Federal Decision Statement
Annual Report
2022

Énoncé de décision fédérale
Rapport annuel
2022

Prepared for: Impact Assessment Agency of Canada/

Préparé pour l'Agence d'évaluation d'impact du Canada

Date | 31 March 2023 / Le 31 mars 2023

Executive Summary

Internal

Woodfibre LNG General Partner Inc. (Woodfibre LNG) is constructing a liquefied natural gas (LNG) export facility (the Project) on the former Woodfibre Pulp Mill site in Nexwnéwu7ts Átlk̲'a7tsem (Howe Sound), approximately seven kilometers south of Sk̲wx̲wú7mesh (Squamish). The Project is located on the historical location of a Sk̲wx̲wú7mesh Úxwumixw (Squamish Nation) village known as Swiy̓át in British Columbia. The land is a fee simple, industrially zoned, brownfield site with more than 100 years of industrial use and deep-water marine access.

The Project was subject to environmental assessment processes administered by the Province of British Columbia, Sk̲wx̲wú7mesh Úxwumixw, and the Government of Canada. The Project received environmental assessment approvals from all three forementioned levels of government during 2015 and 2016. On 17 March 2016 the Canadian Environmental Assessment Agency, now the Impact Assessment Agency of Canada (IAAC), issued a Federal Decision Statement (FDS) as part of a substituted process under the *Canadian Environmental Assessment Act, 2012* (SC 2012, c. 19, s. 52). The FDS was re-issued on 07 March 2018 to account for material changes to the Certified Project Description.

This report has been prepared pursuant to FDS Condition 2.6 to report on the implementation of conditions that were applicable to the scope of project activities having occurred during 2022.

In 2022, Enbridge Inc. purchased a 30% share in the Woodfibre LNG project. As a result, a new entity, Woodfibre LNG General Partner Inc. was established and all permits have been transferred from the previous entity, Woodfibre LNG Limited Inc., to this new entity. Woodfibre LNG operations and project delivery remain unchanged.

During the reporting period, Woodfibre LNG began pre-construction activities, which included rail track removal, slab removal, maintenance and upgrades to the existing Mill Creek water intake, and some preparative works for upgrades to the passenger dock. Where applicable, previously developed follow-up monitoring programs were implemented in support of any works that occurred during this reporting period. The results of these follow-up monitoring programs are summarized in this annual report.

Because Woodfibre LNG operates under multiple regulatory agencies, the organization actively balances the different and unique interpretations of the pre-construction activities. While the organization continues to maintain a position that this work does not constitute construction (which aligns with other agencies), Woodfibre LNG acknowledges that IAAC considers some of the pre-construction activities as construction, and have advanced required conditions in the FDS for this scope of work, as described in this annual report.

Two environmental incidents were reported during 2022 pertaining to water quality samples collected from freshwater creeks and marine water samples taken within the Certified Project Area, and pertaining to marine sediment. Mitigation measures were implemented immediately to correct these issues. Measured results, as described in this report, are considered representative of baseline conditions for the site and similar to results from monitoring carried out in 2020 and 2021. The health risk associated with exposure to these exceedances from Dungeness crab meat and hepatopancreas as well as sole meat is considered negligible to low. However risk associated with exceedances of mercury and methylmercury are considered a moderate risk. even so, it is important to note, no seafood harvesting within the Woodfibre study area was recorded.

During 2022, Woodfibre LNG continued to advance administrative activities related to the project, including working to respond to comments on the application to amend the Certified Project Description (worker accommodation) and an application to IAAC to request changes to two of the FDS Conditions (Conditions 3.8 and 6.4). An updated conditions implementation schedule is anticipated to be provided to IAAC by 2023 March 31.

Consultation with Indigenous nations (referred to as Aboriginal groups in the FDS) continued throughout 2022. The results of this consultation are summarized in this report. When expressed or shared, the views and information communicated by Aboriginal Groups were given full and impartial consideration.

Résumé

Internal

Woodfibre LNG General Partner Inc. (Woodfibre LNG) construit une installation d'exportation de gaz naturel liquéfié (GNL) (le Projet) sur le site de l'ancienne usine de pâtes Woodfibre à Nexwnéwu7ts Átlk'a7tsem (Howe Sound), à environ sept kilomètres au sud de Skwxwú7mesh (Squamish). Le Projet est situé sur l'emplacement historique du village Skwxwú7mesh Úxwumixw (Première Nation de Squamish) connu sous le nom de Swiy̓át, en Colombie-Britannique. Il s'agit d'une friche industrielle en fief simple, dont la vocation industrielle remonte à plus de 100 ans et qui bénéficie d'un accès maritime en eau profonde.

Le projet a fait l'objet de processus d'évaluation environnementale administrés par la province de la Colombie-Britannique, Skwxwú7mesh Úxwumixw, et le gouvernement du Canada. Le projet a reçu les autorisations d'évaluation environnementale des trois ordres de gouvernement susmentionnés en 2015 et 2016. Le 17 mars 2016, l'Agence canadienne d'évaluation environnementale, devenue l'Agence d'évaluation d'impact du Canada (AEIC), a publié l'énoncé de décision fédérale du projet dans le cadre d'un processus de substitution en vertu de la *Loi canadienne sur l'évaluation environnementale*, 2012 (SC 2012, ch. 19, art. 52). Le même document a été publié de nouveau le 7 mars 2018 pour tenir compte des changements importants apportés à la description du projet certifié.

Le présent rapport a été préparé conformément à l'article 2.6 de l'énoncé de décision fédérale afin de rendre compte de la mise en œuvre des conditions applicables à la portée des activités du projet ayant eu lieu au cours de l'année 2022.

En 2022, Enbridge Inc. a acheté une part de 30 % dans le projet Woodfibre LNG. En conséquence, une nouvelle entité, Woodfibre LNG General Partner Inc. a été créée et tous les permis ont été transférés de Woodfibre LNG Limited à la nouvelle entité. Les activités de Woodfibre LNG et la réalisation du projet demeurent inchangées.

Au cours de la période considérée, Woodfibre LNG a entamé des activités de préconstruction, notamment l'enlèvement des voies ferrées et des dalles, l'entretien et la modernisation de la prise d'eau existante de Mill Creek, ainsi que certains travaux préparatoires en vue de la modernisation du quai des passagers. Le cas échéant, les programmes de suivi élaborés antérieurement ont été mis en œuvre à l'appui de tous les travaux réalisés au cours de la période visée par le présent rapport. Les résultats de ces programmes de suivi sont résumés dans le présent rapport annuel.

Dans la mesure où Woodfibre LNG opère sous l'égide de plusieurs organismes de réglementation, l'organisation s'efforce d'équilibrer les interprétations différentes et uniques des activités préalables à la construction. Tout en maintenant sa position selon laquelle ces travaux ne constituent pas des travaux de construction (ce qui correspond à la position d'autres organisations), Woodfibre LNG reconnaît que l'AEIC considère certaines des activités préalables à la construction comme des travaux de construction et a inclus les conditions requises dans l'énoncé de décision fédérale pour ce type de travaux, conformément à ce qui est décrit dans le présent rapport annuel.

Deux incidents environnementaux ont été signalés en 2022 concernant des échantillons de qualité de l'eau prélevés dans des ruisseaux d'eau douce et des échantillons d'eau de mer prélevés dans la zone de projet certifiée et concernant des sédiments marins. Des mesures d'atténuation ont été mises en œuvre immédiatement pour remédier aux problèmes. Les résultats mesurés, qui sont décrits dans le présent rapport, sont considérés comme représentatifs des conditions de base du site et similaires aux résultats de la surveillance effectuée en 2020 et 2021. Le risque sanitaire associé à l'exposition aux dépassements dans la chair et l'hépatopancréas du crabe dormeur, ainsi que dans la chair de la sole est considéré comme étant de négligeable à faible. Toutefois, le risque associé aux dépassements de mercure et de méthylmercure est considéré comme un risque modéré. Néanmoins, il est important de noter qu'aucune récolte de fruits de mer n'a été répertoriée dans la zone d'étude de Woodfibre.

Au cours de l'année 2022, Woodfibre LNG a poursuivi ses activités administratives liées au projet, notamment en s'efforçant de répondre aux commentaires sur la demande de modifications de la description de projet certifiée

(hébergement des travailleurs) et sur une demande adressée à l'AEIC pour solliciter des modifications de deux des conditions de l'énoncé de décision fédérale (conditions 3.8 et 6.4). Un calendrier à jour sur la mise en œuvre des conditions devrait être fourni à l'AEIC d'ici le 31 mars 2023.

La consultation des nations autochtones (appelées groupes autochtones dans l'énoncé de décision fédérale) s'est poursuivie tout au long de l'année 2022; les résultats de cette consultation sont résumés dans le présent rapport. Les opinions et les renseignements communiqués par les groupes autochtones, une fois exprimés ou partagés, ont été pris en considération de manières complète et impartiale.

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ACRONYM AND ABREVIATIONS

Al	Aluminum
BC	British Columbia
CCME	Canadian Council of Ministers of the Environment
Cd	Cadmium
CPA	Certified Project Area
Cr	Chromium
Cu	Copper
DO	Dissolved oxygen
EAC	Environmental Assessment Certificate
EAO	Environmental Assessment Office
EMP	Environmental Management Plan
EWAL	Estuarine aquatic life
FDS	Federal Decision Statement
FWAL	Freshwater aquatic life
Hg	Mercury
IAAC	Impact Assessment Agency of Canada
LNG	Liquefied Natural Gas
m	metre
MWAL	Marine water aquatic life
PAH	Polycyclic aromatic hydrocarbons
Pb	Lead
POPC	Parameters of potential concern
QP	Qualified Professional
SQG	Sediment quality guidelines
SNEAA	Sḵwx̱wú7mesh Úxwumixw (Squamish Nation) Environmental Assessment Agreement

TAC	Technical Advisory Committee
V	Vanadium
Woodfibre LNG	Woodfibre LNG General Partner Inc.
WQG	Water quality guidelines
Zn	Zinc

1.0 INTRODUCTION

Woodfibre LNG General Partner Inc. (Woodfibre LNG) will construct and operate a liquefied natural gas (LNG) export facility (the Project) on the site of the former Woodfibre Pulp Mill in Nexwnéwu7ts Átlk̲'a7tsem (Howe Sound), approximately seven kilometers south of Sḵwx̱wú7mesh (Squamish). The Project is on the historical location of a Sḵwx̱wú7mesh Úxwumixw (Squamish Nation) village known as Swiy̓át in British Columbia (BC). The land is a fee simple, industrially zoned, brownfield site with more than 100 years of industrial use and deep-water marine access. Figure 1 shows the Project location and Figure 2 shows the layout, Certified Project Area (CPA) and key Project components.

The Project was subject to Environmental Assessment (EA) processes administered by the Province of BC, Sḵwx̱wú7mesh Úxwumixw and Government of Canada. The Project was assessed through a substituted process and the BC Environmental Assessment Office (EAO) issued Environmental Assessment Certificate (EAC) #E15-02 for the Project on 26 October 2015.

Amendment #1 to the EAC for changes to the cooling process was issued on 12 July 2017, and Amendment #2, to clarify the definition of construction, was issued on 19 July 2019. On 25 October 2020, the EAO approved a request to extend the date by which the designated Project was required to have substantially started construction and issued a certificate extension order to 26 October 2025, under Section 31 of the BC *Environmental Assessment Act*. Woodfibre LNG applied to the EAO for a third EAC amendment in late 2019 to add temporary floating worker accommodation (floatel), workforce accommodation on board a marine construction vessel, and associated infrastructure to the Certified Project Description (see Section 2.2).

