.
KIT-014	Kitsumkalum First Nation	Application should include understanding of effects to air quality (air emissions) including an appropriate temporal scale for the alternative power sources (e.g. diesel generators and power barge) should BC Hydro line connection be postponed.	If through discussions with BC Hydro, it is determined that electrification will not be available at Project start-up, the effects assessment will evaluate the facility powered by both electricity and by power barges. Information on the estimated time that the power barges will be needed will be included within the assessment reporting.	Ensure information / response to be put in the DPD	The DPD has been updated as necessary. The best available Project details are provided in the DPD. Updated and/or additional detail will be provided in the Application, as available.

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
KIT-015	Kitsumkalum First Nation	Application should include understanding of GHG including an appropriate temporal scale for the alternative power sources (e.g. diesel generators and power barge) should BC Hydro line connection be postponed. Should also include shipping and rail/road transportation estimates in the overall GHG footprint (construction and operations). Net zero will not be achieved upon commissioning to operations it will likely take an extended amount of time. How will this be accounted for?	The Project will purchase ~397,000 tCO2e/year of offset credits, beginning at operations start up, to fully mitigate the emissions under the base case BC Hydro Power supply scenario. In the event the infrastructure upgrades from BC Hydro are delayed, temporary power will be provided from an alternative source (i.e., power barges). Please refer to table 2.9 for the GHG emissions differences between the Base Operations Case and the Alternative Operations Case. Once the BC Hydro infrastructure upgrades is complete, the power barges will be removed from the Site. The Project does not intend to purchase off-set credits over and above the 397,000 tCO2e/year in the event BC Hydro transmission system upgrades are delayed and power barges are required. Under this alternative power scenario, the use of power barges are intended to be temporary and limited in use until BC Hydro upgrades are completed.	The BC Hydro grid connection has been proposed to occur between 2029-2032. Base case for assessment should be conservative and at minimum assume no connection (and use of diesel and NG fired power) until, at minimum 2032 (and that this is 2 years past 2030 Provincial GHG targets). The Project should be committing to meet all Provincial and Federal targets regardless of timing of Hydro connection (and have contingency plans / commitments if Hydro connection if delayed even longer than 2032).	Thank you for your comment. The details of the EA-IA scope will continue to be defined as we continue to refine the dAIR, however, the intent will be to model worst case scenario. The Ksi Lisims LNG Project has been designed with an overarching goal of meeting Federal Net-Zero targets and aligning to goals of the Provincial CleanBC plan. Ksi Lisims LNG plans to work with the BC Government to align with the 2030 targets, in a manner consistent with similarly situated projects in BC and the Project is developing a comprehensive 2050 Net-Zero Plan.
KIT-016	Kitsumkalum First Nation	Not clear why only Lax Kwa'alaams territory is delineated in figure 4.1 with reserves including shared (Tsimshian Reserves) While the other maps do not indicate shared reserve sites. Is there some sort of prioritization occurring? Why is Lax Kwa 'alams listed before other nations?	Ksi Lisim LNG obtained information regarding Indigenous Nation reserve lands from the Government of Canada's Crown-Indigenous Relations and Northern Affairs Canada, Indigenous Peoples and Communities - First Nation profiles websites. No prioritization has occurred. Figure 4.1 includes all reserve lands listed for Lax Kw'alaams Band, as described on the Government of Canada Website: https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNReserves.aspx?BAND_NUMBER=674&lang=eng. Figure 4.3 shows the Kitsumkalum reserves as listed on the Government of Canada website: https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNReserves.aspx?BAND_NUMBER=681&lang=eng The order of presentation in the DPD was originally based on proximity to the Site. All Participating Indigenous Nations are treated and considered equally by Ksi Lisims LNG.	-	N/A
KIT-017	Kitsumkalum First Nation	The project will require extensive powerline to supply the requirements of this project. Although a 3rd party would supply this power, it would be specifically to supply the project and therefore at minimum should require potential impact to be assessed . The project must consider the powerline as part of cumulative effects.	The powerline will be considered in the cumulative effects assessment completed as part of the EA-IA.	see comment associated with KIT-001	See response to comment KIT-001

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
KIT-018	Kitsumkalum First Nation	How will materials removed from feedgas such as mercury and other constituents be disposed of or removed from site? Will this be addressed?	Impurities from the feed gas will be removed on the FLNGs and stored on Site until ready to be shipped. For impurities like spent mercury beds, these would be shipped back to the manufacturer for re-furbishing. Additional details for waste management will be provided in the EA-IA.	Ensure information / response to be put in the DPD	The DPD has been updated as necessary. The best available Project details are provided in the DPD. Updated and/or additional detail will be provided in the Application, as available.
KIT-019	Kitsumkalum First Nation	for Mitigations, Kitsumkalum would like to see a NW BC local hire and acquisition policy which tries to hire and acquire locally before extending out to larger areas for acquisition. This could build on concentric circles of acquisition which started with Nisga lands and moved out in stages.	Ksi Lisims LNG will prioritize hiring a local and diverse workforce where the necessary skill sets are available; this includes a focus on hiring women and Indigenous owned and sourced companies. To support this initiative, Ksi Lisims LNG is investigating opportunities to support workforce training in local and Indigenous communities to increase the local workforce pool. Ksi Lisims LNG will endeavor to facilitate meaningful and applicable training.	Ensure information / response to be put in the DPD	The DPD has been updated as necessary. Additional detail will be provided in the dAIR and Application, as available.
KIT-020	Kitsumkalum First Nation	Kitsumkalum continues to have concerns over how impacts to local communities will be addressed. We understand that that will not be addressed in the DPD but would like to continue to have a place holder for this discussion moving forward.	Ksi Lisims LNG is committed to ongoing meaningful discussions to better understand these and other concerns associated with the Project.	-	N/A
KIT-021	Kitsumkalum First Nation			Kitsumkalum has identified significant impacts to Kitsumkalum Rights and interests associated with Project potential effects including, but not limited to, Project location, associated shipping activities, associated subsea hydro cable, and associated subsea pipeline. Issues associated with these impacts will require resolving before Kitsumkalum can reach consensus on the DPD.	Thank you for your comment and identifying your concerns. Ksi Lisims LNG looks forward to continuing to work with Kitsumkalum as part of the EA-IA process to better understand potential project effects, and how these may affect Kitsumkalum Rights and Interests, and to identify potential mitigation measures to avoid or reduce them. We are confident that there are many opportunities in the EA-IA process to consider and resolve concerns that are important to Kitsumkalum in a respectful and collaborative manner.
LKB-001	LKB	Lax Kw'alaams is interested in understanding the proposed GHG reduction design elements, monitoring and measurement program, operating culture and purchase of carbon offsets proposed to achieve net-zero during operations. The reliance on connection to the BC Hydro grid has been identified as a critical component to achieve this. Until connection is made what differences in the facilities ghg emissions are anticipated through application of the temporary power option?	The Project is designed to be one of the lower carbon emitting LNG export facilities in the world. This will be achieved through the use of clean, renewable electrical power from the BC Hydro grid and the purchase of carbon offset credits. This will result in the Project achieving its target of net-zero emissions and being in alignment with the provincial CleanBC Plan. In the event the infrastructure upgrades from BC Hydro are delayed, temporary power will be provided from an alternative source (i.e., power barges). Please refer to table 2.9 for the GHG emissions differences between the Base Operations Case and the Alternative Operations Case. Once the BC Hydro infrastructure upgrades is complete, the power barges will be removed from the Site.	Closed	N/A

