Federal Decision Statement
Annual Report
2024

Énoncé de décision fédérale
Rapport annuel
2024

Prepared for: Impact Assessment Agency of Canada/

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

Date | 31 March 2025 / Le 31 mars 2025

Executive Summary

Woodfibre LNG General Partner Inc. (Woodfibre LNG) is constructing a liquefied natural gas (LNG) export facility (the Project) on the former Woodfibre Pulp and Paper Mill site in Nexwnéwu7ts Átlk̲'a7tsem (Howe Sound), approximately seven kilometers south of Sk̲wx̲wú7mesh (Squamish). The Project is located in British Columbia on the historical location of a Sk̲wx̲wú7mesh Úxwumixw (Squamish Nation) village known as Swiẏát. 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. On 26 July 2024, the FDS was amended under the *Budget Implementation Act, 2024*, to modify and move condition 5.1 to condition 6.1.4 and to remove condition 5.2.

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 2024.

In 2024, Woodfibre LNG continued early works including site preparation activities such as: soil excavation and placement; rock blasting and removal; and demolition of any remaining structures that must be removed to support the construction of the LNG facility. Site preparation also included the installation of temporary structures required to support the construction process, such as offices and other required supporting infrastructure. Woodfibre LNG also continued construction activities in 2024, which included slab removal, and maintenance and upgrades to the existing Mill Creek water intake.

In the second half of 2024, facility construction began, with pouring concrete foundations for the piperack and main process modules, and commencing in water piling works for the Floating Storage Tank (FST) and the Material Offloading Facility (MOF).

As of December 2024, the following work has been completed:

- Infrastructure: temporary fencing, wastewater treatment plants, concrete batch plant
- Shoreline: demolition, excavation, riprap placement, temporary barge ramp - excavation/dredging, existing roll-on-roll-off barge landing structure removed.
- Floatel: completed in water piling, berth access platform, gangway and fenders installation, moored at site.
- Process Area – OSBL: performed soil improvement, clearing & grubbing, rock blasting, concrete demo, excavation, rock/soil anchors, piperack concrete foundations.
- Industrial Area: existing administration building demolition, temporary power installed, soil improvements (excavation/backfilling).
- Material Offloading Facility (MOF) Area: completed in water piling, permanent drainage, trench excavation.
- Floating Storage Tank (FST): mobilized cranes, temporary monopolies installed.

During 2024 Woodfibre LNG continued to advance the required conditions outlined in the FDS relating to applicable construction activities, as outlined in this annual report.

Executive Summary

The Project was successful in maintaining compliance with the FDS during the reporting period. This was achieved through planning, an extensive multi-level monitoring program, and the deployment of mitigation measures. A strong presence of Environmental Monitors ensured that environmental incidents were identified in the Certified Project Area (CPA), while environment and construction teams determined the sources of incidents and implemented measures to address them. Incidents included approximately 36 reportable spills, turbidity events, wildlife mortalities, and a vessel collision incident.

Exceedances of WQG were observed in monitoring programs for freshwater and marine water. Parameter concentrations were within the ranges observed in the pre-construction baseline monitoring program at Woodfibre, Mill, and East creeks or background conditions in the creeks and are therefore not likely attributable to the Project, except for an instance of heavy stormwater run-off and temporary Project influence from off-site contact water and suspected groundwater seepage from the hillslope above the creek. The project-related influence from contact water has been resolved and is unlikely to occur again.

There were two incidents of wildlife injuries during 2024, including a female little brown myotis and a juvenile barn swallow. The injured female little brown myotis was discovered by the QP after bats were observed flying out of the administration building during commencement of demolition. The bat was transported to the Wildlife Rescue Association in Burnaby and was euthanized due to extensive injuries. The Juvenile barn swallow flew into a closed glass door of the floatel and became injured. The bird was transported to the Wildlife Rescue Association in Burnaby but did not recover from the injuries and died.

In December, a collision occurred between two marine vessels, causing one individual to receive medical treatment, and the sinking of one of the vessels. The emergency response plan was implemented, and the incident was reported to IAAC as required by FDS condition 11.4.1.

A conditions implementation schedule was last provided to IAAC on March 31, 2023. As such, an updated conditions implementation schedule is provided to IAAC with this submission.

Consultation with Indigenous Groups (referred to as Aboriginal groups in the FDS) continued throughout 2024; 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

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 et papiers Woodfibre à Nexwnéwu7ts Átlk'a7tsem (Howe Sound), à environ sept kilomètres au sud de Skwxwú7mesh (Squamish). Le projet est situé en Colombie-Britannique, à l'emplacement historique d'un village Skwxwú7mesh Úxwumixw, connu sous le nom de Swiy̓át. Le terrain est un site contaminé en fief simple, dont l'utilisation 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). L'énoncé de décision fédérale a été publié de nouveau le 7 mars 2018 pour tenir compte des changements importants apportés à la description du projet certifié. Le 26 juillet 2024, l'énoncé de décision fédérale a été modifié en vertu de la *Loi d'exécution du budget de 2024* afin de modifier et de déplacer la condition 5.1 à la condition 6.1.4 et de supprimer la condition 5.2.

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 2024.

En 2024, Woodfibre LNG a poursuivi ses premiers travaux, y compris les activités de préparation du site telles que : excavation et mise en place du sol; dynamitage et enlèvement de roches; et démolition de toutes les structures restantes qui doivent être enlevées pour soutenir la construction de l'installation de GNL. La préparation du site comprenait également l'installation de structures temporaires nécessaires au processus de construction, comme des bureaux et d'autres infrastructures de soutien nécessaires. Woodfibre LNG a également poursuivi ses activités de construction en 2024, notamment l'enlèvement des dalles, l'entretien et la mise à niveau de la prise d'eau existante du ruisseau Mill.

Au cours du deuxième semestre de 2024, la construction de l'installation a commencé, avec le coulage des fondations en béton pour le pipe rack et les modules de traitement principaux, et le début des travaux de pieux d'eau pour le réservoir de stockage flottant et l'installation de déchargement des matériaux.

En décembre 2024, les travaux suivants étaient terminés :

- Infrastructure : clôtures temporaires, usines de traitement des eaux usées, usine de béton;
- Rives : démolition, excavation, mise en place d'enrochements, rampe de barge temporaire – excavation/dragage, enlèvement de la structure d'atterrissage du chaland roulier existant;
- Flotteur : achevé dans les pieux d'eau, plate-forme d'accès au poste d'amarrage, passerelle et installation des défenses, amarrés sur le site;
- Zone de traitement – OSBL : amélioration des sols, déblaiement et arrachage, dynamitage, démonstration de béton, excavation, ancrages de roche et de sol, fondations en béton de crémaillère;
- Zone industrielle : démolition d'un bâtiment administratif existant, installation d'électricité temporaire, amélioration du sol (excavation/remblayage);
- Zone de l'installation de déchargement des matériaux : achevée en pieux d'eau, drainage permanent, excavation de tranchées;
- Réservoir de stockage flottant : grues mobilisées, monopoles temporaires installés.