The Sḵwx̱wú7mesh Úxwumixw conducted an independent review of the Application for an EAC under its own EA process.On 14 October 2015 Sḵwx̱wú7mesh Úxwumixw entered into the Sḵwx̱wú7mesh Úxwumixw Environmental Assessment Agreement (SNEAA) with Woodfibre LNG Limited.

The Canadian Environmental Assessment Agency, now the Impact Assessment Agency of Canada (IAAC), issued a Federal Decision Statement (FDS) as part of the substituted process under the *Canadian Environmental Assessment Act*, 2012 (SC 2012, c. 19, s. 52) on 17 March 2016. The FDS for the designated Project was re-issued on 07 March 2018 to accommodate the same material change to the Project as accounted for by Amendment #1 to the EAC. On 07 June 2022, Woodfibre LNG applied to IAAC to request changes to two conditions of the FDS (conditions 3.8 and 6.4). The public comment period for these requested changes has closed and Woodfibre LNG is waiting for a decision from IAAC.

In 2022, Enbridge Inc. purchased a 30% share in the Woodfibre LNG project. As a result, a new entity, Woodfibre LNG General Partner Inc. was established and all permits have been transferred from the previous entity, Woodfibre LNG Limited Inc., to this new entity. Woodfibre LNG operations and project delivery remain unchanged.

1.1 Purpose

The purpose of this 2022 annual report is to fulfil reporting requirements identified in FDS Condition 2.6 which requires Woodfibre LNG to prepare an annual report on the implementation of FDS conditions that were applicable to the scope of Project activities that occurred during 2022.

This report has been developed in accordance with the information requirements outlined in FDS Conditions 2.6.1 through 2.6.5 and in compliance with reporting and publication objectives described in FDS Condition 2.7 and 2.8, respectively. Concurrent with submission to IAAC, this report will be posted publicly to the Woodfibre LNG

Project website. IAAC and Indigenous nations (referred to as Aboriginal groups in the FDS) will be notified of its availability once posted.

1.2 2022 Project Activities

For the 2022 reporting period, the scope of project activities undertaken that were subject to the FDS Conditions included:

- Pre-construction activities including removal of some historic infrastructure and upgrades to existing infrastructure.
- Implementation of follow-up programs, where applicable
- Implementation of additional mitigation measures, where required, and
- Consultation and engagement, where required.

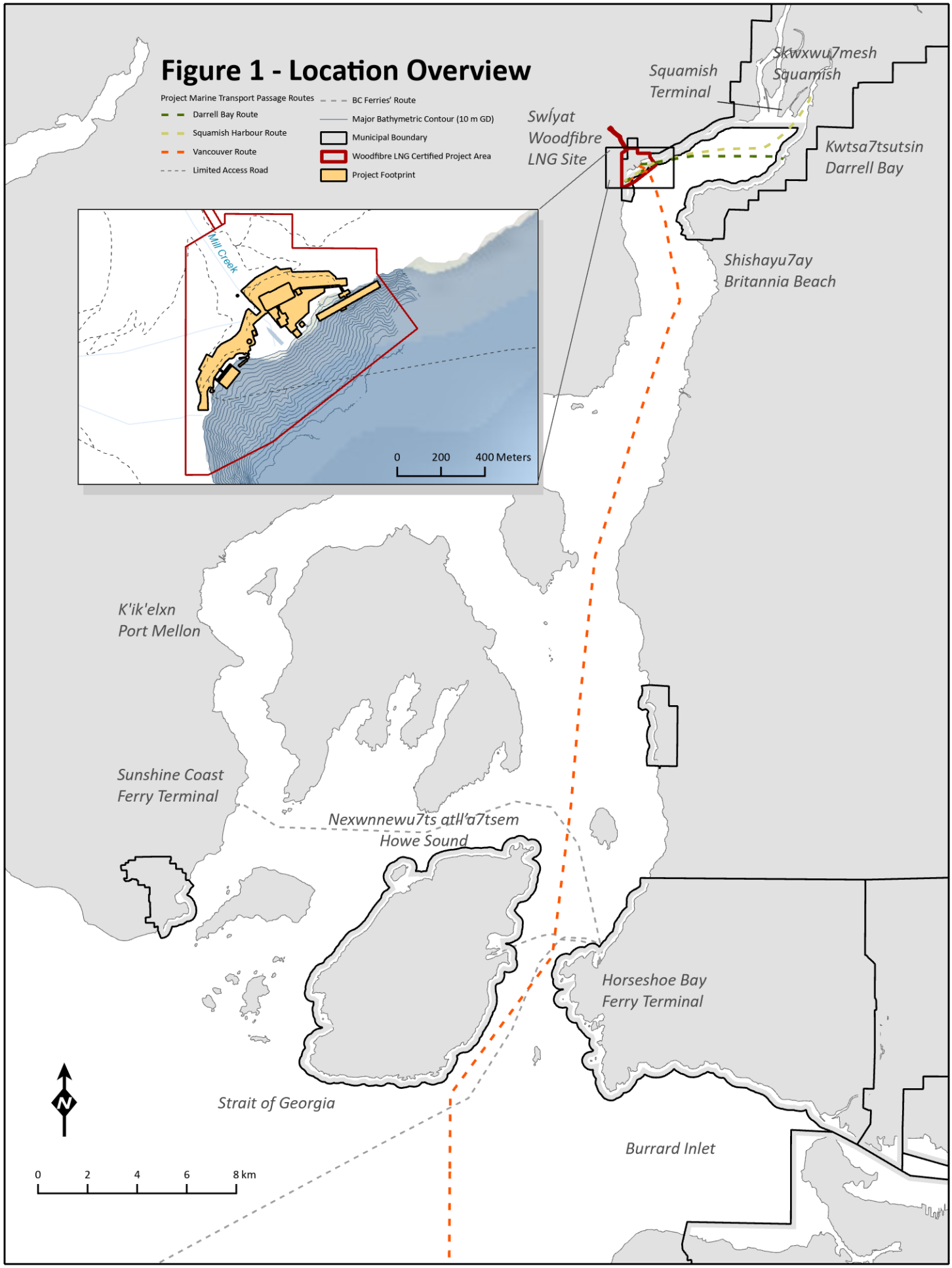
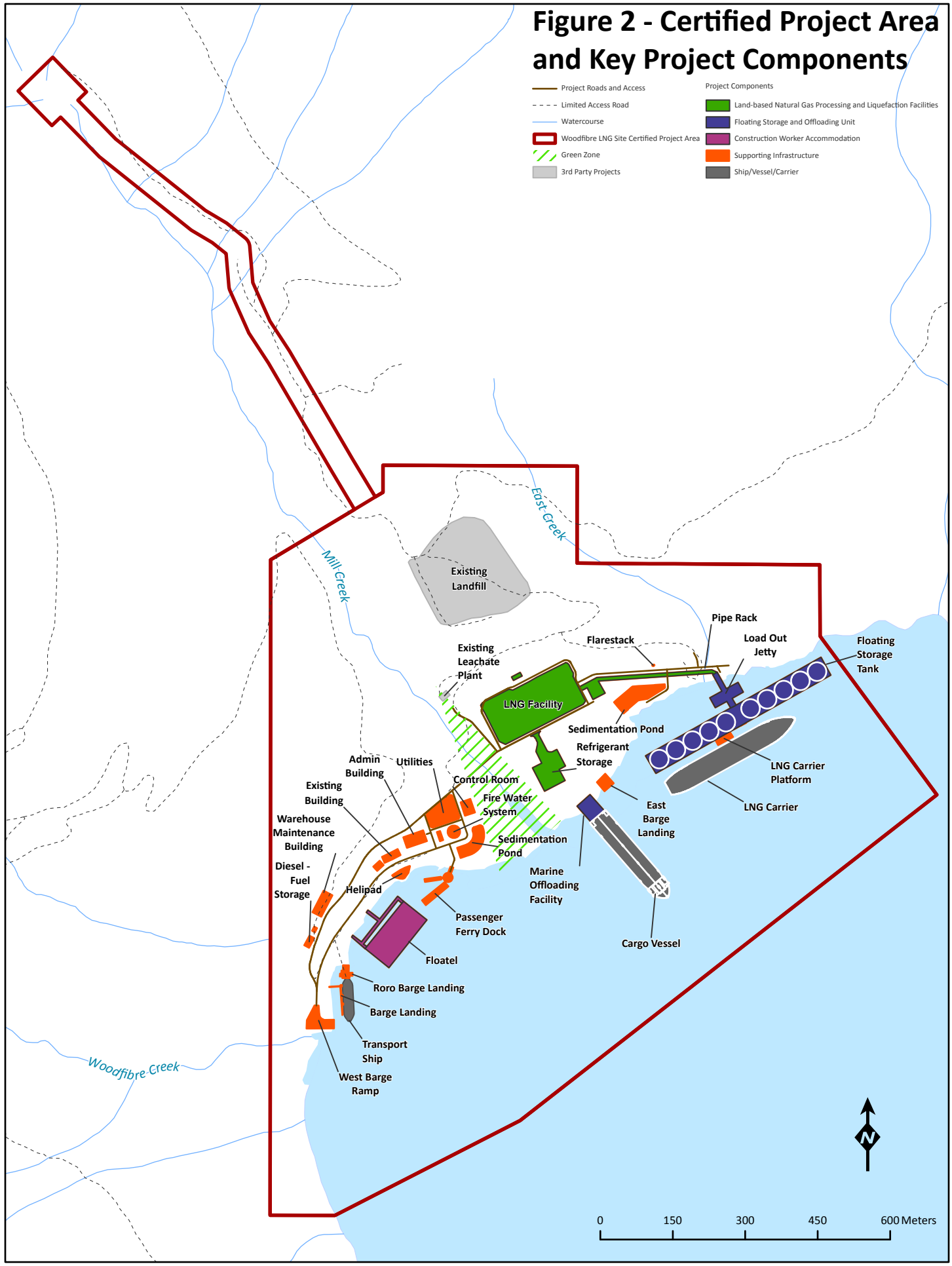


Figure 1 - Location Overview
Project Marine Transport Passage Routes
Darrell Bay Route
Squamish Harbour Route
Vancouver Route
Limited Access Road
BC Ferries' Route
Major Bathymetric Contour (10 m GD)
Municipal Boundary
Woodfibre LNG Certified Project Area
Project Footprint
Squamish Terminal
Skwxwu7mesh Squamish
Swíyat Woodfibre LNG Site
Kwtsa7tsutsin Darrell Bay
Shishayu7ay Britannia Beach
Mill Creek
0 200 400 Meters
K'ik'elxn Port Mellon
Sunshine Coast Ferry Terminal
Nexwnnewu7ts atll'a7tsem Howe Sound
Horseshoe Bay Ferry Terminal
Strait of Georgia
Burrard Inlet
N
0 2 4 6 8 km

Figure 2 - Certified Project Area and Key Project Components



2.0 PRE-CONSTRUCTION ACTIVITIES

Woodfibre LNG operates under multiple regulatory agencies, which have different and unique interpretations of what constitutes construction. Woodfibre LNG maintains that the work performed in 2022 does not constitute construction, which aligns with the perspective of other regulators. At the same time, Woodfibre LNG acknowledges that IAAC has determined that a portion of the work met their definition for Construction.

To ensure full compliance with its regulators, Woodfibre LNG has proactively met the conditions required by IAAC, in accordance with the Agency's construction determination for the pre-construction activities identified in this section.

