



Tilbury Phase 2 LNG Expansion Project

Initial Project Description

February 2020



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Acronyms and Abbreviations

AIF	Archaeological Information Form
AIA	Archaeological Impact Assessment
AOA	Archaeological Overview Assessment
BC	British Columbia
BC CDC	BC Conservation Data Centre
BC EAA	BC <i>Environmental Assessment Act</i>
BC EAO	BC Environmental Assessment Office
BCF	billion cubic feet
BC MFLNRORD	BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development
BC OGAA	BC <i>Oil and Gas Activities Act</i>
BC OGC	BC Oil and Gas Commission
BCUC	British Columbia Utilities Commission
CAC	criteria air contaminant
CAD	Consultative Areas Database
CEA	Cumulative Effects Assessment
CH ₄	methane
cm	centimetre(s)
CNA	Cowichan Nation Alliance
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CO ₂ e/year	carbon dioxide equivalent per year
COSEWIC	Committee on the Status of Endangered Wildlife
CPCN	Certificate of Public Convenience and Necessity
CSA	Canadian Standards Association
CTS	Coastal Transmission System
Delta	City of Delta
DFO	Fisheries and Oceans Canada
DPD	Detailed Project Description
EA	Environmental Assessment
EAC	Environmental Assessment Certificate
EMP	Environmental Management Plan
FBC	FortisBC Inc.
FEED	Front-End Engineering Design
FEI	FortisBC Energy Inc.
FortisBC	FortisBC Holdings Inc.
GBA+	Gender-based Analysis Plus
GHG	greenhouse gas
ha	hectare(s)

HCA	<i>Heritage Conservation Act</i>
IA	Impact Assessment
IAA	<i>Impact Assessment Act</i>
IAAC	Impact Assessment Agency of Canada (replaced CEAA)
IBA	Important Bird Area
IPD	Initial Project Description
km	kilometre(s)
km ²	square kilometre(s)
kV	kiloVolt(s)
LNG	liquefied natural gas
LSA	Local Study Area
m	metre(s)
m ³	cubic metre(s)
masl	metre(s) above sea level
mtpa	million tonne(s) per annum
NO	nitrogen oxide
NRCan	Natural Resources Canada
OBE	Operating Basis Earthquake
OCP	Official Community Plan
OIC	Order-In-Council
PGV	Peak Ground Velocity
PJ	petajoule(s)
Project	Tilbury Phase 2 LNG Expansion Project
Project Site	7651 Hopcott Road, on Tilbury Island in the City of Delta, British Columbia
QEP	Qualified Environmental Professional
ROW	right-of-way
RSA	Regional Study Area
SARA	<i>Species at Risk Act</i>
SSE	Safe Shutdown Earthquake
t/d	tonnes per day
TBD	to be determined
TLU	Traditional Land Use
VC	Valued Component
WesPac	WesPac Midstream Ltd.
WMA	Wildlife Management Area

1. Introduction

FortisBC Holdings Inc (FortisBC) with its natural gas subsidiary FortisBC Energy Inc. is proposing to expand its existing liquefied natural gas (LNG) facility at 7651 Hopcott Road, on Tilbury Island in the City of Delta (Delta), British Columbia (BC) (Figure 1-1) (the Project Site).

The Tilbury Phase 2 LNG Expansion Project (the Project) is being proposed to increase the production and storage of LNG to improve security of supply to FortisBC's approximately 1.1 million natural gas customers in BC and to supply incremental LNG to the marine transportation and export markets. The Project also introduces opportunities to upgrade existing infrastructure to current design standards and technologies and to align with the Government of BC's CleanBC Plan.

The Project comprises an expansion of up to 162,000 cubic metres (m³) (approximately 4.0 petajoules [PJ]) of LNG storage and up to 11,000 tonnes per day (t/d) of LNG production. The Project will receive natural gas at the Project Site through established pipeline systems. It will connect to FortisBC's existing LNG facilities (such as, vapourization and gas send-out facilities) to support security of natural gas supply to gas utility customers and the proposed WesPac Midstream Ltd. (WesPac) Tilbury Marine Jetty project for marine LNG bunkering and LNG export.

This Initial Project Description (IPD) was prepared in accordance with guidance under both the Federal *Impact Assessment Act (IAA)* and the BC *Environmental Assessment Act (BC EAA)*. Tables of Concordance referencing the locations of required information in this IPD are provided in Appendix A and B, respectively.

There is a need to increase the LNG storage in the Region as back-up to the Regional gas supply system. LNG production will be constructed as LNG market demand is realized. This could be in the form of two or more LNG production trains built initially or phased over multiple years with ultimate completion anticipated prior to 2028. Detailed engineering and construction for the Project is expected to begin in 2021/22.

The Project is located within Delta, on a long-standing brownfield site owned by FortisBC and zoned as I7: High Impact Industrial for uses including natural gas and petroleum products. The existing FortisBC LNG facility includes the original production and storage facility in operation since 1971 (base plant), a Phase 1 production and storage expansion in operation since 2018 (Phase 1A), and ancillaries including power supply, gas supply, and both natural gas and LNG distribution facilities to serve public utility customers. Parts of the Project are expected to occur within the footprint of the existing 50-year-old liquefaction and storage plant. Facilities that are not a part of this Project include the existing production and storage facilities including Phase 1 expansions as these activities do not trigger a Provincial Environmental Assessment (EA) pursuant to the BC *EAA* or Impact Assessment (IA) pursuant to the Federal *IAA* and *Physical Activities Regulations* and are independent of the Project.

The proposed Tilbury Phase 2 LNG expansion project is reviewable under the current BC *EAA (Reviewable Projects Regulation)* and under Canada's *IAA* and *Physical Activities Regulations*. Further details about the Provincial and Federal processes is provided in Section 8. Appendix A provides a concordance table for guidance from the BC Environmental Assessment Office (BC EAO), as well as the Impact Assessment Agency of Canada (IAAC), *Information and Management of Time Limits Regulations*.

The EA Application completed for the WesPac Tilbury Marine Jetty project (submitted in March 2019), situated adjacent to the Project, is the closest EA to the Project Site. Publicly available information from that EA will be reviewed and any relevant information will be incorporated into the EA prepared for the current Project. In addition, Stantec Consulting Ltd. conducted an Archaeological Impact Assessment (AIA) in 2013 for the FortisBC Phase 1A expansion and it is expected WesPac will be conducting an AIA on FortisBC's property related to the Marine Jetty Project. The AIA will also be reviewed for any relevant information for the EA.

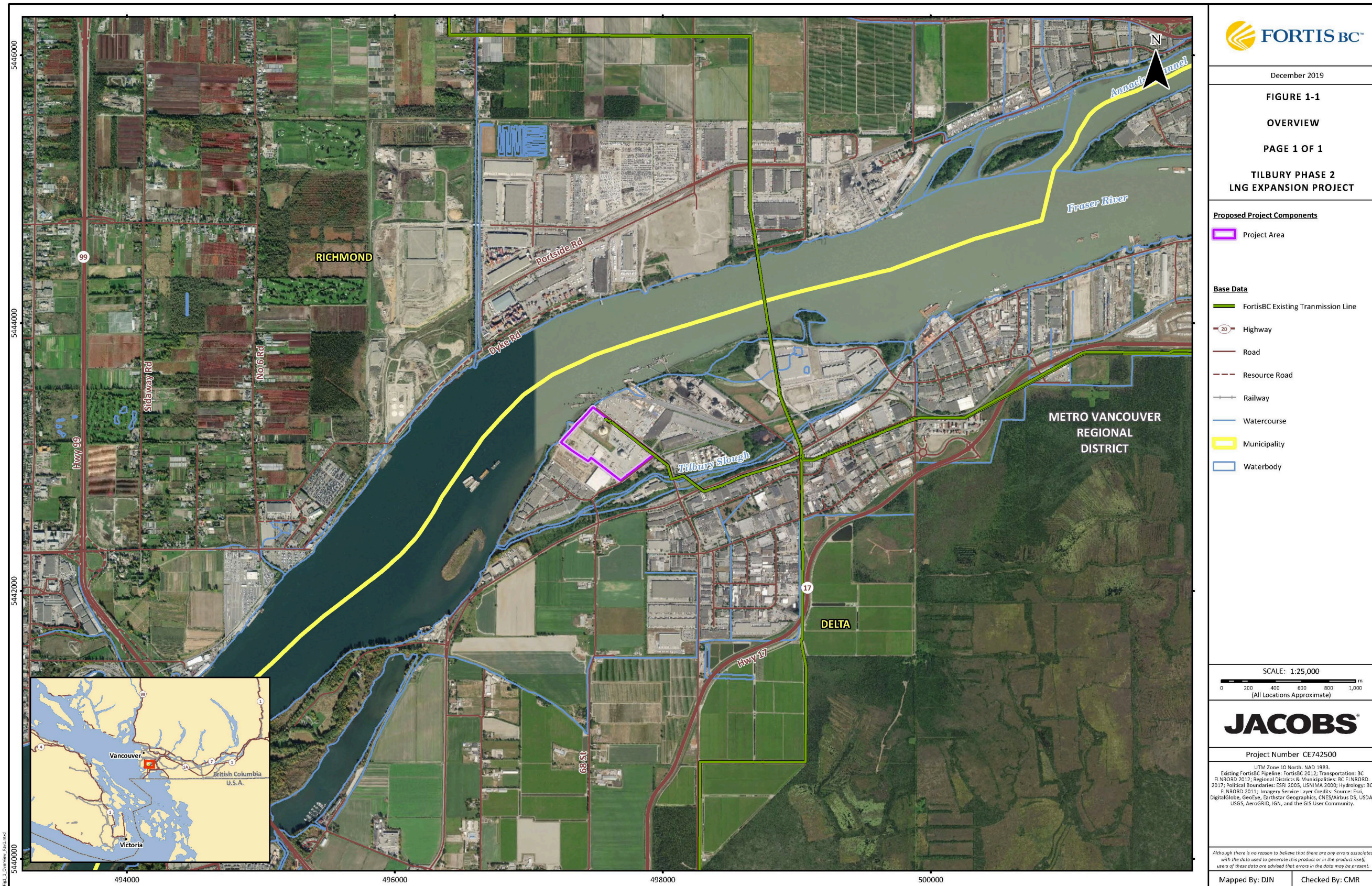


Figure 1-1. Project Overview

1.1 Proponent Information

1.1.1 Project Contacts

Table 1-1. Project Information and Key Contacts

Project Name	Tilbury Phase 2 LNG Expansion Project
Proponent	FortisBC Holdings Inc.
Proponent Corporate Address	16705 Fraser Highway Surrey, BC V4N 0E8
Proponent Website	http://www.fortisbc.com
Project Website	https://talkingenergy.ca/project/tilbury-LNG-expansion-project
Proponent President and CEO	Roger Dall'Antonia
Principle Contacts for the EA	Todd Smith Business Development Manager Tel: 604-785-6514 Email: todd.smith@fortisbc.com

1.1.2 Corporate Overview

FortisBC Holdings Inc. (FortisBC) has subsidiary companies that include gas, LNG, and alternative energy utilities in BC. FortisBC Energy Inc. (FEI) is the gas utility and owner/operator of the Tilbury LNG facility. FEI is a subsidiary of FortisBC, a BC based company, which is a subsidiary of Fortis Inc. a publicly traded company on both the TSX and NYSE. Fortis Inc. is also the parent company of FortisBC Inc. (FBC) an electrical utility operating in BC. Combined, FortisBC and FBC employ more than 2,400 people, working to deliver natural gas, electricity, and energy solutions to 1.2 million customers across 135 communities in BC. FortisBC owns and operates approximately 49,000 kilometres (km) of natural gas transmission and distribution pipelines, and FBC owns and operates approximately 7,260 km of electric transmission and distribution power lines and four hydroelectric generating plants. FortisBC's infrastructure assets include BC's largest underground natural gas storage facility and two LNG production and storage facilities.

FortisBC is committed to supporting BC's transition to a low-carbon economy. To do this successfully, a balance needs to be achieved with respect to financial, environmental, and social factors. In 2018, FortisBC released its plan to reduce emissions, the Clean Growth Pathway to 2050, as part of the consultation surrounding the Province's CleanBC strategy. The Clean Growth Pathway outlined four key areas to make substantial reductions in greenhouse gas (GHG) emissions across the Province including positioning BC as a vital domestic and international LNG provider to lower global GHG emissions.

In September of 2019, FortisBC announced one of the most ambitious emissions reduction targets in the Canadian utility sector by committing to work to reduce customers' emissions by 30 percent overall by the year 2030. FortisBC aims to achieve its "30 by 30" target in part by supporting a shift away from higher emitting energy sources such as coal, bunker oil, and diesel to cleaner burning LNG in the global market for energy. FortisBC's focus on sustainability is about prioritizing the health and well-being of customers, communities, the environment, and employees. FortisBC is an equal opportunity employer and supports an inclusive and diverse work-force.

FortisBC is committed to building effective Indigenous relationships and to ensuring the structure, resources, and skills necessary to maintain these relationships are in place. To meet this commitment, the actions of FortisBC and its employees are guided by the principles included in FortisBC's Statement of Indigenous Principles included in Section 11.4.

FortisBC is committed to delivering safe, reliable energy in an environmentally responsible manner to all of the communities that we serve. This commitment is guided by our Safety and Environment Policy and is supported by an Environmental Management system. As part of meeting this commitment FortisBC will:

- comply with safety and environmental legislation, and operate in accordance with accepted industry practices and standards, and require the same of our contractors
- commit to injury and incident prevention, the conservation of resources, and the prevention of pollution
- identify and manage operational hazards, and minimize risks that have the potential for adverse consequences
- train employees to be aware of and meet their responsibilities in the areas of safety and environmental stewardship
- communicate openly with employees, the general public, and all stakeholders about activities and the potential impacts on safety and environment
- support community-oriented safety and environmental initiatives and programs
- review the safety and environmental policy on a regular basis, regularly monitor safety and environmental performance, and strive for continual improvement

The Tilbury LNG facility has been providing natural gas to customers safely and reliably since 1971. It contributes to security of supply, reliability, and operational flexibility for FortisBC's natural gas customers. As a regulated public utility, FEI has an obligation to meet current and future natural gas requirements. Demand for natural gas is growing as, for instance, the marine transportation segment transitions toward LNG fuel in order to meet international emissions regulations, save on fuel costs, and reduce their reliance on diesel and marine oils. Marine operators including BC Ferries and Seaspans Ferries currently operate LNG fueled vessels and are planning to expand their fleets. FortisBC is also providing LNG and compressed natural gas as fuel for on road transportation customers including trucking fleets, waste haulers, and bus fleets helping them transition to a lower emission fuel. Since 2017, FortisBC has been supplying LNG into purpose-built shipping containers for customers who export to China. These shipments are an efficient way to move LNG to small-scale industrial or residential customers for their heating and electricity needs as an alternative to coal and oil.

FortisBC's LNG facilities have a variety of special features designed for the safe production and handling of LNG - including active monitoring, control, and alarm systems. In addition to the Tilbury LNG facility, FortisBC owns and operates the Mt. Hayes LNG facility located approximately 6 km northwest of Ladysmith BC, and the Aitken Creek underground natural gas storage facility near Fort St. John. The Mt. Hayes LNG facility holds approximately 70,000 m³ (1.7 PJ) of LNG and the Aitken Creek facility has a working gas capacity of approximately 85 PJ (77 billion cubic feet [BCF]) (FortisBC 2016).

The Mt. Hayes LNG facility is operated by FortisBC and is owned by a limited partnership called Mt. Hayes Limited Partnership with FortisBC and local Indigenous partners as co-owners. This partnership has been in place since 2011 and demonstrates the commitment and mutual benefits of working together with Indigenous Groups.

FortisBC has received Provincial Environmental Assessment Certificates (EACs) on two projects. Southern Crossing Natural Gas Project, an approximately 300 km natural gas pipeline from Yahk to Oliver, BC received an EAC (E99-03) in 1999 and was constructed in 2000. The Eagle Mountain-Woodfibre Gas Pipeline Project, an approximately 50 km natural gas pipeline from Coquitlam to Squamish, received an EAC (E16-01) in 2016.

1.1.2.1 The Tilbury LNG Facility

The original Tilbury LNG facility was constructed in Delta on Tilbury Island in 1971 and has been operating successfully as a storage and peak shaving facility for the benefit of natural gas utility customers in BC. A peak shaving facility allows for uninterrupted supply to customers under peak

demand (winter) conditions or during periods of gas supply disruption by re-gasifying the stored LNG and injecting it back into the local grid as gas send-out. The original Tilbury LNG facility has LNG production of approximately 60 t/d and LNG storage of 28,000 m³ (0.69 PJ). In addition to the liquefaction and storage tank, the original Tilbury LNG facilities also include LNG vaporizers for returning liquid to a gas, interconnects (gas feed and send-out), liquefaction refrigerant storage and truck loading. Portions of the nearly 50-year-old LNG facility may be retired and removed as part of the normal course of the regulated utility business at some point in the future. These activities will be considered and coordinated with all other activities at the FortisBC Tilbury LNG facility including operation of Phase 1 LNG facilities and construction of the proposed Project and will be subject to authorizations and permits from applicable regulators including the BC Utilities Commission (BCUC) and BC Oil and Gas Commission (BC OGC).

FortisBC began construction of its Tilbury “Phase 1” Expansion in 2014, which was approved by the BC government through BC Order-in-Council (O.C. 557/2013) Direction No. 5 to the BCUC under the *Utilities Commission Act* (OIC). The OIC approves certain projects that the BC government determined were in the public interest for the public utility to undertake and how costs should be treated by the BCUC, the Provincial regulator for public utilities. The facilities that make up the Phase 1 Expansion included in the OIC comprises:

- Phase 1A facilities: additional LNG production, storage tank, and truck loading facilities (LNG storage: 46,000 m³ [1.1 PJ]; liquefaction: 700 t/d)
- Phase 1B facilities: connecting to Phase 1 tank, additional LNG production, and distribution
- Coastal Transmission System (CTS) expansion: various FEI gas transmission expansion projects including the upgrade of an approximately 1 - 3 km line between Tilbury Gate Station and Tilbury LNG facility (Tilbury Gate Station).

None of the Phase 1 expansion facilities, either on their own or collectively, trigger an environmental or impact assessment under either Provincial or Federal legislation.

The Phase 1 facilities are described in more detail as follows for context as existing or in-progress activities separate and distinct from the proposed Project.

Phase 1A was constructed between 2014 and 2018 and has been in operation since 2018. Phase 1A includes natural gas liquefaction of approximately 700 t/d and an LNG storage tank (Phase 1 tank) of approximately 46,000 m³ (1.1 PJ) and has received BC OGC facility permits and Metro Vancouver emission permits.

Phase 1B facilities are in design and engineering stages with an in-service-date planned for 2023. Phase 1B facilities include natural gas liquefaction of up to 2,000 t/d bringing the total facility liquefaction capacity to a maximum of 2,760 t/d (base plant plus both Phase 1A and 1B). Both Phase 1A and 1B liquefaction facilities are or will be connected to the existing Phase 1 tank. Phase 1 facilities may also include new LNG vapourizers to provide reliable gas send-out capacity from the Phase 1 tank. The CTS Tilbury Gate Station gas transmission expansion is to upgrade this short segment for seismic integrity and increase gas send-out capacity. Both Phase 1A and 1B liquefaction facilities use electric drives for the compression needed for natural gas liquefaction to minimize emissions. There are no power generation facilities on-site other than back-up power for emergency systems. Power is provided from BC Hydro's Arnott Substation. Additional upgrades to the power supply are anticipated for Phase 1B including an approximately 6 km, 230 kilovolt (kV) power line from the BC Hydro Arnott substation. This upgrade will consider the Project needs such that further upgrades can be minimized or avoided to reduce costs, disturbance, and impacts.

Phase 1 facilities or activities, either separately or collectively, do not trigger an EA or IA under either Provincial or Federal legislation or regulations. The Province has approved Phase 1 to proceed since 2013 and are currently either in operation or engineering stage. Phase 1 would proceed independently of the proposed Project. Phase 1 facilities can be built and operated independent of Phase 2 and are needed and would proceed whether or not the proposed Project proceeds. The Project would utilize certain existing and Phase 1 facilities including an interconnect with Phase 1 230-kV substation on-site

(for liquefaction), and connection to the LNG vaporizers (from the Project LNG tank) to provide additional LNG for incremental gas send-out duration to support the natural gas system and resiliency. Phase 1 facilities or activities have been and will be subject to regulatory and permitting review including public and Indigenous consultation requirements through the BC OGC and other agencies. Figure 1-2 shows the Tilbury existing and Phase 1 expansion facilities. Table 1-2 provides a summary of the Tilbury existing and Phase 1 expansion facilities and activities. A description of the proposed Project (Phase 2) is provided in the next section.

Existing plant modifications and Phase 1 projects are subject to ongoing regulatory oversight and public and Indigenous consultation requirements as required by the BCUC, BC OGC, and various other permitting agencies. BC OGC public and Indigenous consultation and notification requirements are described in the Consultation and Notification Regulation under the BC *Oil and Gas Activities Act* (BC OGAA) and the Oil and Gas Activity Application Manual (BC OGC 2019). Prior to submitting an application to the BC OGC, FortisBC is required to formally notify and consult potentially affected land owners, rights holders, and Indigenous Groups. Stakeholders and Indigenous Groups have an opportunity to provide written responses to the proposed application. FortisBC is required to address all written responses before the BC OGC will accept an application. The application will include a record of all responses from stakeholders and Indigenous Groups and details about how responses were addressed. In addition, anyone with an interest or concern about the proposed activity and/or its proposed location can make a written submission to the BC OGC at any time during the application process.

WesPac is proposing to construct a marine jetty next to the Project Site to supply LNG to the marine transportation sector and for export. WesPac’s project is separate and distinct from the proposed Project. The WesPac project is currently undergoing a combined Federal and Provincial EA, under a substituted Provincial process that is led by the BC EAO that includes assessments for shipping and loading activities that considers the Phase 1 and Project LNG production and distribution capacities.

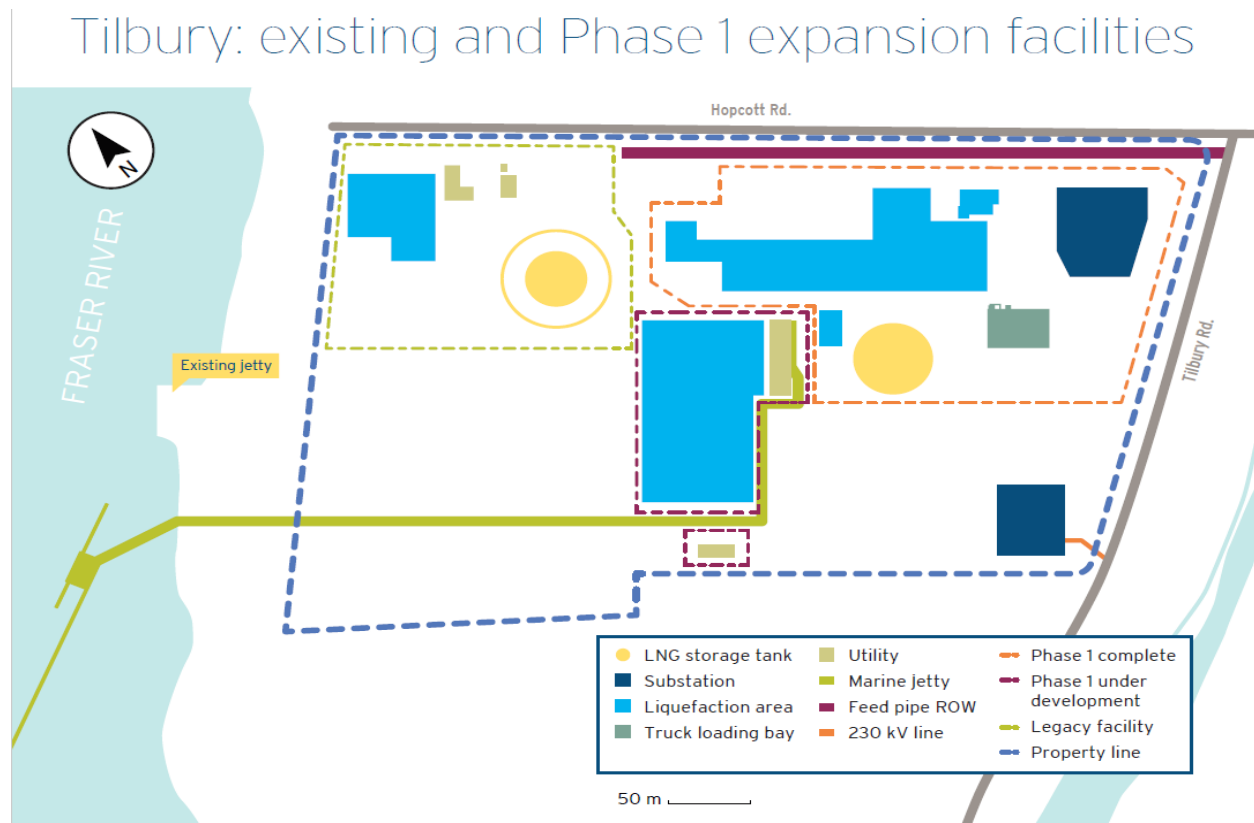


Figure 1-2. Existing and Phase 1 Facilities

Source: FortisBC

Table 1-2. Tilbury Existing and Phase 1 Facilities

Phase / Expansion	Description	In-Service Date	Size	Owner	Key Regulator
Tilbury base plant	Original LNG facility	1971	Tank: 28,000 m ³ (0.69 PJ) LNG: 60 t/d	FEI	BCUC / BC OGC / Metro Vancouver
Tilbury base plant retirement	Retirement and removal of original 50-year-old facilities as required and approved by BCUC and BC OGC	N/A	As above and including related systems	FEI	BCUC / BC OGC
Tilbury 1A	Additional tank, load-out facilities, and liquefaction	2018	Tank: 46,000 m ³ (1.1 PJ) LNG: 700 t/d	FEI	BCUC / BC OGC / Metro Vancouver (emissions)
Tilbury 1B	Incremental liquefaction, and gas send-out facilities	2023	LNG: up to 2,000 t/day	FEI	BCUC / BC OGC / Metro Vancouver (emissions)
Power line	Additional power supply from BC Hydro's Arnott substation to Tilbury site	2022	6 km of 230 kV power line	TBD	BCUC (utility service)
CTS (Gas transmission upgrade)	Upgrade to gas transmission facilities between Tilbury Gate Station and Tilbury LNG facility	2022	1 - 3 km, 30-inch natural gas transmission pipe	FEI	BCUC / BC OGC

Notes:

TBD = to be determined – Discussions ongoing with BC Hydro

N/A = Not applicable

2. Project Overview

The Project comprises an expansion beyond the existing and Phase 1 facilities of up to 162,000 m³ (4.0 PJ) of LNG storage and up to 11,000 t/d of LNG liquefaction. The LNG storage tank is needed to provide security of public utility service and resiliency against possible interruptions of natural gas supply to the Region (as occurred in the winter of 2018-2019) but will also be sized and designed to have capacity to meet the future demands of the LNG bunkering and export markets. The LNG production will be built in phases of one or more 'liquefaction trains' to meet market demand. The proposed Project, also referred to as Tilbury "Phase 2", is detailed in Table 2-1 and shown in Figure 2-1.

The Project storage tank and liquefaction capacity trigger a review under Provincial (the *Reviewable Projects Regulation*) and Federal (*IAA – Physical Activities Regulations*) legislation.

Detailed engineering for the Project is expected to begin in 2021; the tank installation will be a priority whereas liquefaction trains may be phased over multiple years depending on demand. The LNG storage tank is a priority, required to provide security of supply to FortisBC's approximately 1.1 million natural gas customers including homes, businesses, schools, hospitals, government operations, transportation customers, and industries.

Table 2-1. Tilbury Proposed Phase 2 Facilities

Phase	Description	In-Service Date	Size	Owner	Key Regulator
Tilbury 2 Tank	LNG storage tank	2024	Tank: up to 162,000 ¹ m ³ (4.0 PJ)	FortisBC or FEI	BC EAO / IAAC Threshold: 136,000 m ³
Tilbury 2 Liquefaction	LNG liquefaction trains	2024-2028	Up to 11,000 t/d	FortisBC	IAAC Threshold: 3,000 t/d

In late fall of 2018, the region experienced a significant natural gas supply disruption. In light of this incident, FortisBC has re-evaluated resiliency and operational flexibility within our system and have concluded that additional local area storage is needed to prevent widespread outages (short duration) and/or allow planned curtailment to avoid a system-wide collapse (loss of system pressure).