Résumé

En 2024, Woodfibre LNG a continué de faire progresser les conditions requises décrites dans l'énoncé de décision fédérale concernant les activités de construction applicables, telles qu'elles sont décrites dans le présent rapport annuel.

Le projet a réussi à maintenir la conformité avec l'énoncé de décision fédérale au cours de la période visée par le rapport. Cela a été réalisé grâce à la planification, à un vaste programme de suivi à plusieurs niveaux et au déploiement de mesures d'atténuation. Une forte présence de surveillants environnementaux a permis de repérer les incidents environnementaux dans la zone de projet certifiée, tandis que les équipes de l'environnement et de la construction déterminaient les sources des incidents et mettaient en œuvre des mesures pour y remédier. Les incidents comprenaient environ 36 déversements devant être signalés, de turbidités, de mortalité d'animaux sauvages et d'un incident de collision avec un navire.

Des dépassements des critères de qualité de l'eau ont été observés dans les programmes de suivi de l'eau douce et de l'eau de mer. Les concentrations des paramètres se situaient dans les fourchettes observées dans le cadre du programme de suivi de base préalable à la construction dans les ruisseaux Woodfibre, Mill et East ou dans les conditions de fond dans les ruisseaux et ne sont donc pas vraisemblablement attribuables au projet, sauf dans un cas de ruissellement important des eaux pluviales et de l'influence temporaire du projet causée par l'eau de contact hors site et l'infiltration présumée d'eau souterraine du versant au-dessus du ruisseau. L'influence de l'eau de contact liée au projet a été résolue et il est peu probable qu'elle se reproduise.

Il y a eu deux incidents de blessures d'animaux sauvages en 2024, notamment une petite chauve-souris brune femelle et une hirondelle rustique juvénile. La petite chauve-souris brune blessée a été découverte par la personne qualifiée après que des chauves-souris ont été observées s'envoler du bâtiment administratif pendant le début de la démolition. La chauve-souris a été transportée à la Wildlife Rescue Association de Burnaby et a été euthanasiée en raison de blessures graves. L'hirondelle rustique juvénile s'est envolée vers une porte vitrée fermée du flotteur et s'est blessée. Transporté à la Wildlife Rescue Association à Burnaby, l'oiseau ne s'est pas remis de ses blessures et est décédé.

En décembre, une collision s'est produite entre deux navires, ce qui a entraîné des soins médicaux pour une personne, et le naufrage de l'un des navires. Le plan d'intervention d'urgence a été mis en œuvre et l'incident a été signalé à l'AEIC, comme l'exige la condition 11.4.1 de l'énoncé de décision fédérale.

Un calendrier de mise en œuvre des conditions a été fourni pour la dernière fois à l'AEIC le 31 mars 2023. Par conséquent, un calendrier mis à jour de la mise en œuvre des conditions est fourni à l'AEIC avec cette présentation.

La consultation des groupes autochtones (appelés groupes autochtones dans l'énoncé de décision fédérale) s'est poursuivie tout au long de l'année 2024; 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 manière complète et impartiale.

TABLE OF CONTENTS

List Tables and Figures

List of Appendices

ACRONYMS 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
EA	Environmental Assessment
EAC	Environmental Assessment Certificate
EAO	Environmental Assessment Office
EM	Environmental Monitor
EWAL	Estuarine aquatic life
FDS	Federal Decision Statement
Fe	Iron
FWAL	Freshwater aquatic life
Hg	Mercury
HHERA	Human health and risk assessment
IAAC	Impact Assessment Agency of Canada
IDZ	Initial dilution zone
ISQG	Interim Sediment Quality Guideline
km	kilometre
LNG	Liquefied Natural Gas
m	metre
MMO	Marine mammal observer
MOF	Material Offloading Facility

MWAL	Marine water aquatic life
PAH	Polycyclic aromatic hydrocarbons
Pb	Lead
PCB	Polychlorinated biphenyls
PEL	Probably Effects Level
POPC	Parameters of potential concern
Project	the Woodfibre Liquefied Natural Gas Export Facility
QP	Qualified Professional
SARA	*Species at Risk Act*
SQG	Sediment quality guidelines
TIC	Total inorganic carbon
TOC	Total organic carbon
TSS	Total suspended solids
V	Vanadium
VOC	Volatile organic compounds
WDA	Waste Discharge Authorization
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 and Paper Mill in Nexwnéwu7ts Átlk̲'a7tsem (Howe Sound), approximately seven kilometers south of Sk̲wx̲wú7mesh (Squamish). The Project is on the historical location of a Sk̲wx̲wú7mesh 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, Sk̲wx̲wú7mesh 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.

The EAO have to-date approved three amendments to the EAC. The first amendment to the EAC for changes to the cooling process was issued on 12 July 2017. The second amendment, to clarify the definition of construction, was issued on 19 July 2019. The third amendment, to add temporary floating worker accommodation (floatel), workforce accommodation on board a marine construction vessel, and associated infrastructure to the Certified Project Description during construction, was issued on 01 November 2023.

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*.

Squamish Nation conducted an independent review of the application for an EAC under its own EA process and on 14 October 2015 entered into the Squamish Nation Environmental Assessment Agreement 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. Similarly, 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 the first amendment to the EAC. On 07 June 2022, Woodfibre LNG applied to IAAC to amend two conditions of the FDS relating to the marine mammal exclusion zones and marine water and sediment quality (Conditions 3.8 and 6.4). The amendment was approved and the amended FDS was issued on 04 August 2023. On 26 July 2024, the FDS was amended under the *Budget Implementation Act, 2024*, to modify and move Condition 5.1 to Condition 6.1.4 and to remove Condition 5.2.