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LKB-002	LKB	The project and its proposed components do not align with the management direction for this area of Lax Kw'alaams traditional territory. The project falls within the Kts'iyaanil (SMA) Special Management Area of Lax Kw'alaams traditional territory. SMA's are area within LKB traditional territory with specific restrictions on development activities for the purpose of protecting future generations rights to traditional harvest, cultural resource, and spiritual practice. The management goal or emphasis in SMAs is on the protection and or restoration of fish habitat, inter-tidal (beach resources), and terrestrial harvest areas. Further management goals of this area include: protection and restoration of harvesting opportunities, identification, conservation and protection of further loss to biodiversity and cultural, spiritual values for terrestrial harvest security.	Ksi Lisims LNG is aware of the SMA and its goal of protecting fish habitat, inter-tidal beaches and terrestrial harvest areas. This goal is consistent with the Ksi Lisims LNG Project's intent to reduce or avoid impacts to sensitive habitat, biodiversity, culture and spiritual values where possible. Ksi Lisims LNG is committed to continued and ongoing dialogue with Lax Kw'alaams regarding the specific restrictions and goals of the Kts'iyaanil SMA to avoid and mitigate potential impacts.	Closed. Discussions to continue.	Acknowledged
LKB-003	LKB	Transport Canadas review of the Marine Liability Act to consider compensation for non-economic losses, such as cultural losses. Lax Kw'alaams continues to iterate that adequate compensation for any impacts stemming from an accident or malfunction at the Project Site or involving a ship from the Project be ensured, including compensation for cultural interference, disconnection or loss where applicable.	Thank you for identifying this concern. Ksi Lisims LNG looks forward to continuing to work with Lax Kw'alaams to address potential adverse impacts to cultural values.	Acknowledged.	N/A
LKB-004	LKB	Please elaborate where possible on the Hazard Planning Zones and Emergency Planning Zones development timelines and how these will inform operational safety and response plants at, and within defined distances around the project marine terminal. The community of Lax Kw'alaams is directly adjacent to the shipping route. An accident or malfunction along the carriers path could result in detrimental impacts to the community.	Hazard Planning Zones will be a focus of studies completed for the TERMPOL review process that will be completed for the Project. These studies will include consideration of the potential for accidents and malfunctions along the defined shipping route. Emergency planning zones around the facility will be addressed as part of the BC Oil and Gas Commission facility permit and will specific emergency management plans for the Project.	Update provided by TC on new NSA. Further discussion around scoping and study requirements should be carried forward.	Thank you for the comment. The DPD and the dAIR have been updated to include the new information shared by TC on the NSA. Ksi Lisims looks forward to future discussions as the details on these new requirements are better understood.
LKB-005	LKB	It was noted that marine emergency response capabilities in the Wil Milit area rely on the CCG with support from the Western Canada Marine Resource Corporation, and as warranted, and, available from the NLG. What discussions or engagement to date has been undergone between the parties listed? Please elaborate on the desktop spill response exercise mentioned in this section. NGL is working with CCG to purchase and deploy a more suitable vessel for emergency response, please provide some more details as to where this process sits, how it is advancing and will ensure adequate equipment is available for emergency response against A&M possible with the project?	Details on engagement, particularly in relation to accidents and malfunctions and CCG, can be found in Section 9.2.5 of the DPD. The NLG exercise with CCG was designed to train local Nisga'a members in emergency response. NLG is also working with CCG to obtain funding for a small vessel to support local emergency response efforts. Information on emergency response will be included in the EA Application. The OGC permitting process will also include information regarding emergency response.	Update provided by TC on new NSA. Further discussion around scoping and study requirements should be carried forward.	Thank you for the comment. The DPD and the dAIR have been updated to include the new information shared by TC on the NSA. Ksi Lisims looks forward to future discussions as the details on these new requirements are better understood.

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LKB-006	LKB	Table 9.1 provides a preliminary outline of the anticipated studies and documentation, as outlined in Part 3 of the TERMPOL Review Process. Lax Kw'alaams would like to understand the basis for the selected preliminary studies and what additional requirements are anticipated for each of the required study areas, such as how the proponent for Route Analysis will take into consideration prevailing atmospheric factors, equipment failure and emergency maneuvers?	The studies outlined in Table 9.1 of the DPD are designed to meet the requirements of Part 3 of the TERMPOL Review Process – 2019 Edition but are not intended as a final list of studies. As the study list evolves Ksi Lisims LNG will continue to engage with the Indigenous groups.	Update provided by TC on new NSA. Further discussion around scoping and study requirements should be carried forward.	Thank you for the comment. The DPD and the dAIR have been updated to include the new information shared by TC on the NSA. Ksi Lisims looks forward to future discussions as the details on these new requirements are better understood.
LKB-007	LKB	Part 3 of the TERMPOL Manual recommends that Indigenous engagement to deal with matters of interest to Indigenous group who have important local and traditional knowledge. How will the proponent go about engaging LKB in this analysis as marine shipping impacts associated with the project are of critical importance to LKB.	The studies outlined in Table 9.1 of the DPD are not intended as a final list of studies that will be completed. As the study list evolves Ksi Lisims LNG will continue to engage with the Indigenous groups.	Updated provided by TC on new NSA. Further discussion around scoping and study requirements should be carried forward.	Thank you for the comment. The DPD and the dAIR have been updated to include the new information shared by TC on the NSA. Ksi Lisims looks forward to future discussions as the details on these new requirements are better understood.
LKB-008	LKB	Table 9.2 provides technical advisor comments on accidents and malfunctions. The proponents response to lack of VHF communications and limitations in radar coverage at the site was stated to be addressed in the TERMPOL or TERMPOL-like analysis. Lax Kw'alaams in interested to understand how this will be addressed and where and when.	The Project intends to work with Transport Canada and CCG to enhance aids to navigation at Site and along the shipping route. This information will be shared with Indigenous Nations.	Updated provided by TC on new NSA. Further discussion around scoping and study requirements should be carried forward.	Thank you for the comment. The DPD and the dAIR have been updated to include the new information shared by TC on the NSA. Ksi Lisims looks forward to future discussions as the details on these new requirements are better understood.
LKB-009	LKB	Table 9.2 Proponents response to LKB issued raised. Can the proponent please elaborate where in the CCG mitigations identified that LKB concerns were addressed?	Table 9.2 in the DPD will be updated to more clearly respond to issues raised by the Lax Kw'alaams.	Acknowledged.	N/A
LKB-010	LKB	LKB wants to stress the importance of the narrow scope of potential impacts to Indigenous groups. The section characterizes impacts on Indigenous interests as occurring indirectly through environmental change. This does not align with current legislation, which requires the assessment of direct and indirect effects.	The effects assessment will include consideration of both direct and indirect effects on Lax Kw'alaams. Ksi Lisims LNG looks forward to continuing to work with Lax Kw'alaams to identify and address these types of concerns.	Acknowledged.	N/A

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LKB-011	LKB	The proponent has stated that the powerline is to be designed, developed and owned by a third party. Where is the information around this transmission line? Where is the selected route, what are the impacts that have been identified? LKB does not believe that third party ownership should be a valid reason to exclude this component from being scoped into the assessment. The transmission line and Ksi Lisims facility holds both dependence and linkage and therefore not having available information at the time of this DPD creates a situation where an understanding of all project component impacts can not be determined. The assessment of the interactions between the two projects and a cumulative effects assessment to examine residual env., social and economic, heritage and health effects arising together with past, existing and reasonably foreseeable project should be completed. The proponent has stated that the BC Hydro-substation connection is not fully known. LKB would like the proponent to provide indication of various possible sites that have been explored. The degree to which the BC Hydro will require system enhancements to meet the projects demand is also not yet understood. LKB would like the proponent to provide this information to fully understand the proposed interactions of the transmission line and the Ksi Lisims LNG facility.	Section 2.4.2 of the DPD will be revised to include information on anticipated capacity, length and route. The point of interconnection with the BC Hydro grid would be at a location at or adjacent to the BC Hydro New Aiyansh Substation. The interconnection transmission line will travel through the Nass Valley and onto Nisga'a Lands via a sub-sea transmission cable and ultimately terminate at the Project site at Wil Milit. The preliminary proposed route will follow, relatively closely, corridors on Nisga'a Lands previously studied in the environmental assessments of the Prince Rupert Gas Transmission (PRGT) pipeline and the Westcoast Connector Gas Transmission (WCGT) pipeline. As such, potential impacts of the transmission line would have been largely assessed as part of the PRGT and WCGT environmental assessments. The Project will include consideration of interactions between Project effects and potential effects from the transmission line in the Project's cumulative effects assessment. The transmission line third party provider is engaging with BC Hydro to determine the system enhancements and timeline to deliver the required power to the Project. Enhancements are anticipated to be limited to system transmission line upgrades at the New Aiyansh Substation and along other existing sub-stations and existing power line corridors. The transmission line is not anticipated to trigger the need for a provincial or federal effects assessment. The acquisition of necessary federal and provincial permits will be led by the third party owner.	The proponent has provided additional information on the transmission line and its components. LKB is still of the belief that the transmission line, specifically the directly related components of the line for the sole purpose of providing electricity to the LNG facility should be carried forward as a consideration in the effects assessment. The overall projects should be considered in the cumulative effects assessment, but the project specific inclusions solely for the Ksi Lisims LNG facility should be considered in the application.	Ksi Lisims understands Lax Kw'alaams position on the transmission line. However, as outlined in Section 2.4.2 of the DPD, Ksi Lisims view is that the interconnection transmission line should not be scoped in as part of the Project for the following reasons: ▪ Ksi Lisims LNG will have no "direct control or influence" over the third-party, WindRiver, in carrying out the development, construction and operation of the interconnection transmission line and the related activities in respect of increased reliability of service to Nisga'a Villages; ▪ the interconnection transmission line will not solely be for the benefit of the Project but will also service Nisga'a communities; ▪ the interconnection transmission line is below the applicable triggers for Electricity Projects in the Reviewable Projects Regulation and the Physical Activities Regulation; and ▪ the majority of the interconnection transmission line will be located on Nisga'a Lands within a corridor studied under previous environmental assessments;
LKB-012	LKB	The DPD indicated that potential water diversion structure and pipeline from DL 7235 or DL 5341 to a water treatment plant is no a component. Please elaborate on possible infrastructure requirements, possible waterflow requirements (draw requirements), and locations that are to be explored for this option is to be carried forward.	The option of using surface water as a water source is a new Project component since submission of the IPD. Based on the BC Water Tool there are streams on both DL 7235 and DL 5431 that may have sufficient flow to act as potential water sources for the Project. Initial water need estimates range from 15-25 cubic meters per hour.	The water flow requirements for the project need to outline difference between construction and operational and decommissioning phases. The project will require water to be barged to the facility for construction, how often will shipping be required, and what is the potable water requirement for construction. As well what is the requirement and source of water for any demands needed for non-potable activities during construction, such as concrete mixing? What about discharges of construction waste water, how will these be handled?	Current water needs estimates during operations is expected to be between approximately 15 and 25 cubic meters per hour. This estimate is considered conservative as it is based on desalinization which requires more water intake to acquire the volume of water needed to meet Project needs. Water requirements for the construction phase are still being determined and will be finalized during FEED. Barged water will be used during the early months of the construction phase; but to accommodate long term construction water needs, the Project will evaluate using one or more of the potential sources identified to support water needs during operations (i.e. surface water, groundwater / wells, or rainwater). Details on construction water needs will be included in the EA-IA.