Without additional system resiliency, these gas supply disruptions or constraints have the potential of causing widespread and long-lasting natural gas outages for FortisBC's customers and the region as a whole. Natural gas is the primary heating source for many in the region with low temperatures possible through the winter season. The Project's proposed LNG storage and incremental liquefaction will provide additional resiliency to the FortisBC natural gas system.

In addition, demand for cleaner burning fuels is growing globally as new emission regulations come into force. Countries like China are shifting their fuel mix away from coal and oil in order to reduce their GHG emissions and to improve their air quality and health outcomes.

Furthermore, Vancouver is well positioned to be an LNG marine bunkering hub as ship owners are increasingly moving to LNG powered ships in order to meet stringent International Marine Organization emission regulations that came into force in 2020. Availability, price, quality, and infrastructure are all critical to creating this cleaner fueling hub that will allow additional coastal vessels and trans-Pacific shipping companies to commit to securing new vessels powered by LNG instead of bunker or diesel oil. The need for additional and secure supplies of LNG is critical for this industry transition.

¹ Based on energy density of 23.9 gigajoules/m³ of LNG

The Project Site has been used for natural gas liquefaction and storage for nearly 50 years. The original site expanded in the past to include adjacent properties to the south and west and has undergone upgrades and changes over time. In 2014, FortisBC began work on the Phase 1 expansion of both LNG production and storage. The Project will benefit from FortisBC’s extensive experience in BC including LNG operations and recent and important construction and commissioning experience of Tilbury 1A along with understanding of the issues that go with building and operating LNG facilities at this location.

With the Project expansion of up to 162,000 m³ (4.0 PJ) of LNG storage, the total Project Site LNG storage could be up to 236,000 m³ including the base plant Tilbury storage tank and the existing 1A storage tank. Should the base Tilbury storage tank be decommissioned and removed, the total Project Site LNG storage will be up to 208,000 m³. Additionally, the Project will increase the production of LNG at the Project Site from less than 3000 t/d to up to 13,760 t/d including the base liquefaction plant or up to 13,700 with the base plant removed.

Figure 2-1 shows the Phase 2 Project facilities (with existing and Phase 1 in background).

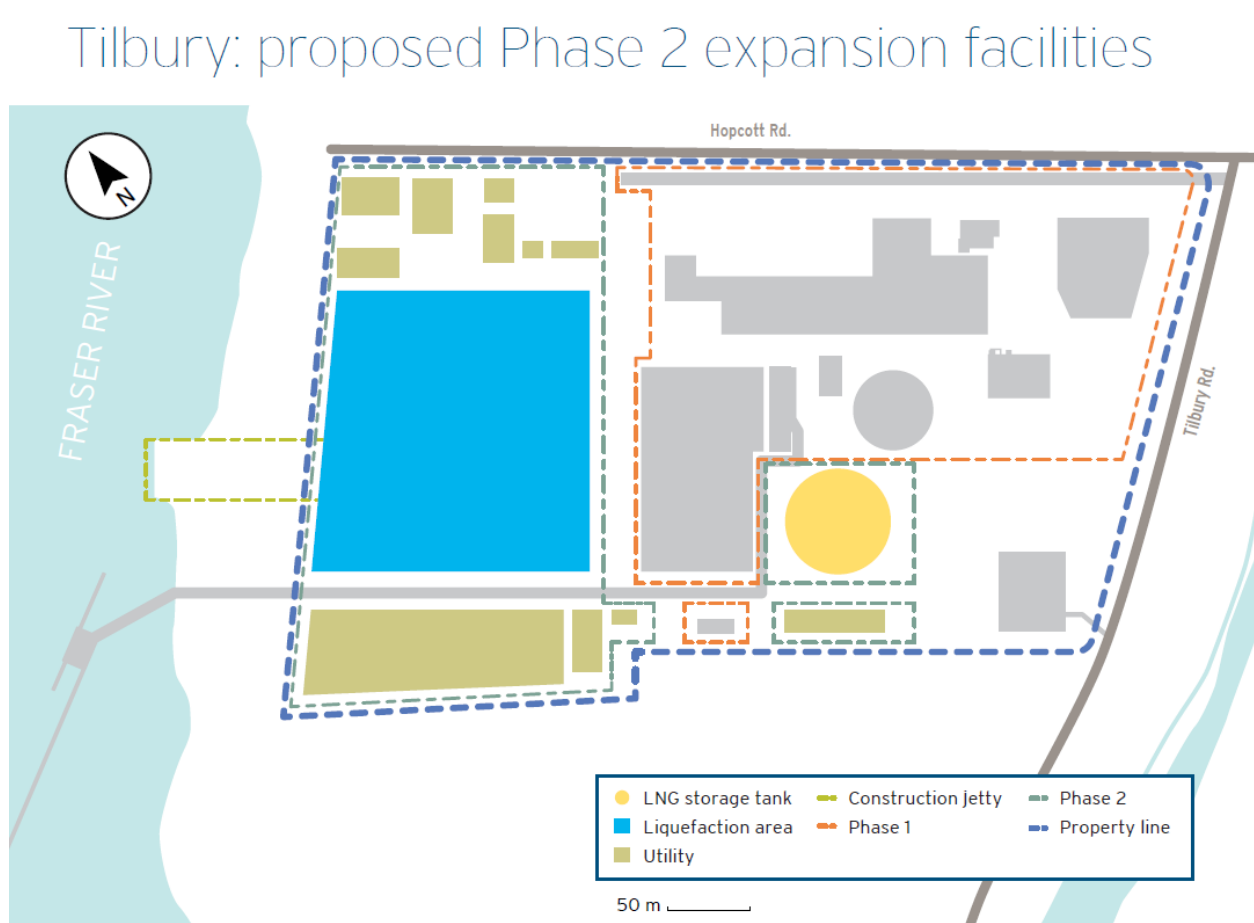


Figure 2-1. Phase 2 Project Facilities

Source: FortisBC

2.1 Project Components

Table 2-2 provides a brief description of the components for the Project. Updated information will be provided in the EA Application.

Table 2-2. Project Components

Project Component	Description of Component
Temporary Construction Components	
Construction support facilities	Material offloading of pre-assembled equipment modules will be required with access from the Fraser River. An existing construction jetty that is expected to be upgraded as part of the WesPac Jetty project and for Phase 1 projects may require additional upgrades to accommodate barge unloading of Project equipment modules during construction.
Construction materials delivery	In addition to the larger equipment module delivery by river, existing roadways and Project Site access points will also be used.
Construction laydown and staging	In addition to FortisBC's property, additional off-site laydown and storage space will be required especially during later/overlapping construction phases. Local options will be identified, assessed, and determined based on the specific requirements. Off-site laydown and storage may not be required for Phase 2 storage tank as this is expected to be constructed first and would be erected on-site with materials scheduled to arrive as needed.
Construction Infrastructure / Service	Existing Project Site service will be used (such as, power, water) where remote power/lighting is required portable generator systems or temporary construction power will be used.
Water management and hydro-testing	Hydro-testing of the LNG tank and certain piping systems will be required. This will involve a significant volume of water and discharging of the water. Given the volumes river water may be utilized which will require filtration / treatment both before using for hydro-testing (to prevent contamination) and post use to allow returning to the river in a state of equivalent or better condition. In addition, rainwater management systems will be required for the Project Site during construction.
Operation Components	
LNG Storage	Full containment storage tank with up to 162,000 m ³ (4.0 PJ) of working storage. Components of the LNG storage tank include ground improvements, foundations, double wall (full containment) construction, LNG pumps, boil-off gas management system including gas compressors, insulated piping, access stairways, lighting instrumentation, control, and safety systems.
Natural gas receiving	Existing FortisBC pipelines and right-of-way will be used to bring natural gas to the Project Site. Additional metering/distribution and control skids will be needed to distribute gas to specific liquefaction operating units.
Natural gas processing and liquefaction	<p>Expected to be built in trains / phases depending on market demand for a total installed capacity of up to 11,000 t/d.</p> <ul style="list-style-type: none"> • From the metering/distribution and control skid natural gas will enter gas pre-treatment to remove components in the natural gas not compatible with the cryogenic liquefaction process. Pre-treatment includes filtration, separators, and adsorption processes • Combustion of waste streams with energy recovery to provide thermal regeneration of certain pre-treatment processes including continuous thermal oxidation and periodic combustion of vent / relief gases • Electric drive refrigerant compressors and air cooling used in the liquefaction process • Refrigerant unloading, storage, and makeup system • Instrument air and nitrogen generator systems, firewater system, storm and wastewater handling systems, potable and de-mineralized water systems • LNG transfer and boil-off gas management systems • Fire, safety, security emergency response, and protection systems designed to meet or exceed applicable standards
Supporting Infrastructure	<p>The following facilities will be permanently installed for the life cycle of the Project and will support the safe operation of the facility:</p> <ul style="list-style-type: none"> • Project Site administration, control room(s), site grading, roadways, lighting, security, and safety facilities • Liquid hydrocarbon/chemical storage and handling facilities (including truck loading) • Electrical substations and step-down transformers connected to BC Hydro or FortisBC power systems • Additions to potable water, firewater, waste water and storm water systems from existing Project Site systems

2.2 Infrastructure Requirements

The Project Site has been used for natural gas processing and storage for nearly 50 years and is located in a largely industrial setting adjacent to the Fraser River. Much of the necessary utilities and infrastructure are present or readily expandable. Access roadways are existing and recently upgraded to support trucking traffic in the area and connection to major transportation arteries including the South Fraser Perimeter Road (Highway 17).

Material offloading from the Fraser River of pre-assembled equipment modules will be required for the Project which would also include marine transportation of vessel/barges along the Fraser River through Sand Heads. An existing jetty on the Fraser River connected to the FortisBC Project Site will be upgraded as part of the proposed WesPac Jetty project for construction purposes. The Project may require additional upgrades to the construction jetty for barge unloading of equipment modules to accommodate the weight / size of Project modules. This would be a temporary construction activity. Project Site power is available (provided by BC Hydro). Additional power supply is being planned as part of the Phase 1 facilities which would be sized to provide sufficient power for the Project. Construction laydown and storage can be accommodated on the Project Site in the early construction stages; however, nearby construction laydown and storage may be required as the Project Site is built-out over time and available space becomes limited.

The peak workforce during construction will vary from 300 to 500 depending on the Phase and is based on a modular construction methodology. A construction camp is not required given the proximity to local trades and accommodations. Workforce transportation to and from Project Site will be developed to limit parking on-site. Approximately 80 incremental full-time equivalent positions will be created once the Project is in full operation. This includes management, skilled technicians, engineers, administrative, trained operators, supervisory, and service trades. These are considered progressive, transferable, and high paid positions in a mostly unionized setting. The location is close to established communities, including Indigenous Groups, services, and educational facilities. Direct employment through the Front-End Engineering Design (FEED), engineering, procurement, and construction phase has not been converted to person-years but will be a significant source of employment for this Project with numerous local services available for this work.

2.3 Project Schedule

The preliminary schedule for the Project is provided in Table 2-3. Least risk work windows will be considered during project schedule planning for construction near any sensitive environmental features such as fish-bearing watercourses. No other seasonal timing constraints have been identified.

Table 2-3. Preliminary Project Schedule

Task	Timing
Submit IPD to BC EAO and IAAC to initiate EA	Q1 2020
Assessment Certificate application to BC EAO under substituted process (requested)	Q4 2020
Anticipated EA Certificate Approval	Q4 2021
Permitting (synchronous or concurrent permitting with EA Review)	2021/2022
Construction of LNG storage tank	2022 - 2024
Phased Construction of LNG liquefaction facilities	2022 -2028
In-Service	2024 to 2028
Decommissioning and Abandonment	40+ years

2.4 Alternative Means of Carrying Out the Project

The Project proposes to use electrical compressor drives with power provided by BC Hydro. Existing power supply is expected to be expanded as part of current Phase 1 expansion plans to include a 230-kV power supply to the Project Site from the BC Hydro Arnott substation located less than 6 km away. Alternatives to using BC Hydro-supplied power include self generation and/or gas combustion compressor drives. This alternative would increase emissions.

Numerous gas pre-treatment and liquefaction technology alternatives exist. Selection during FEED will consider economic as well as process, reliability, efficiency, and environmental factors including emissions.

Alternative construction methods to bringing pre-fabricated equipment modules to Project Site and assembly on-site include 'stick build' or site fabrication. Some Project components will be constructed at site because modularization is either not possible or not feasible while other Project components are well suited to modular construction to reduce site work, congestion, and construction schedule. To the extent that FortisBC Operations continue to utilize base plant facilities, the timing and/or scale of the Project could be adjusted.

2.5 Alternatives to the Project

Alternative locations for LNG storage and/or liquefaction have been considered; however, no alternative site has been identified that provides an existing brownfield industrially zoned and LNG operating site, existing infrastructure including gas supply, access to tidewater and availability of expansion space.

Other potential alternatives could include reduced Project size or not proceeding with certain components of the Project. Not proceeding with the storage tank component of the Project would put the natural gas supply system in BC and Greater Vancouver region at increased risk of disruption which would have significant economic and public utility customer impacts. Not proceeding with the liquefaction component of the project would result in foregoing economic opportunities and global emission reduction opportunities.

3. Project Location

The Project Site is located on the existing Tilbury LNG facility property on Tilbury Island, within the Tilbury Industrial Park, adjacent to the Fraser River in Delta (Figure 3-1). The legal description of the Tilbury site is Lot 1 District Lot 135 Group 2 New Westminster District Plan EPP28232 except Plan EPP 36476. PID: 029-263-301. FortisBC currently operates an existing LNG facility, which occupies the northern portion of the 7651 Hopcott property (closest to the Fraser River). Coordinates of the approximate centre of the Project Site are 49 08'28"N and 123 01' 57"W and elevation is approximately 1 metre above sea level (masl). FortisBC will seek access to the temporary construction jetty along the Fraser River adjacent to the FortisBC property in cooperation with any water lot leaseholders to support the use of the construction jetty for the Project.

Neighbouring properties are used for industrial purposes with the nearest resident being approximately 700 metres (m) to the southwest of the Project Site, although the closest residential area is approximately 5 km away. Public access to the Project Site is limited, although there is public use of the dike to the north of the property along the Fraser River. The Project is located on private property owned by FortisBC, and there is no land based recreational access to the Project Site.



Photograph 1: View of Tilbury facility with new storage tank in foreground, and original tank in the background.

A summary of Indigenous Groups near the Project Site is provided in Section 11, Table 11-1. FortisBC will update this list as the Project moves forward, with input from Indigenous Groups and as advised by regulatory agencies. Research on Traditional Land Use (TLU) information surrounding the Project Site will be conducted in consultation with the corresponding Indigenous Groups as applicable.

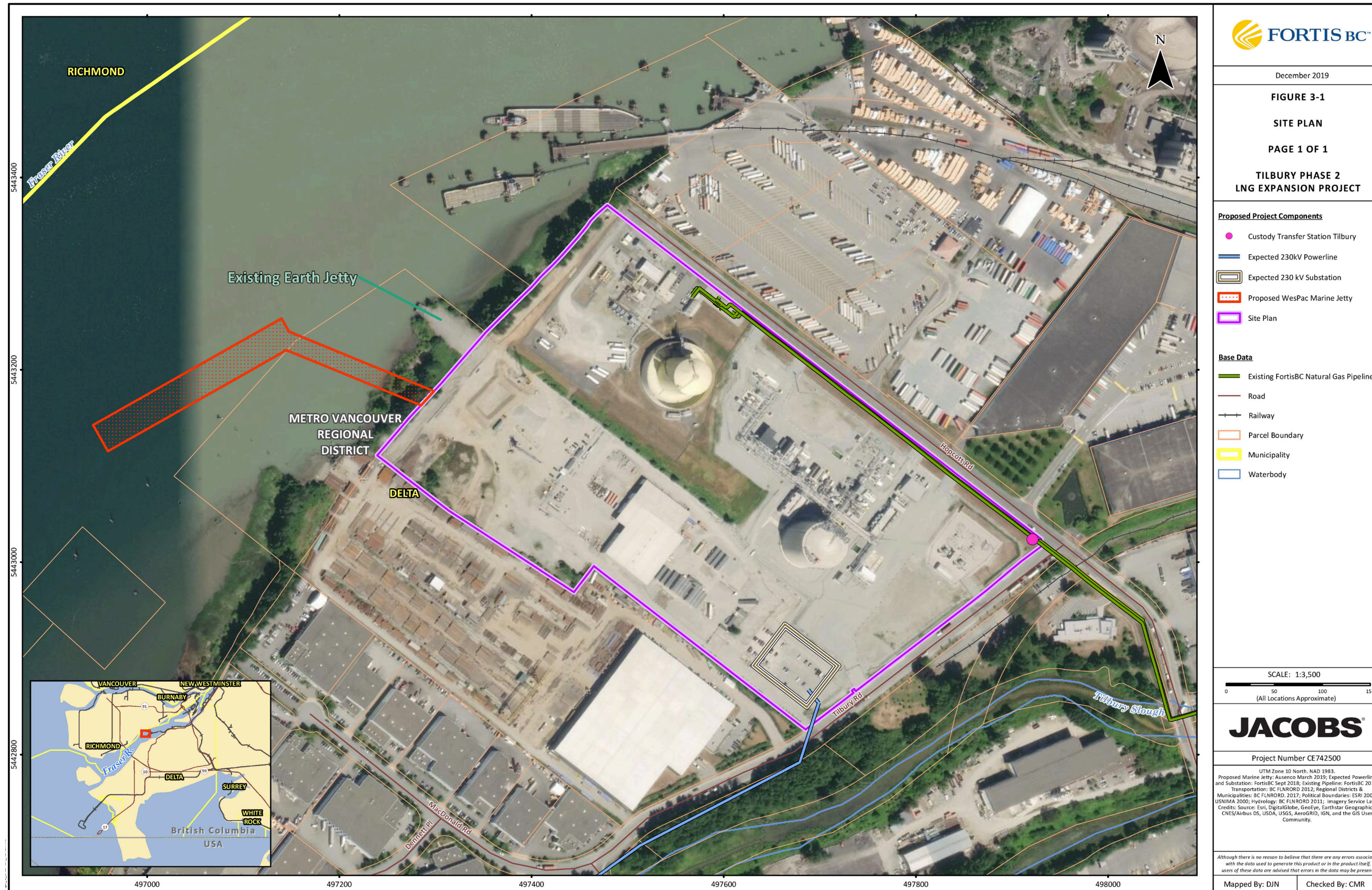


Figure 3-1. Project Site Plan

4. Spatial Boundaries

The EA / IA will consider the potential significant adverse effects of the Project on the five pillars of environmental, economic, social, heritage, and health values. As planning for the Project advances, FortisBC will work with relevant regulatory authorities, potentially affected Indigenous Groups, and stakeholders to identify concerns and issues with the Project, and this will inform the selection of valued components (VCs) under each of the five pillars listed previously.

Spatial boundaries for the VCs will encompass the geographic extent of measurable potential environmental, economic, social, heritage, and health effects of the Project. Preliminary spatial boundaries were determined by the potential zones of interaction between a VC and the Project. The spatial boundary may be limited to the Project footprint or extend beyond the physical boundaries of the area of the Project component, since the distribution or movement of a VC can be Local, Regional, or even broader.

The Project footprint includes the land area directly disturbed by the Project construction activities, including associated physical works and activities. The Local Study Area (LSA) encompasses the area in which the VC is most likely to be affected by the Project. The Regional Study Area (RSA) includes the LSA, and the area beyond the LSA boundaries where the predicted likely residual effects from the Project may act in combination with those of existing and reasonably foreseeable developments and activities to cause cumulative effects.

The preliminary spatial boundaries for assessing Project effects on the pillars, including preliminary VCs, are provided in Table 4-1. These will be further refined following VC selection and further scoping exercises.

Table 4-1. Preliminary Spatial Boundaries

Pillar	LSA Boundary and Rationale	RSA Boundary and Rationale
Environment	<p>The LSA will be defined for each Environmental VC and will be based on the zone of influence of the Project on the VC. The selection of the LSA will be informed by:</p> <ul style="list-style-type: none"> • Guidelines for Air Quality Dispersion Modelling in British Columbia (BC MOE 2008) for potential effects to air quality (to be refined through modelling) • British Columbia Noise Control Best Practice Guideline (BC OGC 2009) where potential interactions are anticipated to occur with the acoustic environment • the Project footprint plus a 100 m buffer around the Project Site for potential effects to vegetation resources • the footprint of the proposed facility plus a 1 km buffer to the northeast, south, and southwest for potential effects to wildlife resources • a separate LSA for marine birds to encompass the nearshore waters of the Fraser River • freshwater fish habitat in the Fraser River with the potential to be affected by project development for potential effects to fish and their habitat (LSAs from other VCs such as vegetation and wetlands will inform the fish LSA) • an approximate 1-km-wide band for potential effects to surface water quality 	<p>The RSA will be defined for each Environmental VC and will be based on the potential interaction of the effects of the Project with the effects of other existing or future effects on the same VC. The selection of the RSA will be informed by:</p> <ul style="list-style-type: none"> • results of air dispersion modelling • BC OGC guidelines on acoustic effects, indicating that the RSA for the acoustic environment will extend 5 km from the Project boundary • the RSA for vegetation will consist of a 1 km buffer surrounding the Project boundary • the RSA for wildlife resources will consist of a 15 km buffer surrounding the Project boundary. The nearby locations of National Wildlife Areas and WMAs will further inform the RSA • the RSA for fish and fish habitat consists of the South Arm of the Fraser River downstream of the Project Site to Sand Heads including a 500 m buffer upstream. The locations of nearby sloughs and WMAs will further inform it

Table 4-1. Preliminary Spatial Boundaries

Pillar	LSA Boundary and Rationale	RSA Boundary and Rationale
Economic	The LSA for Economic conditions includes Delta, which comprises three urban communities: Ladner (administrative centre), Tsawwassen, and North Delta	The RSA for Economic conditions is the City of Delta and Metro Vancouver.
Social	<p>The LSA for Social conditions will include:</p> <ul style="list-style-type: none"> • Delta, including Ladner (administrative centre), Tsawwassen, North Delta, and boundaries of Indigenous Group communities where it can be reasonably expected that direct, identifiable effects from the proposed Project will occur for potential effects to Infrastructure and Services • all lands with a potential viewpoint of Project components for potential effects to Visual Quality This includes the area within foreground (less than 1 km from the Project boundary) and middle ground (1 to 5 km from the Project boundary) • communities with the greatest potential to experience direct community health effects as a result of the Project within Fraser Health Area for potential effects to Community Health and Well-being 	<p>The RSA for Social Conditions will include:</p> <ul style="list-style-type: none"> • the City of Delta within Metro Vancouver for potential effects to Infrastructure and Services • the area beyond the LSA to within 10 km of the Project Site for Visual Quality. This RSA will be further refined based on the farthest reasonable distance at which the Project may be visible • all communities within the Fraser Health Area for potential effects to Community Health and Well-being
Heritage	The LSA for the archaeological and Heritage resources assessment will be the area of ground disturbance for the Project.	The RSA for the archaeological and Heritage resources assessment will be the same as the LSA.
Health	The LSA for the assessment of potential Health risks to humans from potential changes to air quality will be the same as that for air quality.	The RSA for the assessment of potential Health risks to humans from potential changes to air quality will be the same as that for air quality.

Note:

WMA = Wildlife Management Area

5. Land and Water Use

The Project Site is located within the Municipal boundary of Delta on Tilbury Island on the southern shoreline of the South Arm of the Fraser River (Figure 1-1). The Project Site is located on easements within the FortisBC property, located at 7651 Hopcott Road. As described in the Delta Official Community Plans (OCPs), the Project occupies an area intended for Industrial Land Use (OCP, Map 5 – Industrial and Utility Designations) (Delta 2019a). The FortisBC property where the Project will be located is designated as I7 (Special Industrial) which allows for the manufacturing, processing, finishing, and storage of natural gas. As such, the Project is consistent with the OCP for the Project Site (Figure 1-2). Marine transportation during construction including delivery of equipment modules along the Fraser River would occur along established shipping lanes and following the requirements of the applicable authorities including Transport Canada.

Information on Indigenous Groups with established or asserted traditional territories that overlap with the Project Site is provided in Section 11.1. Research on TLU surrounding the Project Site will be conducted in consultation with the corresponding Indigenous Groups, as applicable. As a result of constructing the Project on a brownfield site, there is no indication that the Project will require access to or use of lands currently used for traditional purposes by an Indigenous Group.

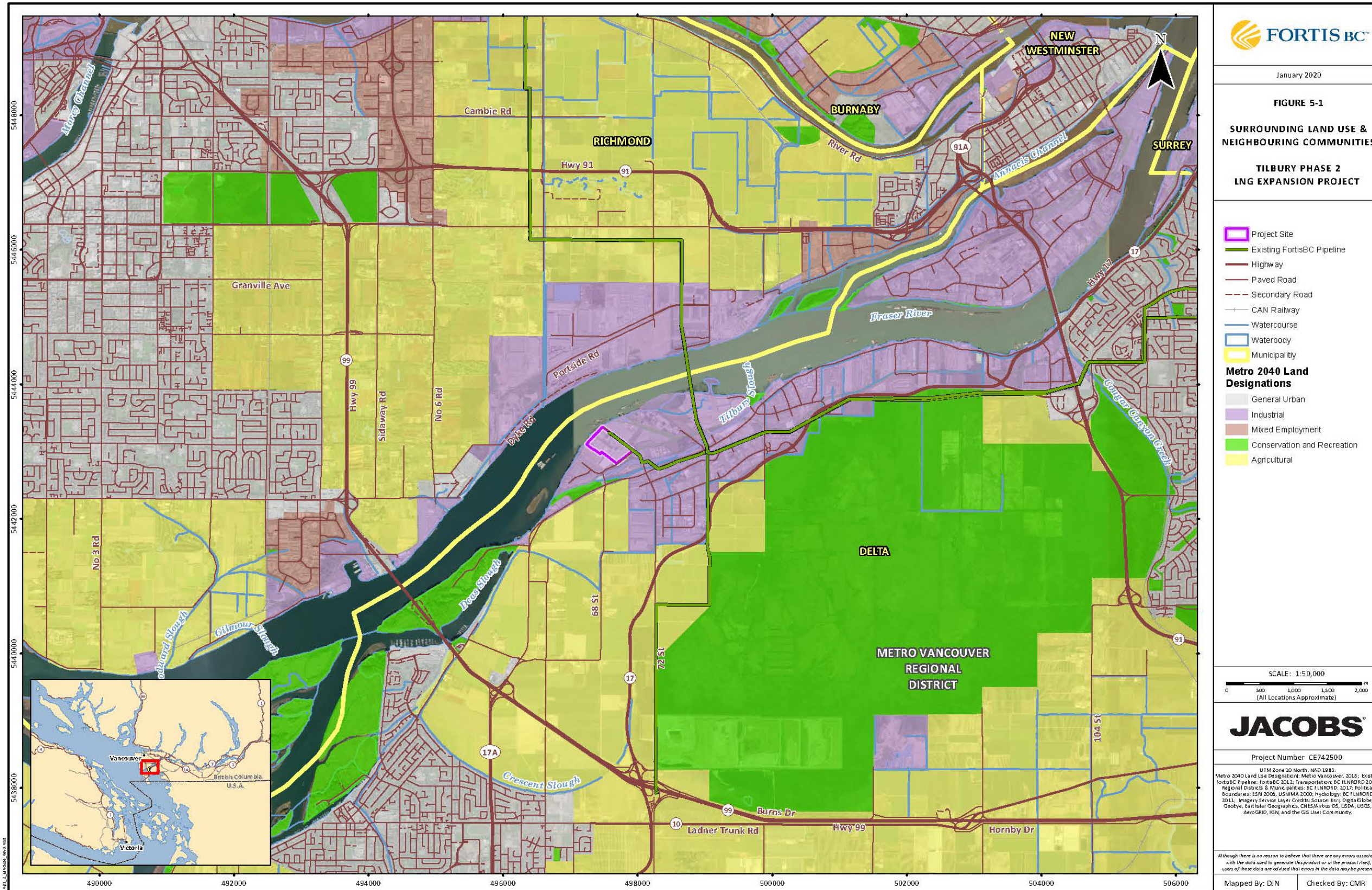


Figure 5-1. Surrounding Land Use and Neighbouring Communities

6. Emissions, Discharges and Waste

Project activities associated with all phases of the Project, including construction, operations, and decommissioning, have potential to affect the atmospheric environment through the emission of criteria air contaminants (CACs) and GHGs.