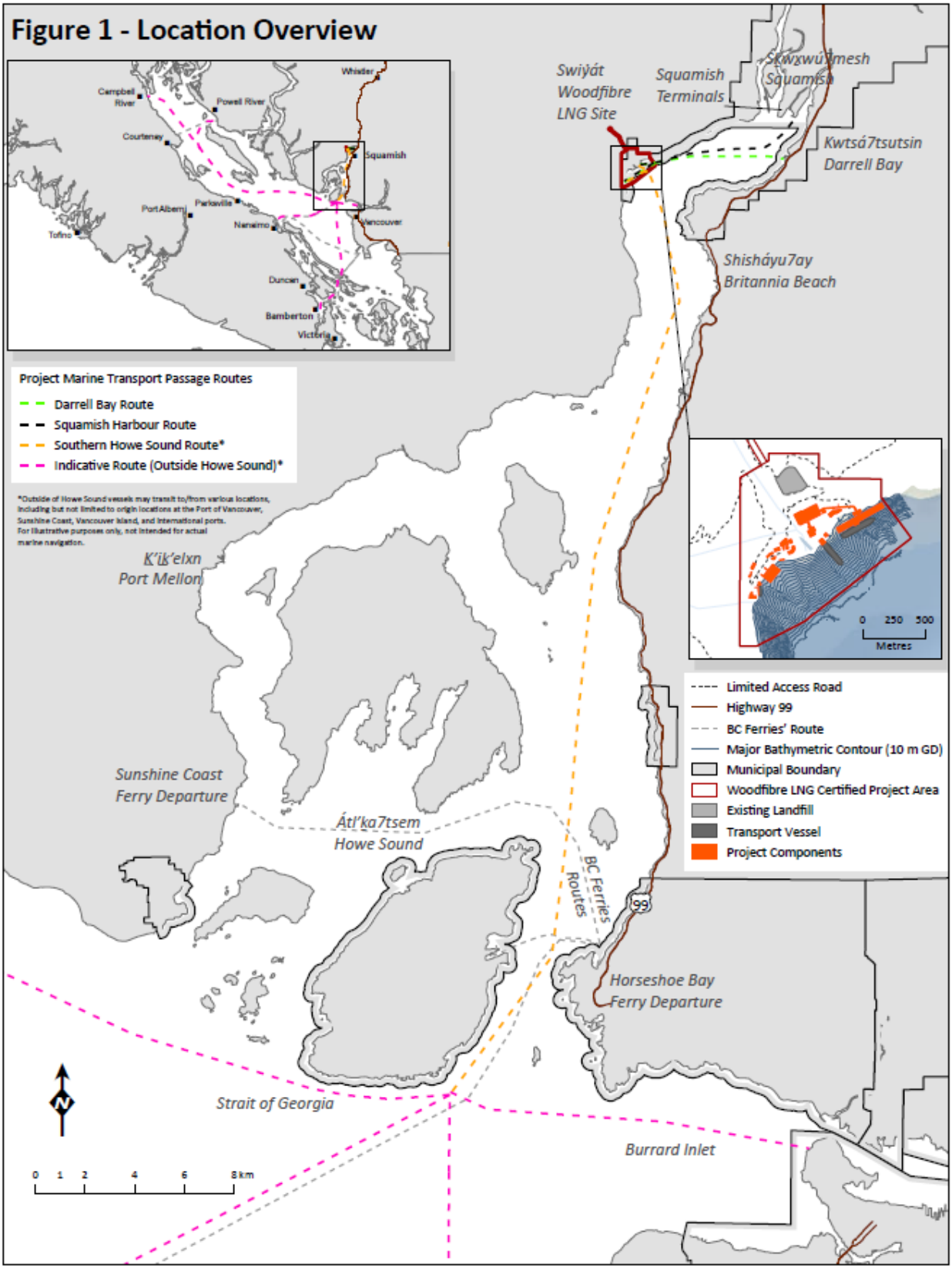
The 2024 annual report is intended to demonstrate the proactive approach Woodfibre LNG is taking across all phases of the Project when engaging in regulatory processes. Woodfibre LNG aims to achieve this through transparency, cooperation and continued compliance with all Project commitments and regulatory conditions, including conditions outlined in the FDS. Furthermore, this report is intended to highlight Woodfibre LNG's commitment to delivering on the socioeconomic and environmental benefits highlighted throughout the EA process for the Project, while ensuring impacts are minimized.

This report has also 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 website. IAAC and Indigenous Groups (referred to as Aboriginal Groups in FDS Section 1.1, defined as

Squamish Nation, Tsleil-Waututh Nation, Cowichan Tribes First Nation, Halalt First Nation, Lake Cowichan First Nation, Lyackson First Nation, Musqueam Indian Band, Penelakut Tribe, Stz'uminus Nation and Métis Nation British Columbia) will be notified of its availability once posted.