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LKB-013	LKB	Project power generation on site will be provided by temporary power barges only if BC Hydro connection is delayed, update is based on engineering requirements. What anticipated power demands are expected from the facility? How much reliance or many power barges will be necessary if the BC Hydro option is delayed.	The Project is designed to use renewable power once the connection to the BC Hydro grid is established. Commissioning for the Project is currently estimated to occur in 2027. If the BC Hydro transmission system upgrades cannot be completed before commissioning, the Project will require the use of power barges (up to three) to meet power requirements for the Project. Use of the power barges will be limited to the time it takes for BC Hydro transmission system upgrades to be completed.	Acknowledged.	N/A
LKB-014	LKB	Will the marine routing option between the two possible pipeline options differ? Has any indication been made on which is the preferred option for the facility at this time? What criteria is being evaluated to guide a decision?	Routing for the marine pipeline is the responsibility of the pipeline developer and will require an assessment and amendment of the current approvals. Ksi Lisims LNG currently has no routing information for the marine pipeline nor criteria that may be used to guide the final route decision.	LKB as well feels that the pipeline portion that is to be amendment for connecting solely to the project should be included and carried forward as a consideration in the effects assessment. The overall projects should be considered in the cumulative effects assessment, but the project specific inclusions solely for the Ksi Lisims LNG facility should be considered in the application.	Ksi Lisims LNG understands Lax Kw'alaams' position on the third party pipeline. However, it continues to be Ksi Lisims LNG's view that the pipeline should not be a Project component because both pipelines being considered are not under the care and control of the Proponent and have already been assessed under the provincial EA process and have current EACs. The pipeline component linking the pipeline to the Project will be assessed as an amendment to the existing EAC. .
LKB-015	LKB	For better understanding can you please provide additional information on the refrigerants (what they consist of) and the approximate volume requirements that are to be shipped. What is the estimated maximum volume required at Maximum plant production?	Each FLNG would use a refrigerant mixture comprised of nitrogen (which is produced onboard the FLNG), methane (which is taken from the feed gas), and a mixture of other hydrocarbons. The volume of imported hydrocarbons to fill the system is approximately 130 tonnes per FLNG. The refrigerants would be utilized in a closed loop and are not continuously expended as part of the liquefaction process. Once the system is charged, only occasional makeup quantities are required.	Closed. Discussions to continue.	N/A
LKB-016	LKB	At maximum plant production what is the highest estimated volume of condensate to be shipped. How often would shipping be required at this level. Where are the shipping lanes for the removal process anticipated to occur?	The shipping route for NGL product vessels would be the same as that for the LNG carriers. Ksi Lisims currently assumes approximately 8 to 12 ships per year would be required to remove condensate from the Project Site.	Closed.	N/A
LKB-017	LKB	Where will the water for the closed loop system be sourced from? How much water requirement is necessary? How often does the water need to be 'changed' out, if so does it need to undergo treatment before being disposed of or released back into the environment?	Water options currently being considered include surface water and groundwater, with desalination as a third option. Closed loop cooling systems do not need to be 'changed out'. There will be the occasional need for additional water to be added to the system; however, the amount of water needed for this is nominal relative to the overall estimate of water needs. Project water needs are estimated to be between 15 and 25 cubic meters per hour during operation.	Acknowledged.	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
LKB-018	LKB	The project is exploring system cooling options for the temporary power barge. Please outline some of these options . The open-loop system will discharge warmed water back into the environment, concerns around chemical introductions and temperature changes in the water column is a concern of LKB.	The Project is looking at open loop and closed loop cooling options for the power barges. Water options currently being considered include surface water and groundwater, with desalination as a third option. Details on the power barge options are included in Table 2.14. Ksi Lisims is aware of the potential impacts associated with the open loop system and should this system be required, appropriate studies and mitigation will be identified for completion and implementation.	Acknowledged.	N/A
LKB-019	LKB	Management and supply of refrigerants (where they come from, frequency) is an important factor in determining shipping impacts and accidents and malfunctions scenarios. Can estimates of maximum refrigerant storage onsite be provided at any given time?	Each FLNG uses a refrigerant mixture comprised of nitrogen (which is produced onboard the FLNG), methane (which is taken from the feed gas), and a mixture of other hydrocarbons. The volume of imported hydrocarbons to fill the system is approximately 130 tonnes per FLNG. Note that refrigerants are utilized in a closed loop and are not continuously expended as part of the liquefaction process. Once the system is charged, only occasional makeup quantities are required. The amount of refrigerant to be stored on site and where the refrigerant will come from is currently being evaluated. Additional information will be shared in the EA-IA.	Discussion to continue around the amount of refrigerant storage on site and where it is to be sourced from and disposed of.	Request noted
LKB-020	LKB	The projects actual marine routes and/or procedures for LNGCs may change. LKB requests to be engaged in these discussions around the analyses.	Ksi Lisims LNG will continue to engage with the Lax Kw'alaams on the Project including potential changes to the marine shipping route and procedures for LNGCs.	Acknowledged.	N/A
LKB-021	LKB	LKB requests to be engaged in the decommissioning and abandonment plan development.	The Project will engage with Lax Kw'alaams on aspects of Project decommissioning and abandonment that are not on Category A Land.	Closed.	N/A
LKB-022	LKB	Has the proponent identified any proposed anchorage areas in or around the site local area?	No anchorage sites have been currently identified and none are anticipated. Under normal operations, LNG carriers will not use anchorages. If a vessel needs to delay arrival to the Project Site it will either wait offshore or reduce its travel speed.	Acknowledged.	N/A
LKB-023	LKB	The site is going to utilize a proposed floatel housing facility. Has any investigation into impact of employee movement been undergone (i.e. how will the workers be housed or movement of workers take place, will they be housed in Prince Rupert temporarily then relocated to site, this will place additional impacts on housing and infrastructure in local communities).	Details on workforce mobilization are still being developed. It is anticipated that crews will primarily use the Terrace airport and upon arrival will be mobilized by bus to Gingolx where they will be transported by vessel to the Project Site. The intent is to limit impacts to local communities.	Acknowledged. Further discussions around these aspects to come in the dAIR, all options being considered should be carried forward into the assessment for impacts on social/cultural aspects and infrastructure demands.	Comment acknowledged. Additional detail will be provided in the dAIR and EA-IA, as available.
LKB-024	LKB	LKB believes and requests that the entire shipping route within the traditional territory be evaluated and not end at Triple Island.	Ksi Lisims LNG understands that the EAO and the IAAC will be providing further direction regarding the extent of the marine shipping LAA to be used in the environmental assessment of the Project.	Acknowledged. This is to be provided by TC and IAA. This item should be carried forward.	Request noted

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LKB-025	LKB	LKB has previously requested that a comprehensive assessment needs to be completed for LKB rights and interests as well within the projects zone of interaction/influence with the traditional territory.	The EA submission will include an assessment of the effects of the Project on Lax Kw'alaams Band interests and the nature and extent of the exercise of their rights recognized and affirmed by section 35 of the *Constitution Act, 1982.* Ksi Lisims LNG looks forward to continuing to work with Lax Kw'alaams to identify rights and interests and address these types of concerns.	Acknowledged.	N/A
MOTI-001	MOTI	Working with Indigenous communities and the BC Ministry of Transportation and Infrastructure, assess potential Project effects on Highway 113, address potential accidents and malfunctions on that transportation route including identifying opportunities to improve Highway 113	Ksi Lisims confirms that potential social and economic effects along Highway 113 will be assessed as part of the EA-IA. In addition, as outlined in Section 9.4.7 of the DPD, motor vehicle collisions (and associated effects) have been identified as a Project accident and malfunction scenario.		N/A
MSS-001	Metlakatla First Nation	"Potable water may be shipped for temporary use at the Site during construction or acquired from an on-site source (e.g., suitable stream, well water, etc.). Both options are being evaluated for construction water (e.g., cement plant).During operations, the Project is considering a number of potential sources of water for LNG processes and potable water use. Sources of water at the Site could come from groundwater wells, precipitation capture and freshwater streams, or a combination thereof or, if none of the alternatives prove suitable, then from a desalination plant." The proponent should be able to identify their source of water for both construction and operations in the project description, prior to the readiness decision. Please also describe in the DPD the approximate amounts of daily freshwater water required for both the construction and operation phases of the project.	Potential water sources have been identified; however, evaluation is underway to determine that all potential supplies are feasible and will provide sufficient supply of water and of sufficient quality. Additional evaluation will continue during Front-End Engineering and Design. If necessary, more than one option will be carried through the EA-IA. The amount of water needed for Project operation is currently estimated to be between 15 and 25 cubic meters per hour. The amount of water needed for construction is still being assessed but is anticipated to be less than during operations.	MSS notes that similar issues existed for the Aurora LNG project during the assessment. MSS maintains that prior to entering the EA-IA process, a better understanding of predicted water usage is necessary for both construction and operations. The proponent should be able to provide a more certain option for how they intend to obtain suitable amounts of freshwater for the project in advance of the readiness decision.	Current water needs estimates during operations is expected to be between approximately 15 and 25 cubic meters per hour. This estimate is considered conservative as it is based on desalinization which requires more water intake to acquire the volume of water needed to meet Project needs. Water requirements for the construction phase are still being determine and will be finalized during FEED. Barged water will be used during the early months of the construction phase; but to accommodate long term construction water needs, the Project will evaluate using one or more of the potential sources identified to support water needs during operations (i.e. surface water, groundwater / wells, or rainwater). Updated and/or additional detail will be provided in the EA-IA, as available.