Table 6-1 provides a preliminary estimate of Project-related GHG emissions (expressed in terms of carbon dioxide equivalents) and their sources per Project phase. A discussion of these and other emissions, discharges, and waste is provided in sub-section 6.1.

Table 6-1. Estimated Direct GHG Emissions per Phase

Phase	Duration	Emission Type(s)	Emission Source(s)	CO ₂ e/year
Construction	3 years	CO ₂ , CH ₄ , NO, other hydrocarbons and particulate matter.	<ul style="list-style-type: none"> construction vehicles and equipment delivery of material (including gravel for grading) ground stabilization concrete for tank and foundations perlite in cold box (uses giant furnaces) marine traffic clearing and grading 	<ul style="list-style-type: none"> 2,235 tonnes of CO₂e/year
One-time Venting	Single occurrence	CH ₄	<ul style="list-style-type: none"> commissioning / cool-down of process equipment and tank with LNG 	<ul style="list-style-type: none"> 6,560 tonnes of CO₂e
Operations	40+ years	CO ₂ , CH ₄ , NO, other hydrocarbons and particulate matter.	<ul style="list-style-type: none"> operation of electric drive compression liquefaction facility operational vehicles and equipment thermal oxidizers, gas flare, and fired heaters transportation, Project Site maintenance, and equipment operations transferring LNG, resulting in fugitive emissions 	<ul style="list-style-type: none"> 203,000 tonnes of CO₂e/year (direct) 23,500 tonnes of CO₂e/year (acquired energy)
Decommissioning	2 years	CO ₂ , CH ₄ , NO, other hydrocarbons and particulate matter.	<ul style="list-style-type: none"> construction vehicles and equipment disposal of material 	<ul style="list-style-type: none"> 2,514 tonnes of CO₂e/year

Notes:

CO₂ = carbon dioxide

CO₂e/year = carbon dioxide equivalent per year

CH₄ = methane

NO = nitrogen oxide

GHG emissions are usually expressed as carbon dioxide equivalents (CO₂e), which represent GHG emission quantities in terms of their global warming potential relative to CO₂.

In accordance with the Draft Strategic Assessment of Climate Change guidance, the Net GHG emissions are estimated to be 9 million tonnes CO₂e. This estimate is based on FortisBC's preliminary understanding of the Project activities and equipment and includes the following elements:

- direct GHG emissions
- acquired energy GHG emissions
- transferred surplus energy GHG emissions
- CO₂ captured and stored
- avoided domestic GHG emissions
- offset credits

This estimate of Net GHG emissions will be updated during future stages of the assessment process based on refined Project information and discuss global GHG reduction potential from displacing other fuels.

6.1 Other Emissions Discharges and Waste

The following is a discussion of estimated expansion-related emissions, discharges, and waste and their sources per Phase. These may include but are not limited to:

- light, noise, and vibration emissions
- emissions of atmospheric contaminants
- silt and soil from roads and soil storage areas
- sanitary waste
- construction water (such as, process water discharges, equipment and facilities wash down water, along with dust suppression water runoff)
- storm water runoff
- firewater runoff in the event of an emergency
- solid wastes, such as household and industrial wastes associated with facility operations
- hazardous waste such as used motor and hydraulic oils, contaminated filters, used chemical cleaning fluids, and paints

Project design and planning phases will consider the following measures to reduce emissions to the land, air, and water during construction, operations, and decommissioning:

- Air quality and noise will be monitored during construction, operation, and decommissioning, as necessary.
- Equipment selection will consider efficiency and emissions including GHG contribution.
- Equipment, machinery, and vehicles will be maintained to reduce emissions and prevent spills.
- Discharges from the facility will be controlled in accordance with codes and regulatory requirements.
- Solid and liquid waste will be stored in containers and transported to appropriate disposal and recycling facilities.
- Sanitary sewage and storm water management will follow regulatory requirements.
- Contaminated areas on the Project Site will be managed in accordance with acceptable regulatory standards.

During construction, FortisBC will implement an Environmental Management Plan (EMP) to drive compliance with environmental requirements. Environmental Inspectors will be accountable for overseeing environmental compliance during the construction of the Project. The Environmental Inspectors will be chosen based on qualifications as well as specific experience and understanding of LNG facility construction techniques. The Environmental Inspectors will have the authority to stop work in the event of an environmental emergency.

During operations, FortisBC will refer to their existing Environmental Management System, environmental standards, and guidance documents that will be updated, where required, as a result of the Project.

6.1.1 Construction

Construction activities that may contribute to emissions, discharges, and waste include:

- site preparation
- clearing
- fill and grading
- compaction
- construction of buildings and other structures
- marine vessels moving construction materials/equipment to site
- hydro testing water from tank and piping systems
- initial cool-down/fill of LNG tank with LNG

Transportation of construction materials and equipment on land can contribute to increase in fugitive dust emissions. Vehicles and equipment release criteria air contaminants. Equipment, machinery, and vehicles will be maintained to reduce emissions. Higher levels of truck deliveries would occur at certain times of the construction schedule (such as, concrete pours) where as many as 65 deliveries per day could be expected for short periods. Other periods of construction could have very few deliveries; an average day would consist of six deliveries. Marine transportation of equipment modules can contribute to emissions from vessels. Diesel or LNG powered tugs/vessel engines could power vessels/barges. Approximately 25 vessel/barge deliveries are expected resulting in 50 vessel movements over a 2- to 3-year construction period.

Construction noise will be generated through various activities and may increase daytime ambient sound levels from vehicles and equipment. Any light emissions during nighttime activities will be based on safety and security lighting. Noise and light impacts will be considered in design decisions to mitigate impacts from construction and operations activities.

Options for test water disposal include:

- disposal at an approved facility
- discharge into the sanitary sewer system
- treatment and discharge to the Fraser River in accordance with applicable regulations and permits

Construction storm water management and sediment and erosion control measures will be included in the EMP. Solid wastes will be generated from site preparation and construction activities. Solid waste will be disposed of or recycled at appropriate facilities. The storage, handling, and disposal of hazardous waste will be managed in accordance with regulatory requirements and measures outlined in the EMP. The EMP will outline measures to prevent and manage hydrocarbon spills during construction.

6.1.2 Operations

It is estimated that operations of the electric drive compression liquefaction facility will result in approximately 203,000 tonnes of CO₂e emissions per year based on 11,000 t/d of Project LNG production (assuming operation 24 hours/day and 345 days/year). Electric drives and air cooling will be used for liquefaction, which reduces overall emissions. Gas- and diesel-powered operational vehicles and equipment will generate atmospheric emissions from combustion of fuels. During operations, the main sources of air emissions (NO, CO₂, sulfur dioxide, hydrocarbons, and particulate matter) are from thermal oxidizers, gas flare, and fired heaters. Other sources of air emissions may include transportation, Project Site maintenance, and equipment operations. LNG storage tanks are designed to be closed loop systems with no normal venting or emissions other than the initial cool-down and fill in the construction phase. Pressure safety relief venting from the LNG tank is possible but is not considered normal operations.

During operations, potential sources of noise include air coolers, cooling towers, compressors, pumps, and vehicle traffic. Similar to the construction phase, any nighttime light emissions will be the result of on-site lighting for health and safety purposes. All noise and light emissions will be managed in accordance with FortisBC standards and will meet regulatory requirements.

Water discharges will be processed on-site and will be disposed of through existing wastewater management infrastructure, in accordance with applicable regulatory requirements.

Solid and liquid wastes may be generated from operation of the facility and will be managed in accordance to an updated operations plan for the facility. Where feasible, the volume of waste generated during operations will consider opportunities for material reduction at source, re-use, recycling, and recovery. Solid waste will be disposed of or recycled at appropriate facilities.

Refer to Section 10.9 for mitigation and management procedures addressing operational accidents and malfunctions.

6.1.3 Decommissioning

Emissions, discharge, and waste associated with decommissioning and closure will include air emissions from combustion engines, noise emissions from machinery activities, storm-water runoff, and waste from equipment and structure removal. Emissions will be short-term, only during the decommissioning phase. Decommissioning activities will follow regulatory requirements and FortisBC policies and plans in place at the time of decommissioning.

7. Construction, Operations, Decommissioning, and Abandonment Phases

7.1 Project Construction and Operations

The Project will require the following Project Site preparation, construction, and operations activities as outlined in Table 7-1.

Table 7-1. Description of Project Activities

Site Preparation
<ul style="list-style-type: none"> • Site planning by phase • Mobilization of construction equipment, temporary offices, and materials to the site by truck • Clearing, filling, and grading of mostly paved/disturbed site • Provide construction power • Re-location/improvements to storm water and erosion and sediment control measures • Ground preparation, geotechnical and archeological assessments and work permitted for the site to improve load bearing of the soil (could include pre-loading and geotechnical ground stabilization)
Construction
<ul style="list-style-type: none"> • Ground improvements and civil works including foundations and structures • Construction of electrical step-down transformers from 230 kV substation, including associated on-site Project power lines • Construction of LNG storage tank. Installation of related piping, pumps, and boil-off compressors. Piping connections to existing plant (LNG vapourization) and to the Tilbury Pacific LNG Marine Jetty) • Construction of the gas supply interface and pre-treatment systems • Upgrading/reinforcing the construction jetty, if required • Transporting equipment modules up the Fraser River, mooring at the temporary construction jetty, and offloading at site. It is estimated that 25 vessel/barge deliveries will be required during the 3-year construction period. The vessel/barge deliverables are expected to come from Sand Heads lighthouse at the mouth of the Fraser River along the shipping channel of the South Arm of the Fraser River to the Project Site. • Transporting, setting, and final assembly construction of liquefaction train modules • Construction of thermal oxidizer/flare for combustion of waste and emergency vent streams • Connections of liquefaction trains to LNG tank, power, utilities, safety, and control systems • Construction of administration/control, maintenance, utility, and safety facilities • Commissioning of phased equipment installation including initial cool-down and fill of LNG lines and Tank • Site clean-up, installation of security • Anticipated emissions, discharges, and waste: <ul style="list-style-type: none"> – Atmospheric (air, noise, light) – Collected sanitary waste (liquid and solid)
Operation
<ul style="list-style-type: none"> • Receipt of natural gas via piping from FortisBC natural gas metering station • Pre-treatment of natural gas to remove components of pipeline natural gas not compatible with liquefaction process • Storage of refrigerants and liquid hydrocarbons and trucking for removal/delivery • Liquefaction of the natural gas (using electric compression drives and air cooling) • Transfer LNG and LNG storage • LNG boil-off gas management • Transfer of stored LNG to distribution (existing vapourization / send-out, LNG marine jetty) • Control, inspection, and maintenance of Project components • Emissions include: <ul style="list-style-type: none"> – Atmospheric (air, noise, light, combustion, emergency flaring/venting)

7.2 Project Decommissioning and Reclamation

The Project Site is zoned for industrial use; therefore, at the end of the Project's operational life (that is, 40+ years) the Project facilities may be decommissioned in accordance with regulations applicable at that time, including BC OGC permitting requirements, and in consideration of preferred land uses at that time.

Decommissioning activities may include:

- De-energizing, decommissioning purging and dismantling of LNG facilities
- Re-purposing and recycling of materials and equipment
- Reclamation of the Project Site for alternate use

The Project Site would then be prepared for its next use. The schedule for decommissioning activities will be developed during FEED.

8. Regulatory Context

The following sections describe the legislative and regulatory context for the Project including the BC *EAA*, the Federal *IAA*, and other anticipated permits and approvals. The Project also introduces opportunities to upgrade existing infrastructure to current design standards and technologies and to align with new environmental policies (such as, the Government of BC's CleanBC Plan).

8.1 BC Environmental Assessment Act

The Project will trigger a Provincial EA pursuant to the BC *EAA* as it exceeds the trigger for assessment as follows:

“the modification results in an increase in the capability of the project to store one or more energy resources, other than electricity, by a quantity that can yield by combustion ≥ 3 PJ of energy or, for liquefied natural gas, increase by $\geq 136\,000\text{ m}^3$.” (Part 4, Table 8, Column 3, Criteria (1)(b) Reviewable Projects Regulation)

The Project includes adding storage of up to $162,000\text{ m}^3$ (4.0 PJ) which would increase the total storage at the Project Site to $236,000\text{ m}^3$ (5.8 PJ) with the existing base plant Tilbury tank remaining which exceeds the $136,000\text{ m}^3$.

FortisBC has met with the BC EAO to provide an overview of the Project and initiated discussions related to EA process and timing and consultation.

8.2 Federal Impact Assessment Act

The Project will also be subject to the Federal IA process under the *IAA*. Section 38(d) of the *Physical Activities Regulations* includes;

38 *The expansion of one of the following: (d) an existing facility for the liquefaction, storage or regasification of liquefied natural gas, if the expansion would result in an increase in the liquefied natural gas processing or storage capacity of 50% or more and a total liquefied natural gas processing capacity of 3 000 t/day or more or a total liquefied natural gas storage capacity of 136 000 m³ or more, as the case may be.”*

FortisBC has met with the IAAC to provide an overview of the Project and initiated discussions related to IA process and timing and consultation.

The Project includes adding liquefaction of up to 11,000 t/d for a total facility LNG production of up to 13,760 t/d. The Project represents a liquefied natural gas processing increase of more than 50 percent and total liquefied natural gas processing capacity exceeding 3,000 t/d.

The Project include adding LNG storage of up to $162,000\text{ m}^3$ (4.0 PJ) for a total facility LNG storage of up to $236,000\text{ m}^3$ (5.8 PJ). The Project represents an increase in LNG storage capacity of more than 50 percent and total LNG storage capacity of more than $136,000\text{ m}^3$. Therefore, the Project would be considered a physical activity pursuant to the *Physical Activities Regulations* and is thereby reviewable under the *IAA*.

Given that both the Federal and Provincial EA processes are triggered, FortisBC will ask that the Province request the Federal Minister of Environment and Climate Change to approve the substitution of the BC EA process for the Federal IA process. If substitution is approved for the proposed Project, it is expected that the BC EAO will conduct the EA/IA in accordance with the conditions set out in the Substitution Decision, and at the end of the assessment process the BC EAO will provide its report to both the Provincial and Federal Ministers for their consideration.

8.3 Other Permits and Approvals

The following section outlines potential additional permits that may be required before the Project construction can begin (Table 8-1). Consultation with regulatory agencies is required to confirm permit requirements. FortisBC plans to make permit applications concurrent with the EA review process to optimize efficiency of combined processes and schedule.

Table 8-1. Preliminary List of Additional Permits and Approvals for the Project

Approval	Agency	Legislation/Regulation	Application Considerations
Facility Permit or Amendment	BC OGC	BC OGAA	An amendment to the existing facility permit or new facility permit is required for the construction and operation of the expansion. The amendments could be completed in phases to align with the construction phases. Requires site-specific environmental baseline fieldwork, detailed engineering information, and consultation with Indigenous Groups and public stakeholders prior to EA Application submission.
AIF	BC OGC and BC MFLNRORD	BC OGAA	All oil and gas development proposed in BC requires an AIF to be submitted to the BC OGC. The AIF indicates whether the proposed development will require a further AIA. Major projects that cover substantial areas typically require an AIA. An AIA was conducted on the Phase 1A portion of the Project Site in 2013. The AIF can be completed prior to finalizing the AIA; however, the approval would be conditional on completion of an AIA.
Waste Discharge Authorization	BC OGC	BC OGAA	Disposal of hydrostatic or other waste water to the aquatic environment will require an Authorization. This will be applied for as part of the Facility Permit Amendment Application to the BC OGC.
Heritage Inspection Permit	BC MFLNRORD	HCA (Section 12.2)	An AOA would be completed for the Project. The AOA would determine if further archaeological assessment (such as, an AIA), is required. An AIA would require a Heritage Inspection Permit. Engagement with potentially affected Indigenous Groups will be required during the preparation and review of the Application.
Heritage Site Alteration Permit	BC OGC	HCA (Section 12.4)	A Heritage Site Alteration Permit will be required to alter (meaning to change in any manner) an archaeological site. Typically follows a Heritage Inspection Permit and/or Heritage Investigation Permit. An AIF must be completed in advance. Engagement with potentially affected Indigenous Groups will be required during the preparation and review of the Application.
CPCN (for public utility assets)	BCUC	BC Utilities Commission Act	A CPCN approval is needed prior to construction of public utility assets over a dollar threshold. The BCUC conducts public hearings to determine whether the project is necessary and in the public interest based on evidence gathered in the public hearing.
First Nations Heritage Permits	Various Indigenous Groups	Indigenous policies	Several Indigenous Groups issue permits for archaeological work conducted in their territory.

Table 8-1. Preliminary List of Additional Permits and Approvals for the Project

Approval	Agency	Legislation/ Regulation	Application Considerations
Request for Review and <i>Fisheries Act</i> Authorization for Paragraph 35(2)(b)	DFO	<i>Fisheries Act</i>	An assessment under the <i>Fisheries Act</i> would be completed by a QEP. A Request for Review by DFO may be recommended by the QEP if clearing of riparian vegetation or instream disturbance could result in serious harm to fish that are part of a commercial, recreational, or Aboriginal fishery, or to fish that support such a fishery. After reviewing the Request for Review, DFO will determine if an authorization under the <i>Fisheries Act</i> is required.
Navigable Waters Application for Approval	Transport Canada	<i>Canadian Navigable Waters Act</i> <i>Section 5</i>	An approval is required for any major works located in, on, over, under, through or across any navigable water, regardless of whether it is listed in the Schedule; or a work (other than a minor work) that is located in, on, over, under, through or across navigable water that is listed in the Schedule.
General Permit Applications	BC MFLNRORD	<i>Wildlife Act</i>	Required for amphibian salvage, wildlife sundry, fish research at watercourse crossing, and fish salvage.
Waste Discharge Permit	Metro Vancouver	<i>Bylaw 299</i>	Required to discharge hydrostatic test and other construction waste water (excluding contaminated water) to the sanitary sewer system.
Building Permit	Delta	<i>Local Government Act</i>	A building permit would be required from Delta for new structures on the Project Site.
Development Permit	Delta	<i>Local Government Act</i>	Form and Character and Environmental Protections Development Permits may be required for the changes to the Project Site. Consultation is required with Delta to confirm Development Permit requirements.
Demolition Permit	Delta	<i>Local Government Act</i>	A demolition permit would be required for the demolition of existing structures.
Tree Cutting Permit	Delta	<i>Bylaw 7415</i>	A Tree Cutting Permit is required from Delta for removal of any trees with a diameter of 20 cm or greater measured at 1.4 m above its base.

Notes:

AIF = Archaeological Information Form

AOA = Archaeological Overview Assessment

BC MFLNRORD = BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development

cm = centimetre(s)

CPCN = Certificate of Public Convenience and Necessity

DFO = Fisheries and Oceans Canada

HCA = Heritage Conservation Act

QEP = Qualified Environmental Professional

9. Federal Involvement – Financial Support, Lands and Legislative Requirements

There are no Federal lands or reserves that will be used for the purpose of carrying out the Project. The Project will not require Federal financial support and is located in an area that has not been the subject of Federal regional environmental studies. During construction, equipment and supplies may be delivered via the Fraser River to the Project Site. The portion of the Fraser River next to the Project Site is understood to be within Provincial jurisdiction. The closest Federal lands to the Project Site are on the southern tip of Tilbury Island. The parcels are narrow strips of land in the riparian area of the Fraser River and a side channel. The closest parcel is 150 m to the southwest and encompasses a portion of the Tilbury Island dike, which is used as a public walking trail and directly across the Fraser River from the Project Site (approximately 900 m north) is a complex of Federally-owned industrial parcels on Lulu Island. The businesses directly adjacent to the river include Lulu Island Terminal, Coast 2000 Terminals, and Westran Portside Terminal. Potential Federal permits and approvals are listed in Section 8.2 and 8.3.

10. Environmental, Economic, Social, Heritage and Health Effects

This section includes a brief overview of the potential environmental, economic, social, heritage, and health effects, and proposed mitigation, as they are currently understood, that may arise from construction, operation, decommissioning, and abandonment for the Project. The understanding of potential effects of the Project will be further refined through development and engagement activities and will be addressed during the development of the VC selection document, and ultimately in the Application for an EAC. A desktop evaluation was completed that included reviewing historical environmental evaluations of the Project Site, accessing government databases and reviewing environmental studies conducted near the Project Site, including for the WesPac Marine Jetty Project.

10.1 Environmental Impacts on Federal Lands, in a Province other than British Columbia, or outside of Canada

The Project Site is located on private land owned by FortisBC within the Municipal boundaries of Delta and a portion of the Fraser River, within Provincial jurisdiction. Potential changes to the environment as a result of carrying out the Project are not anticipated to interact with or impact Federal lands, a Province other than BC, or outside of Canada. Potential trans-BC-boundary effects will be determined during the development of the EAC Application, but could include, for example, air quality and GHG emissions.

10.2 Physical Environment

The Project Site is located near the Fraser River, in the Fraser Lowlands section of the Georgia Depression Physiographic Region. The Fraser River flows through glacio-fluvial and alluvial deposits, ending in a delta approximately 10 km downstream of the Project Site. Bedrock types are dominated by sedimentary, volcanic, and granitic (Dakin n.d.).

The Project Site is on generally flat terrain and drains generally to the west and northwest by way of a drainage ditch, which is understood to flow into the Tilbury Slough, approximately 100 m south of the Project Site. The slope of the land ranges from 0-2 degrees throughout the development site.

10.2.1 Geology and Soils

Surficial materials at the Project Site are typical of flood plain or deltaic deposits, composed of very deep silts, sands, and clays. These unconsolidated materials are deposited in layers and extend up to 200 m below the surface of the ground. The soil stratigraphic profile of the Project Site shows silt or clay loams to a depth of approximately 5 m, overlaying deep (~25 m) deposits of Fraser River sand, which is situated on top of very deep (> 100 m) marine deposits (Golder 2013).

The Project Site elevation is approximately 1 masl and is typical of flood plain sites, with a fluctuating water table and soils that are saturated during the winter months due to poor drainage, flat topography and dense, fine-textured soils (Green and Klinka 1994).

Based on information collected from a geotechnical assessment conducted in 2013, the water table at the Project Site is high, with ground water being encountered between 0.5 m and 1 m below the surface of the ground (Golder 2013).

Soil densification at the Project Site will be conducted to meet seismic requirements, to support the load of the LNG tank, and to ensure a stable surface for constructing the facility.

Soil densification and ground improvement activities will result in the excavation and removal of large amounts of surficial material from the Project Site, as well as the deposit of large amounts of sand and gravel. This may result in the generation and mobilization of sediment, which could have an adverse effect on nearby watercourses.

FortisBC will control sediment production and mobilization through erosion control measures and sediment collection or settling facilities. Ground and surface water will be controlled through measures such as Project Site isolation, damming, or pumping around work areas.

10.2.1.1 Contaminated Soils and Groundwater

The entire Project site was historically used for agricultural purposes. In the early 1970s, the western portion of the Project Site was occupied by a sawmill and the eastern portion was developed for the Tilbury LNG facility. The Project Site was subject to numerous environmental investigations and remediation efforts from 1991 to 2014. A Certificate of Compliance under the *Contaminated Site Regulation* was obtained for the western portion of the Project Site, formerly the sawmill site. This area has since been developed with additional infrastructure as part of the Phase 1 expansion of the Tilbury LNG facility. Additional investigations of soils and groundwater will be completed on the Project Site during the preparation of the EA Application.

10.2.1.2 Natural Hazards

No geotechnical hazards (such as, mass wasting) have been identified that would affect the Project Site. Seismicity was identified as a natural hazard that has the potential to adversely affect the Project.

10.2.2 Water and Aquatic Systems

The property boundary extends between 20 m and 30 m southeast of the Fraser River. Between the Project Site and the Fraser River is a dike, which is maintained by Delta. The construction jetty extends past the dike and into the river. The south end of the property is approximately 100 m north of Tilbury Slough, a side channel of the Fraser River. The Project Site has been mostly cleared for industrial purposes and has no natural watercourses. There are a series of drainage ditches located on the property that serve to drain surface water from the Project Site. Site drainage enters Tilbury Slough via a culvert located at the southwest end of the property.

Flood protection measures, as outlined by Delta during the building permit process, will be incorporated into building design and/or ground improvement plans.

Expansion construction will be primarily in the upland areas away from the Fraser River and Tilbury Slough with the exception of upgrades to an existing construction jetty to use as a temporary material offloading jetty during construction. Upgrades to the construction jetty could include the installation of piles, placement of fill and rip rap and vegetation removal. Dredging of the area around the jetty may be required to increase river depth. The extent of upgrades will depend on the state of the earth jetty at the time of construction of the Project. The earth jetty may be upgraded prior to the construction of the Project by either the WesPac Tilbury Marine Jetty Project or for use on other ongoing FortisBC Tilbury LNG facility site upgrades.

Potential effects to the aquatic environment resulting from upgrading and use of the construction jetty, including increased marine traffic during construction may include localized changes in flow direction, velocity, scouring, and sedimentation. Potential impacts to fish and fish habitat are discussed below in Section 10.3.3. Sediment and erosion control measures will be implemented to reduce water quality impacts to the aquatic environment from construction activities.

It is expected that the upgrades would be temporary, and the construction jetty would be restored following construction since it is not needed for operation of the Tilbury LNG facility.

Hydrostatic testing of the LNG storage tank and piping will be required prior to commissioning; however, test water will be collected, tested, and discharged either to the sanitary sewer system or if approved under certain conditions and applicable Waste Disposal Authorizations, to the river.

10.3 Biological Environment

The biological components addressed in this section are vegetation, wildlife, and aquatic resources (fish, marine mammals, amphibians, and their habitat).

Wildlife use within the Project Site is primarily limited to a small (that is, approximately 50 square metres) treed area at the southwest corner of the property, adjacent to the drainage ditch that separates the Hopcott Road properties from the Tilbury Road property. Wildlife species common to the Delta area (such as, coyote and songbirds) are common at the Project Site; however, the area has limited value for wildlife in its present condition.

The nearest fish-bearing watercourses to the Project Site are the Fraser River and Tilbury Slough on the south side of Tilbury Road. A series of drainage ditches run along the property edges of the Project Site. The drainage ditches are not fish-bearing due to a lack of habitat and accessibility but do have amphibian habitat potential.

Detailed information on the biological resources of the Project Site is presented in the following sections.

10.3.1 Vegetation

The Project Site is situated in the Coastal Douglas-Fir Biogeoclimatic Zone, although it is transitional to the Coastal Western Hemlock Zone. The Coastal Douglas-Fir Biogeoclimatic Zone has warm dry summers and mild wet winters (DeLong et al. 1991). The Project Site was previously cleared of natural forest and has been heavily disturbed, with the majority of the Project Site being used for industrial purposes.

Vegetated areas within the Project Site include drainage ditches along the southeast perimeter of the site as well as a small area of riparian vegetation on the bank of the Fraser River. The drainage ditches are dominated by plant species that are common on disturbed and riparian sites. Riparian vegetation associated with the ditch system is a combination of natural and introduced species. Where the ditch is not draining, standing water has accumulated and a riparian plant community exists. The riparian vegetation along the Fraser River is deciduous-dominated young forest with an understory dominated by plant species that are common on disturbed and riparian sites.