Pre-construction activities carried out in 2022 consisted of the removal of historic infrastructure and upgrades to existing infrastructure, including the removal of rail tracks and concrete slabs, and maintenance to the existing penstocks and the Mill Creek water intake.

Rail tracks were removed, and the area was levelled and graded. The creosote timber and ties were stockpiled on poly sheeting and surrounded by a sand berm in the warehouse. Rail lines were placed in bins and will be barged off site in 2023. An Environmental Work Plan, written by Woodfibre LNG and owned and implemented by the contractor, was in place during rail track removal.

Concrete slabs were removed by breaking the slabs up and separating rebar from concrete. Concrete will be crushed and used to backfill the areas where the slabs were in 2023. Soil was tested in situ and separated into clean soil, which was used as backfill. Contaminated soil was stockpiled and approval for its use as backfill is currently being sought. An Environmental Work Plan, written by Woodfibre LNG and owned and implemented by the contractor, was in place during concrete slab removal.

Maintenance and repairs to the Mill Creek penstock included repairing damaged sections of the penstock. The penstock was cut and sealed above the leachate treatment plant. In addition, new water takeoff valves were installed to allow for water withdrawals to occur in 2023 pending required permitting being obtained.

The Mill Creek water intake was also maintained and upgraded. Maintenance included removing accumulated bed load from behind the existing weir and top of the water intake. Repairs to the weir crest were carried out by replacing damaged steel plates and placing native bed load material upstream of the weir. Further replacement or repairs to existing components of the water intake structure were completed. These included installation of a new fish screen, which meets Fisheries and Oceans Canada's Interim Code of Practice: End-of-pipe fish protection screens for small water intakes in freshwater (DFO 2020)[1], and the removal of accumulated debris in the wood flume and steel outlet channel.

Preparatory work for upgrades to the existing site access dock began in November 2022. The historic floating dock had reached the end of its design service life and required upgrading and repair for overall site safety. Upgrades and repairs completed include shoreline reconfiguration and installation of a temporary floating dock.

[1] Fisheries and Oceans Canada. 2020. Fisheries and Oceans Canada's Interim Code of Practice: End-of-pipe fish protection screens for small water intakes in freshwater. Available at: Interim code of practice: End-of-pipe fish protection screens for small water intakes in freshwater (dfo-mpo.gc.ca).

2.1 Implementation Schedule

Pursuant to FDS Condition 12, Woodfibre LNG will provide IAAC with an updated Implementation Schedule by 31 March 2023 to reflect revised statuses for each activity related to conditions set out in the FDS. As required by FDS Condition 7.4, this Implementation Schedule will be sent to Indigenous nations defined by Section 1.1 of the same. As per FDS Condition 2.8, upon distribution of the document to Indigenous nations, a copy of the Implementation Schedule will be posted on the Woodfibre LNG website.

2.2 Proposed Material Change to the Certified Project Description

In October 2019, Woodfibre LNG, in developing the mitigation measures identified as conditions of the Project's provincial, federal, and Sḵwx̱wú7mesh Úxwumixw approvals, proposed a change to the Project to include temporary floating worker accommodation and supporting infrastructure. This proposed change was submitted to the EAO as a third amendment application in late 2019. This amendment application was subject to a multi-agency technical review, which included the EAO, IAAC, Sḵwx̱wú7mesh Úxwumixw , Tsleil-Waututh Nation, the Technical Advisory Committee (TAC), and the public. Comments were provided to Woodfibre LNG between late 2019 and early 2020. Woodfibre LNG provided a response package to the EAO in September 2022 and received follow-up comments in December 2022. Woodfibre LNG submitted responses to those follow-up comments in February 2023.

3.0 FOLLOW-UP MONITORING

As defined in the FDS, follow-up monitoring programs have been designed to verify the accuracy of the predictions made during the Project's environmental assessment and to determine the effectiveness of mitigation measures implemented to eliminate or reduce potential effects to the environment. Further, follow-up monitoring programs to support adaptive management strategies, and inform future similar activities in such a way that promotes sustainable development have been developed by Qualified Professionals (QP). The follow-up monitoring programs to comply with FDS conditions include:

- Fish and Fish Habitat, as it relates to FDS Conditions 3.1 through 3.10;
- Migratory Birds, as it relates to FDS Conditions 4.2 and 4.3;
- Human Health, as it relates to FDS Condition 6.5;
- Land Use, as it relates to FDS Condition 7.2; and
- Species at Risk, as it relates to FDS Condition 9.3.

The following sub-sections provide information on the applicability of these follow-up monitoring programs to the scope of on-site works that occurred in 2022. Where follow-up monitoring programs were applicable, the results are described. Implementation of the follow-up monitoring programs, developed pursuant to applicable conditions of the FDS, was undertaken by QPs who, through education, experience, and knowledge relevant to a particular matter, could be relied on by the Project to provide accurate and defensible advice in support of Project compliance.

Consistent with Condition 13.1, which requires the Project to retain all records pertaining to the ongoing compliance of Project activities with the conditions of the FDS, the results of observations and data (field measurements and/or laboratory analysis) collected in response to the implementation of a follow-up monitoring program, have been recorded in the form of environmental monitoring reports and include those details described in Conditions 13.1.1 through 13.1.5. As per Condition 13.2 records documenting compliance will be retained for 25 years following decommissioning by Woodfibre LNG, at a facility in Canada and close to the Project location.

3.1 Fish and Fish Habitat

Pre-construction in-water works were completed in 2022 as follows:

- Passenger dock upgrade and upgrade (21 November 2022 to 19 December 2022)
- Mill Creek water intake upgrade and maintenance

All in-water works were completed during the applicable timing windows of least risk, in accordance with FDS Condition 3.1.

Woodfibre LNG conducted additional baseline survey work to support the development of environmental management plans and permit applications. This included marine water quality data collection and hydrological surveys, and fish and fish habitat assessments. Data collected during this baseline survey work will support permitting and management plans as required by FDS conditions.

During the passenger dock upgrades and maintenance, erosion and sediment control measures were implemented. These measures included operating vessels at an appropriate distance from the shore to prevent grounding, physical disturbance to the seabed and suspension of sediments from propeller scour, per FDS Condition 3.2.1. Additionally, during in-water works with the potential to affect marine water quality Environmental Monitors completed in-situ analysis of water quality criteria at warning and compliance stations to determine if

implementation of additional mitigation measures (i.e., sediment curtain around in-water works) were required, per FDS Condition 3.2.3. Shoreline reconfiguration for the passenger dock upgrade and repair is complete.

No instances of non-conformance were recorded by the Environmental Monitor as a result of changes in marine water quality during the passenger dock upgrade and maintenance works.

During passenger dock upgrade and maintenance works with the potential to generate underwater noise in excess of 160 decibels, Environmental Monitors completed marine mammal observation monitoring within the appropriate marine mammal exclusion zone radius, as determined by a QP using hydrophone point verification monitoring. Hydrophone monitoring was completed at a distance of 10 m from the installation location to verify the criteria for the protection of fish were not exceeded, and at the marine mammal exclusion zone, per FDS Condition 3.8.1, 3.8.2 and 3.8.3.

Ramp-up procedures were in place for start-up and sound dampening technology (i.e., bubble curtains) were implemented during all in-water activities with the potential to generate underwater noise in excess of the criteria for the protection of marine mammals, per FDS Condition 3.8.5. Works were not started or were paused when marine mammals were observed within the exclusion zone, and did not re-start until 30 minutes had passed without observation of marine mammals within the zone, per FDS Condition 3.8.4.

No instances of non-compliance were recorded by the Environmental Monitor as a result of underwater noise impacts during in-water pre-construction activities.

Upgrade and repair of the Mill Creek water intake included implementation of erosion and sediment control measures and silt control measures. Additionally uncured concrete or concrete contact water was prevented from entering the environment, per FDS Condition 3.2.1 and 3.2.3. The Mill Creek intake was designed to prevent fish entrainment and reduce the risk of injury to fish when operational, per FDS Condition 3.3.4. Isolation and fish salvage were conducted ahead of dewatering in the in-stream work area, and flow was maintained downstream by re-routing the stream to an existing side channel, per FDS Conditions 3.3.1, 3.3.2 and 3.3.3. No pile installation was required for the intake upgrade and repair.

One instance of non-conformance was recorded by the Environmental Monitor during the Mill Creek intake repair and upgrade. During concrete removal at the knife valve outfall, a small volume of water with elevated turbidity and pH was observed in the work area isolated for repair of the intake structure, where water management was ongoing via a 2-inch pump at low revolutions per minute discharging to downstream Mill Creek. When the discharge directed to the creek was identified, the Environmental Monitor immediately repositioned the pump discharge to a vegetated location away from the downstream section of Mill Creek to allow the discharge water to infiltrate through vegetation prior to reaching the receiving environment. Infiltrating through the vegetation mitigated the potential impacts associated with elevated pH and turbidity particulates. Sampling of the area immediately downstream of the discharge point was not feasible due to safety concerns as the creek is in a steep canyon; however, the Environmental Monitor did not observe any turbidity plume at the time of the incident. The Environmental Monitor remained on site to monitor after implementation of the corrective actions and no impacts to water quality were observed.

Pursuant to FDS Condition 3.14, a follow-up program for marine fish and fish habitat is currently in development; Indigenous nations have reviewed an initial draft. The follow-up program will be finalized prior to the start of construction and implemented during all phases of the Project.

3.2 Migratory Birds

The protection of migratory birds, their nests, and eggs were considered during all applicable activities in the CPA in 2022, per the Pre-Construction Environmental Management Plan and Environmental Work Plans, written by Woodfibre LNG and owned and implemented by the contractor for the rail line removal and concrete slab removal. Concrete slab removal and rail line removal occurred outside of the migratory bird season. No buildings were demolished in 2022; pre-demolition surveys for barn swallow nests took place in November and December 2022 in support of planned demolition of buildings in early 2023.

Minor vegetation clearing during the migratory bird window was required to facilitate the Mill Creek water intake upgrade and repairs. Environmental Monitors were required to complete nest sweeps ahead of this vegetation clearing per FDS Condition 4.1.

One instance of non-conformance was recorded by the Environmental Monitor during activities for the Mill Creek water intake repair and upgrade. Vegetation clearing of one access ramp to the existing flume was completed prior to the Environmental Monitor completing a nest sweep within the migratory bird nesting period. Works were halted by the Environmental Monitor and a nest sweep was completed for the remainder of the work area prior to work proceeding. No active or inactive nests or birds exhibiting nesting behaviour were observed.

Pursuant to FDS Condition 4.3, a pre-construction follow-up program for migratory birds was developed. The follow-up program outlines the mitigation measures applicable to migratory birds and the steps that will be taken to determine the effectiveness of mitigation measures used to protect migratory birds. The air-cooling system has not been installed, so the follow-up program was not implemented during this reporting period.

3.3 Human Health

Pursuant to FDS Condition 6.2, Woodfibre LNG has developed an internal protocol for noise complaints through an online ticketing system available at https://woodfibrelng.ca/contact-us/concerns-and-complaints/.

Pursuant to FDS Condition 6.4, water and sediment quality for the Project were monitored throughout 2022. Project activities were limited prior to September when the removal of structures and concrete slabs from the former pulp mill site was initiated. No discharges were reported in association with this activity. The 2022 water and sediment monitoring results are considered to represent an extension of the baseline monitoring for the Project. Pre-construction in-marine works for the passenger dock upgrade commenced on 21 November 2022 and continued intermittently through 19 December 2022. Water quality was monitored each day the in-marine works were active.