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MSS-002	Metlakatla First Nation	Concerns exist with project splitting in relation to power provision. This project would not be able to advance without the BC Hydro power connection, yet little to no details are available with respect to providing the project with the necessary power. Please provide the following information: ▪ Which BC hydro substation will the interconnection be constructed to? ▪ What is the route the power line will take from the substation to the project? ▪ Does any infrastructure leading to New Aiyansh need upgrading? ▪ Who is the third party service provider? ▪ What provincial/federal authorizations are required for the providing power to the project? (MSS previously asked these question but was referred to Section 2.3.16, which does not exist in the DPD) MSS recommends that the application fully detail environmental impacts of the power connection.	The point of interconnection with the BC Hydro grid would be at a location at or adjacent to the BC Hydro New Aiyansh Substation. The interconnection transmission line will travel from that point of interconnection through the Nass Valley onto Nisga'a Lands via a sub-sea transmission cable and ultimately terminate at the Project site at Wil Milit. The preliminary proposed route will follow, relatively closely, corridors on Nisga'a Lands previously studied in the environmental assessments of the Prince Rupert Gas Transmission (PRGT) pipeline and the Westcoast Connector Gas Transmission (WCGT) pipeline. As such, potential impacts of the transmission line would have been largely assessed as part of the PRGT and WCGT environmental assessments. The Project will include consideration of interactions between Project effects and potential effects from the transmission line in the Project's cumulative effects assessment. The transmission line third party provider is engaging with BC Hydro to determine the system enhancements and timeline to deliver the required power to the Project. Enhancements are anticipated to be limited to system transmission line upgrades at the New Aiyansh Substation and along other existing sub-stations and existing power line corridors. The transmission line is not anticipated to trigger the need for a provincial or federal effects assessment. The acquisition of necessary federal and provincial permits will be led by the third party owner.	MSS maintains that at minimum the interconnection between the substation and the project should take place given that without the Ksi Lisims project the interconnection would not be feasible. MSS also recommends that the upgrades to the BC Hydro line to New Aiyansh be considered in the cumulative effects assessment.	Ksi Lisims understands Metlakatla's position on the transmission line. However, as outlined in Section 2.4.2 of the DPD, Ksi Lisims view is that the interconnection transmission line should not be scoped in as part of the Project for the following reasons: ▪ Ksi Lisims LNG will have no "direct control or influence" over the third-party, WindRiver, in carrying out the development, construction and operation of the interconnection transmission line and the related activities in respect of increased reliability of service to Nisga'a Villages ▪ the interconnection transmission line will not solely be for the benefit of the Project but will also service Nisga'a communities ▪ the interconnection transmission line is below the applicable triggers for Electricity Projects in the Reviewable Projects Regulation and the Physical Activities Regulation ▪ the majority of the interconnection transmission line will be located on Nisga'a Lands within a corridor studied under previous environmental assessments The interconnection transmission line has been included on the Project Inclusion List for the cumulative effects assessment to be completed for the Project. Activities associated with the BC Hydro upgrades are not anticipated to interact with residual effects associated with Project related activities and therefore these upgrades have not been included on the Project Inclusion List. Furthermore, these upgrades will be assessed by BCHydro.
MSS-003	Metlakatla First Nation	MSS would like to reiterate to regulators and the proponent the need for shipping routes through Metlakatla territory to be fully assessed (both LNG ships and condensate ships). MSS has highlighted issues with the assessment of the shipping route ending at Triple Island.	The EAO and Agency will be defining Project scope as part of the Processing Planning phase.	Closed. Thank you. MSS understands that the shipping route will be expanded.	N/A
MSS-004	Metlakatla First Nation	Please provide a map of the potential route(s) for the shipping of condensate.	Ksi Lisims LNG anticipates that shipping routes for LNG carriers and NGL product vessels will be the same. Please see Figure 2.1.	Closed. Thank you. MSS understands that the shipping route will be the same route that the LNG carriers take.	N/A

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MSS-005	Metlakatla First Nation	Please provide information in the DPD on anchoring options. Portland Canal can experience extreme winds. Where do ships anticipate anchoring should extreme weather be observed as ships are coming or going? Will ships look to the Port of Prince Rupert Anchorages? There should be a section of the DPD that speaks to potential anchorages for empty and full LNG ships and empty and full condensate ships.	Anchorage points will not be required. LNG and NGL ships will time arrival to ensure prompt loading and minimizing time at the facility.	MSS understands that a review of safe anchoring options will take place during the Navigation Safety Assessment (Transport Canada's evolved TERMPOL process).	Ksi Lisims LNG confirms this.
MSS-006	Metlakatla First Nation	Please provide additional information relating to how the employees would move from one site (Prince Rupert or Gingolx) to the project site. Will there need to be any housing or accommodations in Prince Rupert or will boats pick employees up directly from the airport on Digby Island to bring them to the camp site on Pearse Island? To understand socio economic impacts, it is key to understand how the transient workforce may interact with the Prince Rupert community.	Ksi Lisims agrees that it will be important to understand how the transient workforce may interact with the communities within the regional assessment area, including Prince Rupert. Assumptions regarding workforce transport to the Site will be developed during the Project social and economic effects assessment.	MSS understands that a review of safe anchoring options will take place during the Navigation Safety Assessment (Transport Canada's evolved TERMPOL process).	Ksi Lisims LNG confirms this.
MSS-007	Metlakatla First Nation	Please provide information in the DPD with respect to the criteria that Ksi Lisims will be use for selecting a pipeline.	The pipeline selection process is not part of the Project being assessed.	MSS maintains that at minimum the amendment portion of the pipeline (portion from the permitted pipeline to Wil Milit) should be part of the assessment and cumulative effects assessment given that without the project, it would not proceed. MSS notes that the OGC does not have a good/any process for assessing cumulative effects.	Ksi Lisims LNG understands Metlakatla's position on the third party pipeline. However, it continues to be Ksi Lisims LNGs view that the pipeline should not be a Project component because both pipelines being considered are not under the care and control of the Proponent and have already been assessed under the provincial EA process and have current EACs. The pipeline component linking the pipeline to the Project will be assessed as an amendment to the existing EAC. The amendment process will be led by the BC EAO.
NH-001	NH	NH appreciates information on the contributors to the IDP. We note that this currently does not include professionals with specific expertise/credentials in epidemiology, public health, health impact assessment and human health risk assessment. We strongly urge Ksi Lisims to retain professionals with specific experience and credentials in human health risk assessments and health impact assessments, including those with a background in epidemiology and public health.	Comment noted. Ksi Lisims will retain professionals with expertise that is specific to the type of assessments and studies being conducted.	Thank you. Comment resolved	N/A

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NH-002	NH	Northern Health asks for more information regarding medical services provided on site. For example, First aid, assay lab, warehouse and administration should include early consideration for an on-site clinic to provide the equivalent of primary care for the temporary workforce. It will be important to include this service early on in the project's design to consider aspects such as space, privacy, location, etc.. Please note that Ksi Lisims must demonstrate that the medical heath services are scalable for the different sizes of their construction camp, as well as re-sizing to suit site needs of workers during the operations period.	Details on the workforce accommodation and health facilities are under development. Initial site plans include a medical clinic during both Project construction and operations. Details on the size of the facility (e.g., number of beds), staffing and equipment are still being determined.	thank you comment resolved.	N/A
NH-003	NH	NH requires more information on expected camp infrastructure, i.e. the floatel. How many workers will it accommodate? What kinds of common areas will it have? How close will it be to emissions sources? Additionally, worker accommodation information including location, size, layout, type, recreational facilities, food service facilities, common areas, health care provisions, will need to be specified and included in the assessment of health impacts. All potential locations of the worker accommodations will need to be included as receptor locations for the HHRA.	Details on the flotel and the land based workforce accommodation are still being developed but will be part of the EA-IA. The EA will include a HHRA that will include workforce accommodation as a receptor location. The camp will be designed to meet applicable legislation.	thank you comment resolved.	N/A
NH-004	NH	NH would like to learn more about camp policies like shift length and times, whether or not the camp will be dry, food service, camp expectations, and safety and security. This will be vital information to help assess impacts and mitigations for health, health services and community wellbeing.	Details on the camp and camp policies are still being developed but will be part of the EA-IA. The camp will be designed to meet applicable policies, regulations and legislation.	Thank you. Comment resolved	N/A
NH-005	NH	The Project's construction workforce will be hired by the Project's construction contractor(s) and will be housed at the Site and not in any nearby communities. The number of on-site construction workers will vary.....All construction activities will be conducted by third parties under contract to the project who will maintain care and control of all construction activities. Please note that Ksi Lisims is still ultimately responsible for the health, conduct, and safety of workers onsite as well as their relationships and interactions with offsite communities and stakeholders. Past experience has shown us that early and proactive workforce planning with detailed mitigations allow for more positive long-term outcomes for both communities and operators.	Thank you for this information. Ksi Lisims LNG acknowledges the importance of a safe environment for their workers and of actively managing potential interactions with outside communities. This concern will continue to be taken into account during development of the Project.	Thank you comment resolved.	N/A