A desktop background review of plant and ecosystem communities at risk with the potential to occur at the Project Site was completed. Information and data were collected through a desktop review of publicly available datasets (DataBC, iMapBC, HabitatWizard, BC Conservation Data Centre [BC CDC], Species at Risk Public Registry). The results identified two Provincially- and Federally-listed plant species that may be present within the Project footprint, Vancouver Island beggarticks (*Bidens amplissima*) (*Species at Risk Act* [SARA] Schedule 1, Special Concern, BC Blue-listed) and streambank lupine (*Lupinus rivularis*) (SARA Schedule 1, Endangered, BC Red-listed) as well as two Provincially-listed species, two-edged water starwort (*Callitriche heterophylla* var. *heterophylla*) (not SARA-listed, BC Blue-listed) and Henderson's checker-mallow (*Sidalcea hendersonii*) (not SARA-listed, BC Blue-listed) (BC CDC 2019). These species are known to occur within the tidal zones of the Fraser River and are found along the shoreline of marshes, wet meadows, bogs, ditches, stream banks, and lake margins at low elevations (SCCP 2019). A known occurrence of two-edged water starwort has been identified approximately 15 km upstream of the Project Site (BC CDC 2019). Project construction will be primarily in the upland areas away from the river, though some riparian and instream vegetation will be affected for the temporary material offloading jetty.

BC CDC results identified 10 Blue-listed ecological communities and 24 Red-listed ecological communities that may occur in the Coastal Douglas-Fir Biogeoclimatic Zone in Delta. These include 7 estuary communities, 14 upland communities, and 13 wetland communities. Due to the highly disturbed nature of the vegetation cover on the Project Site, it is not anticipated any of these ecological communities occur there.

Mitigation measures will include:

- surveying for Provincially- and Federally-listed plant species prior to construction
- preventing the spread of Noxious weeds and invasive, non-native species
- minimizing disturbance to the Riparian Zones of the Fraser River and Tilbury Slough
- preparing an EMP following completion of detailed design.

Potential effects of the Project on the upland vegetation communities at the Project Site would be limited, as vegetation has been previously removed from most of the Project Site. The upgrades to the construction jetty for construction are expected to result in a short-term reduction of instream and riparian vegetation as a result of dredging, installation of piling, and placement of fill.

10.3.2 Wildlife

Wildlife use is primarily limited to the few underutilized portions of the Project Site. A small treed area at the southwest corner of the property has been documented to have periodic stick nests for breeding birds. Nesting may occur within the riparian area of the Fraser River and marine mammals and waterfowl are known to use the river for foraging and as a transportation corridor. The Project Site may provide suitable habitat for several reptile species (such as, garter snakes).

The Project Site is bordered to the northwest and southeast by Important Bird Area (IBA) BC 017: Boundary Bay – Roberts Bank – Sturgeon Bank (Fraser River Estuary) that supports at least 50 species of shorebirds, as well as a variety of raptors and waterfowl. Patches of forest within the IBA provide important nesting and roosting habitat for Great Blue Herons and raptors, including Bald Eagles, while tidal flats and agricultural fields within the IBA provide foraging habitat for overwintering and migratory birds (IBA Canada 2019).

A desktop background review of wildlife species at risk with the potential to occur at the Project Site was completed. Information and data were collected through a desktop review of publicly available datasets (DataBC, iMapBC, HabitatWizard, BC CDC, Species at Risk Public Registry). The results identified nine SARA Schedule 1 terrestrial species that potentially may occur on-site: the Blue-listed Great Blue Heron (*Ardea herodias fanini*); Blue-listed Short-Eared Owl (*Asio flammeus*); Yellow-listed Common Nighthawk (*Chordeiles minor*); Red-listed Barn Owl (*Tyto alba*); Blue-listed Olive-sided Flycatcher (*Contopus cooperi*); Blue-listed Barn Swallow (*Hirundo rustica*); Blue-listed Band-tailed Pigeon (*Patagioenas fasciata*); and Red-listed Pacific Water Shrew (*Sorex bendirii*), and Red-listed Pacific painted turtle – Pacific coast population (*Chrysemys picta* pop. 1) (BC CDC 2019).

There are recorded occurrences of Barn Owl nest sites within the Tilbury Slough, directly south of the Project Site. Although it is possible that the 16 identified species at risk use the Project Site for dispersal, foraging, cover, and/or roosting, it is unlikely that they use it for breeding or nesting as the Project Site is primarily a heavily disturbed industrial site with low habitat potential. Mitigation measures will include measures such as conducting clearing outside the breeding bird window, where feasible, or conducting bird nest sweeps by a QEP.

The Pacific Water Shrew uses riparian habitat and is known to occur near (within 2 km) to the Project Site. Sections of the perimeter drainage ditch may provide suitable riparian habitat; however, the lack of connectivity to other watercourses, along with the discontinuous nature of the water within the ditch, make it unlikely that it would be used for anything other than dispersal.

Marine mammals that may be present in the Project Site include harbour seals (*Phoca vitulina*) (not SARA-listed, BC Yellow-listed), Stellar sea lion (*Eumetopias jubatus*) (SARA Schedule 1 – Special Concern, BC Blue-listed) and California sea lion (*Zalophus californianus*) (not SARA-listed, BC Yellow-listed) (BC CDC 2019). The harbour seal is widely distributed and may occur within or adjacent to the Project Site, while the Stellar sea lion is unlikely to be present. Sea lions congregate in the Fraser estuary during the eulachon run; rafts of greater than 100 California sea lions have been observed as far as 50 km upstream of the mouth (likely upstream of the Project Site) (Bigg 1985).

Construction of the Project is not expected to substantially change habitat for potential species at risk in the area due to the previously disturbed nature of the Project Site. The main habitat value for wildlife occurs in conjunction with the perimeter drainage ditch and the riparian areas next to the Fraser River, which will be partially affected by the Project.

Construction activity would likely temporarily displace small mammals, marine mammals, and birds from using nearby adjacent areas during the construction phase; however, alternative habitat is available in the surrounding area. Impacts resulting from increased marine traffic during construction may include the potential for collision with marine mammals; however, it is anticipated to be low risk. The resulting potential effects are considered to be minimal.

Operation of the LNG facility are expected to pose little threat to wildlife populations in the area. Increased traffic along nearby roads and activity in and around the Project area footprint may temporarily discourage use by small mammals and birds during periods of activity. However, these species can habituate to routine human activities and adverse effects on wildlife use of nearby areas are expected to be minimal.

10.3.2.1 Migratory Birds Convention Act

Forty-one birds listed by the *Migratory Birds Convention Act* (Government of Canada 1994) have the potential to occur within the region (BC CDC 2019); of these, 15 are considered rare or accidental (summarized from Toochin 2018 and eBird 2019). Migratory birds have the potential to migrate through or nest within or adjacent to the Project Site. Suitable breeding habitat for most species is absent from the Project Site with the exception of riparian forest on the Fraser River that may be suitable for some songbirds such as olive-sided flycatcher (*Contopus cooperi*) (SARA- and Committee on the Status of Endangered Wildlife [COSEWIC]-listed, Provincially Blue-listed).

Vegetation removal will cause a reduction in potentially suitable nesting and foraging habitat for migratory birds and construction activity may cause migratory birds to temporarily avoid the Project Site and immediately adjacent areas. Potential effects are considered minimal due to the highly disturbed nature of the site and the small area of vegetated habitat affected. Mitigation measures described previously are expected to result in minimal risk to the Project associated with migratory birds.

10.3.3 Fish, Amphibians, and Their Habitat

The property boundary is adjacent to the riparian area of the Fraser River, but separated by a dike that is maintained by Delta. However, the jetty extends past the dike and into the river. The south end of the property is approximately 100 m north of Tilbury Slough, a side channel of the Fraser River. The Fraser River estuary is known to support 78 different species of fish, including 7 salmon species and several Provincially-listed Red- and Blue-listed species, and Federal Species at Risk, including White Sturgeon (Lower Fraser River Population) (*Acipenser transmontanus*). This population of sturgeon was assessed as Threatened by COSEWIC in Canada in 2012 and is Red-listed in BC (BC CDC 2019). The Fraser River is one of three rivers in BC where White Sturgeon spawn (Lehigh Hanson Materials Ltd. 2019), though spawning habitats are expected to be located further upstream of the Project Site in less depositional environments. However, the shoreline habitats near the Project Site may provide important rearing habitats for juvenile White Sturgeon.

Eulachon (*Thaleichthys pacificus*) is a small anadromous schooling species of fish that provides a food source for other fishes (for example, White Sturgeon) and marine mammals. Eulachon is considered Endangered by COSEWIC and is under consideration for listing on Schedule 1 of SARA (DFO 2019). This species of fish is Blue-listed (Special Concern) in BC (BC CDC 2019). Important migratory habitats for Eulachon are expected to be present in the Fraser River adjacent to the Project Site.

Salmonids of conservation concern that occur near the Project Site include species of trout and char and all five species of Pacific salmon. Westslope Cutthroat Trout (*Oncorhynchus clarki lewisi*) is designated as Special Concern under the SARA and Bull Trout (*Salvelinus confluentus*) are under consideration for

SARA listing (DFO 2019). These species, in addition to coastal cutthroat trout (*Oncorhynchus clarkia clarkia*), are Blue-listed in BC (BC CDC 2019).

Several populations of sockeye salmon (*Oncorhynchus nerka*) are listed by COSEWIC as Endangered, including the Cultus Lake population in 2002/2003 and seven more populations recognized in 2017 (ECCC 2019). COSEWIC in 2017 also listed two sockeye populations as Threatened and five as Special Concern. These populations of Pacific salmon migrate past the Project Site in the Fraser River, including spawning adults and out-migrating smolts. A small proportion of sockeye are “river-type” and may use the lower Fraser River for rearing, rather than using lakes (Johannes et al. 2011).

The Thompson and Chilcotin River steelhead (*Oncorhynchus mykiss*) populations in BC were classified in 2018 by COSEWIC as Endangered and recommended for emergency listing under the SARA (ECCC 2019). These populations may migrate past the Project Site during adult and juvenile stages.

The shoreline habitats adjacent to the Project Site, including in and around the proposed jetty workspace, are expected to provide important rearing habitats for a number of salmonid species, particularly in areas with tidal marsh vegetation and riparian cover.

The drainage ditch in the center of the property contains a small, wetland like habitat that may support amphibians. Should removal of the ditch or associated vegetation be required, the Proponent will conduct an amphibian salvage program.

As there are no expected activities taking place in or around Tilbury Slough, including riparian areas, mitigation measures beyond the current Project design are not necessary for this feature. The key issue to manage during construction will be to prevent sediment from entering the drainage ditch and flowing into Tilbury Slough through management of site drainage and installation of erosion and sediment control measures.

Some impacts to fish and fish habitat are anticipated while upgrading the existing construction jetty to use as a temporary material offloading jetty during construction. Activities associated with construction and operation of the jetty that may impact fish and fish habitat include: Project Site preparation, removal of existing structures, dredging, fill placement, removal of instream riparian vegetation, construction of temporary pilings and jetty, and increased river traffic. Potential impacts may include:

- Alteration or loss of fish and benthic invertebrate habitats, including from:
 - Direct overlap of Project footprint
 - Removal of instream vegetation
 - Removal of riparian vegetation
 - Changes in habitat morphology
- Disruption of habitat use, including from:
 - Altered flows
 - Altered migratory pathways
 - Temporary increase in turbidity and total suspended solids
 - Temporary noise and vibrational effects
- Fish mortality or injury, including from:
 - Placement of materials and operation of equipment
 - Temporary increase in turbidity and total suspended solids
 - Temporary noise and vibrational effects

Mitigation measures will be developed during jetty design to reduce impacts of construction and operation the jetty on fish and fish habitat. No impacts to fish and fish habitat are anticipated to result from increased marine traffic during Project construction.

10.4 Economic Conditions

The Project Site is located within Delta in Metro Vancouver. Metro Vancouver conducts regional land use planning in partnership with 21 Municipalities, Electoral Area A, and 1 Treaty First Nation. Metro Vancouver is home to more than 50 percent of BC's population (Regional Prosperity Initiative 2018).

In 2016, approximately 65.7 percent of the Metro Vancouver population aged 15 years and over were in the labour force. The unemployment rate at that time was 5.8 percent compared to 6.7 percent in BC overall (Statistics Canada 2017a). Employment demand is anticipated to increase 1.2 percent on average every year up to 2028, which is faster than the average annual growth of 1.1 percent in BC (WorkBC 2018).

According to the 2016 Census, the prevalent occupations in Metro Vancouver included sales and service occupations and business, finance and administration occupations, trades, transport, and equipment operators, and related occupations (Statistics Canada 2017a). The largest industries in Metro Vancouver include wholesale and retail trade, health care and social assistance, and professional, scientific, and technical services (WorkBC 2018).

The Project is expected to provide approximately 110 incremental permanent jobs during the operational life of the expansion.

A wide range of economic benefits will emerge in relation to the proposed Project, including employment, gross domestic product, labour income, and government revenues through taxes and royalties, as well as the enhancement of workforce and business capacity. The expansion will create employment and contracting opportunities during planning and construction, and during Project operations. The expansion will also provide bidding opportunities for local and Indigenous contracting work. Additional benefits include ongoing property taxes paid to local government. Development of the Project will contribute to continued development of BC's natural gas resources; this in turn creates jobs and royalty revenue for the Provincial government, which helps pay for social services.

10.5 Social Conditions

The Project Site is located on Tilbury Island, in Delta within Metro Vancouver. The Project Site also includes a portion of the Fraser River on the north end of Tilbury Island. Delta is approximately 180 square kilometres (km²) bordered by the Fraser River on the north, the United States border and Boundary Bay on the south, the City of Surrey on the east, and the Strait of Georgia on the west. The Project Site is located on industrial lands and not within the boundaries of any Provincial parks, conservation areas, Agricultural Land Reserves, or ecological reserves.

At the time of the 2016 Census, Metro Vancouver had a population of 2,463,431, an increase of 6.5 percent from 2011. In 2016, Delta had a population of 102,238, with population growth being smaller than in Metro Vancouver with an increase of 2.4 percent from 2011 (Statistics Canada 2017b). Agriculture and farming have historically been the economic drivers in Delta; however, Delta has seen considerable industrial development and Tilbury Island is one of the fastest growing industrial areas in Greater Vancouver (Delta 2019a) and is zoned as Industrial in the Future Land Use Plans (OCP, Map 2 – Future Land Use Plan) (Delta 2019a).

Generally, the employment and income effects of projects can lead to positive social outcomes, such as supporting recreation and tourism activities as well as potential effects on local employment and goods/services supply driven by the workers. Accommodation for construction and operation workers is not expected to have a noticeable effect on the local population as the Project Site is located in an urban environment. No effect on the use or availability of current infrastructure and services is anticipated.

The Fraser River is an important transportation route and is home to numerous industrial facilities and cargo terminals that handle logs, steel, machinery, and general industrial cargo. The Fraser River is also used for commercial and recreational purposes including boating, fishing, tourism, and marine

transportation among other activities. Impacts to the use and availability of the Fraser River are expected to be negligible because the increase river traffic and construction activities associated with the temporary construction jetty represent a negligible incremental increase to existing river traffic. Existing navigation channels, safety requirements and communication with other river users are expected to effectively manage potential effects to navigation safety and river use by recreational and commercial users. Potential effects on the rights of Indigenous Groups, including current use of lands and resources for traditional purposes resulting from project activities, including increased marine transportation during construction, have been addressed in section 11.5.

FortisBC's consultation plan for the Project will consider population effects including availability and access to local housing, provision of services and infrastructure and potential impacts to community well-being as a result of the expansion. Project construction and operation will also be managed with local and regional economic priorities and activities.

When assessing potential socio-economic Project effects, the principles of Gender-based Analysis Plus (GBA+) will be applied to determine whether there are different impacts for subsets of the population.

10.6 Heritage Resources Conditions

The *HCA* (Government of BC 1996) provides for the protection of BC's archaeological resources and applies to archaeological sites predating 1846, whether they are located on public or private land. The *HCA* also confers automatic protection upon heritage sites that predate 1846 or sites with unknown dates that could predate 1846, regardless of whether they are recorded in the Provincial Heritage Site Register, whether they are located on Crown land or private property, and whether they are in a disturbed or intact context. Post-1846 historic sites can be protected by Ministerial Order, Designation by an OIC or a Municipal bylaw; however, most post-1846 historic sites are not protected in BC.

The Archaeology Branch of BC MFLNRORD is responsible for administering the *HCA* and oversees archaeological work in the Province. The Archaeology Branch conducts permitting in relation to heritage inspections, investigations, and Project Site alteration. Heritage resources assessment and management provisions in the *HCA* are compatible with the requirements of the *Canadian Environmental Assessment Act, 2012*.

Delta has an established Heritage Register listing a variety of historically significant sites. Heritage sites are protected through Heritage Designation that is achieved on a site-by-site basis through Municipal bylaws. Any changes to Designated Heritage Properties must meet requirements set out in the protection bylaw and require OIC approval (Delta 2019b).

An AIA was conducted in the area southeast of the existing facility for the Tilbury Phase 1A expansion. Although there were no significant archaeological remains within the AIA, ground-altering activities associated with expansion construction have the potential to alter archaeological or historical sites, features, and objects located in areas where previous AIA work has not been conducted.

Given that areas with heritage resource potential have not all been subject to a desktop-based assessment or field inspection, there remains a data gap and detectable heritage resources may be present and potentially be affected by expansion activities. FortisBC will conduct field investigations in areas with archaeological or historical potential prior to, or concurrent with, expansion construction activities. If heritage resources are encountered during subsequent studies, avoidance (that is, re-design of expansion components) of heritage resources will be the primary mitigation when feasible.

10.7 Health Setting

The construction of the expansion will result in short-term increases in noise levels, air emissions from construction equipment operation, increased marine traffic during construction, and dust from vehicle use of access roads. This may cause adverse potential health effects to residents, Indigenous Groups, and nearby river users.

It is expected that operation of the Project will result in noise and air emissions. FortisBC will work to minimize Project emissions to the air, land, and water and emissions will be within applicable regulatory requirements.

The EA will conduct noise and air quality assessments and modeling to understand the potential effects of the Project on air quality and the acoustic environment, and to ensure that appropriate mitigation is conducted to avoid or reduce those potential effects.

10.8 Anticipated Cumulative Effects

A Cumulative Effects Assessment (CEA) will be completed for the Project. The CEA will evaluate the residual environmental and socio-economic effects directly associated with the Project, in combination with the likely residual effects arising from other projects and activities that have been or will be carried out in the Project study areas. These include the existing and Phase 1 Tilbury LNG facility, the proposed WesPac Tilbury Marine Jetty project, and other existing and proposed developments in the Tilbury industrial area and along the Fraser River. The other projects and activities to be included in the CEA will be identified as the Project planning progresses.

Detailed methodology and rationale used to determine if the Project is expected to have significant adverse cumulative effects and how the other projects will be identified will be provided in FortisBC's Application for an EAC. The EAC Application and the CEA will be informed by:

- approved land use plans that designate the most appropriate activities on the land base
- baseline studies and historical data that factor in the effects of past development and set out the current conditions
- potential overlapping impacts due to present developments

Potential trans-BC-boundary effects will be determined during the development of the EAC Application, but could include, for example, air quality and GHG emissions.

10.9 Accidents and Malfunctions

The EAC Application will provide a summary of potential accidents or malfunctions which could occur in connection with the Project, the potential effect of such incidents on the environment, and mitigation measures that will be implemented as part of the Project design.

Potential accidents or malfunctions could result in release of LNG, flammable liquids, or pressurized gas from ruptured piping or equipment during commissioning or operation resulting in the risk of overpressure, fire, and injury to personnel. Natural gas, the refrigerants used in the liquefaction process, and LNG vapours are flammable in a specific range of fuel to oxygen ratio. Methane, the main component in natural gas and LNG, is flammable in a range of between approximately 5 to 15 percent methane gas to air ratio. In this ratio the mixture would burn if there is an ignition source present. LNG is a cryogenic liquid, meaning it is extremely cold and if spilled or released can cause localized freezing and/or burns on contact with skin. The design, construction and ongoing operation/maintenance of LNG facilities shall meet stringent codes and standards requirements. Hazard Identification, Hazard and Operability Studies, and Safety Integrity Level Studies are conducted during phases of engineering and design. Permitting, is done through BC OGC including reviews of design and risk assessments. Prevention is a key focus; however, emergency management plans are also developed to develop response plans according to industrial codes / standards and in partnership with local emergency responders. Training, drills, and practice emergency exercises are conducted with emergency responders to ensure response plans are effective and ready throughout the life of the Project.

10.10 Effects of the Environment on the Project

FortisBC understands that potential effects of the environment on the Project must be considered and appropriately mitigated to the extent possible. Extreme weather events are a key concern for the environment causing potential effects to the Project.

10.10.1 Seismicity

Southwestern BC, including the Lower Mainland, is located within a seismically active area. Seismic conditions are primarily related to the subduction (sliding) of the oceanic Juan de Fuca plate beneath the continental plate. Large megathrust earthquakes can occur along the subduction zone, typically at intervals of several hundred years (NRC Research Press 2013). The last such earthquake on the subduction zone near Vancouver Island is estimated to have occurred in 1700 and would have been felt over a wide area, including at the Project Site.

Research conducted by Natural Resources Canada (NRCan), the Geological Survey of Canada, and others has led to revisions of the National Building Code with respect to the probability of a seismic event, changing from a 475-year return period (10 percent probability of occurrence in 50 years) to a 2,475-year return period (2 percent probability of occurrence in 50 years). This has led to the modification of geologic models for building design related to seismic events.

Based on these updated geologic models, NRCan has developed an online calculator to estimate seismic hazard at any given location in Canada (NRCan 2017). Using this calculator, Peak Ground Velocity (PGV) values were calculated for the Project Site to provide an indication of seismic hazard. Values are for firm soil (Soil Type C) and reflect the new baseline return period.

At the Project Site, the PGV value is 0.564 metres per second, giving it a seismic hazard value of high. This is confirmed by seismic hazard mapping (NRCan 2010), which categorizes the seismic hazard in the Lower Mainland as high.

10.10.1.1 Seismic Design and Mitigation

The current edition of the Canadian Standards Association (CSA) Z276, which applies to LNG production, storage, and handling, specifies two levels of earthquake motions that need to be considered during facility design.

- 1) Operating Basis Earthquake (OBE), based on a 10 percent probability of exceedance within a 50-year period (corresponding to a 1:475-year event or approximately 1:500 years). This is the same as the design basis earthquake used in the present National Building Code, discussed as follows. The structures and systems will be designed to remain operable during and after the OBE.
- 2) Safe Shutdown Earthquake (SSE), based on a 5 percent probability of exceedance within a 50-year period (approximately 1:1,000 years return period). There will be no loss of containment capability of the tank and it will be possible to isolate and maintain the LNG container during and after the SSE.

The LNG facility will be designed to the higher standards encompassed in the proposed revisions of the various codes, incorporating the most recent knowledge, and predictions of the potential seismic motions. The proposed CSA Z276 requirements for the OBE and SSE seismic events will be used as a minimum standard.

Shaking from a very large subduction earthquake could last much longer than the shaking from a smaller event, although the local ground motions might be similar, depending on the distance and attenuation characteristics. The longer period of shaking will therefore be considered in the design of the facilities.

There are approximately 300 LNG storage tanks of this size and type in the world. Many of these tanks are located in parts of the world that are more seismically active than the Project location, such as Japan, Korea, Turkey, and Greece. Through industry experience, the methods for seismic design are well known and well accepted in the international engineering community. The LNG storage tank, buildings, equipment, and piping proposed for the expansion location meet industry accepted best practices for seismic design.

10.10.2 Flooding

Tilbury Island is located on the flood plain of the Fraser River, near its confluence with the Pacific Ocean. The Project Site is approximately 1 masl and is protected from flooding by a dike along the River, at the north end of the property. Flooding on the Fraser River is usually related to the spring freshet, when snowmelt in the upper reaches and tributaries of the Fraser River combine to fill the system. However, flooding in the Lower Mainland can occur when low pressure storms, bringing heavy rains and winds, combined with high tides (Delta 2019c).

The Lower Mainland Region, including at the Project Site, is at risk from flooding due to the hazard from being at the Fraser River's lowest reaches. Additionally, the consequence associated with a flood is severe due to the large number of people and amount of infrastructure on the flood plain (Fraser Basin Council 2013). Delta administers an extensive system of dikes and drainage structures built to protect the Delta from flooding. The system has been rebuilt a number of times over the years and is currently engineered to withstand a 200-year flood event (Delta 2019c). As previously mentioned, flood protection measures, as outlined by Delta during the building permit process, will be incorporated into building design and/or ground improvement plans.

10.11 Proposed Monitoring Programs

To confirm the effects of the Project and the effectiveness of the applied mitigation, FortisBC will develop and implement monitoring programs during the construction and operations phases of the Project, as appropriate and in collaboration with Appropriate Government Authorities. The monitoring programs will be developed in collaboration with Indigenous Groups during the preparation of the EAC Application and will be refined throughout the EA process. An Environmental Management Program will also be completed following detailed design.

11. Engagement and Consultation with Indigenous Groups

11.1 Identified Indigenous Groups

A review of the Consultative Areas Database (CAD) has identified 17 Indigenous Groups whose established or asserted traditional territories overlap with the Tilbury LNG facility. Squamish Nation and Kwantlen First Nation were not identified in the CAD report but have been included in this list due to their interest in the WesPac Tilbury Marine Jetty project, which is located near the proposed Project. Additionally, Métis Nation British Columbia has been included, as well as the People of the River Referrals Office.

Table 11-1 provides a summary of the locations of each Indigenous group and approximate distances of their administrative offices from the Project Site. The estimated distances do not represent traditional territories, rights, title or use of the area for traditional purposes. See Appendix C for detailed maps of traditional territories, treaty lands, and reserve locations.