The water quality results were screened against Canadian water quality guidelines (WQG) developed by the Canadian Council of Ministers of the Environment (CCME) and Environment and Climate Change Canada for the protection of freshwater, estuarine and marine water aquatic life (FWAL, EWAL and MWAL, respectively). Results for marine sediment samples were screened against the Canadian sediment quality guidelines (SQG) developed by the CCME (Interim Sediment Quality Guideline (ISQG) and Probable Effects Levels (PEL)) for the protection of aquatic life.

Freshwater and marine water quality stations were monitored monthly in 2022. Water quality monitoring was conducted at Woodfibre, Mill and East Creeks and at two ditches in the western area of the CPA. Marine water was monitored at four nearshore stations within the CPA, and two reference stations north and south of the CPA. The passenger dock marine monitoring station was located 25 m from the works area and the reference station south of the CPA was monitored as a background station. Laboratory analysis was conducted for general parameters, nutrients, metals, methyl mercury, dioxins and furans, polycyclic aromatic hydrocarbons (PAH) and

volatile organic compounds (benzene, ethylbenzene, methyl tertiary butyl ether, toluene, styrene, and total xylenes). Tributyltin was added to the parameter list for the passenger dock monitoring program.

The freshwater, marine water, and marine sediment screening results are generally consistent with the baseline results from previous years (2020 – 2021). Samples of marine water collected in 2022 were observed to exceed CCME limits for field pH, field dissolved oxygen (DO), total cadmium (Cd), total chromium (Cr) and total vanadium (V). Marine sediment results from 2022 indicate that total Cd, copper (Cu), lead (Pb), mercury (Hg), and zinc (Zn) and PAHs were above the sediment quality guidelines. Elevated baseline concentrations of metals in Howe Sound are known from historical baseline water quality sampling within the CPA.

The 2022 freshwater data are considered representative of baseline conditions and exceedances of the WQG are summarized in Table B.1 of Appendix B. Parameter concentrations are within WQG for the protection of FWAL and EWAL, with the exception of field pH, field DO, total aluminum (Al), dissolved Cu, and dissolved Zn. Similar to 2021, the water quality in Woodfibre, Mill and East creeks is occasionally outside the lower limit of the pH WQG. DO in one of the ditch water samples was below the lower WQG value. Total Al and dissolved Cu exceeded WQGs occasionally in all creek waters. Maximum values up to 5.0 (for Al) and 3.8 (for dissolved Cu) times greater than the corresponding WQG were recorded. Results reported as non-detect for dissolved Cu and total Zn were occasionally reported with detection limits up to 2 times above the applicable WQG value.

The 2022 marine water quality WQG exceedances are summarized in Table B.2 of Appendix B. Similar to the 2020 and 20201 monitoring results, parameter values were within the WQG limits for the protection of MWAL, with the exception of field pH, field DO and total Cd, total Cr and total V. Field pH was slightly below the lower WQG value in one deep water sample from the northeast reference station (WQR1) in November 2022. Field DO measurements were below the lower limit of the WQG in all but one of the deep water samples. Total Cd concentrations were up to 2.1 times greater than the WQG in one shallow and two deep water samples. Total Cr was non-detect in most marine water samples; however, raised detection limits in in some samples were 3.3 times greater than the WQG. Total Cr was detected up to 2 times the hexavalent Cr WQG in one shallow and two deep water samples. The majority of the exceedances for total V are attributed to elevated detection limits, which are 2 to 10 times greater than the WQG.

The 2022 marine sediment screening results are summarized in Table B.3 of Appendix B. The results are comparable to the 2021 dataset. Concentrations of several total metals (Cd, Cu, Pb, Hg, Zn) and PAHs (acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, 2-methylnaphthalene, naphthalene, phenanthrene and pyrene) were above the SQG by up to 10 times and 447 times, respectively. In general, a greater number of exceedances are observed in marine sediment samples collected at the 0.5 m depth. Of the metal parameters, concentrations of Cu most frequently exceed the guideline. Of the PAHs, concentrations of acenaphthylene, fluorene and phenanthrene are most frequently elevated above the probable effect level.

The in-marine works water quality monitoring results are summarized in Table B.4 of Appendix B. The marine water samples met WQG for all parameters that were tested, and comparable water quality was observed at the monitoring station and reference station for each monitoring event. Total Hg and total V were not detected in all samples. However, in a few samples the total Hg and total V detection limits were above the WQG by a factor of 12 and 2.5, respectively. Overall, the monitoring results are comparable to baseline water quality measured from 2020 through 2022.

Pursuant to FDS Condition 6.5, a human health risk assessment (HHRA) was completed in 2022 based on fish and shellfish monitoring program conducted in July and September 2021. The risk assessment evaluated the human exposure to parameters of potential concern (POPCs) by consumption of local seafood as all other exposure

pathways were defined as "not operable". Identified POPCs for the evaluation of risk to human health related to seafood consumption are as follows:

- Organics: PAHs, dioxins, and furans
- Organometallics: Methyl-mercury and tributyltin
- Metals: Arsenic (As), Cd, Cu, Hg (metallic), Pb and Zn

The potential health risks to human receptors by exposure to POPCs from seafood consumption were derived using Health Canada toxicity reference values and established protocols to assess risks to human receptors. Primary human receptors (those who might be exposed to any of the identified POPCs through consumption of seafood harvested from the study areas) identified for the HHRA include:

- members of the Squamish Nation (including toddlers (7 months to < 5 years old) and adults (20 to < 80 years old, female [child-bearing age] and males) – Dungeness crab and other local seafoods are important traditional foods.
- Other Indigenous harvesters
- Residents of Squamish and nearby towns who harvest seafood
- Tourists and recreational marine users who harvest seafood

The consumption rate of seafood by members of the Squamish Nation is presumably higher than that of the others listed above. Seafood consumption rates for Indigenous males and females are based on reported consumption values for fish and shellfish and are generally assumed to represent a conservative estimate (i.e., an overestimation) of the consumption of wild seafood originating from the monitoring areas.

Marine organism samples were collected from the following areas:

- Woodfibre Study Area (500 m from the Project's shoreline) - This is the assumed distance that disturbed sediments (and associated POPCs) may travel before re-settling as a result of project activities in the marine environment, and
- Squamish Study Area (Reference Site) – This area is an upstream reference site to the Woodfibre study area and also located just past the sanitary harvesting ban boundary for industrial, municipal, and sewage treatment plant outfall discharges.

Marine species collected include Dungeness crab (*Metacarcinus magister*) meat and hepatopancreas as well as sole (*Parophrys vetulus*) meat. Targeted species were based on Indigenous nations' consumption habits, resident species presence within the study area (non-migratory), and the potential for exposure of marine organisms to POPCs associated with sediment disturbance due to Project activities.

The analysis of fish and shellfish samples collected in 2021 (Federal Decision Statement Annual Report 2021) was conducted in 2022 with the aim of characterizing pre-construction seafood quality. A total of 30 adult male Dungeness crabs and 20 English sole fish were collected from each of the selected two study areas. Collected organisms were weighed and measured for body length upon capture, labelled, placed in large zip-lock bags and kept refrigerated until elemental analysis. Samples were analyzed for PAHs, dioxins and furans, methyl-mercury, tributyltin and total metals (As, Cd, Cu, Hg, Pb, Zn) by Bureau Veritas Laboratories.

A summary of the risk characterization for POPCs is provided in Table B.5 of Appendix B. Overall, the human health risk associated with exposure to PAH, dioxins, furans, tributyltin, Cd, Cu, Pb and Zn from Dungeness crab

meat and hepatopancreas, and sole meat is considered negligible to low. However, the health risk from the ingestion of Hg and methylmercury is defined as "moderate".

There may be uncertainties associated with data gaps, POPC screening methods, estimation of exposures and ingestion rates, or laboratory analytical methods (e.g., detection limits). However, conservative assumptions were applied in the exposure and toxicity assessments of this HHRA which likely resulted in overestimates of actual risks associated with the on-site contaminants.

3.4 Land Use

Pursuant to FDS Condition 7.1, Woodfibre LNG developed a communication protocol for marine transportation during pre-construction. The plan was developed with input from Indigenous nations and includes mechanisms for Indigenous nations and other marine users to provide feedback on potential interactions. The Woodfibre LNG website (www.woodfibrelng.ca) was updated to include the communication protocol for marine transportation.

Pursuant to FDS Condition 7.3, Woodfibre LNG developed an Access Protocol for Indigenous Groups, which was shared with Indigenous nations and will allow opportunities for marine and land access around the Project area.

Woodfibre LNG installed a buoy by Defence Islands in support of FDS Condition 7.2. The data collected by these buoys will be used in the follow-up monitoring for wake effects.

3.5 Archaeological and Heritage Resources

Pursuant to FDS Condition 8.1.1, an interim Archaeological Impact Assessment report was prepared for the investigation conducted for the Mill Creek extension of the CPA. No archaeological materials were identified. The pre-construction Archaeological and Heritage Resources Management Plan was developed and sent for consultation to Indigenous nations in early 2022, pursuant to FDS Condition 8.1.2. Pursuant to FDS Condition 8.1.3, a Chance Find Management Plan was revised and maintained.

3.6 Listed Species at Risk

Bat surveys (swarming and acoustic) were conducted in fall 2022 to determine whether little brown myotis (*Myotis lucifugus*) is present, per FDS Condition 9.1. No little brown myotis were detected, and no active hibernacula or roosts were observed.

Woodfibre LNG installed two nursery bat boxes back-to-back and one rocket box on the west side of the landfill, and two nursey bat boxes behind the warehouse in March 2022, per FDS Condition 9.2.

Pursuant to FDS Condition 9.3, a follow-up monitoring program for little brown myotis was developed. The monitoring program addresses commitments made during the environmental assessment such as a requirement to undertake pre-clearing maternity roost surveys should tree clearing or building demolition works occur outside the least risk window for bat roosting (September 1 to May 15 inclusive) and the establishment of acceptable non-disturbance buffer zones (as determined by a QP) around active maternity roosts. However, pre-construction activities undertaken in 2022 did not include activities (e.g., tree clearing or building demolition) that would warrant the implementation of the follow-up monitoring program for little brown myotis and therefore this follow-up monitoring program was not applicable to the scope of on-site work undertaken in 2022.

4.0 ADDITIONAL MITIGATION MEASURES

Woodfibre LNG is committed to a careful and precautionary approach to the implementation of mitigation measures required to comply with the FDS conditions. Mitigation strategies are based on validated methods and models supported by assurances of QPs that specialize in their respective areas of practice. Informed by the best available information and knowledge, including community and Indigenous Traditional Knowledge, the follow-up monitoring programs described in Section 3 of this document were subject to processes of adaptive management which require that implemented measures be evaluated and adjusted as required to achieve a set objective. It is a systemic approach for continually improving existing management strategies by learning from earlier experiences.

The follow-up monitoring programs implemented to date follow a tailored 'plan-do-check-act' cycle of continuous improvement.

Per FDS Condition 6.4, baseline water quality samples continue to be collected from freshwater and marine locations across the CPA. Water samples collected from various locations throughout 2022 were observed to exceed CCME guidelines most notably for total Cu and Al. Samples of marine water collected in 2022 were observed to exceed CCME limits for field pH, field DO, total Cd, total Cr and total V. Marine sediment results from 2022 indicate that total Cd, Cu, Pb, Hg, and Zn and PAHs were above the sediment quality guidelines. Given the known elevated baseline concentrations of metals in Howe Sound, and from historical baseline water quality sampling within the CPA, QPs determined no additional mitigation measures were required. Notifications were provided to relevant government authorities and Indigenous nations in accordance with FDS Condition 6.4.