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NH-006	NH	NH notes that there will an estimated 150 to 250 workers staying in permanent residence near the site. Please ensure that when referencing onsite accommodations, please provide information on the current status and future plans for all temporary and permanent worker lodgings.	Comment noted. Design of temporary and permanent workforce accommodation are under development and will be included in the EA-IA.	Comment resolved.	N/A
NH-007	NH	Ksi Lisims may use Gingolx as a hub for transporting materials, supplies, equipment and workers to the site. As Ksi Lisims notes, this is a community that was fairly remote until 2002. NH asks Ksi Lisims to explain how they intend to monitor and preserve community cohesion as well as the unique character of culture and community life in Gingolx, while introducing extensive traffic related to the moment of goods and people? Northern Health has seen that accident rates and quality of life issues can arise in industry and transportation hubs.	Ksi Lisims is aware of the importance of managing potential effects on Gingolx. We are working closely with the Nisga'a Nation to identify potential effects on their community and will work with them to identify mitigation measures to avoid or reduce these potential effects. Mitigation measures will be detailed in the EA-IA.	Thank you, comment resolved.	N/A
NH-008	NH	For the purpose of informing baseline and effects assessment, has Ksi-Lisims done, or will Ksi Lisims do, any community consultation to determine community-specific indicators? Community values? (i.e. ways of determining the community values, and specific reference points). For reference, NH recommends the guidance document "A guideline for Conducting Health Impact Assessment for First Nations in British Columbia, Canada," 2018 https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjeu_fin4r2AhVxNX0KHcQnDBAQFnoECAMQAQ&url=http%3A%2F%2Fwww.hianetworkasiapac.com%2Fwp-content%2Fuploads%2FHIA-framework-for-BC-First-Nations.pdf&usg=AOvVaw2XAp-ZL22ygi0l3IdUhPPD	Thank you for sharing this reference. Ksi Lisims will be conducting community based surveys with members of the Nisga'a Nation to inform baseline conditions.	Comment resolved, though please note that in order to adequately capture baseline conditions Ksi Lisims must also conduct key interviews with service providers for the effected communities. NH also highly recommends the inclusion of community focus groups as a means of establishing baseline data--more relevant indicators are likely to be established with the open discussion of focus groups. please note that in order to adequately capture baseline conditions Ksi Lisims must also conduct key interviews with service providers for the effected communities. NH also highly recommends the inclusion of community focus groups as a means of establishing baseline data--more relevant indicators are likely to be established with the open discussion of focus groups.	Comment noted.
NH-009	NH	Information on socio-community conditions that will be collected will include, but not limited to:…Relevant information on vulnerable sub populations Can Ksi Lisims provide more details (or examples) on what types of relevant information they will be providing?	Additional detail is currently being developed. As described in the dAIR, GBA plus analysis will be incorporated in the EA-IA, which will include information on sub-populations based on available data.	Comment partially resolved. Please note that in the dAIR that under the Infrastructure and Services VC section regarding Existing Conditions (p. 181-182), we also found a lack of detail describing the range of health and social services. NH has found from past experiences that the more detail that can be provided earlier, the better predictor of having strong analysis in the assessment phase.	Comment noted. Ksi Lisims LNG maintains that additional detail is under development and will be provided in the EA-IA
NH-010	NH	Local Traditional Knowledge must be used to identify the land use and consumption habits of local communities. (this is an example of community-specific indicators). Without this, estimates regarding some environmental health exposures will not be accurate.	Comment noted. Ksi Lisims is working with Indigenous Nations to collect information on local traditional knowledge to help understand use and consumption habitats in the vicinity of the Project.	Comment resolved	N/A

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NH-011	NH	Construction emissions are expected to be less than Project operation lifetime emissions. Even for a DPD, this description is extremely vague. It is not helpful to compare the emissions from 3 years construction with 30 year of operation. Can Ksi Lisims provide a more illustrative estimate of project emissions?	At this stage of the Project, construction equipment details are unknown, therefore a detailed quantification of emissions cannot be made. Preliminary details on sources of emissions during construction and operations can be found in sections 2.9.1.4 and 2.9.2.4 respectively. Information related to emissions associated with greenhouse gases can be found in section 2.10 Greenhouse Gas Emissions, notably Table 2.7 Preliminary Estimate of Annual Direct Energy GHG Emissions per Phase. Additional details on emissions will be included in the EA-IA.	Comment resolved	N/A
NH-012	NH	Please note that contrary to Ksi Lisims descriptions, 600 workers is not a "modest workforce" for a rural area whose nearest communities have populations of several hundred people. This is a significant workforce that will require extensive planning to manage and mitigate potential effects.	Comment noted. The estimate of peak number of 600 workers on Site is an early estimate that will be refined as Project details are advanced. The effects assessment will address logistics to transport and house workers, as well as other mitigation measures to limit potential impacts.	Comment resolved	N/A
NH-013	NH	The Project will work with the NLG to assess the need for a Human Health Risk Assessment if there are effect pathways of concern. To reiterate what was submitted in the IPD: For all projects requiring an EA, we expect that an HHRA approach is used to assess health impacts associated with biophysical exposures, in accordance with Health Canada and BC Ministry of Health guidance documents (links below) and including the following key steps: problem formulation, toxicity (or hazard) assessment, exposure assessment and risk characterization (health-based indicators, guidelines and methodologies must be used). The HHRA technical report should be a stand-alone section of the Application. This should include a Screening Level Human Health Risk Assessment before any pathways and parameters are eliminated from the multi-media assessment. The country foods pathway should not be considered separately from other human health pathways. The HHRA should be conducted in accordance with the BC Guidance for Prospective Human Health Risk Assessment, 2021: https://www2.gov.bc.ca/assets/gov/health/keeping-bc-healthy-safe/healthy-communities/bc-hhra-guidance.pdf	A Human Health Risk Assessment is being completed as part of the environmental assessment. This will be clearly reflected in the DPD.	Comment resolved	N/A

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NH-014	NH	Regarding the Valued Component of "Infrastructure and services in Nisga'a communities": 1. If there are any medical infrastructure w/in the nearby Nisg'a villages, this should be shown as a separate indicator or VC 2. Ksi Lisims should indicate effects to medical infrastructure of nearest city where hospital will be used (Prince Rupert or Terrace)	Potential effects on medical infrastructure within the appropriate assessment area will be assessed as part of the Infrastructure and Services VC. This area is defined in the dAIR and include Terrace and Prince Rupert. Potential effects to Nisga'a infrastructure will be assessed in the Nisga'a Nation Assessment and in the Infrastructure and Services VC.	Comment resolved	N/A
NH-015	NH	Regarding the Valued Component of "Human health and well-being", please note that traditional use (hunting, fishing, medicinal plant gathering) and consumption should be included under this VC as it is information directly associated with the HHRA.	Comment noted. Ksi Lisims is working with Indigenous Nations to collect information on local traditional knowledge to help understand use and consumption habitats in the vicinity of the Project.	comment resolved.	N/A
NH-016	NH	Please ensure that the expected increases in traffic is captured in the social impact assessment of the project.	Comment noted. Daily road volume and traffic incidents is being suggested as an indicator for the Infrastructure and Services VC in the dAIR.	comment resolved.	N/A
NH-017	NH	To follow up on our initial comment cited, please make sure that all findings derived from data/information inputs from other chapters are summarized in the HHRA itself. Northern Health does not have the capacity to review the entire Water Quality, Air Quality and other non-human health sections to understand the content of the HHRA. Any references to other application chapters should be thorough enough for Northern Health to easily find specific sections--i.e. "See section 2.1.4.5" not "see chapter 2". Such details will support an expedient review timeline.	Comment noted. This detail will be provided in the Human Health Chapter of the EA-IA.	comment resolved.	N/A
NRC-001	NRCan	There is no, explicit mention of modelling storm surges (and wave effects) for sea-level rise scenarios. Because this is an LNG and Marine Terminal Facility, it is important to assess effects of the environment on the project.	Effects of the environment on the Project will be assessed in the effects assessment. Please refer to the dAIR for information on what will be included in this part of the assessment.	No further comment	N/A
NRC-002	NRCan	With respect to the proponent's statement, "Identifying foundation elevations to protect the Project's infrastructure from predicted climate change and tsunami-related sea level rise." Please clarify whether the statement is referring to tsunami-related flooding. It would be useful to keep separate long-term, climate related changes to mean sea-level from transient effects such as tsunami. Perhaps the statement can be reworded to indicate "predicted climate change, including sea-level rise and its effects on extreme water levels, and tsunami-related flooding."	Thank you for your comment. This sentence is intended to reflect that both short and long-term effects of sea level elevation will be considered in Project infrastructure design.	No further comment	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
NRC-003	NRCan	In these sections, the DPD states, "The Project is located on an isolated island (more than 15 km from the closest community) with a high average annual precipitation (e.g., 2474 mm mean annual precipitation at the Green Island ECCC climate normal data collection site [Section 3.1.1]). The strategic climate risk assessment and framework identify four of the potential BC climate related risks relevant to the Project: ▪ Increases in extreme precipitation. ▪ Coastal storms and storm surge. ▪ Change in wind patterns and speed ▪ Sea level rise. Each of these potential risks will be assessed in the EA-IA through assessments of likelihood and consequence of the changes or effects to relevant VCs" The significance of sea-level rise, however, is not just gradual inundation, but its effects on frequency and magnitude of extreme water-level events. This should be investigated by the proponents through explicit modelling.	Ksi Lisims LNG will undertake sea-level rise modelling; results of this modelling will help to understand potential effects of rising sea levels on the Project.	No further comment	N/A
NRC-004	NRCan	The Proponent notes that they will be undertaking modelling to predict sea level rise and potential effects from an earthquake induced tsunami and this will inform Project engineering and the EA-IA. Projections of sea-level change are already available at the Canadian Centre for Climate Services at http://climatedata.ca/variable/ for various climate scenarios. However, modelling of the effects of projected sea-level rise on extreme water-level events is needed. At present, sea-level projections are available to 2100, based on the Fifth Assessment Report (AR5) of the IPCC. Efforts are underway to make available projections from the Sixth Assessment Report (AR6), which are provided to 2150.	Thank you for this reference.	No further comment	N/A
NRC-005	NRCan	The Proponents indicate (Appendix 9, digital p. 492, as well as other locations in the DPD) that: “Seismic hazard will be considered in the effects of the environment on the Project. The Project is required to conduct this analysis and effects assessment in order to secure a construction and operating permit for the BC OGC LNG Facility permit. Seismic hazard assessment and effects on the Project is a FEED component that will also inform the EA-IA.” This is sufficient at this stage of the review process.	Thank you for your comment.	No further comment	N/A