Table 11-1. Identified Indigenous Groups that may be affected by the Project
(shown in alphabetical order)

Indigenous Group	Location* and <i>First Nations Land Management Act</i> Status	Approximate Distance of Administrative Office from the Project*
Cowichan Tribes ^{a,b}	The Cowichan Tribes is made up of seven traditional villages. Today, the Cowichan Tribes have nine reserves (Cowichan 1, Cowichan 9, Est-Patrolas 4, Kakalatza 6, Kil-Pah-Las 3, Skutz 7, Skutz 8, Theik 2, and Tzart-Lam 5), located on southeast Vancouver Island in Duncan, near Cowichan Bay and the Cowichan River. The main community, Cowichan 1, is located in Duncan and is the closest to the Project Site. Please refer to Figure C-1 in Appendix C for specific locations of each reserve within the Hul'qumi'num Treaty Group collective traditional territory. The marine traditional territory spans across the Strait of Georgia to include a narrow corridor on the mainland, which includes the Project area (BC Treaty 2019a). Cowichan Tribes has signed a framework agreement under the <i>First Nations Lands Management Act</i> .	64 km
Halalt First Nation ^{a,b}	Halalt First Nation has two reserves (Halalt Island 1 and Halalt 2). The main community, Halalt 2, is located on southeast Vancouver Island in Chemainus. Halalt Island 1 is the closest to the Project Site on Willy Island, east of Vancouver Island at the mouth of the Chemainus River. Please refer to Figure C-1 in Appendix C for specific locations of each reserve within the Hul'qumi'num Treaty Group collective traditional territory. The Hul'qumi'num Treaty Group Statement of Intent consists of core territory and a marine territory. Core traditional territory encompasses a portion of southern Vancouver Island from north of Duncan to Ladysmith, west to Cowichan Lake, east to the Gulf Islands, including the Strait of Georgia and the South Arm of the Fraser up to its confluence with the North Arm; the marine territory extends past that confluence to Yale, which includes the Project area (BC Treaty 2019a). Halalt First Nation has not signed a framework agreement under the <i>First Nations Lands Management Act</i> .	57 km
Katzie First Nation	Katzie First Nation has five reserves (Barnston Island 3, Graveyard 5, Katzie 1, Katzie 2, and Pitt Lake 4), which are located on the lower mainland in Pitt Meadows, Langley, and Barnston Island. Katzie 1 is the main community and Barnston Island is the closest to the Project Site. Please refer to Figure C-2 in Appendix C for specific locations of each reserve within the Katzie traditional territory. Katzie First Nation asserts TLU rights within its traditional territory, which includes Pitt Meadows, Maple Ridge, Coquitlam, Surrey, Langley, and New Westminster, including the Project area. (BC Treaty 2019b). Katzie First Nation has signed a framework agreement under the <i>First Nations Lands Management Act</i> .	27 km

Table 11-1. Identified Indigenous Groups that may be affected by the Project
(shown in alphabetical order)

Indigenous Group	Location* and <i>First Nations Land Management Act</i> Status	Approximate Distance of Administrative Office from the Project*
Kwantlen First Nation	Kwantlen First Nation has seven reserves (Langley 2, Langley 3, Langley 4, Langley 5, McMillan Island 6, Pekk'xe:yales and Whonnock 1), centred around the confluence of the Stave and Fraser Rivers. The main community, McMillan Island, is the closest to the Project Site located in the Fraser River, north of Fort Langley. Please refer to Figure C-3 in Appendix C for specific locations of each reserve within the Kwantlen traditional territory. Kwantlen traditional territory extends from Richmond and New Westminster in the west, to Surrey and Langley in the south, east to Mission, and to the northernmost reaches of Stave Lake (Kwantlen First Nation n.d.). Kwantlen First Nation has signed a framework agreement under the <i>First Nations Lands Management Act</i> .	34 km
Lake Cowichan First Nation ^b	Lake Cowichan First Nation has one reserve, known as Cowichan Lake or Ts'uubaa-asatx, which is located on Vancouver Island, approximately 30 km west of Duncan, on the east end of the Town of Lake Cowichan. Please refer to Figure C-1 in Appendix C for the specific location of Cowichan Lake within the Hul'qumi'num Treaty Group collective traditional territory. Lake Cowichan First Nation has signed a framework agreement under the <i>First Nations Lands Management Act</i> .	83 km
Lyackson First Nation ^{a,b}	Lyackson First Nation has three reserves (Lyacksun 3, Porlier Pass 5, and Shingle Point 4). All three reserves are located on Valdes Island, between Gabriola Island to the north and Galiano Island to the south, directly opposite of the mouth of the Fraser River in the Strait of Georgia. Shingle Point 4 is the main community and Lyacksun 3 is the closest to the Project Site. Please refer to Figure C-1 in Appendix C for specific locations of each reserve within the Hul'qumi'num Treaty Group collective traditional territory. The marine traditional territory spans across the Strait of Georgia to include a narrow corridor on the mainland, which includes the Project area (BC Treaty 2019a). Lyackson First Nation has not signed a framework agreement under the <i>First Nations Lands Management Act</i> .	57 km
Métis Nation British Columbia	Represents approximately 90,000 self-identified Métis people throughout BC, including 39 Métis Chartered Communities. The Provincial office is located in Surrey, BC.	25 km
Musqueam First Nation	Musqueam First Nation has three reserves (Musqueam 2, Musqueam 4, and Sea Island 3), which are located along the west coast of the lower mainland in Vancouver, Richmond, and Delta. Musqueam 2 is the main community, located at the mouth of the North Arm of the Fraser River, within the City of Vancouver. Musqueam 4 is the closest to the Project Site, located near Canoe Pass on the south arm of the Fraser River. Please refer to Figure C-4 in Appendix C for specific locations of each reserve within the Musqueam traditional territory. The Musqueam Consultative Area overlaps the project area and the Musqueam Declaration of 1976 asserts Aboriginal rights to the lands from Howe Sound eastward to the height of land, including the watershed draining into English Bay, Burrard Inlet, and Indian Arm; south including the Coquitlam River to the Fraser River; across to the south bank of the Fraser River and proceeding downstream in the South Arm to the sea (Musqueam 1976). Musqueam Nation has signed a framework agreement under the <i>First Nations Lands Management Act</i> .	15 km
Penelakut Tribe ^{a,b}	Penelakut Tribe has four reserves (Galiano Island 9, Penelakut Island 7, Tent Island 8, and Tsussie 6). These are located directly opposite of the mouth of the Fraser River in the Strait of Georgia on Galiano Island, Penelakut Island, Tent Island, and in Chemainus on southeast Vancouver Island. Penelakut Island 7 is the main community and Galiano Island 9 is the closest to the Project Site. Please refer to Figure C-1 in Appendix C specific locations of each reserve within Hul'qumi'num Treaty Group collective traditional territory. Core traditional territory includes a portion of southern Vancouver Island from north of Ladysmith, west to Lake Cowichan, east to the Gulf Islands. The marine traditional territory spans across the Strait of Georgia to include a narrow corridor on the mainland, which includes the Project area (BC Treaty 2019a). Penelakut Tribe has signed a framework agreement under the <i>First Nations Lands Management Act</i> .	48 km

Table 11-1. Identified Indigenous Groups that may be affected by the Project
(shown in alphabetical order)

Indigenous Group	Location* and <i>First Nations Land Management Act</i> Status	Approximate Distance of Administrative Office from the Project*
Seabird Island Band ^d	Seabird Island has two reserves (Pekw'xe:yles and Seabird Island). The main community is Seabird Island, located in the District of Kent on the Fraser River 3 km east of Agassiz. Pekw'xe:yles is the closest to the Project Site located on the north bank of the Fraser River within the District of Mission. Please refer to Figure C-6 in Appendix C for specific locations of each reserve within the Stó:lō traditional territory. Seabird Island Band has signed a framework agreement under the <i>First Nations Lands Management Act</i> .	95 km
Semiahmoo First Nation	Semiahmoo has one reserve, fronting Semiahmoo Bay at the Canada-United States border, approximately 1 km southeast of White Rock. Please refer to Figure C-5 in Appendix C for the specific location of the Semiahmoo reserve within the Semiahmoo traditional territory. Semiahmoo First Nation has not signed a framework agreement under the <i>First Nations Lands Management Act</i> .	24 km
Shxw'ōwhámél First Nation ^d	Shxw'ōwhámél First Nation has four reserves (Kuthlath 3, Ohamil 1, Pekw'xe:yles, and Wahleach Island 2). Ohamil 1 is the main community located on the left bank of the Fraser River, 7 km north of Laidlaw. Pekw'xe:yles is the closest to the Project Site located on the north bank of the Fraser River within the District of Mission. Please refer to Figure C-6 in Appendix C for specific locations of each reserve within the Stó:lō traditional territory. Shxw'ōwhámél First Nation has signed a framework agreement under the <i>First Nations Lands Management Act</i> .	105 km
Skawahlook First Nation ^c	Skawahlook First Nation has three reserves (Pekw'xe:yles, Ruby Creek 2, and Skawahlook 1). Ruby Creek 2 is the main community located on the right bank of the Fraser River, adjacent to the District of Kent. Pekw'xe:yles is the closest to the Project Site located on the north bank of the Fraser River within the District of Mission. Please refer to Figure C-6 in Appendix C for specific locations of each reserve within the Stó:lō traditional territory. The Stó:lō traditional territory, known as S'olh Temexw, extends from Yale to Langley, BC (Stó:lō Service Agency. n.d.). Skawahlook First Nation has signed a framework agreement under the <i>First Nations Land Management Act</i> .	106 km
Soowahlie First Nation ^d	Soowahlie First Nation has three reserves (Grass 15, Pekw'xe:yles, and Soowahlie 14). Soowahlie 14 is the main community located on the left bank of the Chilliwack River, 13 km south of Chilliwack. Pekw'xe:yles is the closest to the Project Site located on the north bank of the Fraser River within the District of Mission. Please refer to Figure C-6 in Appendix C for specific locations of each reserve within the Stó:lō traditional territory. Soowahlie First Nation has signed a framework agreement under the <i>First Nations Land Management Act</i> .	77 km
Squamish First Nation	Squamish Nation has 24 reserves distributed between the Squamish-Lillooet Regional District and Metro Vancouver Regional District, from southwest of Whistler to Vancouver, including Gibson's Landing and the area north of Howe Sound. The largest proportion of Squamish members reside on several urban reserves in the City of Vancouver, North and West Vancouver, and the District of Squamish. The closest reserve to the Project Site is Kitsilano 6. Please refer to Figure C-8 in Appendix C for the names and specific locations of each reserve within the Squamish traditional territory. Squamish First Nation has signed a framework agreement under the <i>First Nations Land Management Act</i> .	18 km
Stó:lō Nation	The Stó:lō Nation is an amalgamation of 11 Stó:lō communities, with many reserves located throughout the Fraser Valley. Member Nations include Aitchelitz First Nation, Leq'á:mel First Nation, Matsqui First Nation, Popkum First Nation, Shxwhá:y Village, Skawahlook First Nation, Skowkale First Nation, Squiala First Nation, Sumas First Nation, Tzeachten First Nation, and Yakweakwoose First Nation. Aitchelitz First Nation, Leq'á:mel First Nation, Matsqui First Nation, Shxwhá:y Village, Skawahlook First Nation, Skowkale First Nation, Squiala First Nation, Sumas First Nation, Tzeachten First Nation, and Yakweakwoose First Nations have signed a framework agreement under the <i>First Nations Land Management Act</i> .	78 km

Table 11-1. Identified Indigenous Groups that may be affected by the Project
(shown in alphabetical order)

Indigenous Group	Location* and <i>First Nations Land Management Act</i> Status	Approximate Distance of Administrative Office from the Project*
Stó:lō Tribal Council	Members of the Stó:lō Tribal Council include Chawathil First Nation, Cheam First Nation, Kwaw-kwaw-Apilt First Nation, Seabird Island Band, Shxw'ówhámél First Nation, Soowahlie First Nation, and Sq'éwlets First Nation. These communities have many reserves located throughout the Fraser Valley. The Chawathil First Nation, Cheam First Nation, Kwaw-kwaw-Apilt First Nation, Seabird Island Band, Shxw'ówhámél First Nation, Soowahlie First Nation, and Sq'éwlets First Nation have signed framework agreements under the <i>First Nations Land Management Act</i> .	97 km
Stz'uminus First Nation ^a	Stz'uminus First Nation has four reserves (Chemainus 13, Oyster Bay 12, Say-la-quas 10, and Squaw-hay-one 11). Chemainus 13 is the main community and is the closest to the Project Site, located on southeast Vancouver Island directly opposite of the mouth of the Fraser River in the Stuart Channel. Please refer to Figure C-7 in Appendix C for specific locations of each reserve within the Stz'uminus traditional territory. Stz'uminus First Nation has signed a framework agreement under the <i>First Nations Land Management Act</i> .	61 km
Tsawwassen First Nation	Tsawwassen First Nation has 725 ha of Treaty Lands located on the upland areas between the Tsawwassen ferry terminal and the container port at Roberts Bank. Another 62 ha of fee simple land is located near Boundary Bay and on the Fraser River along Canoe Pass. The main Tsawwassen community is on the southern aspect of the Fraser River delta, on the west side of the peninsula that separates Boundary Bay from the Salish Sea. The Project is not on Tsawwassen treaty lands. Please refer to Figure C-9 in Appendix C for specific locations of Tsawwassen Treaty Lands and Treaty Related Lands within the Tsawwassen First Nation Treaty Area. Tsawwassen First Nation has not signed a framework agreement under the <i>First Nations Land Management Act</i> .	13 km
Tsleil-Waututh Nation	Tsleil-Waututh Nation has three reserves (Burrard Inlet 3, Inlailawatash 4, and Inlailawatash 4A). Inlailawatash 4 and 4A are located at the mouth of the Indian River and head of the Indian Arm of the Burrard Inlet. Burrard Inlet 3 is the main community and is closest to the Project Site, located in North Vancouver on the shore of the Burrard Inlet, approximately 2 km east of the north end of the Second Narrows Bridge. Please refer to Figure C-10 in Appendix C for specific locations of each reserve within the Tsleil-Waututh traditional territory. Tsleil-Waututh has not signed a framework agreement under the <i>First Nations Lands Management Act</i> .	19 km

^a Members of the Cowichan Nation Alliance

^b Members of the Hul'qumi'num Treaty Group

^c Members of the Stó:lō Nation

^d Members of the Stó:lō Tribal Council

* (Government of BC 2019a; INAC 2019; Métis Nation British Columbia 2019; Stó:lō Research and Research Management Centre 2016; WesPac 2015, 2019)

* Google maps

Note:

ha = hectare(s)

11.2 Summary of Information Regarding Established or Asserted Indigenous Rights, Title, and Other Interests

Through existing relationships and engagement with local Indigenous Groups on various activities related to the Project, the Proponent has some understanding of Indigenous rights and title interests in the Project area. Each of the Indigenous Groups identified in Table 11-1 has, or asserts claims of, rights and title to the lands, water, and resources within their traditional territories. This includes, but is not limited to, the use of terrestrial, freshwater, marine, and other resources within those territories for traditional purposes (WesPac 2015). Associated activities include, but are not limited to, fishing, hunting, trapping, and gathering activities for food, materials, trade, medicines, and traditional ceremonies (WesPac 2015).

Where rights and title interests in the Project area are known, they are summarized as follows. At the time of writing, complete information on each of the identified Indigenous Groups is not readily available. FortisBC intends to work with each Indigenous Group during the Early Engagement Phase to identify the interests of each group. In addition, Early Engagement Phase will serve to further develop how each Indigenous Group prefers to be characterized in this section, including any additional information identified as important. Further information on Indigenous rights, title, and other interests will be provided in the Detailed Project Description (DPD). Refer to Sections 11.2 to 11.3 for details on preliminary engagement activities, key issues raised to-date, and plans for ongoing engagement.

11.2.1 Cowichan Tribes

Cowichan Tribes is part of the Hul'qumi'num Treaty Group. The Hul'qumi'num Treaty Group in Stage 4 of the BC Treaty process, Agreement in Principle negotiations (BC Treaty 2019a). The Hul'qumi'num Treaty Group Statement of Intent consists of core territory and a marine territory. Core traditional territory includes a portion of southern Vancouver Island from north of Ladysmith, west to Lake Cowichan, east to the gulf islands. The marine traditional territory spans across the Strait of Georgia to include a narrow corridor on the mainland, which includes the Project area (BC Treaty 2019a). Refer to Figure C-1 in Appendix C for a map of the Hul'qumi'num Treaty Group collective traditional territory.

Cowichan Tribes is also a part of the Cowichan Nation Alliance (CNA). CNA is a collective of Indigenous Groups who represent their members in rights and title negotiations. Each of the groups associated with CNA represent the direct descendants of the historic Cowichan Nation. The Cowichan Nation has been an Indigenous people within the meaning of Section 35 of the *Constitution Act*, 1982 since prior to European contact in or about the 1790s and is today comprised of five groups – the Cowichan Tribes, Stz'uminus First Nation, Penelakut Tribe, Halalt First Nation, and Lyackson First Nation – within the meaning of Canada's *Indian Act*. The Cowichan Tribes, Stz'uminus First Nation, Penelakut Tribe, Halalt First Nation, and Lyackson First Nation are the continuation of the Cowichan people existing prior to European contact, continuing through 1846 and Indian Reserve creation. Halalt First Nation has stated that the historic CNA exclusive Aboriginal title area includes the entirety of Tilbury Island.

The CNA have commenced legal action to reclaim the historic village site of Tl'uqtnus and other proximal lands in what is present day Richmond and Delta including the right to fish in the south arm of the Fraser River (CNA 2019). The historic village site of Tl'uqtnus is located approximately 515 m north of the project site on the opposite side of the Fraser River. The trial began September 9, 2019.

In 2012 FortisBC partnered with Stz'uminus First Nation and Cowichan Tribes as equity partners in the Mt. Hayes LNG Storage facility. Each Nation invested \$5.7 million, creating jobs and economic opportunity in their communities. As a result, the region received \$70 million in investment, which included sourcing local suppliers for goods and services, direct local employment during construction and 12 full-time operations jobs at the facility.

11.2.2 Halalt First Nation

Halalt First Nation is part of the Hul'qumi'num Treaty Group. The Hul'qumi'num Treaty Group in Stage 4 of the BC Treaty process, Agreement in Principle negotiations (BC Treaty 2019a). The Hul'qumi'num Treaty Group Statement of Intent consists of core territory and a marine territory. Core traditional territory encompasses a portion of southern Vancouver Island from north of Duncan to Ladysmith, west to Cowichan Lake, east to the Gulf Islands, including the strait of Georgia and the South Arm of the Fraser up to its confluence with the North Arm; the marine territory extends past that confluence to Yale, which includes the Project area (BC Treaty 2019a). Refer to Figure C-1 in Appendix C for a map of the Hul'qumi'num Treaty Group collective traditional territory.

Halalt First Nation is also a part of the CNA. CNA is a collective of Indigenous Groups who represent their members in rights and title negotiations. Each of the groups associated with CNA represent the direct descendants of the historic Cowichan Nation. The Cowichan Nation has been an Aboriginal people within the meaning of Section 35 of the *Constitution Act*, 1982 since prior to European contact in or about the 1790s and is today comprised of five groups – the Cowichan Tribes, Stz'uminus First Nation, Penelakut

Tribe, Halalt First Nation, and Lyackson First Nation – within the meaning of Canada’s *Indian Act*. The Cowichan Tribes, Stz’uminus First Nation, Penelakut Tribe, Halalt First Nation, and Lyackson First Nation are the continuation of the Cowichan people existing prior to European contact, continuing through 1846 and Indian Reserve creation. Halalt First Nation has stated that the historic CNA exclusive Aboriginal title area includes the entirety of Tilbury Island.

Halalt First Nation has reported that there are locations of importance along the South Arm of the Fraser River, most notably the ancestral village and resource site of Tl’uq̓tinus, which is located on the north shore opposite Tilbury Island (WesPac 2019). The CNA have commenced legal action to reclaim the historic village site of Tl’uq̓tinus and other proximal lands in what is present day Richmond and Delta, including the right to fish in the south arm of the Fraser River (CNA 2019). The historic village site of Tl’uq̓tinus is located approximately 515 m north of the Project Site. The trial began September 9, 2019.

11.2.3 Katzie First Nation

Katzie First Nation is in Stage 4 of the BC Treaty process, negotiating an Agreement in Principle with Canada and the province (BC Treaty 2019b). Katzie First Nation asserts TLU rights within its traditional territory, which includes Pitt Meadows, Maple Ridge, Coquitlam, Surrey, Langley, and New Westminster, including the Project area. (BC Treaty 2019b). This territory overlaps with other Indigenous Groups from the CAD search results including Tsawwassen, Musqueam, Stó:lō, and Tseil-Waututh First Nations, as well as the Hul’qumi’num Treaty Group (BC Treaty 2019b). Refer to Figure C-2 in Appendix C for a map of Katzie First Nation traditional territory.

11.2.4 Kwantlen First Nation

Kwantlen First Nation has seven reserves in the lower mainland located in the Township of Langley, Maple Ridge, and Mission (INAC 2019). The main Kwantlen communities are located on McMillan Island and near the confluence of the Stave and Fraser Rivers. Kwantlen traditional territory extends from Richmond and New Westminster in the west, to Surrey and Langley in the south, east to Mission, and to the northernmost reaches of Stave Lake (Kwantlen First Nation n.d.). Refer to Figure C-3 in Appendix C for a map of Kwantlen First Nation traditional territory.

Until 2018, Kwantlen First Nation was part of the Stó:lō Tribal Council. In 2016, Kwantlen First Nation signed a 3-year Kwantlen Forest Consultation and Revenue Sharing Agreement. Kwantlen First Nation is not currently involved in treaty negotiations with the Province of BC (Government of BC 2019b).

Kwantlen First Nation owns and operates four businesses under the Seyem’ Qwantlen Business Group that provide construction contracting services, land development services, and resource management (SQBG 2015).

11.2.5 Lyackson First Nation

Lyackson First Nation is part of the Hul’qumi’num Treaty Group. The Hul’qumi’num Treaty Group in Stage 4 of the BC Treaty process, Agreement in Principle negotiations (BC Treaty 2019a). The Hul’qumi’num Treaty Group Statement of Intent consists of core territory and a marine territory. Core traditional territory includes a portion of southern Vancouver Island from north of Ladysmith, west to Lake Cowichan, east to the Gulf Islands. The marine traditional territory spans across the Strait of Georgia to include a narrow corridor on the mainland, which includes the Project area (BC Treaty 2019a). Refer to Figure C-1 in Appendix C for a map of the Hul’qumi’num Treaty Group collective traditional territory.

Lyackson First Nation is also a part of the CNA. CNA is a collective of Indigenous Groups who represent their members in rights and title negotiations. Each of the groups associated with CNA represent the direct descendants of the historic Cowichan Nation. The Cowichan Nation has been an Aboriginal people within the meaning of Section 35 of the *Constitution Act*, 1982 since prior to European contact in or about the 1790s and is today comprised of five groups – the Cowichan Tribes, Stz’uminus First Nation, Penelakut Tribe, Halalt First Nation, and Lyackson First Nation – within the meaning of Canada’s *Indian Act*. The Cowichan Tribes, Stz’uminus First Nation, Penelakut Tribe, Halalt First Nation, and Lyackson

First Nation are the continuation of the Cowichan people existing prior to European contact, continuing through 1846 and Indian Reserve creation. Halalt First Nation has stated that the historic CNA exclusive Aboriginal title area includes the entirety of Tilbury Island.

The CNA have commenced legal action to reclaim the historic village site of Tl'uqtinus and other proximal lands in what is present day Richmond and Delta including the right to fish in the south arm of the Fraser River (CNA 2019). The historic village site of Tl'uqtinus is located approximately 515 m north of the project site. The trial began September 9, 2019.

11.2.6 Métis Nation British Columbia

Métis Nation British Columbia represents approximately 90,000 self-identified Métis people throughout BC, of which 18,000 are Provincially-registered (Métis Nation British Columbia 2019). Métis Nation British Columbia also represents 39 Métis Chartered Communities, of which 6 are located in the lower mainland and 3 are located in south Vancouver Island (Métis Nation British Columbia 2019). These include Chilliwack Métis Association, Fraser Valley Métis Association, Golden Ears Métis Society, North Fraser Métis Association, Nova Métis Heritage Association, Waceya Métis Society, Cowichan Valley Métis Association, Mid-Island Métis Nation Association, and the Métis Nation of Greater Victoria Association (Métis Nation British Columbia 2019).

The Métis Nation British Columbia is recognized by the Federal Government, the Province of BC, and the Métis National Council as the governing Nation for Métis in BC (Métis Nation British Columbia 2019). In 2003, Métis Nation British Columbia established their constitution to implement a self-governance and legislative structure, including an objectively verifiable citizenship process (Métis Nation British Columbia 2019). The mission of Métis Nation British Columbia is to develop and enhance opportunities for Métis Chartered Communities and Métis people in British Columbia by providing culturally relevant social and economic programs and services (Métis Nation British Columbia 2019).

11.2.7 Musqueam Nation

Through existing relationships and past engagement activities with Musqueam Nation, FortisBC is aware that Musqueam has a proven right to fish in Canoe Passage as defined in the Supreme Court of Canada Sparrow case (Supreme Court of Canada 1990).

The Musqueam Consultative Area overlaps the project area and the Musqueam Declaration of 1976 asserts Aboriginal rights to the lands from Howe Sound eastward to the height of land, including the watershed draining into English Bay, Burrard Inlet, and Indian Arm; south including the Coquitlam River to the Fraser River; across to the south bank of the Fraser River and proceeding downstream in the South Arm to the sea (Musqueam 1976). Refer to Figure C-4 in Appendix C for a map of Musqueam Nation traditional territory.

11.2.8 Penelakut Tribe

Penelakut Tribe is part of the Hul'qumi'num Treaty Group. The Hul'qumi'num Treaty Group in Stage 4 of the BC Treaty process, Agreement in Principle negotiations (BC Treaty 2019a). The Hul'qumi'num Treaty Group Statement of Intent consists of core territory and a marine territory. Core traditional territory includes a portion of southern Vancouver Island from north of Ladysmith, west to Lake Cowichan, east to the Gulf Islands. The marine traditional territory spans across the Strait of Georgia to include a narrow corridor on the mainland, which includes the Project area (BC Treaty 2019a). Refer to Figure C-1 in Appendix C for a map of the Hul'qumi'num Treaty Group collective traditional territory.

Penelakut Tribe is also a part of the CNA. CNA is a collective of Indigenous Groups who represent their members in rights and title negotiations. Each of the groups associated with CNA represent the direct descendants of the historic Cowichan Nation. The Cowichan Nation has been an Aboriginal people within the meaning of Section 35 of the *Constitution Act*, 1982 since prior to European contact in or about the 1790s and is today comprised of five groups – the Cowichan Tribes, Stz'uminus First Nation, Penelakut Tribe, Halalt First Nation, and Lyackson First Nation – within the meaning of Canada's *Indian Act*. The

Cowichan Tribes, Stz'uminus First Nation, Penelakut Tribe, Halalt First Nation and Lyackson First Nation are the continuation of the Cowichan people existing prior to European contact, continuing through 1846 and Indian Reserve creation. Halalt First Nation has stated that the historic CNA exclusive Aboriginal title area includes the entirety of Tilbury Island.

The CNA have commenced legal action to reclaim the historic village site of Tl'uqtnus and other proximal lands in what is present day Richmond and Delta including the right to fish in the south arm of the Fraser River (CNA 2019). The historic village site of Tl'uqtnus is located approximately 515 m north of the project site. The trial began September 9, 2019.

11.2.9 Semiahmoo First Nation

Semiahmoo First Nation is located near the United States Border and near Boundary Bay. The Semiahmoo First Nation is not involved in any treaty process (Government of BC 2019c). Refer to Figure C-5 in Appendix C for a map of Semiahmoo First Nation traditional territory.

11.2.10 Squamish Nation

Squamish Nation traditional territory covers over 673,000 ha of land on the lower mainland and is described as encompassing the area from Point Grey in the south, to Roberts Creek in the west, north to the height of land to the Elaho river headwaters, including the islands of Howe Sound and the Squamish Valley; then southeast to the confluence of the Soo and Green Rivers, south along the height of land to Port Moody, including the Mamquam River and Indian Arm drainages, then west along the height of land to Point Grey (Squamish 2013b). This territory includes the cities of Vancouver, West Vancouver, North Vancouver, Burnaby, Port Moody, the District of Squamish, and the Municipality of Whistler, but does not include the Project area (Squamish 2013b; BC Treaty n.d.). Refer to Figure C-8 in Appendix C for a map of Squamish Nation traditional territory.

The Squamish Nation is currently in Stage 3 of the BC Treaty process, negotiation of a framework agreement (Squamish 2013a; BC Treaty 2019c). In 1993, Squamish Nation submitted their Statement of Intent to begin negotiating Aboriginal rights and title to the lands, waters, and resources within Squamish traditional territory (Squamish 2013a).

11.2.11 Stó:lō Nation

The Stó:lō Nation is the political amalgamation of 11 Stó:lō communities including Aitchelitz First Nation, Leq'á:mel First Nation, Matsqui First Nation, Popkum First Nation, Shxwhá:y Village, Skawahlook First Nation, Skowkale First Nation, Squiala First Nation, Sumas First Nation, Tzeachten First Nation, and Yakwekwioose First Nation (Stó:lō Service Agency n.d.). The Stó:lō Nation is affiliated with several service delivery and political organizations including the Stó:lō Service Agency, the Stó:lō Tribal Council and the Stó:lō Xwexwilmexw Treaty Association (Stó:lō Service Agency n.d.; BC Treaty 2019d). However, these organizations do not service or represent all of the same member communities.

The Stó:lō Xwexwilmexw Treaty Association represents six Stó:lō communities: Aitchelitz First Nation, Leq'á:mel First Nation, Skawahlook First Nation, Skowkale First Nation, Tzeachten First Nation, and Yakwekwioose First Nation (BC Treaty 2019d). The Stó:lō Xwexwilmexw Treaty Association is currently in Stage 4 of the BC Treaty process, advanced agreement in principle negotiations (BC Treaty 2019d).

The Stó:lō traditional territory, known as S'olh Temexw, extends from Yale to Langley, BC (Stó:lō Service Agency n.d.). Refer to Figure C-6 in Appendix C for a map of the Stó:lō Nation collective traditional territory.

11.2.12 Stz'uminus First Nation

Stz'uminus was previously a part of the Hul'qumi'num Treaty Group but departed in 2014.

Stz'uminus First Nation is also a part of the CNA. CNA is a collective of Indigenous Groups who represent their members in rights and title negotiations. Each of the groups associated with CNA represent the direct descendants of the historic Cowichan Nation. The Cowichan Nation has been an Aboriginal people within the meaning of Section 35 of the *Constitution Act*, 1982 since prior to European contact in or about the 1790s and is today comprised of five groups – the Cowichan Tribes, Stz'uminus First Nation, Penelakut Tribe, Halalt First Nation, and Lyackson First Nation – within the meaning of Canada's *Indian Act*. The Cowichan Tribes, Stz'uminus First Nation, Penelakut Tribe, Halalt First Nation, and Lyackson First Nation are the continuation of the Cowichan people existing prior to European contact, continuing through 1846 and Indian Reserve creation. Halalt First Nation has stated that the historic CNA exclusive Aboriginal title area includes the entirety of Tilbury Island.