4.1 Accidents and Malfunctions

Pursuant to FDS Condition 11.5, Woodfibre LNG has drafted a communication plan related to accidents and malfunctions. As described in Section 5.1, Indigenous nations were invited to provide input on the plan, which was incorporated into the plan. There were no accidents or malfunctions in 2022.

4.2 Emergency Response Plans and Communications with Indigenous Nations

A Pre-Construction Emergency Response Plan was developed and consulted on in early 2022; it is in effect on the Project, per FDS Condition 11.3.

5.0 CONSULTATION AND ENGAGEMENT

5.1 Indigenous Consultation

Pursuant to FDS Condition 2.6.3, this section summarizes Woodfibre LNG's engagement activities with Indigenous nations in 2022 related to FDS conditions. Engagement activities will be ongoing for the life of the Project and will continue to be tailored to the phase of the Project and associated activities planned at the time of engagement.

As communicated in the Woodfibre LNG 2020 and 2021 annual reports, consultation with Indigenous nations occurred regarding various Management Plans under development. These included the following Plans: the Pre-Construction Environmental Management Plan, Archaeological and Heritage Resources Management Plan (FDS Condition 8.1), the communication plan for accidents and malfunctions (FDS Condition 11.5) and pre-construction Emergency Response Plan (FDS Condition 11.3).

In 2022, Woodfibre LNG undertook the following activities:

- Consulted, invited and incorporated input from Indigenous nations in development of the follow-up program to determine the effectiveness of mitigation measures for fish and fish habitat (FDS Condition 3.14)
- Consulted, invited and incorporated input from Indigenous nations in development of a follow-up program to determine the effectiveness of the mitigation measures used to avoid harm to migratory birds, their eggs and nests (FDS Condition 4.3).
- Consulted, invited and incorporated input from Indigenous nations into Woodfibre LNG's proposed amendment to FDS Condition 3.8 (protection of marine mammals) and FDS Condition 6.4 (water quality monitoring).
- Consulted, invited and incorporated input from Indigenous nations on development of a noise complaint mechanism (FDS Condition 6.2).
- Consulted, invited and incorporated input from Indigenous nations in development of a communications protocol related to marine transportation (FDS Condition 7.1).
- Consulted, invited and incorporated input from Indigenous nations in development of a pre-construction baseline wake verification plan (FDS Condition 7.2).
- Consulted, invited and incorporated input from Indigenous nations in development of an access management plan to ensure opportunities for marine and land access around the Project area (FDS Condition 7.3).
- Consulted, invited and incorporated input from Indigenous nations on the pre-construction Archaeological and Heritages Resources Management Plan (FDS Condition 8.1.2).
- Consulted, invited and incorporated input from Indigenous nations on development of a communications plan related to accidents and malfunctions (FDS Condition 11.5).
- Consulted, invited and incorporated input from Indigenous nations on development of a pre-construction Emergency Response Plan (FDS Condition 11.3).
- Consulted, invited and incorporated input from Indigenous nations on development of a Pre-Construction Environmental Management Plan.

5.2 Stakeholder Engagement

Pursuant to FDS Condition 2.6.3, the following section summarizes how views and information received through engagement activities were provided full and impartial consideration by Woodfibre LNG. Engagement activities

will be ongoing for the life of the Project and will continue to be tailored to the phase of the Project and associated activities planned at the time of engagement.

In 2022, Woodfibre LNG undertook the following activities:

- Engaged and invited input from Canadian Coast Guard, District of Squamish, and Emergency Management B.C on the Project's Pre-Construction Emergency Response Plan (FDS Condition 11.3)
- Engaged stakeholders in the development of the Project's Emergency Response Plan for construction (FDS Condition 11.3). A community roundtable is planned in 2023 Q1 to invite further input into the plan.
- Engaged and invited input from Department of Fisheries and Oceans; Squamish Terminals; BC Ferries; Transport Canada; Canadian Coast Guard; Pacific Pilotage Authority on the Project's community protocol for marine transportation (FDS Condition 7.1).

6.0 CLOSURE

This report has been prepared in fulfillment of the conditions set out in the FDS (as amended March 2018) issued to Woodfibre LNG for the Woodfibre LNG Project.

APPENDIX A
Federal Decision Statement Table of Concordance for the Woodfibre LNG Project (2022 Update)

Condition No.	Condition	Notes
2.1	The Proponent shall, throughout all phases of the Designated Project, ensure that its actions in meeting the conditions set out in this Decision Statement are considered in a careful and precautionary manner, promote sustainable development, are informed by the best available information and knowledge, including community and Aboriginal traditional knowledge, are based on validated methods and models, are undertaken by qualified individuals, and have applied the best available economically and technologically feasible mitigation measures.	• Refer to the Federal Decision Statement Annual Report for 2022 for additional information.
2.2	The Proponent shall, where consultation is a requirement of a condition set out in this Decision Statement: • 2.2.1 provide a written notice of the opportunity for the party or parties being consulted to present their views and information on the subject of the consultation; • 2.2.2 provide sufficient information and a reasonable period of time to permit the party or parties being consulted to prepare their views and information; • 2.2.3 provide a full and impartial consideration of any views and information presented by the party or parties being consulted; and • 2.2.4 advise the party or parties that have provided comments on how the views and information received have been considered by the Proponent.	• Refer to Section 5 [Consultation and Engagement] of the attached report for additional information.
2.3	The Proponent shall, where consultation with Aboriginal groups is a requirement of a condition set out in this Decision Statement, and prior to initiating that consultation, communicate with each Aboriginal group to determine the manner by which to satisfy the consultation requirements referred to in Condition 2.2, including methods of notification, the type of information and the period of time to be provided when seeking input, the process for full and impartial consideration of any views and information presented and the means by which each Aboriginal group will be informed of how the views and information received have been considered by the Proponent.	• Refer to Section 5 [Consultation and Engagement] of the attached report for additional information.
2.4	The Proponent shall, where a follow-up program is a requirement of a condition set out in this Decision Statement: • 2.4.1 undertake monitoring and analysis to verify the accuracy of the environmental assessment as it pertains to the particular condition and/or to determine the effectiveness of any mitigation measure(s); • 2.4.2 determine whether additional mitigation measures are required based on the monitoring and analysis undertaken pursuant to condition 2.4.1; and • 2.4.3 if additional mitigation measures are required pursuant to condition 2.4.2, implement the additional mitigation measures and monitor them pursuant to condition 2.4.1.	• Refer to Section 3 [Follow-Up Monitoring] of the attached report for more information. Further, refer to Section 3.6 [Listed Species at Risk] and Section 4 [Additional Mitigation Measures] of the attached report for additional information.
2.5	Where consultation with Aboriginal groups is a requirement of a follow-up program, the Proponent shall discuss with each Aboriginal group opportunities for the participation of that Aboriginal group in the implementation of the follow-up program as set out in condition 2.4.	• Refer to Section 5 [Consultation and Engagement] of the attached report for additional information.
2.6	The Proponent shall, commencing in the reporting year that implementation of the conditions set out in this Decision Statement begins, prepare an annual report that sets out: • 2.6.1 the activities undertaken in the reporting year to comply with each of the conditions set out in this Decision Statement; • 2.6.2 how the Proponent complied with condition 2.1; • 2.6.3 for conditions set out in this Decision Statement for which consultation is a requirement, how the Proponent considered any views and information that the Proponent received during or as a result of the consultation; • 2.6.4 the results of the follow-up program requirements identified in conditions 3.14, 4.3, 6.5, 7.2 and 9.3; and • 2.6.5 any additional mitigation measures implemented or proposed to be implemented by the Proponent, as determined under condition 2.4.	• This report has been structured consistent with the requirements of this condition and includes, as appropriate, the information requirements described by Conditions 2.61 – 2.6.5.
2.7	The Proponent shall submit to the Agency the annual report referred to in Condition 2.6, including an executive summary in both official languages, no later than March 31 following the reporting year to which the annual report applies.	• As per the attached Project Federal Decision Statement Annual Report for 2022.

Condition No.	Condition	Notes
2.8	The Proponent shall publish on the Internet, or any medium which is widely publicly available, the annual report and the executive summaries referred to in Conditions 2.6 and 2.7, any plan(s) to offset the loss of fish and fish habitat referred to in Condition 3.11, the archaeological and heritage resources management plan referred to in Condition 8.1, the decommissioning plan referred to in Condition 10.1, the annual report referred to in Condition 10.3, the reports referred to in Conditions 11.4.3 and 11.4.4, the Communication Plan referred to in Condition 11.5, the implementation schedule referred to in Condition 12.1 and any update(s) or revision(s) to the above documents, upon submission of these documents to the parties referenced in the respective Conditions. The Proponent shall keep these documents publicly available for 25 years following the end of operation or until the end of decommissioning of the Designated Project, whichever comes first. The Proponent shall notify the Agency and Aboriginal groups of the availability of these documents once they are published.	• Relevant reports have been posted to the Woodfibre LNG web portal at https://woodfibrelng.ca/ • The following documents were published online in 2022: o Federal Decision Statement Annual Report for 2021 (including executive summaries) o Project Implementation Schedule - Update (as per Condition 12)
2.9	The Proponent shall notify the Agency and Aboriginal groups in writing no later than 60 days after the day on which there is a transfer of ownership, care, control or management of the Designated Project in whole or in part.	• In November 2022, deal closed for Enbridge Inc. to acquire a 30% share in the project. Indigenous Group engagement began in summer 2022. Formal notification submitted to IAAC on December 2, 2022.
2.10	The Proponent shall consult with Aboriginal groups prior to initiating any material change(s) to the Designated Project that may result in adverse environmental effects, and shall notify the Agency in writing no later than 60 days prior to initiating the change(s).	• Not applicable to the 2022 reporting period.
2.11	In notifying the Agency pursuant to condition 2.10, the Proponent shall provide the Agency with an analysis of the adverse environmental effects of the change(s) to the Designated Project, as well as the results of the consultation with Aboriginal groups.	• Not applicable to the 2022 reporting period.
3.1	The Proponent shall conduct in-water construction activities during timing windows of least risk for the area, unless otherwise agreed to by relevant federal and provincial authorities. If in-water construction activities cannot be conducted during timing windows of least risk, the Proponent shall develop and implement additional mitigation measures, in consultation with Fisheries and Oceans Canada and Aboriginal groups, to protect fish during sensitive life stages.	• Refer to Section 3.1 [Fish and Fish Habitat] of the attached report for more information.
3.2	The Proponent shall implement measures to mitigate adverse environmental effects of the Designated Project on fish and fish habitat from changes to water quality during all phases of the Designated Project. The mitigation measures shall include: • 3.2.1 implementing erosion control measures and sediment control measures during all phases of the Designated Project; • 3.2.2 revegetating disturbed riparian areas, using native plant species, after construction; • 3.2.3 using silt control measures around in-water construction activities; and • 3.2.4 preventing wet concrete or cement-laden water from entering the marine environment.	• Refer to Section 3.1 [Fish and Fish Habitat] of the attached report for more information.
3.3	The Proponent shall implement measures to mitigate adverse environmental effects of the Designated Project on fish, including mortality, physical injury and behavioral change, during all phases of the Designated Project. The mitigation measures shall include: • 3.3.1 isolating instream construction activities in Mill Creek from adjacent streamflow; • 3.3.2 salvaging and relocating fish during instream construction activities requiring isolation of freshwater fish habitat in Mill Creek; • 3.3.3 maintaining minimum flow in Mill Creek and Woodfibre Creek to support fish and fish habitat; • 3.3.4 designing, installing and operating a water intake structure to avoid or reduce the risk of injury and mortality to fish in Mill Creek and Woodfibre Creek; • 3.3.5 taking into consideration the British Columbia Marine and Pile Driving Contractors Association's Best Management Practices for Pile Driving and Related Operations when conducting pile installation; and • 3.3.6 implementing low-noise methods or sound dampening technologies to reduce the intensity of the sound generated or the level of sound propagation through the water column if underwater pressure pulse levels exceed 30 kilopascals during pile installation.	• Refer to Section 3.1 [Fish and Fish Habitat] of the attached report for more information.
3.4	The Proponent shall prevent or avoid the destruction of fish, or any potentially harmful effects to fish habitat, during all phases of the Designated Project when using explosives in or around water frequented by fish.	• Not applicable to the 2022 reporting period.