Woodfibre LNG

Figure 1 - Location Overview



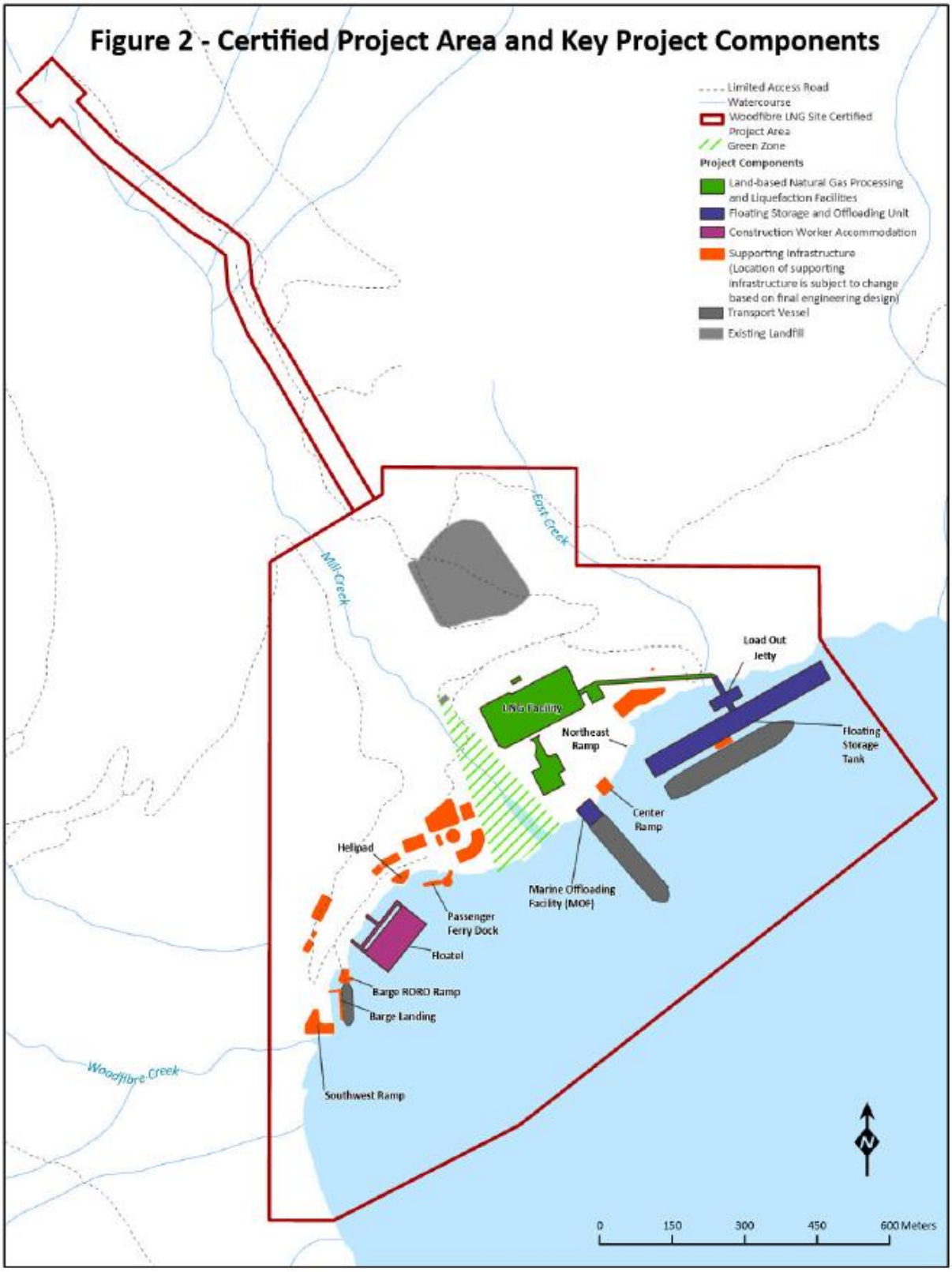


Figure 2 - Certified Project Area and Key Project Components
Limited Access Road
Watercourse
Woodfibre LNG Site Certified Project Area
Green Zone
Project Components
Land-based Natural Gas Processing and Liquefaction Facilities
Floating Storage and Offloading Unit
Construction Worker Accommodation
Supporting Infrastructure (Location of supporting infrastructure is subject to change based on final engineering design)
Transport Vessel
Existing Landfill
Mill Creek
Fort Creek
Woodfibre Creek
Load Out Jetty
LNG Facility
Northeast Ramp
Floating Storage Tank
Center Ramp
Helipad
Marine Offloading Facility (MOF)
Passenger Ferry Dock
Floatel
Barge RORO Ramp
Barge Landing
Southwest Ramp
N
0
150
300
450
600 Meters

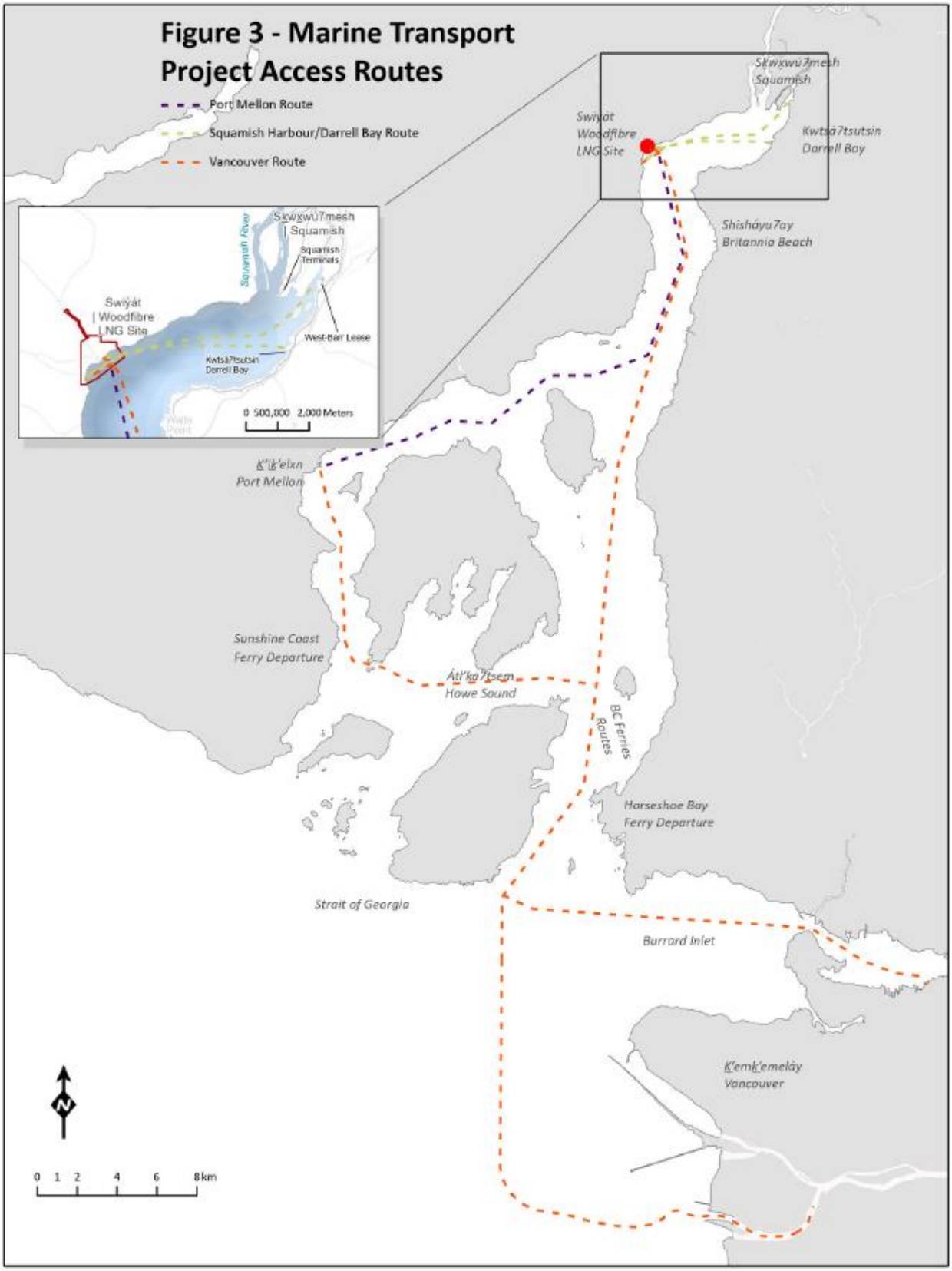


Figure 3 - Marine Transport Project Access Routes
Port Mellon Route
Squamish Harbour/Darrell Bay Route
Vancouver Route
Sḵwx̱wú7mesh Squamish
Swiy̓at Woodfibre LNG Site
Kwtsá7tsutsin Darrell Bay
Shishá7ay Britannia Beach
Squamish River
Sḵwx̱wú7mesh | Squamish
Squamish Terminals
Swiy̓át | Woodfibre LNG Site
West-Bar Lease
Kwtsá7tsutsin Darrell Bay
0 500,000 2,000 Meters
K̓ik̓elxn Port Mellon
Sunshine Coast Ferry Departure
Át'ka7tsem Howe Sound
BC Ferries Routes
Horseshoe Bay Ferry Departure
Strait of Georgia
Burrard Inlet
K̓emk̓emeláy Vancouver
N
0 1 2 4 6 8km

2.0 PROJECT ACTIVITIES

The following sections summarize 2024's site activities, schedule, and material changes to the Project.

2.1 Site Activities

Woodfibre LNG's construction contractor and subcontractors completed soil improvements/backfilling, and continued the clearing and grubbing, and the rock blasting and material processing program. The existing Administration building was demolished, and installation began for the pipe rack foundation and rock/soil anchors. Installation of the onsite temporary concrete batch plant was completed. Woodfibre LNG started installation of permanent stormwater drainage, and installation of stormwater treatment plants. A bridge over Mill Creek was installed, and water was withdrawn from Mill and Woodfibre creeks to support construction.

Construction to support the floatel was completed, including construction of berthing dolphins, mooring dolphins, floating docks and gangways. The floatel was moored and began operations onsite. Other marine in-water works carried out include Material Offloading Facility (MOF) piling and Floating Storage Tanks piling. Shoreline demolition and the placement of riprap revetment were also carried out. Demolition of existing roll on-roll off berthing structure was completed.