The CNA have commenced legal action to reclaim the historic village site of Tl'uqtinus and other proximal lands in what is present day Richmond and Delta including the right to fish in the south arm of the Fraser River (CNA 2019). The historic village site of Tl'uqtinus is located approximately 515 m north of the project site. The trial began September 9, 2019.

In 2012 FortisBC partnered with Stz'uminus First Nation and Cowichan Tribes as equity partners in the Mt. Hayes LNG Storage facility. Each Nation invested \$5.7 million, creating jobs and economic opportunity in their communities. As a result, the region received \$70 million in investment, which included sourcing local suppliers for goods and services, direct local employment during construction and 12 full-time operations jobs at the facility.

We expect to work with the CNA to develop how they would prefer to be characterized in this section. Refer to Figure C-7 in Appendix C for a map of Stz'uminus First Nation traditional territory.

11.2.13 Tsawwassen First Nation

The Tsawwassen traditional territory is in the Lower Mainland and extends from the watersheds that feed into Pitt Lake and burns bog to the Strait of Georgia, including Salt Spring, Pender, and Saturna Islands and includes the Project area (BC Treaty 2019e). Refer to Figure C-9 in Appendix C for a map of the Tsawwassen First Nation treaty area and lands.

The Tsawwassen First Nation is one of few modern Treaty Nations in BC. The Tsawwassen First Nation Final Agreement is a tri-partite agreement between Canada, BC, and Tsawwassen First Nation. It is a comprehensive agreement that provides for the transfer of land and self-government jurisdiction to Tsawwassen First Nation. The final agreement became effective on April 3, 2009 (Tsawwassen First Nation 2019; BC Treaty 2019e).

Under the final agreement, Tsawwassen First Nation has direct control and ownership of 724 ha of land and exercises TLU rights on 10,000 km² of traditional territory (shown in Appendix A of the final agreement) (MPWGSC 2010). The Project area is overlapped by Tsawwassen TLU areas but not Tsawwassen lands.

11.2.14 Tsleil-Waututh Nation

The Tsleil-Waututh traditional territory encompasses an area of 190,000 ha reaching from the Fraser River in the south to Mamquam Lake in the north (Tsleil-Waututh Nation n.d.). This territory includes watersheds and wilderness areas in the north and the now urban areas of North Vancouver, Vancouver, Burnaby, Richmond, and Delta to the south (CH2M 2015). Tsleil-Waututh Nation uses their traditional territory for subsistence, as well as for cultural and spiritual activities. For example, Tsleil-Waututh Nation members fish for salmon in the Burrard Inlet and the Fraser River (CH2M 2015). Refer to Figure C-10 in Appendix C for a map of Tsleil-Waututh Nation traditional territory.

Tsleil-Waututh Nation has been in Stage 4 of the BC Treaty process for almost 20 years and are currently waiting for sign off on the Chief Negotiators Table (Tsleil-Waututh Nation n.d.).

11.3 Summary of Preliminary Engagement Activities

FortisBC engagement with communities across BC varies based on their interests and the types of activities that FortisBC is pursuing in their local territories. FortisBC infrastructure is concentrated in population centres such as the Metro Vancouver area. Many of the Indigenous Groups in the area have existing relationships with FortisBC as a result of activities related to the existing Tilbury LNG facility. The two communities that have been most actively engaged with FortisBC on Tilbury activities to date have been CNA and Musqueam Nation.

FortisBC conducted preliminary engagement activities in advance of filing this IPD. The preliminary engagement approach is characterized as follows.

11.3.1 Preliminary Engagement Approach

- 1) An email notification of upcoming early engagement activities was sent on July 2, 2019 to all Indigenous Groups with consultative areas overlapping the Phase 2 Project area. The notification included an approximate date of July 9, 2019 upon which the Draft Project Description would be sent and the requested date of July 31, 2019 to return comments. The purpose of this notification was to provide advance notice to allow Indigenous Groups to appropriately resource review if they wished to comment on the early draft.
- 2) A draft IPD Description was sent on July 12, 2019 to Indigenous Groups with consultative areas overlapping the Phase 2 Project area. Indigenous Groups were asked to provide comments on the IPD by August 2, 2019. This period is 21 days.
- 3) Five Indigenous Groups responded to the initial communication regarding the Project Description. Table 11-2 is a summary of the correspondence received. During the preliminary engagement activities, the project team participated in meetings with Indigenous Groups, responded to questions and discussed next steps regarding the regulatory process.
- 4) Upon receipt of comments the draft IPD was revised to reflect any comments received from Indigenous Groups.
- 5) The revised IPD was circulated to all Indigenous Groups that provided comments on the initial draft or indicated an interest in the Project by responding to initial Project communications. The revised IPD was provided on September 16, 2019 with a request that any comments be received by October 2, 2019. Indigenous Groups were advised that FortisBC would continue to address comments received after this date, but they may not be reflected in the draft submitted to regulators. Indigenous Groups were also advised that the Project was in preliminary engagement stages and there would be additional opportunities for engagement through the BC EAO process.

Table 11-2 provides a summary of preliminary engagement activities to-date. Preliminary engagement has focused primarily on information sharing about the Project, the next steps in regulatory review, responding to questions, and recording concerns expressed. At this stage of the Project, we understand that additional work is required for Indigenous Groups to scope out the nature of their concerns.

FortisBC has a longstanding relationship with a number of Indigenous Groups near the Tilbury LNG facility. Engagement activities will draw on these existing relationships to ensure that Indigenous Groups are informed of the proposed Project and aware of the upcoming EA process.

Table 11-2. Summary of Engagement with Indigenous Groups To-Date

Date	Method of Contact	Indigenous Group	Notes
July 2, 2019	Email	<ul style="list-style-type: none"> • Cowichan Tribes • Penelakut Tribe • Stz'uminus First Nation • Lyackson First Nation • Halalt First Nation 	Introductory email sent to each Indigenous Group notifying them of the Project and requesting a meeting to review the Draft Project Description.

Table 11-2. Summary of Engagement with Indigenous Groups To-Date

Date	Method of Contact	Indigenous Group	Notes
		<ul style="list-style-type: none"> • Katzie First Nation • Kwantlen First Nation • Lake Cowichan First Nation • Musqueam Nation • Stó:lō Nation* • Soowahlie First Nation* • Skowkale First Nation* • Stó:lō Tribal Council* • Seabird Island Band • Semiahmoo First Nation • Shxw'ōwhámél First Nation • Squamish first Nation • Tsawwassen First Nation • Tsleil-Waututh Nation 	
July 3, 2019	Email	<ul style="list-style-type: none"> • Cowichan Nation Alliance 	FortisBC confirmed meeting with Cowichan Nation Alliance to discuss the Project.
July 12, 2019	Email	<ul style="list-style-type: none"> • Cowichan Tribes • Penelakut Tribe • Stz'uminus First Nation • Lyackson First Nation • Halalt First Nation • Katzie First Nation • Kwantlen First Nation • Lake Cowichan First Nation • Musqueam Nation • Stó:lō Nation* • Soowahlie First Nation* • Skowkale First Nation* • Stó:lō Tribal Council* • Seabird Island Band • Semiahmoo First Nation • Shxw'ōwhámél First Nation • Squamish First Nation • Tsawwassen First Nation • Tsleil-Waututh Nation 	Draft Initial Project Description was shared with Indigenous Groups.
July 15, 2019	Email	<ul style="list-style-type: none"> • Katzie First Nation 	Confirmed review of Project Description and per diem rate
July 17, 2019	Meeting	<ul style="list-style-type: none"> • Cowichan Nation Alliance: <ul style="list-style-type: none"> – Cowichan Tribes – Stz'uminus First Nation – Halalt First Nation – Penelakut Tribe 	Meeting at Cowichan Tribes office in Duncan to discuss Project Description and address initial questions or concerns.
July 19, 2019	Meeting	<ul style="list-style-type: none"> • Tsawwassen First Nation 	Meeting at Tsawwassen First Nation to discuss Project Description and address initial questions or concerns
July 25, 2019	Email	<ul style="list-style-type: none"> • Tsawwassen First Nation 	FortisBC sent follow up email to provide additional info and extend invitation to upcoming LNG event in Delta.
July 25, 2019	Letter	<ul style="list-style-type: none"> • Kwantlen First Nation 	Kwantlen provided a letter in response to invitation for review of Project Description and requested to schedule a meeting.
July 29, 2019	Email	<ul style="list-style-type: none"> • Cowichan Tribes 	Cowichan Tribes provided initial comments on the Draft Project Description.

Table 11-2. Summary of Engagement with Indigenous Groups To-Date

Date	Method of Contact	Indigenous Group	Notes
July 30, 2019	Letter	<ul style="list-style-type: none"> • Musqueam Nation 	Musqueam provided a form letter in response to invitation for review of Project Description. Indicated reduced internal capacity at this time due to organizational restructuring but still interested in participating in consultation.
July 31, 2019	Email	<ul style="list-style-type: none"> • Halalt First Nation 	Halalt First Nation provided initial comments on the Draft Project Description.
August 8, 2019	Meeting	<ul style="list-style-type: none"> • Kwantlen First Nation 	Meeting at Kwantlen First Nation to discuss Project Description and address any questions or concerns.
August 8, 2019	Email	<ul style="list-style-type: none"> • Seabird Island Band 	Seabird Island Band responded to the initial email introducing the Project and indicated that they currently have no input at this time.
August 14, 2019	Letter	<ul style="list-style-type: none"> • Tsleil-Waututh Nation 	Tsleil-Waututh Nation sent a letter outlining expectations around consultation and accommodation for the Project.
August 15, 2019	Call	<ul style="list-style-type: none"> • Cowichan Tribes 	Clarification of Cowichan Tribes comments. Cowichan Tribes to seek availability for another meeting with FortisBC end of August.
August 27, 2019	Meeting	<ul style="list-style-type: none"> • Musqueam Nation 	Met with Rights and Title Manager at Musqueam, provided a copy of the Project Description for Tilbury and detailed areas where feedback from Musqueam was requested.
September 16, 2019	Email	<ul style="list-style-type: none"> • Musqueam Nation • Cowichan Tribes • Halalt First Nation • Stz'uminus First Nation • Penelakut First Nation • Lyackson First Nation • Katzie First Nation • Kwantlen First Nation • Tsawwassen First Nation • Tsleil-Waututh Nation 	FortisBC provided revised project description by email to the Indigenous Groups that had provided comments or responded and indicated an interest in being engaged on the Project.
September 16, 2019	Email	<ul style="list-style-type: none"> • Cowichan Tribes 	Email providing additional clarification of comments included in the draft revision.
September 17, 2019	Email	<ul style="list-style-type: none"> • Tsleil-Waututh Nation 	Correspondence with Tsleil-Waututh to confirm next steps for Project meeting in late October.
September 17, 2019	Email	<ul style="list-style-type: none"> • Tsawwassen First Nation 	Acknowledge receipt of revised draft.
September 24, 2019	Site visit	<ul style="list-style-type: none"> • Kwantlen First Nation 	Project team conducted Project Site visit with the Kwantlen First Nation to discuss the Project.
October 2, 2019	Email	<ul style="list-style-type: none"> • Tsawwassen First Nation 	Tsawwassen is interested in providing comments on the Project; however, there are capacity constraints for internal review. Request FortisBC address forthcoming comments at a later date.
October 8, 2019	Email	<ul style="list-style-type: none"> • Kwantlen First Nation 	FortisBC provided meeting notes from Project Site visit September 24, 2019.
October 15, 2019	Email	<ul style="list-style-type: none"> • Tsleil-Waututh Nation 	Invitation to FortisBC for initial project meeting with Tsleil-Waututh Nation's Treaty, Land, and Resource team.

Table 11-2. Summary of Engagement with Indigenous Groups To-Date

Date	Method of Contact	Indigenous Group	Notes
October 24, 2019	Call	<ul style="list-style-type: none"> Musqueam Nation 	Call with Musqueam to discuss Tilbury 2 project, upcoming milestones, and status of review of the project description draft.
November 14, 2019	Call	<ul style="list-style-type: none"> Musqueam Nation 	Call with Musqueam to discuss Tilbury 2 project, upcoming milestones. No meeting with the FEI project team requested at this time.
November 28, 2019	Meeting	<ul style="list-style-type: none"> Tsleil-Waututh Nation 	Initial meeting with Tsleil-Waututh Nation leads for this project.
December 5, 2019	Call	<ul style="list-style-type: none"> Musqueam Nation 	Call to provide status update on the FortisBC Tilbury project description.

Note:

* Via People of the River Referrals Office

11.3.2 Key Issues Raised

Table 11-3 presents a summary of key issues raised by Indigenous Groups to-date.

Table 11-3. Key Issues Raised by Indigenous Groups to Date

Indigenous Group	Issues Raised	FortisBC Response
Cowichan Tribes	Expressed interest in more detail on the marine shipping container business and Tilbury Project Site layout and general arrangements.	FortisBC to provide additional context
Cowichan Tribes	Expressed interest in more detail about the process for decommissioning and demolition of the old plant.	FortisBC responded that these activities would be subject to BCUC and BC OGC approvals.
Cowichan Tribes	When CNA provides suggestions and input to FortisBC, CNA expects FortisBC to provide a rationale for instances where feedback is not incorporated, as indicated in the preliminary Indigenous engagement plan.	FortisBC agrees to provide such rationale.
Cowichan Tribes	Review period for materials should be at least 3 weeks.	<p>FortisBC will work to achieve this standard, although circumstances may be such that shorter or longer review periods are reasonable.</p> <p>FortisBC will engage Cowichan Tribes in the development of the DPD, including review prior to submission to regulators.</p> <p>FortisBC will provide 3 weeks for Cowichan Tribes to complete this review.</p>
Kwantlen First Nation	Expressed concerns around end of life abandonment of assets: Heightened sensitivity with old ferry dock on Brae island, which was abandoned since 2005 when the ferry stopped operating.	FortisBC spoke of how decommissioning / abandonment is part of EA review to assess impacts of this phase of project. FortisBC spoke of how 'old' Tilbury plant would be decommissioned and removed and not abandoned in-place.
Kwantlen First Nation	Concerns related to developing infrastructure related to GHG emissions.	This issue will be addressed in the assessment.

Table 11-3. Key Issues Raised by Indigenous Groups to Date

Indigenous Group	Issues Raised	FortisBC Response
Kwantlen First Nation	Cumulative effects of many projects over the years: Concerns with increased shipping (on river), Tilbury Island specifically is under a lot of development.	This issue will be addressed in the assessment.
Kwantlen First Nation	Interest in 'legacy projects' that contribute to bio-diversity.	FortisBC willing to discuss this issue further with Kwantlen.
Kwantlen First Nation	Kwantlen received some 70 or more referrals per month from EAs to permits, which is a challenge for small team to manage.	On invitation of FortisBC Kwantlen to send estimate for capacity funding
Kwantlen First Nation	Kwantlen interested in Tilbury Island and wants to be regularly active in consultation.	FortisBC will continue to meet with Kwantlen to understand their interest in the Project.
Kwantlen First Nation	When and how to request capacity funding.	On invitation of FortisBC Kwantlen to send estimate
Kwantlen First Nation	Would like a Project Site tour ideally with WesPac present to discuss Jetty project also.	FortisBC arranged and site tour completed with WesPac
Kwantlen First Nation	Would like to participate in opportunities including Archeological Assessments.	FortisBC noted that AIA for Project Site may be done as part of application WesPac will be submitting
Tsleil-Waututh Nation	Tsleil-Waututh requires 30 to 45 day review period.	FortisBC will work to achieve this review period within the Early Engagement Phase, including scheduling a meeting following a 30-day period from receiving the IPD as well as providing 30 days to review the DPD prior to submission of regulators.
Tsleil-Waututh Nation	Tsleil-Waututh has concerns around cumulative effects assessment and uses a pre-contact baseline.	This issue will be addressed during the preparation of the Application Information Requirements.
Tsleil-Waututh Nation	Tsleil-Waututh raised concerns around the scope of the assessment, wants upstream impacts from extraction assessed as well.	This issue will be addressed during the preparation of the Application Information Requirements.

11.4 Consultation Plan

FortisBC has developed an Engagement Plan that outlines activities that FortisBC will undertake during the Early Engagement Phase of the EA process. This section provides an overview of these activities.

11.4.1 FortisBC Statement of Indigenous Principles

FortisBC is committed to building effective Indigenous relationships and to ensuring we have the structure, resources, and skills necessary to maintain these relationships.

To meet this commitment, the following principles will guide the actions of the company and its employees:

- FortisBC acknowledges, respects, and understands that Indigenous Peoples have unique histories, cultures, protocols, values, beliefs, and governments.

- FortisBC supports fair and equal access to employment and business opportunities within FortisBC companies for Indigenous Peoples.
- FortisBC will develop fair, accessible employment practices and plans that ensure Indigenous Peoples are considered fairly for employment opportunities within FortisBC.
- FortisBC will strive to attract Indigenous employees, consultants, and contractors and business partnerships.
- FortisBC is committed to dialogue through clear and open communication with Indigenous communities on an ongoing and timely basis for the mutual interest and benefit of both parties.
- FortisBC encourages awareness and understanding of Indigenous issues within its workforce, industry, and communities where it operates.
- To achieve better understanding and appreciation of Indigenous culture, values, and beliefs, FortisBC is committed to educating its employees regarding Indigenous issues, interests, and goals.
- FortisBC will ensure that when interacting with Indigenous Peoples, its employees, consultants, and contractors demonstrate respect, and understanding of Indigenous Peoples' culture, values, and beliefs.
- To give effect to these principles, each of FortisBC's business units will develop, in dialogue with Indigenous communities, plans specific to their circumstances.

As outlined by the FortisBC Statement of Indigenous Principles, engagement activities related to the Project will be guided by a commitment to clear and open communication in a timely manner with local Indigenous Groups.

FortisBC has developed an Engagement Plan, outlining a process that is inclusive of Indigenous Groups potentially affected by the Project. FortisBC will incorporate the principles of GBA+ by deliberately seeking out participation from diverse groups within communities to support an accurate scoping and assessment of potential issues of importance to communities.

The Proponent will undertake a combination of the following based on Indigenous Group feedback.

- Introductory meetings to share information about the Project, seek a point-of-contact, and identify group-specific consultation policies, protocols, or preferences
- Meetings to discuss the proposed Project, provide Project updates, and discuss topics of interest
- Project Site visit
- Invite participation in, and provide feedback on AIA and other studies
- Provide capacity funding to support community-specific assessments or studies
- Offer to facilitate community-specific meetings
- Correspond throughout the pre-application and application phases via Project updates, written correspondence (emails, letters), and phone conversations
- Work with groups to identify training, economic, and employment opportunities

If Indigenous Groups provide comments on the IPD, FortisBC will demonstrate where comments are incorporated within the DPD and provide a rationale for instances where feedback was not incorporated. FortisBC will provide a draft of the DPD to participating Indigenous Groups for review in advance of submission to regulatory agencies.

Indigenous Groups will be provided sufficient time to review materials. Amount of time will vary depending on circumstances such as capacity of the Indigenous Group, the volume of material to review, and the timelines related to the EA generally..

In addition to the methodology and tools the Proponent will use to consult with Indigenous Groups, the Proponent will undertake a public consultation program. Indigenous Groups are welcome to attend all such public events.

11.5 Preliminary Assessment of Potential Impacts to Indigenous Groups Resulting from Project Activities

This section will be further informed by input from Indigenous Groups during the Early Engagement Phase

The following is a preliminary assessment of potential impacts to Indigenous Groups including rights and title, current use of land and resources for traditional purposes, heritage resources, health, and socio-economic impacts as a result of carrying out the Project. The potential effects identified in Table 11-4 below apply to all Project phases and activities, including construction of the temporary construction jetty and associated increases in marine traffic during construction. Further understanding of these impacts is expected to result from consultation and engagement with Indigenous Groups throughout the assessment process. Mitigation measures and appropriate management plans will be developed based on comments received from Indigenous Groups through the EA process.

Table 11-4. Preliminary Identification of Potential Effects to Indigenous Groups Resulting from Project Activities

Category	Potential Effects
Established or asserted Indigenous rights, title, and other interests	<ul style="list-style-type: none"> • Changes to accessibility of traditional lands, waters, and resources • Changes to the quality of traditional lands, waters, and resources • Changes to availability of traditional lands, waters, and resources • Change in traditional economic activities such as hunting, fishing, and gathering for materials, subsistence, and trade • Change in sense of place and cultural continuity due to changes in accessibility and environmental quality
Current use of land and resources for traditional purposes	<ul style="list-style-type: none"> • Changes to accessibility of TLU sites • Changes to habitat quality • Changes to the availability, quantity, and quality of traditional lands, waters, and resources • Changes to traditional land use experience due to sensory disturbance such as noise and light • Changes to cultural continuity and intergenerational knowledge transfer due to changes in accessibility and environmental quality
Health and socio-economic conditions	<ul style="list-style-type: none"> • Sensory disturbance due to increased noise and light levels • Decrease in air quality due to air emissions and dust from vehicle use of access roads • Potential safety risks due to increased traffic and industrial activities • Change in traditional economic activities such as hunting, fishing, and gathering for materials, subsistence, and trade • Change in sense of place and cultural continuity due to changes in accessibility and environmental quality • Increase in employment and contracting opportunities
Physical and cultural heritage, including any structure, site or thing that is of historical, archaeological, paleontological, or architectural significance	<ul style="list-style-type: none"> • Disturbance or alteration to heritage resources, sites, structures, or features of cultural importance • Change in access to heritage resources, sites, structures, or features of cultural importance • Disturbance or alteration of landscape, waterscape or viewscape impacting cultural experience of lands, waters, and resources

In addition to the potential impacts outlined above, Table 11-5 provides a summary of the key areas of interests that FortisBC anticipates will be raised by Indigenous Groups.

Table 11-5. Summary of Preliminary Interests Identified Through Initial Engagement with Indigenous Groups

Key Areas of Interest	Key Areas of Interest Details
Business opportunities and employment	<ul style="list-style-type: none"> • Support for community initiatives • Employment and skills training for members
Capacity Funding	<ul style="list-style-type: none"> • Support for participation and technical expert review
Cumulative Impacts	<ul style="list-style-type: none"> • Impact of additional development within the project area and along the Fraser River
Heritage Resources	<ul style="list-style-type: none"> • Presence and protection of Heritage Sites
Permitting and Consultation	<ul style="list-style-type: none"> • Adequate time for Indigenous participation in the EA / IA process and development of the consultation plan

FortisBC will continue to work with Indigenous Groups to identify the most effective methods of engagement throughout the Project. Engagement will focus on collaboratively addressing concerns raised by Indigenous Groups, minimizing impacts to Indigenous rights and title, and supporting local Indigenous Group access to employment opportunities to benefit economically from the Project.

12. Engagement and Consultation with Governments, the Public and Other Parties

12.1 Summary of Preliminary Engagement Activities

FortisBC has been consulting with government, the public, and other parties on Projects of the Tilbury LNG facility since 2012. FortisBC recognizes the importance of meaningful engagement and strives to develop and maintain strong relationships with all stakeholders. The company's consultation objectives are to raise awareness of the Tilbury LNG facility in neighbouring communities, receive feedback from stakeholders, and respond to any expansion-related inquiries. The following section outlines consultation that has already taken place. Future consultation will build on these existing relationships and engagement activities.

12.1.1 Government

Since 2012, FortisBC has regularly communicated and met in-person with Municipal, Provincial, and Federal governments to provide updates and respond to questions about the company and the Tilbury LNG facility. Through these meetings, FortisBC gained an understanding about community values, and sought recommendations on consultation and engagement. FortisBC regularly meets with Delta to inform them of Project updates and provides advanced notice of FortisBC-related activities taking place in their community. FortisBC also engages municipal staff, local first responders, and other stakeholders in full-scale emergency exercises at the Tilbury LNG facility. FortisBC met with the BC EAO and IAAC in June 2019 to initiate Project discussions.

12.1.2 Public and Other Interested Parties

FortisBC recognizes that the public expects meaningful consultation and engagement and expects work to be conducted in a safe and environmentally responsible manner. The public is interested in learning more about LNG and understanding more about the Project, and FortisBC is committed to providing these opportunities. Through this public engagement, FortisBC will identify issues that have been raised by different interested groups and individuals and will develop an issues tracking table which identifies the issue raised as well as an explanation of how that issue will be addressed.

FortisBC uses a number of communication channels to share information with the public including the company's major projects website: TalkingEnergy.ca, a dedicated Project email and phone number, and through social media platforms.

The company is actively involved in events in the communities near the Tilbury LNG facility, which provide the public with an opportunity to learn more about the company and the facility. FortisBC also participated in information sessions in 2015 and 2019 for the WesPac Tilbury Marine Jetty project EA in Delta and Richmond. This provided the public with opportunities to ask questions about the Tilbury LNG facility and plans for future expansion.

12.2 Proposed Stakeholder Consultation Activities

The focus of FortisBC's stakeholder consultation on the Project will be to ensure that government, the public and other interested parties are informed about the Project, have access to information, and are encouraged to provide feedback throughout the duration of expansion.

FortisBC will also continue to maintain and strengthen relationships developed during previous engagement, primarily with those located near the facility including Delta and Richmond.

12.2.1 Government

FortisBC will continue to meet regularly with local elected officials to keep them informed of the Project and seek their input to help address potential concerns of local residents, businesses, and constituents.

FortisBC will work with local government, the BC OGC, and other Appropriate Government Authorities regarding permitting requirements to maintain transparency, ensure compliance, and address feedback throughout the process.

FortisBC is committed to ensuring the safety of our employees and the public. The company will also explore more opportunities to put on live demonstrations to educate stakeholders and help the public better understand the properties of LNG. FortisBC will continue to seek participation from Municipal staff and local stakeholders in future emergency preparedness exercises.

12.2.2 Public and Other Interested Parties

The next phase of engagement on the Project with the public will begin with an initial notification letter sent to landowners and businesses near the Tilbury facility. The letter will include contact details and a link to the project website should they have any questions or would like more information.

FortisBC will continue to participate in and support events and organizations that are important to the local communities. Continuous presence will allow FortisBC to engage with members of the community on a regular basis, to seek input and address questions and potential concerns throughout the process.

FortisBC has developed an Early Engagement plan to ensure open dialogue is maintained with government, the public, and interested stakeholders and to meet the company's consultation objectives.

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Appendix A
Table of Concordance – *Impact*
Assessment Act

Appendix A. Table of Concordance – *Impact Assessment Act* Requirements

The following Table of Concordance cross references sections of this IPD with the list the requirements of an Initial Project Description under the *Impact Assessment Act* (from Section 1.1, Annex 1 of the *Practitioners Guide to Federal Impact Assessments under the Impact Assessment Act* (IAAC 2019).