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NRC-006	NRCan	1. Discharge: wastewater treatment plant, treated effluent pipe, outfall and diffuser into Portland Canal (throughout document). Water sources for LNG cooling are under investigation with desalination as an option (pdf p. 30) ▪ If effluent/outfall has levels of toxicity above regulated thresholds, a detailed oceanographic model including seabed shear would be required to determine transport pathways in the marine environment. Pearse Channel is a confluence between waterways with long fetch and has high current activity. The area of disposal may be a dispersive sediment environment 2. Dredging is not a Project component (pdf p. 315, 492) ▪ Please clarify whether no dredge disposal at sea will occur or that it will be undertaken by third party? Any dredge disposal at sea will require Physical oceanographic modelling to determine suitable zones of net deposition. Several vulnerable glass sponge reefs have been identified in the area – detailed seabed mapping would be required in areas surrounding disposal zones. If disposal sites are near glass sponge reef detailed oceanographic modelling and sediment transport models are required to ensure dredge disposal does not affect sedimentation at glass sponge reefs. 3. New baseline sediment sampling may be undertaken in 2022 informed by engineering geophysical assessment for inter-tidal and sub-tidal marine footprint areas in the Water Lot. Sediment movement may need to be modelled supported by Water Lot ADCP information (pdf p. 492). ▪ Sediment modelling is required to determine change in depositional environment along tidal zone due to installation of infrastructure and increased wake.	1. Comment noted. Ksi Lisims LNG will assess all relevant potential effects related to liquid discharges, as further defined during FEED, in the Marine Resources and Freshwater Fish and Fish Habitat VC sections of the EA-IA. 2. Neither dredging nor dredge disposal at sea are being proposed by the Project or a third party for the Project. 3. Ksi Lisims LNG is committed to completing a sediment transportation model to determine change in sediment deposition due to installation of Project components.	No further comment	N/A

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NRC-007	NRCan	4. The powerline and pipeline are under the care and control of two distinct third parties. They are not components of this Project, however, will be included in the cumulative effects Project Inclusion list (pdf p. 493) ▪ Pipelines and transmission cables will extend to Pearse Island via undersea corridors. The document states that these will be managed by third party companies. It is unclear if these third parties are subject to federal environmental assessment standards. ▪ Seafloor processes create hazard for seafloor infrastructure including gas lines and transmission cables. Any seabed infrastructure will need to be planned considering the risk of submarine landslides and long runout of turbidity currents extending from the Nass River Delta. 5. Climate change ▪ Increased precipitation may lead to increased sediment transport via surface plume from the Nass River, potentially increasing sedimentation at the tidal zone in the project areas and at area of cooling water intake. Climate change could also lead to more frequent and intense flooding of the Nass River directly impacting the proposed pipeline in the river valley. Furthermore, increased flooding activity may contribute to increased frequency and magnitude of seabed hazards extending from the Nass River in the form of destructive turbidity currents increasing risk to seabed infrastructure crossing Portland Inlet. ▪ Changed wind patterns, storm conditions could lead to changes in oceanic circulation and changes in seabed shear conditions	4. Both third party pipelines have existing EA Certificates that would be amended to connect to the Project. The pipeline does not cross a provincial or national border so does not trigger the need for an EA under the IAAC. It is anticipated that the transmission line would not trigger the federal process for the same reason. 5. Thank you for your comment. The effects assessment will include an assessment of potential effects of climate change on the Project.	No further comment	N/A
NRC-008	NRCan	5.3.4.1 Potential Employment and Economy Effects and Mitigation was reviewed from the perspective of Economics and it is NRCan's view that it is adequate for the purposes of the DPD.	Thank you for your comment.	No further comment	N/A
OGC-001	OGC	If the water lot is administered under the Land Act, the OGC has a specified enactment under OGAA to issue approvals for oil and gas activities that require a Land Act approval. The Commission would expect that this would be included as part of their facility application.	Comment noted. Section 2.2 of the DPD will be revised to reflect this information.	N/A	N/A
OGC-002	OGC	If approvals are issued by the Commission for oil and gas activities under OGAA the Commission will be responsible for regulating the decommissioning and restoration carried out by the proponent.	Thank you for your comment. Section 2.8 of the DPD will be revised to reflect this information.	N/A	N/A

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OGC-003	OGC	If the water lot is administered under the Land Act, the OGC has a specified enactment under OGAA to issue approvals for oil and gas activities that require a Land Act approval. The Commission would expect that this would be included as part of their facility application.	Comment noted. Section 2.11 of the DPD will be revised to reflect this information.	N/A	N/A
OGC-004	OGC	A more recent version of the British Columbia Noise Control Best Practices Guideline is available (July 12, 2021) Please refer to the most current version.	Reference has been updated. Thank you.	N/A	N/A
OGC-005	OGC	If the water lot is administered under the Land Act, the OGC has a specified enactment under OGAA to issue approvals for oil and gas activities that require a Land Act approval. The Commission would expect that this would be included as part of their facility application.	Comment noted. Section 5.3.5.1 of the DPD will be revised to reflect this information.	N/A	N/A
OGC-006	OGC	If the water lot is administered under the Land Act, the OGC has a specified enactment under OGAA to issue approvals for oil and gas activities that require a Land Act approval. The Commission would expect that this would be included as part of their facility application. For approvals under the WSA - if those applications are included as part of their facility application. For approvals under the WSA - if those applications are included with the facility permit application. The Commission has the ability to permit those activities under OGAA as well.	Thank you for your comment. Table 6.1 will be revised to reflect this information.	N/A	N/A
OGC-007	OGC	If the water lot is administered under the Land Act, the OGC has a specified enactment under OGAA to issue approvals for oil and gas activities that require a Land Act approval. The Commission would expect that this would be included as part of their facility application.	Comment noted. Section 9.1 of the DPD will be revised to reflect this information.	N/A	N/A
OGC-008	OGC	The proponent seems to indicate that the OGC Emergency Planning Regulation allows for the creation of an “exclusion zone”, that is not the case. The OGC has no legal authority to implement an exclusion zone in the water lot.	Noted. The emergency planning zone is part of Ksi Lisims planning for emergency response procedures. Additional guidance is expected from the TERMPOL review process.	N/A	N/A
OGC-009	OGC	While the proponent acknowledges that it is highly unlikely that an aircraft could to collide with the flare stack. It might be prudent for the proponent to engage with NavCanada to investigate whether a plume assessment needs to be done. High temperature exhaust plume could have a significant effect on any air traffic that might pass over the facility in the event of a flaring.	Comment noted.	N/A	N/A
OGC-010	OGC	Please refer to the most recent version of the BC Noise Control Best Practices Guideline – July 12, 2021 is the most recent version of that guidance document.	Thank you. Reference has been updated.	N/A	N/A