2.2 Implementation Schedule

Pursuant to FDS Condition 12, Woodfibre LNG has included an updated Implementation Schedule to IAAC with this submission. Pursuant to FDS Condition 7.4, the updated Implementation Schedule will be sent to Indigenous Groups defined in Section 1.1 of the FDS and will be posted on the Woodfibre LNG website pursuant to FDS Condition 2.8.

2.3 Proposed Material Change to the Certified Project Description

In 2024, an amendment was requested to change Schedule A of the CPD to increase the volume of the condensate storage container.

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 EA 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 (QPs). 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
- 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 2024. 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 FDS Condition 13.1, which requires the Project to retain all records pertaining to the ongoing compliance of Project activities with FDS Conditions, 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 details described in Conditions 13.1.1 through 13.1.5. Pursuant to FDS 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

In-water works during construction in 2024 included:

- Shoreline demolition and revetment
- Marine pile installation and excavation, shoreline revetment
- Water withdrawals from Mill and Woodfibre creeks
- In-water vibratory piling to support the floatel mooring, gangways and flexi dock installation
- Mill Creek bridge installation
- Material offloading facility construction (i.e., vibratory pile installation, berthing dolphins, mooring dolphins,)
- Removal of the legacy creosote berthing structure associated with the existing Roll-On Roll-Off ramp
- Marine pile installation associated with the Floating Storage Terminal

Pursuant to FDS Condition 3.1, all in-water works, with one exception, were completed during the applicable timing windows of least risk. In-water work concluded on 31 January 2024 and started again on 16 August 2024, in compliance with the least-risk window for Howe Sound.

On 20-21 June 2024, in compliance with the Federal Decision Statement, the removal of two in-water piles and temporary relocation of the dock breakwater barge was conducted, outside of the marine least risk window for Howe Sound. Consultation with Fisheries and Oceans Canada (DFO) and Squamish Nation was conducted prior to the removal of the two in-water piles and barge. Squamish Nation provided Woodfibre LNG with a letter of support for the two in-water pile removals and temporary dock breakwater barge relocation. The in-water works were required to facilitate mobilization and mooring of the floatel to comply with an Order from the BC EAO, dated 17 June 2024, Order Ref: 20240030_OR001. During this work, marine mammal observation, water quality monitoring, marine invertebrate salvages, a herring spawning assessment, and hydroacoustic monitoring occurred.

Temporary bridge construction at Mill Creek was completed and no in-stream work was completed. Erosion and sediment controls were installed prior to commencement of work which was inspected daily and maintained. Water quality sampling was conducted daily during installation of the bridge with no exceedances. There were no spills to water during installation of the bridge.

Pursuant to FDS Condition 3.2.1, environmental monitors (EM) completed frequent erosion and sediment control inspections to confirm that erosion and sediment control measures were adequately implemented to mitigate

potential adverse effects on fish and fish habitat from changes in water quality during construction works. Erosion and sediment control measures implemented included:

- Daily monitoring (e.g., water quality turbidity monitoring, visual inspections)
- Preparing for rain events (pre-significant rainfall events)
- Installation and maintenance of silt fencing, geofabric/riprap

Several events happened in 2024 related to erosion and sediment control:

- On 28 February 2024, there was a significant precipitation event which resulted in a 24-hour max of 107 millimetres of rain, and approximately 100 millimetres fell within a 12-hour period. This resulted in extensive stormwater accumulation around the site. During this event there were some issues with stormwater management that resulted in construction activities being shut down. Crews set up additional pumps during the rain event to manage turbid water on site. Due to the event an incident investigation was performed to identify additional stormwater and erosion and sediment control measures that can be implemented to adequately manage stormwater during similar rainfall events.

  During the precipitation event pumps and hoses were set up to dewater the site, however due to signification rainfall the pumps had issues keeping up. As an immediate response, the site was shut down and larger pumps and hoses ordered. After this significant precipitation event, several deficiencies were identified and addressed, including:

  - A revised dewatering plan was developed and additional materials (i.e., pumps and hoses) were procured and staged throughout the site.
  - The construction of key water management infrastructure was advanced.
  - A Standard Operating Procedure to prepare for and manage stormwater was developed.

- On 8 April 2024, turbid water was observed entering Mill Creek from the deck of the 120-ton heavy haul bridge. Previous erosion and sediment control measures had degraded. Bridge deck upgrades were completed to prevent sediment laden water from leaking to the watercourse below. Additional water quality sampling was conducted.
- On 8 May 2024, turbid water was observed in Mill Creek originating from upstream of the project work area and elevated turbidity levels (up to 18.81 Nephelomeric turbidity units) were observed. The duration of the turbid release was short term (a few hours) and the source could not be confirmed. The cause was deemed not to be a result of construction activities.
- On 21 May 2024, a small amount of turbid water was observed dripping from the 120-ton bridge over Mill Creek, but a quick maintenance response corrected the issues, and it was not observed during subsequent inspections.
- On 28 May 2024, East Creek was visibly turbid due to Fortis's pipeline tunnel construction activities occurring upstream of the Project area. Water quality sampling indicated elevated turbidity levels that returned to background levels by the following morning.
- On 24 August 2024, a heavy vehicle drove over a catch basin manhole cover which broke resulting in pooled turbid water in the area to release from a legacy outfall structure into Howe Sound. The void was

capped with fill material to prevent additional sediment laden water from releasing. An observable turbid plume near the point of release was sampled by on-site water quality monitors which detected elevated turbidity levels in the immediate area for approximately two hours prior to naturally dissipating. No harm to the aquatic environment occurred as a result of the event. The catch basin was demolished and infilled to prevent a reoccurrence, and another nearby catch basin was demolished and backfilled. Additional catch basins on the west side of the project footprint were delineated to prevent traffic from driving over the covers until scheduled to be infilled with concrete to prevent future releases to Howe Sound.

No revegetation of disturbed riparian areas occurred in 2024, pursuant to FDS Condition 3.2.2.

Silt curtains, silt fencing, and straw wattle were installed and regularly inspected during near-shore and in-water works, pursuant to FDS Condition 3.2.3. When deficiencies were noted during regular inspections, additional mitigation measures were installed, or the deficiencies were corrected through better installation.

Pursuant to FDS Condition 3.2.4, during concrete pour activities, additional in-situ water samples were taken to assess for elevated turbidity and pH.

No instream construction activities occurred in Mill Creek in 2024, therefore there was no isolation or fish salvage completed, as required by FDS Conditions 3.3.1 and 3.3.2.