Item	PD Section	Information Requirements
Part A - General Information		
IPD 1-1	1	The project's name, type or sector and proposed location.
IPD 1-2	1.1.1	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.
IPD 1-3	12	A summary of any engagement undertaken with any jurisdiction or other party, including a summary of the key issues raised and the results of the engagement, and a brief description of any plan for future engagement.
IPD 1-4	11	A list of the Indigenous Groups that may be affected by the carrying out of the project, a summary of any engagement undertaken with the Indigenous peoples of Canada, including a summary of key issues raised and the results of the engagement, and a brief description of any plan for future engagement.
IPD 1-5	1	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 a 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.
IPD 1-6	1	Any strategic assessment, relevant to the project, that is being or has been carried out under section 95 of the Act.
Part B - Project Information		
IPD 2-1	2	A statement of the purpose of and need for the project, including any potential benefits.
IPD 2-2	8.2	The provisions in the schedule to the Physical Activities Regulations describing the project, in whole or in part.
IPD 2-3	2.1 - 2.2 and 7.1 - 7.2	A list 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.
IPD 2-4	2 and 7.1	An estimate of the maximum production capacity of the project and a description of the production processes to be used.
IPD 2-5	2.3	The anticipated schedule for the project's construction, operation, decommissioning and abandonment, including any expansions of the project.
IPD 2-4	2.4	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; and
IPD 2-5	2.5	Potential alternatives to the project that the proponent is considering and that are technically and economically feasible and directly related to the project.
Part C – Location Information		
IPD 3-1	3	A description of the project's proposed location, including:
IPD 3-2	3 and 4	a) 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;
IPD 3-3	1 and 3	b) 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;

Item	PD Section	Information Requirements
IPD 3-4	3	c) 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;
IPD 3-5	3	d) The project's proximity to any permanent, seasonal or temporary residences and to the nearest affected communities;
IPD 3-6	11.1 and 11.2	e) 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; and
IPD 3-7	9	f) The project's proximity to any federal lands.
IPD 3-8	10.2 and 10.3	A brief description of the physical and biological environment of the project's location, based on information that is available to the public.
IPD 3-9	10.4 to 10.7	A brief 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.
Part D – Federal, Provincial, Territorial, Indigenous and Municipal Involvement		
IPD 4-1	9	A description of any financial support that federal authorities are, or may be, providing to the project.
IPD 4-2	9	A list of any federal lands that may be used for the purpose of carrying out the project.
IPD 4-3	8	A list of any jurisdictions that have powers, duties or functions in relation to an assessment of the project's environmental effects.
Part E – Potential Effects of the Project		
IPD 5-1	10.3	A list 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:
IPD 5-1a	10.3.3	a) Fish and fish habitat, as defined in subsection 2(1) of the Fisheries Act;
IPD 5-1b	10.3.3	b) Aquatic species, as defined in subsection 2(1) of the Species at Risk Act; and
IPD 5-1c	10.3.2.1	c) Migratory birds, as defined in subsection 2(1) of the Migratory Birds Convention Act, 1994.
IPD 5-2	10.1	A list 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 Canada.
IPD 5-3	11.5	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.
IPD 5-4	11.5	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.
IPD 5-5	6	An estimate of any greenhouse gas emissions associated with the project.
IPD 5-6	6.1	A list 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.

Appendix B
Table of Concordance – BC *Environmental*
Assessment Act

Appendix B. Table of Concordance – BC *Environmental Assessment Act*

The following Table of Concordance cross references sections of this IPD with the list the requirements of an Initial Project Description under the BC *Environmental Assessment Act* from draft Early Engagement Guidance (EAO October 2019).

Item	PD Section	Information Requirements
General Information and Contacts		
BC-IPD 1-1	1	Project name.
BC-IPD 1-2	1	Project location within the province.
BC-IPD 1-3	1	Project industrial sector and type (e.g., open pit metal mine).
BC-IPD 1-4	1.1.1	Proponent name, mailing address, phone numbers, email address and website URL. Include the name and contact info of the primary representative for the EA.
Purpose and Rationale		
BC-IPD 2-1	2	General rationale for why the project has been proposed.
BC-IPD 2-2	2 and 10.4	Potential project benefits.
Project Status and History		
BC-IPD 3-1	1.1.2.1	Project history, including past ownership
BC-IPD 3-2	1.1.2.1	State if this is a new project or an expansion to an existing operation.
BC-IPD 3-3	1.1.2.1	List any existing permits or tenure in place.
BC-IPD 3-4	Not applicable	Include any previous changes in ownership, if applicable.
BC-IPD 3-5	Not applicable	Describe any previous proposal(s) for the project or a similar proposal and the outcomes and history of the proposal(s).
BC-IPD 3-6	Not applicable	If the project was previously declined or terminated, describe how this proposal differs and how the issues for which the previous proposal was declined or terminated have been addressed.
Project Timing		
BC-IPD 4-1	2.3	Proposed project phases (e.g. construction, operation, decommissioning) and the length of time for each phase.
BC-IPD 4-2	2.3	List seasonal timing constraints.
Project Location, Activities and Components		
BC-IPD 5-1	3, 11.1 and 11.2	Project location in a local and regional context, including proximity to communities or locations of interest to the public, government, or Indigenous nations.
BC-IPD 5-2	2.1 and 7	Proposed project activities and components.
BC-IPD 5-3	2.1	Proposed on and off-site facilities and equipment.
BC-IPD 5-4	2.1 and 7	Provide a brief description of proposed activities related to processing, transportation and/or shipping of materials to/from the site.
BC-IPD 5-5	Not applicable	Include any other project(s) that are needed for the project to proceed and be feasible (e.g. a pipeline would be needed for an oil and gas facility to proceed).
BC-IPD 5-6	1.1.2.1	Include a description of the work has been conducted to arrive at the proposal.
BC-IPD 5-7	2.1	List design or siting constraints that are flexible and those that are not flexible.

Item	PD Section	Information Requirements
BC-IPD 5-8	2.4 and 2.5	List other design or siting options that may be considered.
BC-IPD 5-9	2	Anticipated daily and annual maximum production or operational capacity of the project (if applicable).
Land and Water Use		
BC-IPD 6-1	2	Anticipated project footprint and proposed area of disturbance.
BC-IPD 6-2	5	A description of the land required for the project, including whether the project is located on private lands, provincial or federal Crown lands, or Indian Reserve lands.
BC-IPD 6-3	5	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.
BC-IPD 6-4	1	A description of past uses of the land required for the proposed project, including whether the site has been previously developed.
BC-IPD 6-5	2.1	A description of water requirements for the project, if applicable, and the proposed source of water.
Maps and Shapefiles		
BC-IPD 7-1	1 and 3	Provide local and regional scale maps of the project showing its location, project components and activities, including off-site facilities and activities and any transportation routes (see guidance for map specifications).
BC-IPD 7-2	To be provided in a separate digital submission	Provide shapefiles of the proposed project footprint, known or proposed project components, and transportation corridors (see guidance for specifications on shapefiles).
BC-IPD 7-3	To be provided in a separate digital submission	Please also provide .KMZ files.
BC-IPD 7-4	To be provided in a separate digital submission	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.
Emissions, Discharges and Waste		
BC-IPD 8-1	6	High-level outline of anticipated direct project emissions to land, air, and water, including estimated greenhouse gas (GHG) emissions.
BC-IPD 8-2	6	This information would include 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.
Public and Environmental Safety		
BC-IPD 9-1	10.9	Identify potential malfunctions or accidents associated with the project and how they will be managed to support Early Engagement.
BC-IPD 9-2	1.1.2, 12.2	Include any proposed outreach to help Indigenous nations, governments and the public better understand the risks and mitigations.
BC-IPD 9-3	10.9	Show types and magnitude of different accidents and malfunctions and the risk or likelihood for occurrence.
BC-IPD 9-4	11.5 and 12.1	Include any issues raised about public and environmental safety during engagement with Indigenous nations, the public, agencies and stakeholders.

Item	PD Section	Information Requirements
BC-IPD 9-5	10.9	Provide different scenarios when there is real or perceived risk of a malfunction or accident.
Labour		
BC-IPD 10	2.2	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.
Alternative Means of Carrying out the Project		
BC-IPD 11-1	2.5	A high-level description of the alternative options for the project, including a rationale for the preferred option that demonstrates how issues raised during engagement have been considered.
BC-IPD 11-2	2.4	The alternative means of undertaking the project including information related to: <ul style="list-style-type: none"> • use of best available technologies; • technical and economic feasibility; • when known, the potential effects, risks and uncertainties of those alternatives; • Include the preferred option and a rationale for this preference; and • Alternative means may include different options for the project location, project routing, technologies, mitigation, design or other.
Legislative and Regulatory Context		
BC-IPD 12-1	8	The type and size of the project, with specific reference to Environmental Assessment Regulatory Triggers (e.g., the EAO Reviewable Project Regulations and Impact Assessment Agency of Canada triggers).
BC-IPD 12-2	8.3	List of anticipated authorizations and permits, including permits required by Indigenous nations, and timing of these permit applications.
BC-IPD 12-3	Not applicable	Requirements of any applicable agreements between the Province and Indigenous nations, including treaties.
BC-IPD 12-4	Not applicable	Requirements of any applicable international agreements between the Province and state or federal governments.
BC-IPD 12-5	8	Include a description of relevant government policies and if there are any policies that the project may not be compatible with.
BC-IPD 12-6	2.3	Proposed timing for conducting the provincial EA and federal EA, if applicable.
Land Use Plans		
BC-IPD 13-1	5	Identification of relevant land use plans, including Indigenous land use plans
BC-IPD 13-2	Not applicable	Identify if any rezoning that would be required for the project
Indigenous Nation Interests		
BC-IPD 14-1	11.1 and 11.2	Proximity to Indigenous nations' territory, communities, locations of interest, Indian Act reserve lands, lands subject to a Treaty, or lands subject to a land claim agreement.
BC-IPD 14-2	11.2, 11.3.2, and 11.5	A preliminary understanding of Indigenous nations' interests and how the project could impact those interests.
Biophysical Environment		
BC-IPD 15-1	10.2 and 10.3	Natural setting characteristics, including coastal, foreshore, riparian, mountainous, watersheds, and agricultural land.
BC-IPD 15-2	10.2	Disturbed area characteristics, including: brown field; contaminated site(s), and any history of development.

Item	PD Section	Information Requirements
BC-IPD 15-3	10.3	Identification of sensitive or vulnerable species, ecosystems, and/or habitats in the project area.
BC-IPD 15-4	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 biophysical conditions.
Human Environment		
BC-IPD 16-1	10.4 and 10.5	Proximity to local communities, including seasonal or temporary residences.
BC-IPD 16-2	10.4 and 10.5	Identification of the Regional District(s) where the project is located or where effects may occur.
BC-IPD 16-3	10	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.
BC-IPD 16-4	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 human environment conditions.
BC-IPD 16-5	10.4 - 10.7	Identification of any sensitive or vulnerable economic, social, heritage, or health values that may be affected by the project.
Project Interactions		
BC-IPD 17-1	10 and 11.5	Potential interactions between the project and the biophysical and human environment, including Indigenous interests.
BC-IPD 17-2	Not applicable	A summary of key conclusions of any biophysical feasibility studies undertaken that may be pertinent to understanding potential interactions, if applicable.
BC-IPD 17-3	Table 11-4	This information should be described and presented in a table (see example in Figure 6) and should include an identification of how the project may interact with Indigenous interests.
BC-IPD 17-4	10.8	Identify existing cumulative effects in the region that the project may also interact with.
BC-IPD 17-5	10.1	Identify how the project could be affected by the environment, including natural hazards and climate change risks.

Appendix C
Indigenous Traditional Territories,
Treaty Lands and Reserve Locations

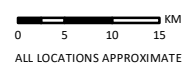


- Project Location
- Populated Place
- Highway
- Watercourse
- Waterbody
- First Nation Reserve
- Hul'qumi'num Treaty Group Collective Traditional Territory
- Park
- International Boundary



**FIGURE C-1
HUL'QUMI'NUM TREATY GROUP
COLLECTIVE TRADITIONAL TERRITORY**

**TILBURY PHASE 2
LNG EXPANSION PROJECT**



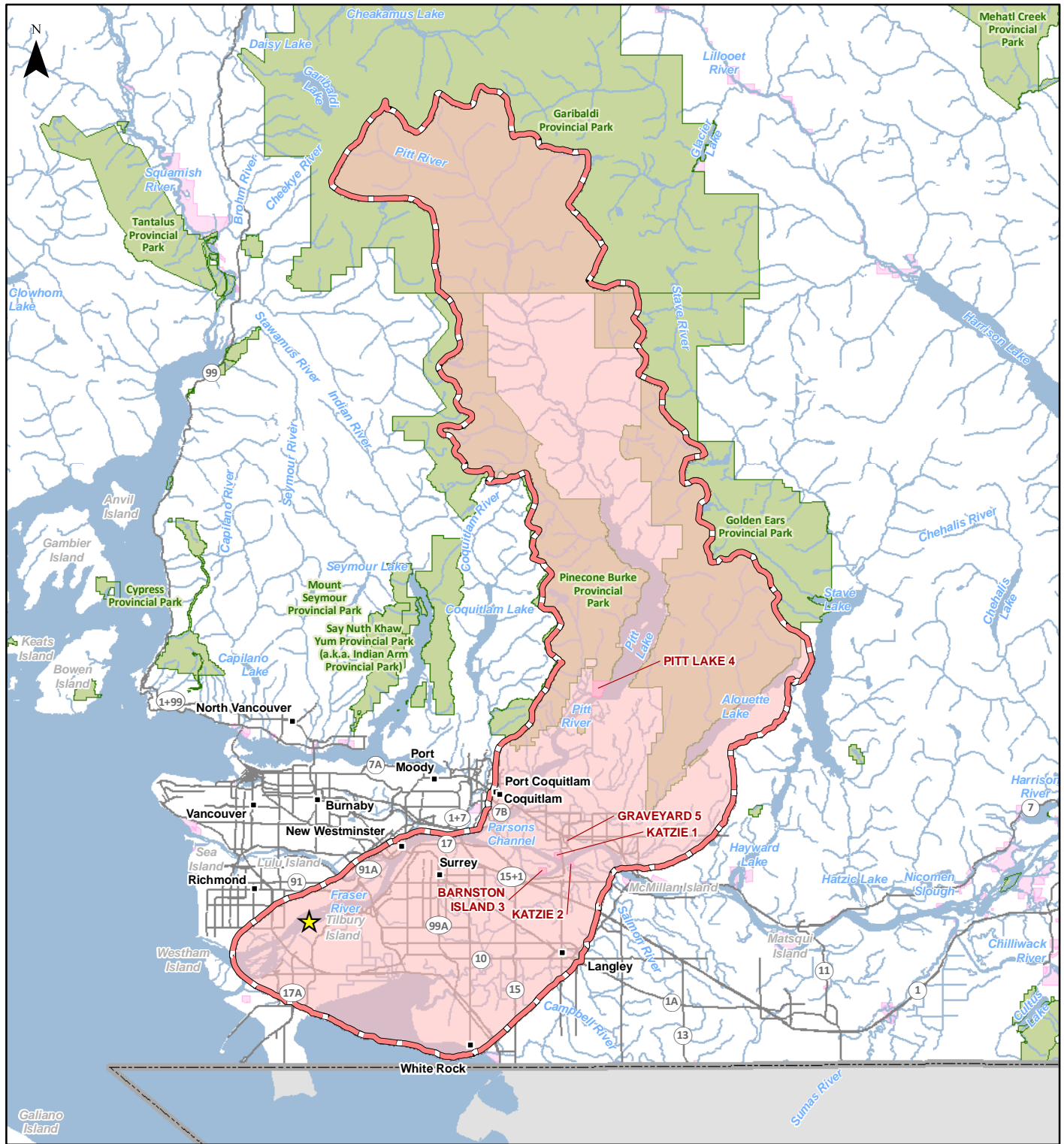
MAP NUMBER FIG11_1_HUL_QUMI_NUM	PAGE SHEET 1 OF 1
DATE November 2019	REVISION 0
SCALE 1:800,000	DISCIPLINE FN
DRAWN SMZ	DESIGN DJN

Hul'qumi'num Treaty Group: Encompassing the traditional territories of the Cowichan Tribes, Halalt First Nation, Lake Cowichan First Nation, Lyackson First Nation and Penelakut Tribe.

Projection: NAD 1983 UTM Zone 10N.

First Nation Reserves: Government of Canada 2018; Project Location: Jacobs, 2019; Hydrography: NRCAN 2007-2011; Road: BC FLNRO Digital Road Atlas, 2010; Populated Places: NRCAN 2009; Parks: BC Forests, Lands and Natural Resource Operations, 2008 and Natural

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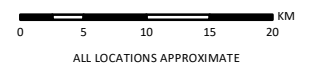


- ★ Project Location
- Populated Place
- Highway
- Watercourse
- Waterbody
- First Nation Reserve
- Katzie First Nation Traditional Territory
- Park
- International Boundary



**FIGURE C-2
KATZIE FIRST NATION TRADITIONAL
TERRITORY**

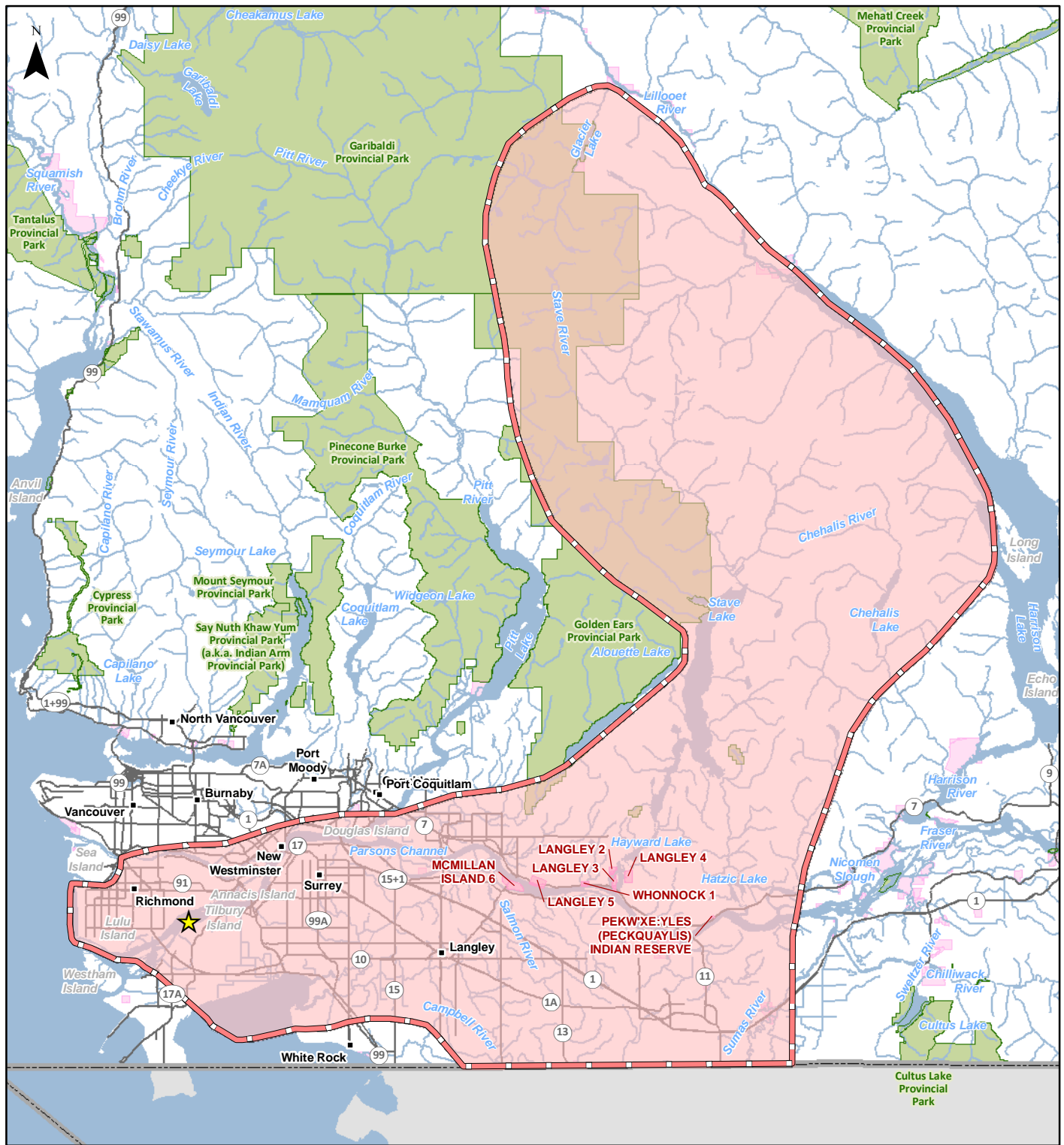
**TILBURY PHASE 2
LNG EXPANSION PROJECT**



MAP NUMBER FIG11_2_KATZIE	PAGE SHEET 1 OF 1
DATE November 2019	REVISION 0
SCALE 1:600,000	DISCIPLINE FN
DRAWN SMZ	DESIGN DJN

Projection: NAD 1983 UTM Zone 10N.
 Katzie First Nation Traditional Territory: BC Ministry of Forests, Lands and Natural Resource Operations 2013; First Nation Reserves: Government of Canada 2018; Project Location: Jacobs, 2019; Hydrography: NRCAN 2007-2011; Road: BC FLNRO Digital Road Atlas, 2010; Populated Places: NRCAN 2009; Parks: BC Forests, Lands and Natural Resource Operations, 2008 and Natural Resources Canada 2012; International Boundary: Geobase 2018.

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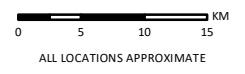


- ★ Project Location
- Populated Place
- Highway
- Watercourse
- Waterbody
- First Nation Reserve
- ▭ Kwantlen First Nation Traditional Territory
- ▭ Park
- ▭ International Boundary



**FIGURE C-3
KWANTLEN FIRST NATION TRADITIONAL TERRITORY**

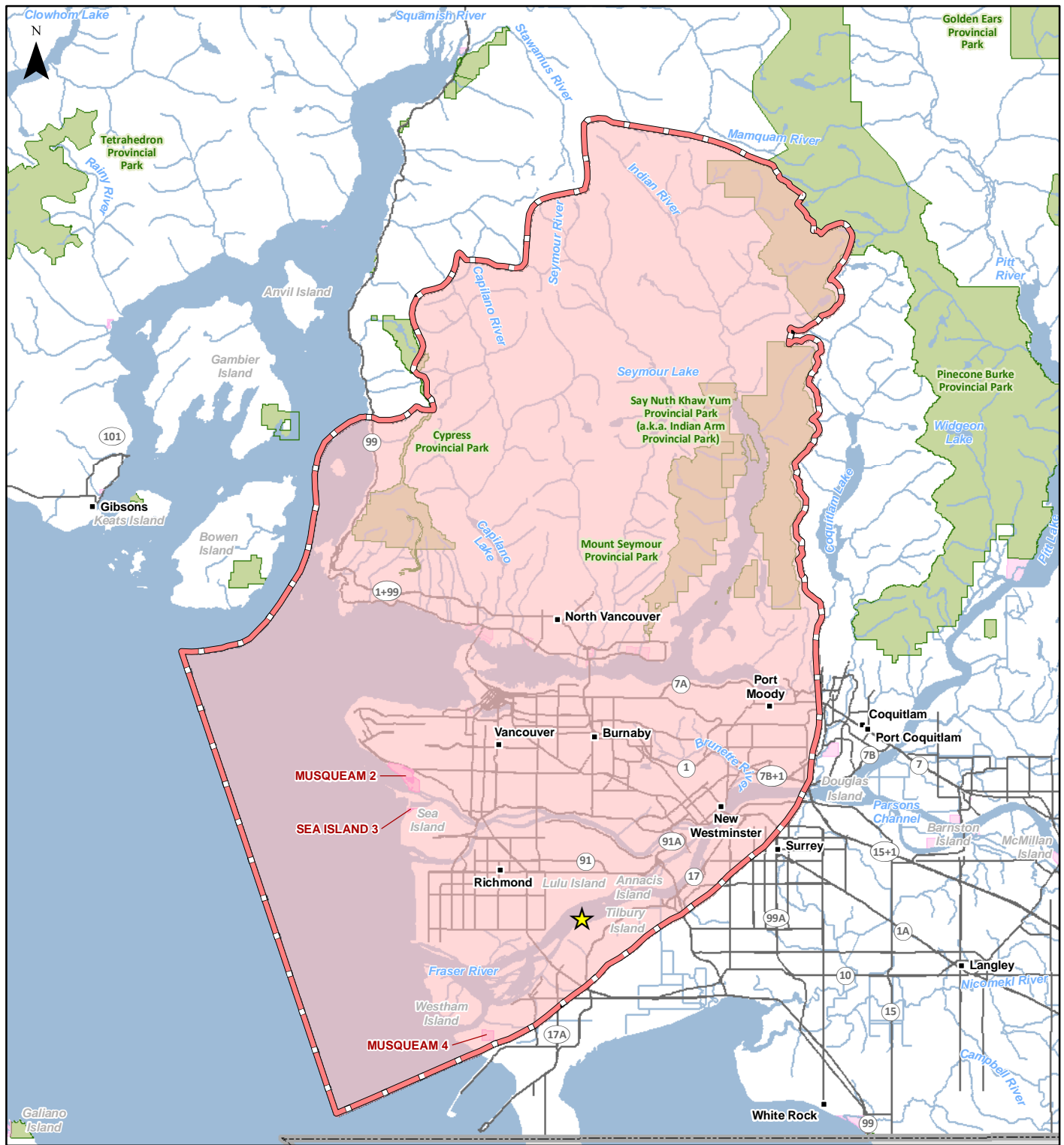
**TILBURY PHASE 2
LNG EXPANSION PROJECT**



MAP NUMBER FIG11_3_KWANTLEN	PAGE SHEET 1 OF 1
DATE November 2019	REVISION 0
SCALE 1:600,000	DISCIPLINE FN
DRAWN SMZ	DESIGN DJN

Projection: NAD 1983 UTM Zone 10N.
 Kwantlen First Nation Traditional Territory; Jacobs 2019, adapted from June 20, 2019 FCRSA Map; First Nation Reserves: Government of Canada 2018; Project Location: Jacobs, 2019; Hydrography: NRCAN 2007-2011; Road: BC FLNRO Digital Road Atlas, 2010; Populated Places: NRCAN 2009; Parks: BC Forests, Lands and Natural Resource Operations, 2008 and Natural Resources Canada 2012; International Boundary: Geobase 2018.

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- Project Location
- Populated Place
- Highway
- Watercourse
- Waterbody
- First Nation Reserve
- Musqueam Nation Traditional Territory
- Park
- International Boundary



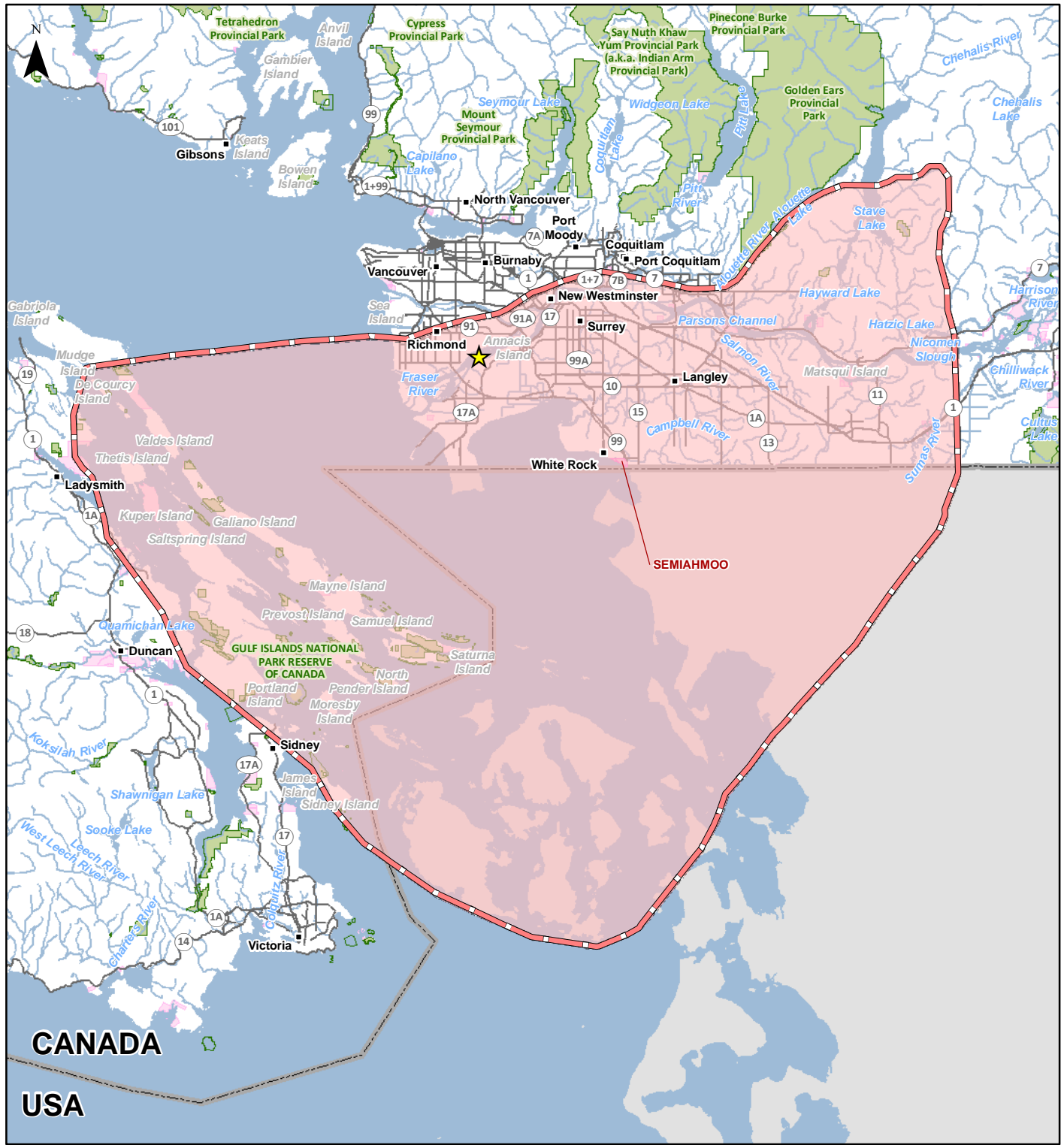
**FIGURE C-4
MUSQUEAM NATION TRADITIONAL TERRITORY
TILBURY PHASE 2
LNG EXPANSION PROJECT**



MAP NUMBER FIG11_4_MUSQUEAM	PAGE SHEET 1 OF 1
DATE November 2019	REFERENCE CE742500
SCALE 1:400,000	DISCIPLINE FN
DRAWN SMZ	DESIGN DJN

Projection: NAD 1983 UTM Zone 10N.
 Musqueam Nation Traditional Territory: BC Ministry of Forests, Lands and Natural Resource Operations 2019; First Nation Reserves: Government of Canada 2018; Project Location: Jacobs, 2019; Hydrography: NRCAN 2007-2011; Road: BC FLNRO Digital Road Atlas, 2010; Populated Places: NRCAN 2009; Parks: BC Forests, Lands and Natural Resource Operations, 2008 and Natural Resources Canada 2012; International Boundary: Geobase 2018.