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OGC-011	OGC	The proponent's response to concerns around "right to access lands and waters" – the proponent states that "The only access restrictions anticipated in the marine area are in the leased Water Lot where the Project's marine terminal infrastructure is located." The BC OGC will not establish an exclusion zone, as we do not have the legal authority to create an exclusion zone over the water lot.	Comment noted. The DPD will be updated as appropriate.	N/A	N/A
OGC-012	OGC	Access to the facility site and in water infrastructure will be limited to facility personnel but the Commission will not enforce any 'exclusion zone' it is outside of the legal authority of the OGC.	Comment noted. The DPD will be updated as appropriate.	N/A	N/A
OGC-013	OGC	EPZs and HPZs are not interchangeable with exclusion zones. As mentioned already the OGC lacks the legal authority to create or enforce any "exclusion zones" over the water lot. Transport Canada has made clear on other projects that these zones cannot be created or enforced by the Commission.	Comment noted. The DPD will be updated as appropriate.	N/A	N/A
OGC-014	OGC	The BC OGC will not establish an exclusion zone, as we do not have the legal authority to create an exclusion zone over the water lot.	Comment noted. The DPD will be updated as appropriate.	N/A	N/A
OGC-015	OGC	The BC OGC will not establish an exclusion zone, as we do not have the legal authority to create an exclusion zone over the water lot.	Comment noted. The DPD will be updated as appropriate.	N/A	N/A
TC-001	TC	Transport Canada NAV CAN Obstruction Permits is not correct; assume proponent meant Transport Canada Obstacle Clearance Permit	Thank you. The DPD will be revised with the correct permit name.	Closed	N/A
TC-002	TC	All "works" that are built or placed below the high water mark (including the natural gas pipeline) may require public notice or approval by the NPP. Table 6.1 on pg. 143 characterizes NPP involvement correctly in Phase II and Phase III activities. There is insufficient detail provided in the DPD on the elements listed in tables 2.5.2 and 2.5.6 to make any determination at this time.	Comment noted. Additional detail will be included in the effects assessment.	Closed	N/A
TC-003	TC	The proponent has indicated they intend on undertaking a Termpol or Termpol-like review. They have identified the appropriate studies in table 9.1 and captured many of the issues the Termpol Review Committee (TRC) will discuss in Table 9.2 and Section 9.4, however they do not provide a timetable for the Termpol review and how it will integrate with the EA/IA process so as to inform the EA/IA decisions. The proponent should initiate these discussions with TC and the BCEAO/IAA as soon as possible.	The TERMPOL review process will start in Q2 2022. Applicable study findings will be integrated into the effects assessment.	TC has informed the Proponent that a Navigation Safety Assessment will replace TERMPOL for this project. The Navigation Safety Assessment should be conducted as a part of the overall impact/environmental assessment process. Adjustments should be made where appropriate in the DPD to reflect this.	Comment note. Appropriate updates have been made to the DPD to reflect this change.

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
TC-004	TC	This sentence should be tightened up with the right punctuation to reduce confusion on ship transit routes: "Liquefied Natural Gas carriers (LNGC) will travel to and from the Project's marine terminal along the established deep-sea shipping route from the pilot station to marine facilities at Stewart, BC (Figure 1.3-3)."	This sentence will be revised for clarity in the DPD.	This comment was meant for the dAIR	Comment noted.
TC-005	TC	# 7 – Impacts to Harvesting Windows are not normally a part of a TERMPOL Review, TC would be interested to know how the proponent will use the TERMPOL – like studies to assess this impact and/or propose mitigation strategies	Shipping route study information will be referred to when assessing impacts to marine resource users and developing mitigation measures.	TC has informed the Proponent that a Navigation Safety Assessment will replace TERMPOL for this project. The Navigation Safety Assessment should be conducted as a part of the overall impact/environmental assessment process. Adjustments should be made where appropriate in the DPD to reflect this.	Comment note. Appropriate updates have been made to the DPD to reflect this change.
TC-006	TC	# 9 – Protection of tributaries not normally a part of a TERMPOL Review, TC would be interested to know how the proponent will use the TERMPOL – like studies to assess this impact and/or propose mitigation strategies.	Shipping route study information will be referred to when assessing impacts to marine resource users and developing mitigation measures.	TC has informed the Proponent that a Navigation Safety Assessment will replace TERMPOL for this project. The Navigation Safety Assessment should be conducted as a part of the overall impact/environmental assessment process. Adjustments should be made where appropriate in the DPD to reflect this.	Comment note. Appropriate updates have been made to the DPD to reflect this change.
TC-007	TC	# 88 – Impacts to Salmon, Marine Mammals and Harvesting not normally a part of a TERMPOL Review, TC would be interested to know how the proponent will use the TERMPOL – like studies to assess this impact and/or propose mitigation strategies.	Shipping route study information will be referred to when assessing impacts to marine resource users and developing mitigation measures.	TC has informed the Proponent that a Navigation Safety Assessment will replace TERMPOL for this project. The Navigation Safety Assessment should be conducted as a part of the overall impact/environmental assessment process. Adjustments should be made where appropriate in the DPD to reflect this.	Comment note. Appropriate updates have been made to the DPD to reflect this change.
TC-008	TC	# 89, # 90 and # 97 – Construction vessels are not normally a part of a TERMPOL review however we did include them in the PNW TERMPOL review only because of the narrow channel (Porpoise Channel) where they proposed their MOF. This is not the case for Ksi Lisims project. TERMPOL looks at the worst case scenario for a cargo spill which is why it focusses on project vessels.	Comment noted. This will be clarified in the DPD.	This statement is no longer applicable since a TERMPOL review is not being conducted	Comment noted.
TC-009	TC	#99 – Cumulative impacts associated with other works would be part of the NPP review not the TERMPOL review	Comment noted. Thank you.	Closed	N/A
TC-010	TC	# 123 – Water quality is not in scope for a TERMPOL-like review. For example, the Trans mountain TERMPOL assessed where spilled oil (cargo) would go but not it's impact to those areas.	Shipping route study information will be referred to when assessing impacts to marine resource users and developing mitigation measures.	TC has informed the Proponent that a Navigation Safety Assessment will replace TERMPOL for this project. The Navigation Safety Assessment should be conducted as a part of the overall impact/environmental assessment process. Adjustments should be made where appropriate in the DPD to reflect this.	Comment note. Appropriate updates have been made to the DPD to reflect this change.

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
USEPA-001	US EPA	Project activities, including marine transport, have the potential to cause increased emissions of volatile organic compounds from the transfer and storage of petroleum liquids, as well as increased diesel particulate and sulfur dioxide emissions from marine vessels, which may affect air quality in the United States. EPA appreciates the preliminary mitigation outlined in the DPD. We recommend that the project develop an accidental release response strategy and an air monitoring program to analyze if project activities are impacting air quality in the United States. We also recommend that project waste transport and worker transport are considered in future air modeling analyses.	Emergencies and malfunctions will be assessed in the Application for the Project. Dispersion modelling will be used to assess the operations phase emissions, including worst case flaring events, and shipping vessels including LNG carriers and escort tugboats. Waste transport and worker transportation are likely to be infrequent events (i.e., weekly, monthly) and are transient in nature. Emissions from these activities will be quantified during the emission inventory stage and it will be determined if these sources should be included as part of the overall assessment of the Project. Results will be compared to the BC air quality objectives and the U.S. National Ambient Air Quality Standards. Development of monitoring programs will be undertaken for waste discharge permitting under the Environmental Management Act, administered by the BC OGC.	N/A	N/A
USEPA-002	US EPA	LNG operations have the potential to impact Alaskan Waters. We recommend that the project develop a spill response program that includes include early and regular coordination of response planning and training between Canada, the U.S. Coast Guard, and state and Tribal government counterparts with jurisdiction or interests in these waterbodies. Coordination could occur through existing Canadian/U.S. spill planning and response forums, such as the CANUS West Contingency Plan or the Regional Cross-border Joint Response Team.	Ksi Lisims appreciates the suggestion and will include for consideration as part of planning and mitigation for the environmental assessment and TERMPOL review process that will be completed for the Project.	N/A	N/A
USEPA-003	US EPA	EPA appreciates the excellent use of maps in the DPD, including Figure 2.1 that illustrates expected marine transit routes. We note that the DPD states that "Ksi Lisims is currently waiting on direction from the BC EAO and the Agency on the extent of the marine shipping LAA [local assessment area]. Spatial boundaries will be updated, as appropriate, once this direction is shared" (page 7.1-44). If marine transit routes are updated to be in closer proximity to United States resources and/or include the Dixon Entrance, the potential impacts analyses should be updated.	Thank you. Currently Ksi Lisims LNG anticipates shipping route updates/changes will be towards Dixon Entrance and the Pacific Ocean. However, if updates or changes are other than anticipated, additional information will be provided.	N/A	N/A