Pursuant to FDS Condition 3.3.3., Woodfibre LNG maintained minimum flows in Mill Creek and Woodfibre Creek to support fish and fish habitat. Adequately sized fish screens were installed on the Mill and Woodfibre Creek water intakes, pursuant to FDS Condition 3.3.4. Water withdrawal was stopped when minimum instream flow requirements were not met. Instream flow requirements were monitored via remote hydrometric stations. Minimum flows were not met, and water was not withdrawn from Mill Creek during the following time periods:

- 18-20 February 2024
- 1-31 July 2024
- 1-23, 26, 29-31 August 2024
- 1-14, 16-23, 25 September 2024

Pursuant to FDS Condition 3.3.5, the Best Management Practices for Pile Driving and Related Operations were considered when conducting pile installation and other in-water and near-water activities. Blasting activities were not conducted within 500 m of cetaceans or hauled-out pinnipeds and hydroacoustic monitoring took place during activities that could cause underwater noise.

Prior to nearshore blasting, a sediment curtain and bubble curtain were installed, pursuant to FDS Condition 3.4. Hydroacoustic monitoring was conducted to confirm that the blast did not exceed levels for protection of fish outside of the bubble curtain. Marine animals (e.g., crab, urchin) were salvaged prior to the installation of sediment curtains and bubble curtains. Prior to the blast, a SONAR scan was conducted to look for fish presence in the work area.

Pursuant to FDS Condition 3.5, spill booms were deployed to prevent mobilization of deleterious substances from creosote-contaminated materials. Creosote-contaminated materials were encountered on 30 September 2024 during the dredging and shoreline revetment work. The creosote sheen remained contained within the sediment curtains and spill booms were deployed within the contained area to absorb the contaminant.

Pursuant to FDS Condition 3.6, no marine water intakes were designed, installed, or operated in 2024. A leachate effluent marine discharge system with a diffuser is in operation and pursuant to FDS Condition 3.7, mitigation measures have been implemented. Mitigation measures include Woodfibre LNG working closely with onsite

wastewater treatment plant operators to ensure discharge meets the quality criteria in accordance with leachate permit PE-1239 section 1.1.3. Effluent samples are collected, and data is reviewed in a timely manner to ensure compliance and timely notification of exceedance and action item plans. Woodfibre LNG conducts routine inspection and maintenance of the leachate outfall.

Hydroacoustic monitoring to characterize underwater sound was completed during activities that may generate underwater noise, pursuant to FDS Condition 3.8.1. This included marine pile installation and land-based activities such as dynamic soil compaction and blasting. Once underwater sound was characterized and data was reviewed, activities were either considered to generate underwater noise and mitigation measures as required under FDS Condition 3.8 were implemented, or they were not considered to generate underwater noise and additional mitigation measures were not required.

Marine mammal exclusion zones were implemented during in-water activities that generated underwater noise (as described in FDS Condition 3.8.1). A marine mammal observation program was implemented, pursuant to FDS Condition 3.8.5 and activities did not start if marine mammals were observed within the exclusion zones, pursuant to FDS Condition 3.8.6. A marine mammal observation program was implemented prior to and during blasting activities within 100 m of Howe Sound. During blasting, hydroacoustic monitoring was conducted near source, 150 m, and 500 m from shore. Results were below underwater noise criteria for marine mammals.

During land-based piling activities, hydroacoustic monitoring was conducted to characterize potential underwater noise impacts from nearshore work. A QP implemented a modified marine mammal observation program for nearshore works. Pursuant to FDS Condition 3.8.2 and 3.8.3, exclusion zones were implemented for the nearshore works, and pursuant to FDS Condition 3.8.4, a marine mammal observation program was implemented. Underwater noise from nearshore piling was periodically audited to confirm consistency of results and validity of mitigation measures. Underwater noise was reassessed when installation methods or substrate conditions changed, to confirm consistency of results and relevance of mitigation measures.

Exclusion zones were established pursuant to FDS Condition 3.8.2 and 3.8.3 during in-water pile removal on 21 June 2024. A marine mammal observation program and hydroacoustic monitoring also took place during this work.

On 30 August 2024, the QP confirmed that cumulative underwater noise generation from in-water vibratory piling as well as concurrent shoreline revetment and clamshell dredging was sufficiently low to reduce the pinniped exclusion zone to the minimum required for in-water piling: 150 m. Continued hydroacoustic monitoring during active works affirmed this determination. The 1,000 m cetacean exclusion zone was maintained throughout the remainder of the reporting period, as the QP observed continued risk of approaching cetacean noise exposure criteria at 500 m and required further noise characterization to understand sound transmission to the cetacean exclusion zone boundary.

On 17 September 2024, adaptive management procedures were adopted for marine piling, allowing for continuation of the vibratory pile installation while harbour seals were present in the exclusion zone. Adaptive management procedures were assessed to meet conditions of the *Fisheries Act* Authorization and FDS, based upon predicted and realized underwater noise monitoring returns. Marine mammal observers (MMOs) maintained detailed observation of harbour seals present within the exclusion zone during vibratory hammer activation for evidence of behavioural change indicative of disturbance, or acute disturbance behaviour. MMOs were prepared to stop work upon observation of potential disturbance behaviour. Detailed observations of harbour seals present within 300 m of work indicated no induced behavioural effects from construction.

Adaptive management allowing for activation of vibratory hammer while harbour seals were present in the 150 m exclusion zone continued to be implemented, under approval of Woodfibre LNG and through consultation with

the Squamish Nation. Further, on 29 November 2024, these adaptive management procedures were extended to all in-water pinnipeds based upon an assessment and mitigation recommendations made by the QP of Record and consultation with the Squamish Nation.

On 03 September 2024, in recognition of persistent harbour seal presence within 500m of blasting headings, and low risk of respective underwater noise exposure to levels exceeding Project criteria for pinnipeds based on previous underwater noise data collected during blasting on site, adaptive management measures were approved for nearshore blasting, in consult with the Squamish Nation. These measures include altered protocols allowing blasting to occur with harbour seals present within the activity-specific exclusion zone(s), under detailed 'focal-follow' observation, where the blast master identifies delays in blast detonation pose a risk to onsite safety, and there is no evidence that the seal(s) would leave the exclusion zone in a timely fashion. In the case that behavioural change indicative of potential induced adverse impacts or acute disturbance are observed during focal-follow observation, works are to be halted and re-assessed.

On 19 November 2024, multiple harbour seals were present within the 500 m exclusion zone during a blast event that occurred approximately 160m from shore. Focal-follow behavioural monitoring of one seal individual provided evidence of acute disturbance from the blast. Adverse impacts were not anticipated from observed disturbance, as the seal was re-observed in the area not long after the blast event. Underwater noise monitoring of the 19 November 2024 blast, and all other blasts conducted over the monitoring period, identified that no marine mammals were exposed to underwater noise exceeding Project criteria, including harbour seal and California sea lion observed to be present within 500 m of blasts.

Sediment, turbidity, and bubble curtains were installed prior to nearshore blasting and in-water pile installation, and hydroacoustic monitoring took place during the activities, pursuant to FDS Conditions 3.3.6, 3.8.6 and 3.8.7.

Non-conformances related to fish and fish habitat in 2024 were identified by Environmental Monitors and investigations were conducted and corrective actions were implemented, as outlined in Appendix B.