Condition No.	Condition	Notes
3.5	The Proponent shall remove existing creosote-treated piles in a manner to prevent the mobilization of deleterious substances in water frequented by fish, and taking into consideration navigational safety.	• Not applicable to the 2022 reporting period.
3.6	The Proponent shall design, install and operate any marine water intake to avoid or reduce the incidental capture of fish through entrainment and impingement, including the risk of entrainment of Pacific herring (*Clupea pallasi*) larvae.	• Not applicable to the 2022 reporting period.
3.7	The Proponent shall design, install and operate any marine discharge diffuser to prevent the deposit of a deleterious substance in water frequented by fish.	• Not applicable to the 2022 reporting period.
3.8	The Proponent shall establish and maintain a marine mammal underwater noise impact area for all construction activities where underwater noise levels are predicted to exceed 160 decibels at a reference pressure of one micro to avoid adverse behavioural change in or injury to marine mammals. In doing so, the Proponent shall: • 3.8.1 identify each construction activity that generates underwater noise levels greater than 160 decibels and the periods of time when each activity occurs; • 3.8.2 establish the boundary of the marine mammal underwater noise impact area for each construction activity identified in condition 3.8.1 at the distance from the activity at which the underwater noise level is predicted to reach 160 decibels; • 3.8.3 employ a marine mammal observer, who is a qualified individual, and require that person to detect and report the presence of marine mammals in the marine mammal underwater noise impact area during construction activities identified in condition 3.8.1; • 3.8.4 stop or not start the construction activities identified in condition 3.8.1 if a marine mammal is detected in the marine mammal underwater noise impact area, and only begin or continue the construction activities identified in condition 3.8.1 once the marine mammal has moved out of the marine mammal underwater noise impact area; and • 3.8.5 implement mitigation measures, including sound dampening technology and soft-start procedures, to reduce construction noise levels in the marine mammal underwater noise impact area.	• Refer to Section 3.1 [Fish and Fish Habitat] of the attached report for more information.
3.9	The Proponent shall require that LNG vessels associated with the Designated Project respect speed profiles applicable to the operation of the Designated Project, subject to navigational safety, to prevent or reduce the risks of collisions between LNG vessels and marine mammals.	• Not applicable to the 2022 reporting period.
3.10	The Proponent shall require that LNG vessels and tug operators associated with the Designated Project report collisions with marine mammals in Howe Sound to the Canadian Coast Guard within two hours of a collision occurrence, and notify Aboriginal groups in writing.	• Not applicable to the 2022 reporting period.
3.11	The Proponent shall, in consultation with Fisheries and Oceans Canada and Aboriginal groups, develop and implement any plan(s) required to offset the loss of fish and fish habitat associated with the carrying out of the Designated Project.	• Not applicable to the 2022 reporting period.
3.12	For any fish habitat offset areas proposed in any offsetting plan(s) under condition 3.11, and prior to submitting the offsetting plan to Fisheries and Oceans Canada, the Proponent shall determine whether there are adverse effects: • 3.12.1 on migratory birds and their habitats; • 3.12.2 on terrestrial species, including amphibians and reptiles, and their habitats; • 3.12.3 on listed species at risk and their habitats; • 3.12.4 on the current use of lands and resources for traditional purposes by Aboriginal peoples; • 3.12.5 on the flow rates, water depths or water widths that may affect the passage of a vessel, including a vessel used by Aboriginal peoples in the context of their current use of lands and resources for traditional purposes; • 3.12.6 on physical and cultural heritage and structure, site or thing that is of historical, archaeological, paleontological or architectural significance to Aboriginal peoples; and • 3.12.7 from potential sources of contamination including polycyclic aromatic hydrocarbons, dioxins, furans, copper, lead, zinc, tri-n-butyltin, arsenic, cadmium and methyl-mercury in the receiving environment.	• Not applicable to the 2022 reporting period.
3.13	The Proponent shall, if there are adverse effects on any of the elements set out in conditions 3.12.1 to 3.12.7, avoid or lessen those adverse effects.	• Not applicable to the 2022 reporting period.

Condition No.	Condition	Notes
3.14	The Proponent shall, in consultation with Fisheries and Oceans Canada and Aboriginal groups, develop, prior to construction, and implement, during all phases of the Designated Project, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of the mitigation measures identified under Conditions 3.1 to 3.10.	• Refer to Section 3.1 [Fish and Fish Habitat] and Section 5 [Consultation and Engagement] of the attached report for more information.
4.1	The Proponent shall carry out all phases of the Designated Project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall take into account Environment and Climate Change Canada's Avoidance Guidelines. The Proponent's actions in applying the Avoidance Guidelines shall be in compliance with the *Migratory Birds Convention Act,* 1994 and with the *Species at Risk Act.*	• Refer to Section 3.2 [Migratory Birds] of the attached report for additional information.
4.2	The Proponent shall: • 4.2.1 restrict flaring to the minimum required during operation, maintenance activities or emergencies to prevent the accumulation of natural gas and protect from overpressure; • 4.2.2 minimize flaring required for operation and maintenance activities during night time and during periods of migratory bird vulnerability; and • 4.2.3 control operational lighting to avoid attracting migratory birds.	• Not applicable to the 2022 reporting period.
4.3	The Proponent shall develop, prior to construction and in consultation with Aboriginal groups, and implement, during all phases of the Designated Project, a follow-up program to verify the accuracy of the environmental assessment as it pertains to the environmental effects of the air cooling system on migratory birds and to determine the effectiveness of the mitigation measures used to avoid harm to migratory birds, their eggs and nests, including the measures used to comply with conditions 4.1 and 4.2.	• Refer to Section 3.2 [Migratory Birds] and Section 5 [Consultation and Engagement] of the attached report for additional information.
5.1	The Proponent shall utilize electric drives during operation for the compression of natural gas or utilize other technology that would result in equivalent or reduced greenhouse gas emissions.	• Not applicable to the 2022 reporting period.
5.2	The Proponent shall implement a leak detection and repair system to control fugitive emissions at the site of the Designated Project during operation.	• Not applicable to the 2022 reporting period.
6.1	The Proponent shall implement noise and air emission reduction measures during all phases of the Designated Project to avoid or reduce adverse environmental effects on human health, including: • 6.1.1 complying with the Waste Discharge Regulation under British Columbia's Environmental Management Act for air emissions; • 6.1.2 following best management practices and guidance from the British Columbia Oil and Gas Commission's Noise Control Best Practices Guidelines; and • 6.1.3 complying with the operational noise requirement of the British Columbia Oil and Gas Commission's Liquefied Natural Gas Facility Regulation.	• Not applicable to the 2022 reporting period.
6.2	The Proponent shall, in consultation with Aboriginal groups and other parties who may be adversely affected by the noise caused by the Designated Project, develop, prior to construction, and implement, during all phases of the Designated Project, a mechanism for receiving noise complaints associated with the Designated Project. The Proponent shall respond in a timely manner to any noise complaint(s) received.	• Contact information is available on the Woodfibre LNG website at https://woodfibrelng.ca/. Refer to Section 3.3 [Human Health] of the attached report for additional information. • Refer to Section 5 [Consultation and Engagement] of the attached report for additional information.
6.3	The Proponent shall install and manage exterior lighting from all components of the Designated Project and during all phases of the Designated Project to prevent excessive emanation of light, by following the International Commission on Illumination's CIE 150:2003 Guide on the limitation of the Effects of Obtrusive light from Outdoor lighting Installations, while meeting marine transportation and aviation safety requirements.	• Not applicable to the 2022 reporting period.
6.4	The Proponent shall monitor water quality and sediment, using as a benchmarks the Canadian Council of Ministers of the Environment's *Water Quality Guidelines for the Protection of Aquatic Life* and *Interim Sediment Quality Guidelines for the Protection of Aquatic Life*, and shall communicate any exceedance(s) of the Guidelines to relevant government authorities and Aboriginal groups, and implement additional mitigation measures to remedy those exceedances.	• Refer to Section 3.3 [Human Health], Section 4 [Additional Mitigation Measures] and Section 5 [Consultation and Engagement] of the attached report for additional information.

Condition No.	Condition	Notes
6.5	The Proponent shall, in consultation with Aboriginal groups and relevant health authorities, develop, prior to construction, and implement a follow-up program to verify the assessment predictions regarding the bioavailability and bioaccumulation of contaminants in fish consumed by humans. The follow-up program shall include: • 6.5.1 prior to the commencement of marine in-water construction activities, establishing baseline conditions in the tissue of shellfish and groundfish for polycyclic aromatic hydrocarbons, polychlorinated dibenzo-p-dioxins and furans, copper, lead, zinc, tributyltin, arsenic, cadmium and methylmercury and using this information to update the human health risk assessment for the consumption of shellfish and groundfish; • 6.5.2 during marine in-water construction activities, monitoring the re-suspension and bioavailability of polycyclic aromatic hydrocarbons, dioxins, furans, copper, lead, zinc, tri-n-butyltin, arsenic, cadmium and methyl-mercury in the tissue of shellfish and groundfish; and • 6.5.3 if a potential for human health risk is identified in the updated human health risk assessment for the consumption of shellfish and groundfish referred in condition 6.5.1 or through monitoring referred in condition 6.5.2, conducting additional sampling of polycyclic aromatic hydrocarbons, dioxins, furans, copper, lead, zinc, tri-n-butyltin, arsenic, cadmium and methyl-mercury in the tissue of shellfish and groundfish to confirm the assessment predictions regarding the bioavailability and bioaccumulation of contaminants in fish consumed by humans. If required, additional sampling shall start immediately upon completion of marine in-water construction activities and continue for one year following completion of marine in-water construction activities. The Proponent shall communicate the results of the follow-up program, including the results of any additional sampling, to Aboriginal groups.	• Refer to Section 3.3 [Human Health] of the attached report for additional information
7.1	The Proponent shall, in consultation with Aboriginal groups and other marine users, develop, prior to construction, and implement, during all phases of the Designated Project, a communication protocol related to marine transportation. The communication protocol shall include procedures and practices for sharing information between the Proponent and Aboriginal groups and other marine users on the following: • 7.1.1 location and timing of construction activities associated with the Designated Project-related, location and timing of ferry and water taxi traffic associated with the Designated Project and location of the marine access route to be used by LNG vessels associated with the Designated Project in Howe Sound; • 7.1.2 location and timing of traditional activities by Aboriginal groups and of activities by other marine users; • 7.1.3 Designated Project-related safety procedures, such as navigation aids, updated navigational charts and use of escort tugboats; • 7.1.4 areas where navigation may be controlled for safety reasons; • 7.1.5 speed profiles and schedules applicable to the operation of LNG vessels associated with the Designated Project; and • 7.1.6 ways in which Aboriginal groups and other marine users can provide feedback to the Proponent about adverse environmental effects related to navigation caused by activities associated with the Designated Project, including construction activities and the operation of ferry and water taxi and LNG vessels.	• Refer to Section 3.4 [Land Use] and Section 5 [Consultation and Engagement] of the attached report for additional information.
7.2	The Proponent shall, in consultation with Aboriginal groups, develop, prior to construction, and implement, during the construction and operation phases of the Designated Project, a follow-up program to verify the accuracy of the predictions made during the environmental assessment in relation to the effects of the wake generated by Designated Project-related vessels on the current use of lands and resources for traditional purposes and on physical and cultural heritage and structures, sites or things of historical, archaeological, paleontological or architectural significance. The follow-up program shall include: • 7.2.1 monitoring during the construction period and the first two years of operation of the degree of wake generated by Designated Project-related vessels and of adverse environmental effects on harvesters caused by vessel wake attributable to Designated Project-related vessels at key harvest sites and during key harvest periods for Aboriginal groups and on physical and cultural heritage and structures, sites or things of historical, archaeological, paleontological or architectural significance located on or near the shoreline and identified in consultation with Aboriginal groups; and • 7.2.2 providing the results of the follow-up program and details of any additional mitigation measures implemented as a result of the follow-up program to Aboriginal groups.	• Refer to Section 3.4 [Land Use] and Section 5 [Consultation and Engagement] of the attached report for additional information.