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USEPA-004	US EPA	EPA appreciates the outreach to Alaska Native Tribes and encourages ongoing communication regarding potential impacts that could affect Tribal resources. We note that tribal resources, including traditional hunting and fishing areas, have the potential to be negatively impacted if the shipping routes are adjusted as discussed in the comment above. We encourage additional outreach if shipping routes are modified to be in closer proximity to Alaska Native Tribes.	Agreed. Engagement is ongoing and will continue.	N/A	N/A
WGEC-001	WGEC	WAGE recommends that the proponent consider whether there are specific initiatives for the hiring and retention of a diverse workforce. Especially, for Indigenous women, who are underrepresented in the Oil and Gas sector.	Ksi Lisims LNG will develop an employment and economy strategy that will include workforce policies to train and hire a local workforce with the inclusion of GBA Plus considerations.	N/A	N/A
WGEC-002	WGEC	WAGE recommends including population statistics and disaggregated data (by sex, gender, age at a minimum) in this section.	Appropriate population statistics will be identified for the social and economic assessment portion of the EA-IA. Presenting this data in the DPD would be preliminary.	N/A	N/A
WGEC-003	WGEC	WAGE is satisfied with the plan of gathering socio-community baseline data. However, WAGE recommends clarifying which 'vulnerable' sub-populations will be studied. It is also recommended that consideration be given to the use of 'vulnerable' when referring to sub-populations. One potential resource was developed by the National Collaborating Centre for Determinants of Health entitled Let's talk: Populations and the Power of Language. This and/or other guidance could provide guidance to help ensure that the language used does not perpetuate prejudice.	Comment noted. As described in the dAIR, GBA plus analysis will be incorporated in the EA-IA.	N/A	N/A
WGEC-004	WGEC	WAGE recommends including disaggregated data (by sex, gender, age at a minimum) when evaluating the impacts of the Project on human health.	Comment noted. As described in the dAIR, GBA plus analysis will be incorporated in the EA-IA.	N/A	N/A
WGEC-005	WGEC	WAGE recommends that the proponent consider whether there are specific initiatives for the hiring and retention of a diverse workforce. Particular efforts might be warranted to increase the participation of women and Indigenous women in particular, who remain underrepresented in the Oil and Gas sector.	Ksi Lisims LNG will prioritize hiring a local and diverse workforce where the necessary skill sets are available; this includes a focus on hiring women and Indigenous owned and sourced companies. To support this initiative, Ksi Lisims LNG is investigating opportunities to support workforce training in local and Indigenous communities to increase the local workforce pool. Ksi Lisims LNG will endeavor to facilitate meaningful and applicable training.	N/A	N/A
WGEC-006	WGEC	WAGE recommends including disaggregated data (by sex, gender, age at a minimum) when evaluating the impacts of the Project on human health.	Comment noted. As described in the dAIR, GBA plus analysis will be incorporated in the EA-IA.	N/A	N/A

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WGEC-007	WGEC	WAGE recommends the Proponent consider how different sub-populations within the participating Indigenous Nations (women, children, (dis)abled, etc.) might be affected by the Project.	The inclusion of GBA Plus analysis and considerations will be carried throughout the EA-IA including the assessment of potential Project effects on Indigenous Nations and sub-populations.	N/A	N/A
WGEC-008	WGEC	WAGE is satisfied with planned engagement with Indigenous Nations. As previously suggested, consultation and engagement should be accessible for all members of the community regardless of remoteness, access to broadband, disability, caretaking roles, education, etc.	Comment noted.	N/A	N/A
WGEC-009	WGEC	WAGE is satisfied with planned engagement with the public and stakeholders. As previously suggested, consultation and engagement should be accessible for all members of the community regardless of remoteness, access to broadband, disability, caretaking roles, education, etc.	Comment noted.	N/A	N/A
WGEC-010	WGEC	WAGE is pleased that key Project representatives have a working understanding of GBA Plus analytics and assessment methods. Because the full benefits of GBA Plus are best achieved when the practice is embedded across all functional areas, WAGE encourages the Proponent to promote Introductory GBA Plus training with all staff contributing to the Project, regardless of their role.	Comment noted. Ksi Lisims LNG will develop GBA Plus orientation material for staff and contractors.	N/A	N/A
WGEC-011	WGEC	WAGE is satisfied with the information provided summarizing input received in the context of engagement with Indigenous Peoples and recognizes the project's governance structure provides meaningful input into project development, management, and operations. These efforts will help ensure that the Project is designed and operated in a manner consistent with the Nisga'a Nation's commitment to the stewardship of the land and its people. That said, now that restrictions related to COVID-19 are beginning to wane, there may be more opportunities for Ksi Lisims LNG to engage and consult with a broader range of stakeholders and to seek out opportunities to gather document and reflect traditional ecological knowledge (TEK), traditional land use (TLU) and other relevant traditional Indigenous knowledge to help contextualize and inform the Project.	Agreed. Ksi Lisims LNG will continue to meet and understand the health related restrictions for consultation and engagement as well as the evolving ability to conduct in-person engagement.	N/A	N/A

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WGEC-012	WGEC	WAGE is satisfied with the GBA Plus considerations made for this Project. However, it is important to reiterate the need to include disaggregated data in assessments of this Project and clarify how intersecting identities may make certain groups of women more susceptible to gender-based violence. WAGE recognizes the efforts that have been expended for engagement to ensure First Nations, local communities, and the public can work with the Ksi Lisims LNG Proponents to benefit from input to assist in the environmental assessment process. Early engagement allows the neighbours of Ksi Lisims LNG to provide meaningful input into how Ksi Lisims LNG can maximize benefits and minimize impact on the environment and nearby communities. It is recommended that the Proponent ensure that meaningful opportunities are ensured for various sub-groups and that these be documented. Good practices in reaching populations who are less often heard as well as successes in reflecting Indigenous knowledge as part of the design and implementation of the Project will help inform resource development projects moving forward. Demonstration of diverse, equitable and accessible engagement as well as the identification of barriers that were identified and addressed as part of the process can have an impact beyond this Project informing future initiatives. WAGE recommends, wherever possible, to leverage and/or generate additional disaggregated data (by sex, gender and age at a minimum) and include this information in the socio-economic assessment (e.g., how many people working in this sector and part of this community are women, men, gender diverse?)	Thank you, comment noted.	N/A	N/A
WGEC-013	WGEC	WAGE recommends that the proponent consider whether there are opportunities to hire and retain a diverse workforce. For example, efforts to increase the participation of Indigenous women in the workforce would be of interest given their persistent underrepresentation in the Oil and Gas sector.	Ksi Lisims LNG will prioritize hiring a local and diverse workforce where the necessary skill sets are available; this includes a focus on hiring women and Indigenous owned and sourced companies. To support this initiative, Ksi Lisims LNG is investigating opportunities to support workforce training in local and Indigenous communities to increase the local workforce pool. Ksi Lisims LNG will endeavor to facilitate meaningful and applicable training.	N/A	N/A

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ID#	Comment Organization	Participant Issues, Description or Comment	Proponent Response	Participant Response	Proponent Response to Participant Response
WGEC-014	WGEC	WAGE recommends that GBA Plus be applied to the Human Health Risk Assessment. The DPD does not include data disaggregated by sex, gender, age or other identity factors on issues related to potential health impacts. As per previous comments, there is a need to document baseline information about the community potentially impacted by the project. This would include basic data and analysis as it related to potential social, economic and health impacts – this could include assessing the links between gender and poverty, the division of labour, the differential situation of various subpopulations vis-à-vis relevant indicators (such as literacy, land access, participation in fishing/ agriculture, political participation, etc.)	Comment noted. As described in the dAIR, GBA plus analysis will be incorporated in the EA-IA.	N/A	N/A
WGEC-015	WGEC	WAGE is satisfied with the Technical Advisory Committee. As previously suggested, consultation and engagement should be accessible for all members of the community regardless of remoteness, access to broadband, disability, caretaking roles, education, etc. Also, engagement should be meaningful by asking critical questions about social norms, roles, and relations and how that influences power relations (e.g., who has what, who does what, etc.) in this context. There is a growing body of literature on inequalities, their drivers and the systemic factors that can perpetuate them including a short discussion document by the United Nations Research Institute for Social Development entitled Overcoming Inequalities in the Context of the 2030 Agenda for Sustainable Development and includes some key questions to be considered as part of inquiry.	Ksi Lisim LNG has provided and will continue to provide formal opportunities for comment and issue identification on the Project from the public and stakeholders, Indigenous Nations, and governments. Consultation and engagement remains accessible for all members of the community regardless of remoteness, access to broadband, disability, caretaking roles, education, etc. as Project information has been made available online, in-print form at publicly accessible locations (e.g., libraries), and virtual information sessions. As described in Section 8.2: The BC EAO EPIC website and the Agency portal document the public comments made on the Project Two Project virtual information sessions (i.e., Open Houses) were held September 8, 2021 and September 9, 2021 Printed copies of the IPD have been provided for public review in the public buildings and offices in Prince Rupert, Terrace and Port Edward. The Project has developed a website to offer the opportunity to contact the Project with specific requests or comments Ksi Lisim LNG recognizes that engagement should be meaningful.	Efforts to ensure that there are formal opportunities to comment and that consultation and engagement remain accessible for all members of the community are commendable. That said, deliberate efforts and outreach may be required to ensure that the perspectives of diverse groups are included (e.g., women, gender diverse people, youth, seniors, people with disabilities). There may also be a need to tailor and adapt how questions are formulated and how organizations/experts are asked to respond as critical input to understand potential health, social, and economic impacts on various groups might be missed. It may also be relevant to track the demographic profiles of those responding (consistent with principles of Indigenous data sovereignty) to better understand who is participating and more importantly who is not. This in turn, would help inform tailored outreach and help fill gaps in evidence. Because findings from the engagements and consultation are expected to inform options and recommendations throughout the development and implementation of this project, it is important that when developing options, that inequalities be uncovered and that the sources of those inequalities be examined. For more information on the Government of Canada principals on public engagement, we invite the proponent to consult the following: https://open.canada.ca/en/content/principles-and-guidelines	Thank you for your insight. We will keep this in mind as we proceed with data collection.