3.2 Migratory Birds

The protection of migratory birds, their nests, and eggs was considered during the construction phase activities in the CPA during the reporting period.

Barn swallow nests, whether occupied or not, are considered a residence under the *Species at Risk Act* (SARA) during the residence period.[1] All but one building of the former pulp and paper mill were demolished in 2023; the last building remaining, the former main administration office, was scheduled to be demolished in summer 2024 (i.e., during the residence period). Under section 73 of SARA, Environment and Climate Change Canada issued permit SARA-PYR-2023-0793 on May 11, 2023, which is valid until May 7, 2026. The permit allowed activities to be undertaken in 2024 on the main office building to prevent barn swallows from nesting on the building, remove new nesting materials on the building prior to the onset of egg-laying, and demolish structures that support barn swallow nests during the residence period. To compensate for the loss of barn swallow nests and encourage nesting outside of the demolition site, Woodfibre LNG constructed an artificial nesting structure in April 2023.

Pursuant to FDS Condition 2.4, a QP undertook monitoring activities of the artificial nesting structure to determine effectiveness and whether additional mitigations are required. Monitoring was undertaken in 2024 per condition

[1] May 1 or the date when adults are first seen building or occupying the nest, whichever is earlier, to August 31 or the date when a bird is last seen at the nest, whichever is later. Barn Swallow (*Hirundo rustica*): residence description; available at: https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/residence-descriptions/barn-swallow.html/.

13 of permit SARA-PYR-2023-0793. In summary, old nests and nesting materials were removed and exclusion measures installed on the building prior to barn swallow arriving on site in 2024, and therefore, outside the residence period. No barn swallow nest under construction or occupied was removed or disturbed during the residence period in 2024. No barn swallows were possessed, collected, captured, harmed, harassed, or taken. On September 14th a juvenile barn swallow flew into the Floatel on Deck 3 through the main entrance doors. The bird attempted to fly out but flew into a closed glass door and became injured. The bird laid on the floor of the deck, injured but still alive. The bird was taken to a wildlife rehabilitation center, but did not recover from the injuries sustained. From 25 April to 28 August 2024, QPs inspected the exclusion measures and building; no new nests or nesting attempts were observed on the building and exclusion measures remained effective and in place throughout the nesting period. Barn swallows were observed nesting elsewhere on site, such as on the floatel, flex unit, barge, and floatel gangway; Woodfibre LNG implemented setback buffers for the active barn swallow nests to avoid disturbing the birds. Three nest cups on the artificial nesting structure were confirmed occupied by barn swallow nests in 2024. Nesting was observed at the artificial nesting structure from 5 May to 7 August 2024, including successful fledging of young.

Pre-clearing nest sweeps were carried out during the construction phase prior to execution of clearing and grubbing of the process area, laydown areas and the shoreline.

A known bald eagle nest within the CPA had a buffer applied prior to clearing and 100 m and 200 m buffer signage were present in the field. Prior to blasting, the bald eagle nest was surveyed; no bald eagles were at the nest. Acoustic monitoring was conducted during activities within the bald eagle nest buffer. The bald eagles were observed to be on the nest in April incubating eggs. QEP monitoring reports indicate the following “No signs of disturbance behavior of nesting bald eagles at Woodfibre Creek nest site were observed attributable to construction over the reporting period.”

Blasting was scheduled to occur within 1 km of provincially mapped marbled murrelet suitable habitat during the marbled murrelet nesting season in 2024 (late April to early September). Although no marbled murrelet nests have been identified within 1 km, Woodfibre LNG implemented the precautionary approach for managing disturbance to suitable habitat. Noise monitoring within the CPA was undertaken prior to and during active blasting to assess potential for marbled murrelet nesting disturbance and determine whether mitigations are required. In summary, the increase in noise intensity was deemed negligible at 500 m from the blast sites and not at risk of nesting disturbance if blast loads remain the same size or below. The blasting events would not risk disturbing adult marbled murrelets from flying to and from the nest because blasting events were completed during daytime (typically midday) whereas adult murrelets fly to and from their nests at night or around dusk and dawn.

Pursuant to FDS Condition 4.3, a pre-construction phase follow-up program for migratory birds was developed in 2022. 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; therefore, the follow-up program was not implemented during this 2024 reporting period.

3.3 Human Health

Pursuant to FDS Condition 6.1, best management practices were implemented to minimize noise and air emissions during construction phase activities. Measures implemented are outlined in the Construction Environmental Management Plan. Measures addressing greenhouse gas emissions, exhaust gasses from fuel combustion and dust were all implemented and include maintenance of vehicles in good working order, preventing idling of vehicles, and turning off machinery when not in use. Dust control measures implemented included covering stockpiles, maintenance of paved surfaces, and minimizing of drop distances of material. Measures which have been implemented for minimizing noise include the use of less noisy machinery such as vibratory hammers for piling,

the orientation of machinery away from receptors, scheduling works at specific times where background noise is higher and utilizing existing onsite barriers for screening nearby receptors.

On 8 November 2024, the carbon dioxide tank for the landfill leachate treatment plant vented carbon dioxide into the air resulting in a low-level fog over a portion of the site surrounding the tank. Due to safety reasons, crews were not able to approach the tank to safely inspect it. The cause of the release was the result of the pressure relief valve freezing and becoming stuck open. The whole tank (11,974 kilograms) was drained into the surrounding area and a replacement pressure relief valve was installed.

Pursuant to FDS condition 6.2, Woodfibre LNG has developed an internal protocol for noise complaints through the online ticketing system located on the Woodfibre LNG website at https://woodfibrelng.ca/contact-us/. Members of the public are clearly directed on this webpage to utilize the ticketing system for raising any questions, concerns, or complaints. In January 2024, a noise complaint was received from a resident complaining of hearing low frequency sounds at night. As a result of this complaint, Woodfibre LNG conducted ambient noise monitoring at three locations to establish noise levels from the Project. Three rounds of monitoring have been completed to date, with additional rounds of monitoring scheduled in 2025.

No permanent lighting has been installed for the construction phase. Construction lighting is predominantly via light plants and some semi-permanent (construction only) lights. Pursuant to FDS Condition 6.3, mitigation measures such as shielding, directional shades, LED bulbs and discrete hours of operations have been implemented. Where possible, light is pointed away from sensitive receivers (e.g., marine environment). In the light plants that do not have LED bulbs, frosted lenses have been fitted, which emits dimmer lighting than clear lenses. Crews are directed to turn off lighting once work in an area is complete, and some lights have sensors, timers, or motion detectors to reduce unnecessary nighttime illumination. Lighting mitigation measures are implemented on the floatel as well; only critical lighting is used.