Condition No.	Condition	Notes
7.3	The Proponent shall, prior to construction, consult with Aboriginal groups to seek opportunities for marine and land access around the Project area for Aboriginal groups to practice their current use of land and resources for traditional purposes and to pursue socioeconomic opportunities, subject to safety requirements in the Project area.	• Refer to Section 3.4 [Land Use] and Section 5 [Consultation and Engagement] of the attached report for additional information.
7.4	The Proponent shall provide Aboriginal groups with the implementation schedule and any update(s) or revision(s) to that schedule as stated in condition 12 at the same time the Proponent provides the schedule to the Agency.	• Refer to Section 2.1 [Implementation Schedule] and Section 5 [Consultation and Engagement] of the attached report for additional information.
8.1	The Proponent shall, in consultation with Aboriginal groups, develop, prior to construction, and implement, during all phase of the Designated Project, an archaeological and heritage resources management plan for the Designated Project. The archaeological and heritage resources management plan shall take into account the British Columbia's Handbook for the Identification and Recording of Culturally Modified Trees. The archaeological and heritage resources management plan shall include: • 8.1.1 a description of structures, sites or things of historical, archaeological, paleontological or architectural significance (including culturally modified trees) that may be encountered by the Proponent during construction; • 8.1.2 procedures and practices for on-site monitoring of construction activities that may affect a structure, site or thing of historical, archaeological, paleontological or architectural significance (including culturally modified trees) and for the identification and removal of that structure, site or thing; and • 8.1.3 a chance find protocol, should a previously unidentified structure, site or thing of historical, archaeological, paleontological or architectural significance (including culturally modified trees) be discovered by the Proponent or brought to the attention of the Proponent, during construction, by an Aboriginal group or another party.	• Refer to Section 3.5 [Archaeological and Heritage Resources] and 5 [Consultation and Engagement] of the attached report for additional information.
9.1	The Proponent shall conduct pre-clearing surveys to determine the distribution of little brown myotis (*Myotis lucifugus*), and establish, in consultation with relevant government authorities, buffer zones around active hibernacula and active roosts.	• Refer to Section 3.6 [Listed Species at Risk] of the attached report for additional information. No clearing was completed in 2022.
9.2	The Proponent shall, prior to construction and throughout all phases of the Designated Project, install and maintain roosting structures to offset any loss of little brown myotis (*Myotis lucifugus*) roosting habitat.	• Refer to Section 3.6 [Listed Species at Risk] of the attached report for additional information.
9.3	The Proponent shall develop and implement a follow-up program to monitor the little brown myotis (*Myotis lucifugus*) usage of buffer zones and roosting structures to determine the effectiveness of the mitigation measures throughout all phases of the Designated Project and to verify the accuracy of the environmental assessment as it pertains to the environmental effects of the air cooling system on little brown myotis (*Myotis lucifugus*).	• Refer to Section 3.6 [Listed Species at Risk] of the attached report for additional information.
10.1	At least one year prior to the end of operation, the Proponent shall develop, in consultation with Aboriginal groups and relevant government authorities, and submit to the Agency a decommissioning plan. The decommissioning plan shall include a description of: • 10.1.1 any consultation undertaken by the Proponent during the development of the decommissioning plan, including any issues raised by Aboriginal groups and other parties during consultation and how these issues were addressed by the Proponent; • 10.1.2 the components of the Designated Project that will be decommissioned by the Proponent and the components that will not be decommissioned; • 10.1.3 the desired end-state objectives of the Project area; • 10.1.4 the components of the environment that may be adversely affected by decommissioning activities or by components of the Designated Project that will not be decommissioned; • 10.1.5 how the Proponent will mitigate and monitor adverse environmental effects from decommissioning activities; • 10.1.6 how the Proponent will conduct in-water and land-based decommissioning activities (including the location, the scheduling and sequencing of activities); • 10.1.7 the plan for progressive reclamation, if appropriate; and • 10.1.8 the manner and timing of consultation of Aboriginal groups and other relevant parties throughout the decommissioning phase.	• Not applicable to the 2022 reporting period.
10.2	The Proponent shall implement the decommissioning plan referred in condition 10.1.	• Not applicable to the 2022 reporting period.

Condition No.	Condition	Notes
10.3	The Proponent shall, from the reporting year in which decommissioning begins until the end of the decommissioning phase or for a maximum of 25 years, submit to the Agency a written annual report no later than March 31 of the following reporting year. The written annual report shall include a description of: • 10.3.1 the decommissioning activities undertaken by the Proponent during the reporting year; • 10.3.2 any adverse environmental effects identified by the Proponent with respect to the decommissioning activities identified in condition 10.3.1; • 10.3.3 a description of the mitigation measures that were implemented by the Proponent to mitigate the adverse environmental effects identified in condition 10.3.2 and the results of any associated monitoring; • 10.3.4 any modifications made to the decommissioning plan referred in condition 10.1; and • 10.3.5 consultation undertaken by the Proponent with Aboriginal groups and other relevant parties during the reporting year.	• Not applicable to the 2022 reporting period.
11.1	The Proponent shall take all reasonable measures to prevent accidents or malfunctions that may result in adverse environmental effects.	• Refer to the Pre-Construction EMP for more information; measures are included applicable and tailored to the proposed scopes of work.
11.2	The Proponent shall, prior to construction, consult with Aboriginal groups on the measures to be implemented to prevent accidents or malfunctions.	• Not applicable to the 2022 reporting period.
11.3	The Proponent shall, prior to construction and in consultation with relevant federal and provincial authorities and Aboriginal groups, develop an emergency response plan in relation to the Designated Project.	• An Emergency Response Plan has been developed and consultation activities are ongoing. Refer to Section 4.2 [Emergency Response Plans and Communications with Indigenous Nations] and 5 [Consultation and Engagement] of the attached report for further detail.
11.4.1	In the event of an accident or malfunction with the potential to cause adverse environmental effects, the Proponent shall implement the emergency response plan referred to in condition 11.3 and shall notify relevant federal and provincial authorities and Aboriginal groups of the accident or malfunction as soon as possible and, in writing, the Agency.	• Not applicable to the 2022 reporting period.
11.4.2	In the event of an accident or malfunction with the potential to cause adverse environmental effects, the Proponent shall implement the emergency response plan referred to in condition 11.3 and shall implement immediate measures to mitigate any adverse environmental effects associated with the accident or malfunction.	• Not applicable to the 2022 reporting period.
11.4.3	Submit a written report to the Agency no later than 30 days after the day on which the accident or malfunction took place. The written report shall include: • 11.4.3.1 a description of the accident or malfunction and of its adverse environmental effects; • 11.4.3.2 the measures that were taken by the Proponent to mitigate the adverse environmental effects of the accident or malfunction; • 11.4.3.3 any views received from relevant federal and provincial authorities and Aboriginal groups with respect to the accident or malfunction, its adverse environmental effects or measures taken by the Proponent to mitigate adverse environmental effects; • 11.4.3.4 a description of any residual adverse environmental effects, and any additional measures required by the Proponent to mitigate residual adverse environmental effects; and • 11.4.3.5 details concerning the implementation of the emergency response plan referred to in condition 11.3.	• Not applicable to the 2022 reporting period.
11.4.4	In the event of an accident or malfunction with the potential to cause adverse environmental effects, the Proponent shall implement the emergency response plan referred to in condition 11.3 and shall submit a written report to the Agency no later than 90 days after the day on which the accident or malfunction took place, on the changes made to avoid a subsequent occurrence of the accident or malfunction, and on the implementation of any additional measures to mitigate residual adverse environmental effects taking into account the information in the written report submitted pursuant to condition 11.4.3.	• Not applicable to the 2022 reporting period.

Condition No.	Condition	Notes
11.5	The Proponent shall develop and implement a communication plan in consultation with Aboriginal groups. The communication plan shall be developed prior to construction and shall be implemented and maintained up to date during all phases of the Designated Project. The plan shall include: • 11.5.1 the types of accidents or malfunctions requiring a notification by the Proponent to the respective Aboriginal groups; • 11.5.2 the manner by which Aboriginal groups shall be notified by the Proponent of an accident or malfunction and of any opportunities for the Aboriginal groups to assist in the response to the accident or malfunction; and • 11.5.3 the contact information of the representatives of the Proponent that the Aboriginal groups may contact and of the representatives of the respective Aboriginal groups to which the Proponent provides notification.	• Refer to Section 4.1 [Accidents and Malfunctions] and Section 5 [Consultation and Engagement] of the attached report for further detail.
12.1	12.1 The Proponent shall submit an implementation schedule for conditions contained in this Decision Statement to the Agency, or anyone designated pursuant to section 89 of the Canadian Environmental Assessment Act, 2012, at least 30 days prior to the start of construction. The implementation schedule shall indicate the commencement and completion dates for each activity relating to conditions set out in this Decision Statement.	• Not applicable to the 2022 reporting period.
12.2	12.2 The Proponent shall submit an update to this implementation schedule in writing to the Agency, or anyone designated pursuant to section 89 of the Canadian Environmental Assessment Act, 2012, every two years on or before March 31, until completion of the activities.	• Refer to Section 2.1 [Implementation Schedule] of the attached report for additional information.
12.3	12.3 The Proponent shall provide the Agency, or anyone designated pursuant to section 89 of the Canadian Environmental Assessment Act, 2012, with a revised implementation schedule if any material change(s) occur from the initial schedule referred to in condition 12.1 or any subsequent update(s). The Proponent shall provide the revised implementation schedule at least 30 days prior to the implementation of the change.	• Refer to Section 2.1 [Implementation Schedule] of the attached report for additional information.
13.1	The Proponent shall maintain a written record, or a record in an electronic format compatible with that used by the Agency, and retain and make available that record to the Agency, or anyone designated pursuant to section 89 of the *Canadian Environmental Assessment Act, 2012*, at a facility close to the Designated Project in Canada (local facility). The record shall include information related to the implementation of the conditions set out in this Decision Statement, and the results of all associated monitoring, including: • 13.1.1 the place, date and time of any sampling, as well as techniques, methods or procedures used; • 13.1.2 the dates and the analyses that were performed; • 13.1.3 the analytical techniques, methods or procedures used in the analyses; • 13.1.3 the names of the persons who collected and analyzed each sample and documentation of any professional certification(s) relevant to the work performed that they might possess; and • 13.1.5 the results of the analyses.	• Refer to Section 3 [Follow-Up Monitoring] of the attached report for additional information.
13.2	The Proponent shall retain and make available upon demand to the Agency, or anyone designated pursuant to section 89 of the Canadian Environmental Assessment Act, 2012, the information referred to in condition 13.1 at a facility in Canada close to the Designated Project (or at another location within Canada and agreed upon by the Agency, should the local facility no longer be maintained). The information shall be retained and made available throughout construction and operation, and for 25 years following the end of operation or until the end of decommissioning of the Designated Project, whichever comes first.	• Refer to Section 3 [Follow-Up Monitoring] of the attached report for additional information.