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

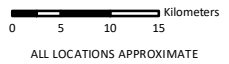


- Project Location
- Populated Place
- Highway
- Watercourse
- Waterbody
- Semiahmoo First Nation Traditional Territory
- First Nation Reserve
- Park
- International Boundary



**FIGURE C-5
SEMAIHMOO FIRST NATION
TRADITIONAL TERRITORY**

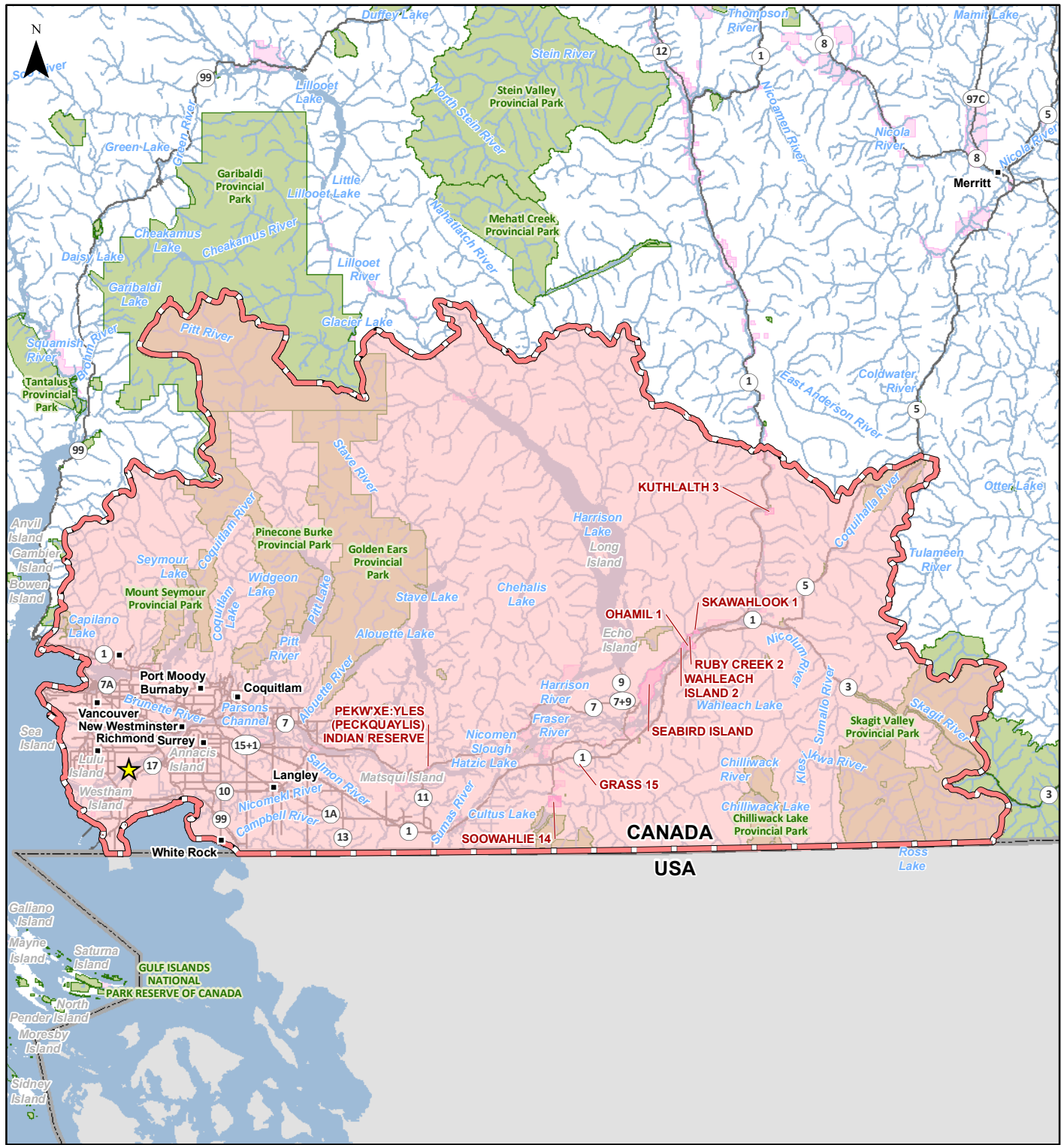
**TILBURY PHASE 2
LNG EXPANSION PROJECT**



MAP NUMBER FIG11_5_SEMAIHMOO	PAGE SHEET 1 OF 1
DATE November 2019	REFERENCE CE742500
SCALE 1:775,000	DISCIPLINE FN
DRAWN SMZ	DESIGN DJN

Projection: NAD 1983 UTM Zone 10N.
 Semiahmoo First Nation Traditional Territory: Digitized from Port Metro Vancouver; Golder Associates, 2019; First Nation Reserves: Government of Canada 2018; Project Location: Jacobs, 2019; Hydrography: NRCAN 2007-2011; Road: BC FLNRO Digital Road Atlas, 2010; Populated Places: NRCAN 2009; Parks: BC Forests, Lands and Natural Resource Operations, 2008 and Natural Resources Canada 2012; International Boundary: Geobase 2018.

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

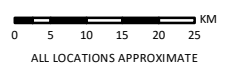


- Project Location
- Populated Place
- Highway
- Watercourse
- Waterbody
- First Nation Reserve
- Stó:lō Nation and Stó:lō Tribal Council Traditional Territories
- Park
- International Boundary



FIGURE C-6
STÓ:LŌ NATION AND STÓ:LŌ TRIBAL COUNCIL TRADITIONAL TERRITORIES

TILBURY PHASE 2
LNG EXPANSION PROJECT



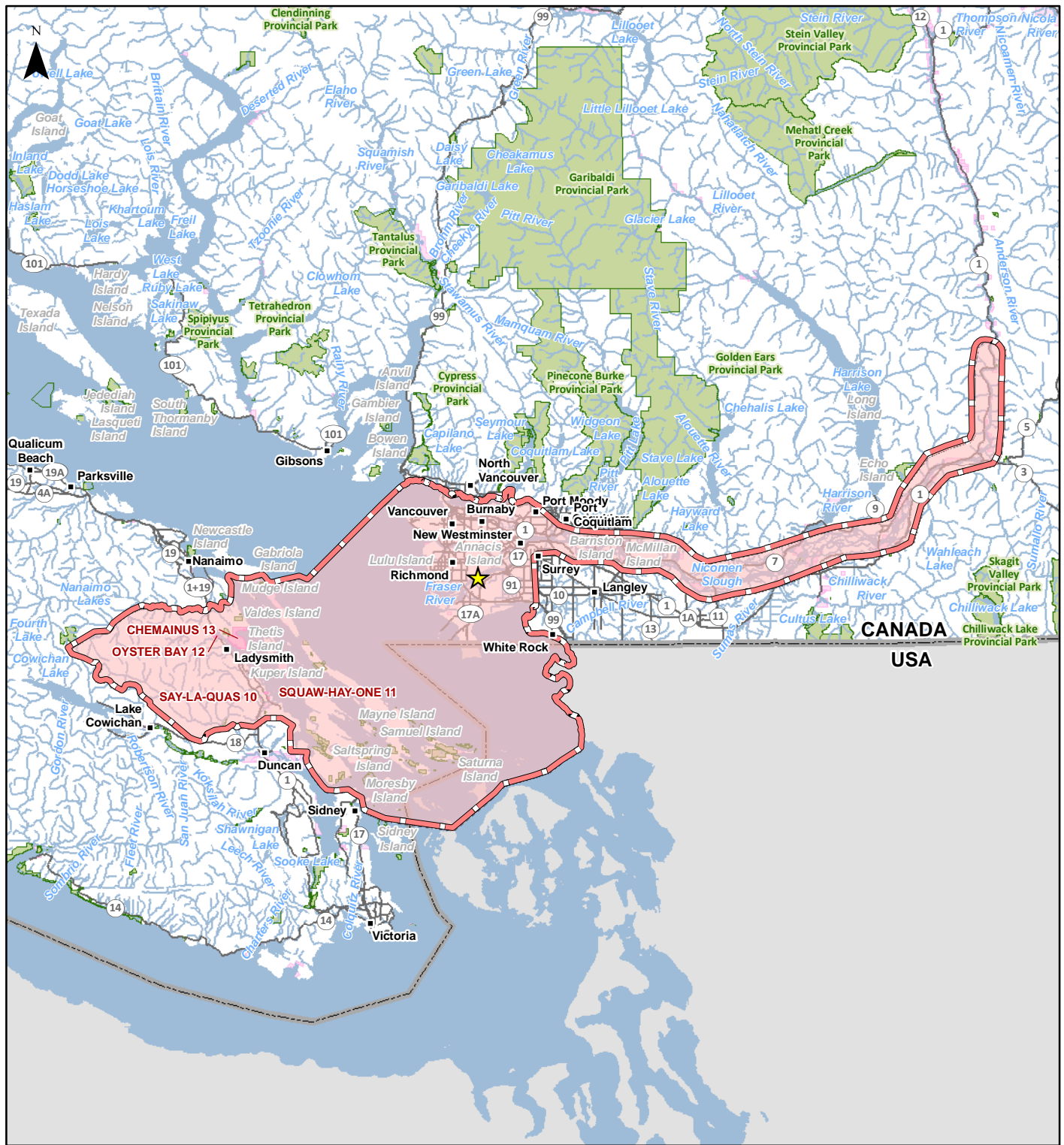
MAP NUMBER FIG11_6_STO_LO	PAGE SHEET 1 OF 1
DATE November 2019	REVISION 0
SCALE 1:1,050,000	DISCIPLINE FN
DRAWN SMZ	DESIGN DJN
CHECKED DJN	

Stó:lō Nation and Stó:lō Tribal Council Traditional Territories: Encompassing the Stó:lō Nation and Stó:lō Tribal Council, Soowahlie First Nation, Skawahlook First Nation, Shxw'ówhámél First Nation and Seabird Island Band

Projection: NAD 1983 UTM Zone 10N.

Stó:lō Nation and Stó:lō Tribal Council Traditional Territories: BC Ministry of Forests, Lands and Natural Resource Operations 2019; First Nation Reserves: Government of Canada 2018; Project Location: Jacobs, 2019; Hydrography: NRCAN 2007-2011; Road: BC FLNRO Digital Road Atlas, 2010; Populated Places: NRCAN 2009; Parks: BC Forests, Lands and Natural Resource Operations, 2008 and Natural

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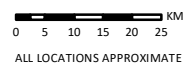


- Project Location
- Populated Place
- Highway
- Watercourse
- Waterbody
- First Nation Reserve
- Stz'uminus First Nation Traditional Territory
- Park
- International Boundary



**FIGURE C-7
STZ'UMINUS FIRST NATION
TRADITIONAL TERRITORY**

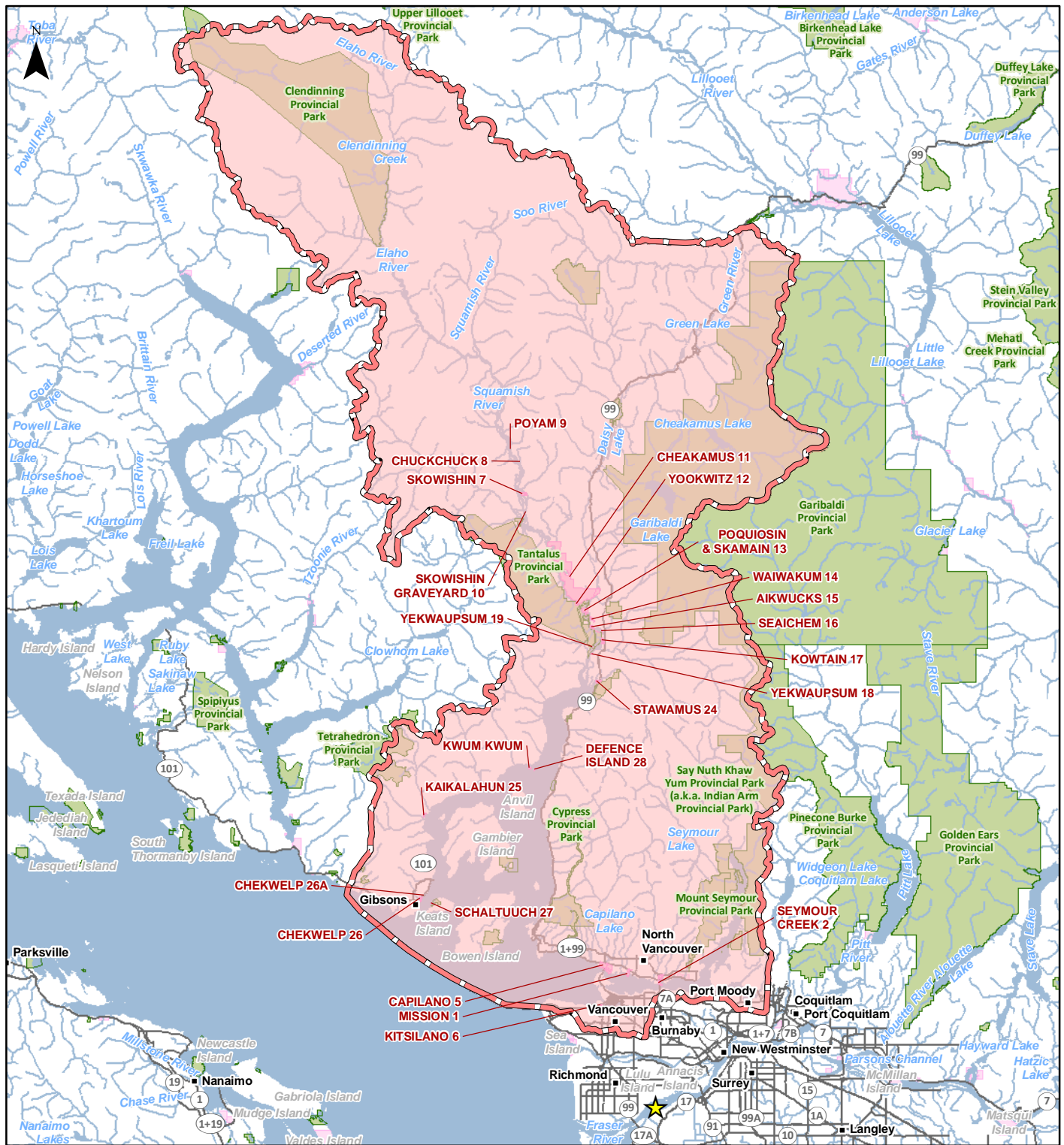
**TILBURY PHASE 2
LNG EXPANSION PROJECT**



MAP NUMBER FIG11_7_STZ_UMINUS	PAGE SHEET 1 OF 1
DATE November 2019	REVISION 0
SCALE 1:1,300,000	DISCIPLINE FN
DRAWN SMZ	DESIGN DJN

Projection: NAD 1983 UTM Zone 10N.
 Stz'uminus First Nation Traditional Territory: Adapted from Stzuminus Community Map, July 20, 2007; First Nation Reserves: Government of Canada 2018; Project Location: Jacobs, 2019; Hydrography: NRCAN 2007-2011; Road: BC FLNRO Digital Road Atlas, 2010; Populated Places: NRCAN 2009; Parks: BC Forests, Lands and Natural Resource Operations, 2008 and Natural Resources Canada 2012; International Boundary: Geobase 2018.

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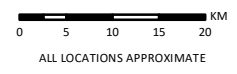


- Project Location
- Populated Place
- Highway
- Watercourse
- Waterbody
- First Nation Reserve
- Squamish Nation Traditional Territory
- Park
- International Boundary



**FIGURE C-8
SQUAMISH NATION TRADITIONAL TERRITORY**

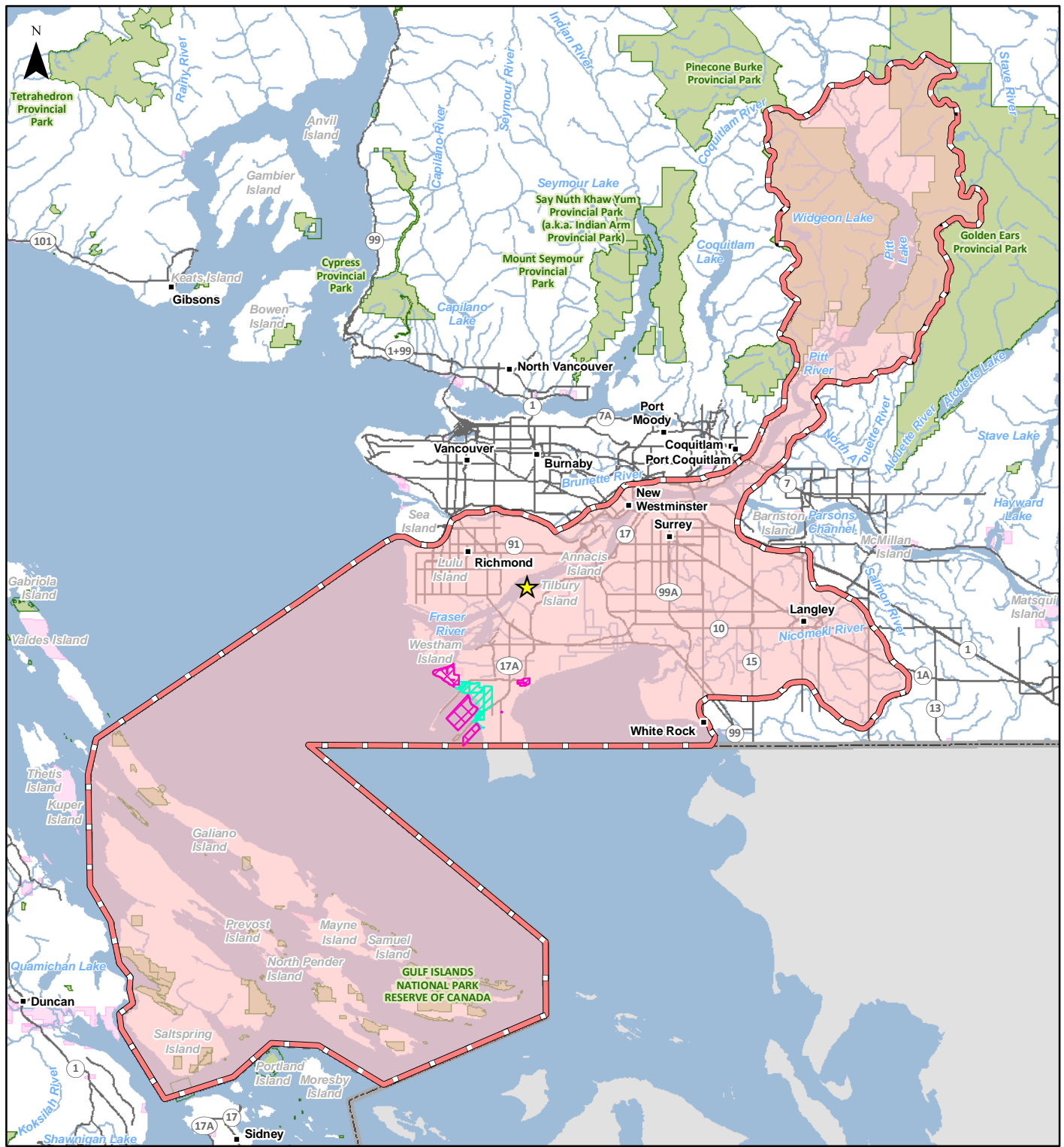
**TILBURY PHASE 2
LNG EXPANSION PROJECT**



MAP NUMBER FIG11_8_SQUAMISH	PAGE SHEET 1 OF 1
DATE November 2019	REFERENCE CE742500
SCALE 1:815,000	DISCIPLINE FN
DRAWN SMZ	DESIGN DJN

Projection: NAD 1983 UTM Zone 10N.
 Squamish Nation Traditional Territory: BC Ministry of Forests, Lands and Natural Resource Operations 2019; First Nation Reserves: Government of Canada 2018; Project Location: Jacobs, 2019; Hydrography: NRCAN 2007-2011; Road: BC FLNRO Digital Road Atlas, 2010; Populated Places: NRCAN 2009; Parks: BC Forests, Lands and Natural Resource Operations, 2008 and Natural Resources Canada 2012; International Boundary: Geobase 2018.

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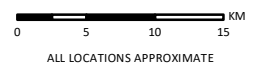


- ★ Project Location
- Populated Place
- Highway
- Watercourse
- Waterbody
- Tsawwassen First Nation Treaty Area
- Tsawwassen Treaty Lands
- Tsawwassen Treaty Related Lands
- First Nation Reserve
- Park
- International Boundary



**FIGURE C-9
TSAWWASSEN FIRST NATION TREATY
AREA**

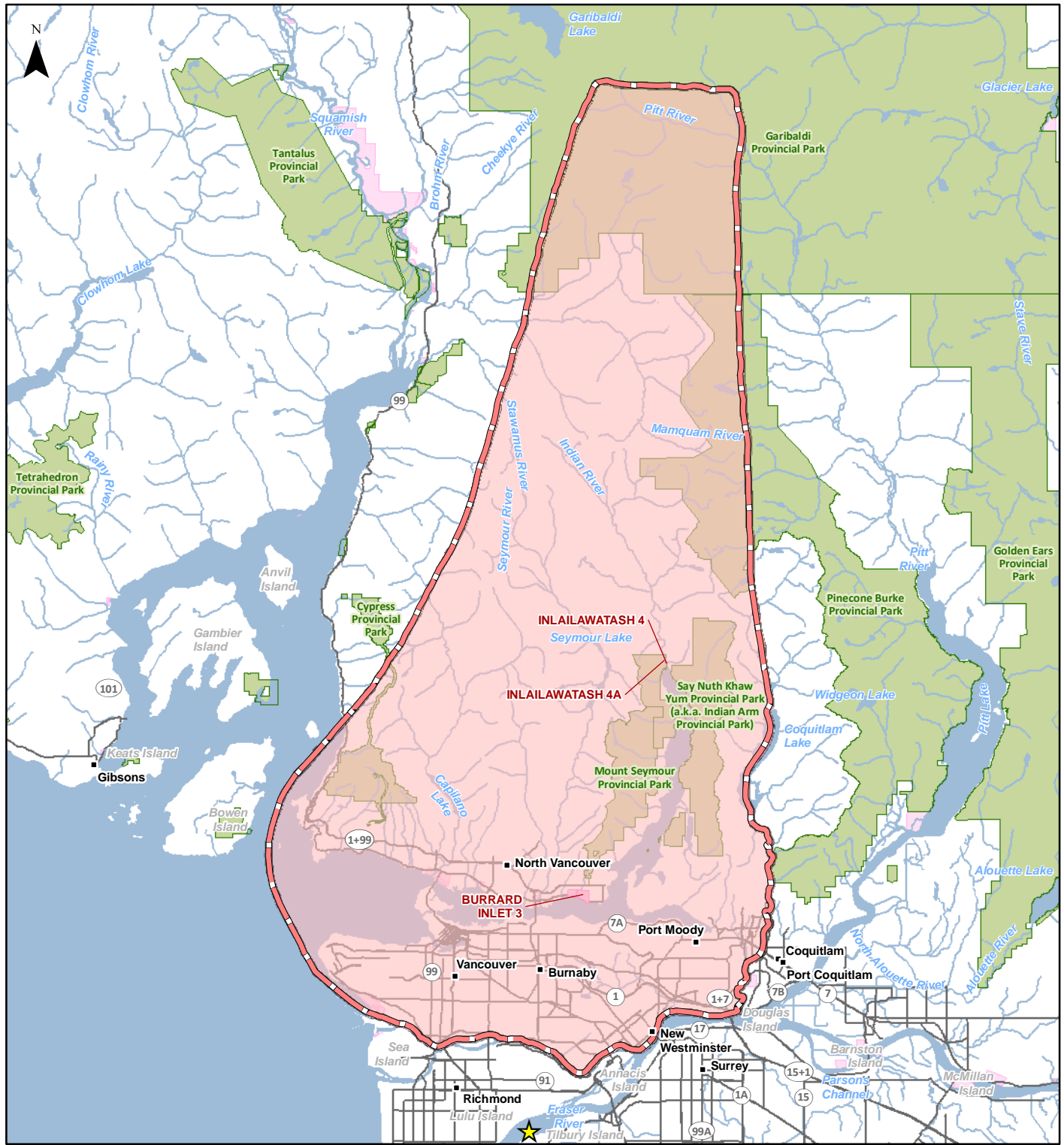
**TILBURY PHASE 2
LNG EXPANSION PROJECT**



MAP NUMBER FIG1_9_TSAWWASSEN	PAGE SHEET 1 OF 1
DATE November 2019	REFERENCE CE742500
SCALE 1:550,000	DISCIPLINE FN
DRAWN SMZ	DESIGN DJN

Projection: NAD 1983 UTM Zone 10N.
 Treaty Area, Treaty Lands: Ministry of Indigenous Relations and Reconciliation 2019; First Nation Reserves: Government of Canada 2018;
 Project Location: Jacobs, 2019; Hydrography: NRCAN 2007-2011; Road: BC FLNRO Digital Road Atlas, 2010; Populated Places: NRCAN
 2009; Parks: BC Forests, Lands and Natural Resource Operations, 2008 and NRCAN 2017; International Boundary: Geobase 2018.

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- Project Location
- Populated Place
- Highway
- Watercourse
- Waterbody
- First Nation Reserve
- Tsleil-Waututh Nation Traditional Territory
- Park
- International Boundary



**FIGURE C-10
TSLEIL-WAUTUTH NATION TRADITIONAL
TERRITORY**

**TILBURY PHASE 2
LNG EXPANSION PROJECT**



MAP NUMBER FIG11_10_TSLEIL_WAUTUTH	PAGE SHEET 1 OF 1
DATE November 2019	REVISION 0
SCALE 1:450,000	DISCIPLINE FN
DRAWN SMZ	DESIGN DJN

Projection: NAD 1983 UTM Zone 10N.
 Tsleil-Waututh Nation Traditional Territory: BC Ministry of Forests, Lands and Natural Resource Operations 2019; First Nation Reserves: Government of Canada 2018; Project Location: Jacobs, 2019; Hydrography: NRCAN 2007-2011; Road: BC FLNRO Digital Road Atlas, 2010; Populated Places: NRCAN 2009; Parks: BC Forests, Lands and Natural Resource Operations, 2008 and Natural Resources Canada 2012; International Boundary: Geobase 2018.

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