APPENDIX B
Water Quality Exceedances

Table B.1 Summary of Freshwater WQG Exceedances for the 2022 Baseline Program

Parameter	Units	WQG (LT)	N	N >WQG	Commentary
Field pH[1]	pH units	6.5 - 9.0 (FWAL); 7.0 - 8.7 (EWAL)	47 (FWAL); 12 (EWAL)	12 (FWAL); 2 (EWAL)	Field pH measured in freshwater samples were occasionally below the lower limit of the FWAL and EWAL guidelines, respectively.
Field Dissolved Oxygen (DO)	mg/L	>=9.5 (FWAL); >=8 (EWAL)	47 (FWAL); 12 (EWAL)	1 (FWAL); 0 (EWAL)	Field DO measured in a sample collected from a watercourse northeast of the confluence with ditch D10 (SW-06) on July 14th was slightly below the FWAL WQG.
Total Aluminum (Al)	mg/L	0.00554-0.998[2] (FWAL)	47 (FWAL); 12 (EWAL)	22 (FWAL); 0 (EWAL)	Total Al concentrations were 1.02 to 4.98 times greater than the corresponding FWAL guidelines for samples collected from all freshwater stations.
Dissolved Copper (Cu)[3]	mg/L	0.0002-0.0069[2,3] (FWAL)	44 (FWAL); 11 (EWAL)	23 (FWAL); 0 (EWAL)	Dissolved copper concentrations were up to 3.8 times greater than the corresponding WQG. Dissolved copper was occasionally reported as not detected with a detectable limit approximately 2 times above the calculated FWAL WQG. Approximately mid-2002 the lab detection limit was reduced to match the lowest WQG value.
Dissolved Zinc (Zn)	mg/L	0.0027-0.031[2] (FWAL)	44 (FWAL); 11 (EWAL)	1 (FWAL); 0 (EWAL)	Dissolved zinc measured in a sample collected from upstream Mill Creek (SW-02) on March 22nd was reported below the detectable limit, but slightly above the calculated FWAL WQG. Approximately mid-2002 the lab detection limit was reduced to below the lowest WQG value.

Notes:
CCME = Canadian Council of Ministers of the Environment.
ECCC = Environmental and Climate Change Canada.
WQG = CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life, or the Federal Water Quality Guidelines published by ECCC. LT = long-term freshwater aquatic life guideline. For the 2022 dataset, variable dependent guidelines were calculated for each sample using sample specific parameter values. The nearest boundary value was used if a variable was outside the formula range.
N = number of samples
Non-detect results are screened using the detection limit value.
[1] Lab pH measurements were used as a proxy for field pH measurements for the May sampling event. A malfunction with the pH sensor on the field meter resulted in erroneous field measurements for this month at all stations.
[2] A range for long-term WQGs is provided since guidelines were calculated on a sample specific basis.

Table B.2 Summary of Marine Water WQG Exceedances for the 2022 Baseline Program

Parameter	Units	WQG (LT)	Location	N	N >WQG	Commentary
Field pH[1]	pH units	7.0 - 8.7	Surface	72	1	Field pH was slightly below the WQG lower limit in one sample collected from reference station WQR1-2 in November 2022.
			Deep	72	0	
Field Dissolved Oxygen (DO)	mg/L	≥8.0	Surface	60	0	Field DO levels were below the WQG lower limit in all deep water samples except one. The November and December Field DO measurements are considered suspect due to field meter malfunction and have been excluded from the baseline dataset.
			Deep	60	59	
Total Cadmium (Cd)	mg/L	0.00012	Surface	72	1	Total cadmium concentrations were 1.1 and 2.1 times greater than the WQG in two deep water samples on April 19th (WQ3-1 and WQ1-1, respectively). One surface water sample collected from reference station WQR1-2 on May 17th was slightly above the WQG.
			Deep	72	2	
Total Chromium (Cr)[2]	mg/L	0.0015	Surface	72	7	In May 2022, the detection limit for total chromium was raised from <0.001 mg/L to <0.005 mg/L due to sample matrix interference. Total chromium was not detectable in any monitoring samples in May (N=12); however, the detection limit (<0.005 mg/L) was 3.3x greater than the WQG.
			Deep	72	7	
Total Vanadium (V)	mg/L	0.005	Surface	72	48	Total V was not detectable in the majority of monitoring samples; however, the detection limit (<0.01 mg/L) observed for most samples is 2x greater than the WQG. Communication with the lab has indicated sample matrix interference requires that the reported detection limit be raised to <0.01 mg/L.
			Deep	72	52	

Notes:
CCME = Canadian Council of Ministers of the Environment.
ECCC = Environmental and Climate Change Canada.
WQG = CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life, or the Federal Water Quality Guidelines published by ECCC. LT = long-term freshwater aquatic life guideline.
N = number of samples.
Non-detect results are screened using the detection limit value.

[1] Lab pH measurements were used as a proxy for field pH measurements for the May sampling event. A malfunction with the pH sensor on the field meter resulted in erroneous field measurements for this month at all stations.

[2] WQG for total chromium is not specified; therefore, the guideline value for hexavalent chromium was used for screening. The guideline value for trivalent chromium is 0.056 mg/L.

Table B.3 Summary of Marine Sediment SQG Exceedances for the 2022 Baseline Program

Parameter	Units	CCME Guideline	N	N >ISQG	N>PEL	Commentary
Total Cadmium (Cd)	mg/kg	0.7 (ISQG)	11	3	0	• Total metal concentrations are elevated above the ISQG or PEL in the majority of boreholes sampled, including MMBH-03, MMBH-05, MMBH-07, MMBH-08, MMBH-09. • Total Cu most frequently shows concentrations above the SQG. • Samples collected from 0.5 m depth at MMBH-03 and MMBH-05 show the greatest number of metal exceedances. • Total metal concentrations up to 10x greater than the corresponding guideline value.
Total Copper (Cu)	mg/kg	18.7 (ISQG); 108 (PEL)	11	8	2	
Total Lead (Pb)	mg/kg	30.2 (ISQG); 112 (PEL)	11	2	1	
Total Mercury (Hg)	mg/kg	0.13 (ISQG); 0.7 (PEL)	11	1	1	
Total Zinc (Zn)	mg/kg	124 (ISQG); 271 (PEL)	11	3	0	
Acenaphthene	mg/kg	0.00671 (ISQG); 0.0889 (PEL)	11	6	5	• Total PAH concentrations are elevated above the ISQG or PEL in the majority of boreholes sampled, including MMBH-03, MMBH-05, MMBH-07 and MMBH-08. • Of the PAHs, concentrations for acenaphthylene, fluorene and phenanthrene most frequently exceed the PEL. • A greater number of PAH exceedances are observed mostly in samples collected at 0.5 m depth. • PAH concentrations are up to 447x greater than the corresponding guideline value.
Acenaphthylene	mg/kg	0.00587 (ISQG); 0.128 (PEL)	11	5	0	
Anthracene	mg/kg	0.0469 (ISQG); 0.245 (PEL)	11	5	3	
Benzo(a)anthracene	mg/kg	0.0748 (ISQG); 0.693 (PEL)	11	5	0	
Benzo(a)pyrene	mg/kg	0.0888 (ISQG); 0.763 (PEL)	11	4	0	
Chrysene	mg/kg	0.108 (ISQG); 0.846 (PEL)	11	5	0	
Dibenz(a,h)anthracene	mg/kg	0.00622 (ISQG); 0.135 (PEL)	11	5	0	
Fluoranthene	mg/kg	0.113 (ISQG); 1.494 (PEL)	11	5	2	
Fluorene	mg/kg	0.0212 (ISQG); 0.144 (PEL)	11	5	5	
2-Methylnaphthalene	mg/kg	0.0202 (ISQG); 0.201 (PEL)	11	5	1	
Naphthalene	mg/kg	0.0346 (ISQG); 0.391 (PEL)	11	5	1	
Phenanthrene	mg/kg	0.0867 (ISQG); 0.544 (PEL)	11	5	5	
Pyrene	mg/kg	0.153 (ISQG); 1.398 (PEL)	11	5	2	

Notes:
CCME = Canadian Council of Ministers of the Environment
ISQG = Interim Sediment Quality Guidelines
PEL = Probable Effects Levels
N = number of samples

Table B.4 Summary of Marine Water WQG Exceedances for the 2022 Passenger Dock Replacement Program

Parameter	Units	WQG (LT)	Location	N	N >WQG	Commentary
Total Mercury (Hg)	mg/L	0.000016	Surface	9	0	Total Hg was not detected in all monitoring samples; however, the detection limit for T-Hg in one deep water sample was raised to <0.0002 mg/L, 12.5x greater than the WQG. The routine preserved sampling bottle was not provided in this case and an alternative method was used for analysis, requiring a raised detection limit.
			Deep	9	1	
			Reference Station	16	0	
Total Vanadium (V)	mg/L	0.005	Surface	9	9	Total V was not detected in all monitoring samples; however, the detection limit (<0.01 mg/L) observed for all samples is 2x greater than the WQG. Communication with the lab has indicated sample matrix interference requires that the reported detection limit be raised to <0.01 mg/L.
			Deep	9	9	
			Reference Station	16	16	

Notes:
CCME = Canadian Council of Ministers of the Environment.
ECCC = Environment and Climate Change Canada.
WQG = CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life, or the Federal Water Quality Guidelines published by ECCC. LT = long-term marine aquatic life guideline.
N = number of samples.
Non-detect results are screened using the detection limit value.

Table B.5 Summary of Human Health Risk to Indigenous Seafood Consumers in the Woodfibre Study Area from Exposure to Parameters of Concern (POPC)

POPC	Health Risk to Indigenous Seafood Consumers for Woodfibre Study Area		
	Crab Meat	Hepatopancreas	Sole Meat
PAH	Negligible	Negligible	Negligible
PCDD/F	Negligible	Negligible	Negligible
TBT	Negligible	Negligible	Negligible
Arsenic	No assessment	No assessment	No assessment
Cadmium	Negligible	Low	Negligible
Copper	Negligible	Negligible	Negligible
Lead	Low	Negligible	Low
Mercury	Moderate	Negligible	Moderate
Methylmercury	Moderate	Low	Moderate
Zinc	Low	Negligible	Negligible

Note: PAH = Polycyclic Aromatic Hydrocarbons; PCDD/F = Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans (dioxins and furans); TBT = Tributyltin.