Pursuant to FDS Condition 6.4, water and sediment quality for the Project were monitored throughout 2024. Construction continued in 2024, and activities included overburden and bedrock excavation, site grading and leveling, pouring of concrete foundations and construction of contact and non-contact water management facilities. Discharges of construction contact water to the environment commenced in 2024 under the Waste Discharge Authorization (WDA) Effluent Permit (PE-111578) issued 9 February 2024. The East Wastewater Treatment Plant, East Sedimentation Pond and West Sedimentation Pond were commissioned for discharge to Howe Sound. The authorized East and West Catchment discharge locations have an initial dilution zone (IDZ) where effluent mixes with Howe Sound surface waters. The IDZ is defined in permit PE-111578 and extends 150 m from each point of discharge into Howe Sound. It is expected that parameters with discharge limits (i.e., pH, total suspended solids [TSS], copper [Cu], lead [Pb], vanadium [V], and zinc [Zn]) may exceed marine water quality guidelines within the IDZ, therefore the IDZ stations were not evaluated for Project influence.

Receiving environment water quality monitoring was conducted in accordance with the requirements of the WDA and the Marine Water Quality Management and Monitoring Plan for Construction (Construction Environmental Management Plan, Appendix D). 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.

Water quality monitoring was conducted at the mouths of Woodfibre, Mill and East Creeks and at reference stations upstream at each of the creeks. Marine water was monitored at four nearshore stations within the CPA, the IDZ of the East and West Catchments, and two reference stations north and south of the CPA. Opportunistic

samples were also collected throughout the year. Field parameters were routinely collected, and laboratory analysis was conducted for physical and general parameters, nutrients, total and dissolved metals, methyl mercury, dioxins and furans, polycyclic aromatic hydrocarbons (PAH) and volatile organic compounds (VOC).

In-marine works were advanced in January for the floatel mooring infrastructure (pile installation), with a single day in June required to detach and remove the temporary dock from the Ro-Ro under agreement with Squamish Nation and DFO. Water quality was monitored in work areas each day the in-marine works were active, and daily at receiving environment stations specified in the Marine Water Quality Management and Monitoring Plan for Construction (Construction Environmental Management Plan, Appendix D).

Marine sediment quality was monitored in the vicinity of the floatel in August and within the IDZs in December 2024. Laboratory analysis was conducted for pH, moisture content, particle size, total organic carbon (TOC), total inorganic carbon (TIC), and metals. Marine sediment samples collected in December were also tested for hydrocarbons, PAH, light and heavy extractable petroleum hydrocarbons, polychlorinated biphenyls (PCB), and dioxins and furans. To date, data has been consistent with baseline and changes to human health risk are not expected. Further sampling in 2025 is being planned to further validate this.

The 2024 freshwater exceedances of WQGs are summarized in Table C.1 of Appendix C. Parameter concentrations were within WQGs for the protection of FWAL and EWAL, with the exception of field pH, field dissolved oxygen (DO), total aluminum (Al), total chromium (Cr), total iron (Fe), dissolved Cu, and dissolved Zn. Parameter concentrations were within the ranges observed in the pre-construction baseline monitoring program at Woodfibre, Mill, and East creeks or background conditions in the creeks and are therefore not likely attributable to the Project except for the following occasions.

- A sample from Mill Creek and East Creek exhibited DO below the lower limit of the WQG and below values observed in the pre-construction baseline monitoring program. Exceedances of the total Al and total Cr (n=1) in East Creek are attributed to high TSS in the samples due to heavy stormwater runoff during heavy rains 18-19 October and on 19 November (total Al).

- Total Fe concentrations were 1.0 to 19.7 times greater than the FWAL guideline for samples collected from East Creek on 28 September, 4 October, 12 October, 19 October, 24 October, 26 October, 31 October, 8 November, 14 November, and 19 December (n=11). These results reflect temporary Project influence from off-site contact water and suspected groundwater seepage from the hillslope above the creek. The Project-related influence from contact water has been resolved and is considered a transient incident that is unlikely to recur.

- Exceedances of the dissolved Cu WQG were observed occasionally in Mill Creek (n=4) with maximum values up to 3.5 times greater than the corresponding WQG. Several exceedances of the dissolved Cu WQG were observed in East Creek up to 8.6 times greater than the WQG. Overall, dissolved Cu concentrations met the WQG or were with the range of values observed for baseline and background monitoring.

The 2024 marine water quality guideline exceedances are summarized in Table C.2 of Appendix C. Parameter values fell within the WQG limits for the protection of MWAL, with the exception of field pH, field DO, total cadmium (Cd), total Cr, total mercury (Hg), total V and naphthalene. Field pH was occasionally outside the limits of the WQG in shallow water samples. Field DO measurements were below the minimum WQG in most deep-water samples and occasionally in shallow water samples. Low concentrations of DO are indicative of influence from the deeper saline waters in the northern basin of Howe Sound and are a natural condition of the marine water in the CPA. Total Cr was detected at 1.4 and 1.9 times the hexavalent Cr WQG in two discrete shallow samples.

The majority of the exceedances for total Cd, total Cr, and total V are attributed to elevated detection limits, which are 2.0 to 16.7 times greater than the WQG, for samples collected 16 April and 6 October.

An opportunistic sample collected 19 October of the marine receiving environment adjacent to the foreshore, showed total Cd, total Cr, total Hg, and total V concentrations up to 4.1, 1.9, 5.8, and 14.6 times greater than the WQG, respectively, that are attributed to elevated TSS associated with contact water runoff during a storm event (18-19 October).Naphthalene was 1.3 times greater than the marine WQG in a discrete shallow water sample and above the maximum values observed in the preconstruction baseline monitoring program and background ranges observed at the marine reference stations; however, this is an isolated single incident and is not considered to indicate there is on-going influence from construction activities.

The 2024 in-marine works water quality screening results are summarized in Table C.3 of Appendix C. *In situ* marine water quality monitoring was conducted several times a day when in-marine works were active. Field pH was occasionally below the lower limit of the WQG for the protection of MWAL. Elevated field turbidity observed at CPA and reference stations was attributed to the background conditions in Howe Sound waters at the time of sampling and was not indicative of Project influence.

The 2024 marine sediment screening results are summarized in Table C.4 of Appendix C. Marine sediments were monitored within the IDZ of the sedimentation pond discharge locations. Concentrations of several total metals (Arsenic, Cd, Cu, Pb, Hg, Zn) were above the corresponding SQG by up to 32.1 times and 5.6 times the ISQG and PEL values, respectively. Of the metal parameters, concentrations of Cu most frequently exceeded the guideline. Concentrations of PAHs (acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, 2-methylnaphthalene, naphthalene, phenanthrene and pyrene) in the samples collected from the east and west IDZs were above the corresponding SQG. Marine sediment samples collected at the west IDZ (west of Mill Creek) were noted to contain woody debris with visible creosote and an oily sheen at the time of sampling, and the PAH concentrations were up to 226 times greater than the samples collected from the east IDZ. Concentrations of Aroclor 1254 and total polychlorinated biphenyls (PCB) were below detection limit in all marine sediment samples; however, detection limits are up to 28 times greater than the ISQG value and up to 3.2 times greater than the PEL value (total PCB). The lower-bound and upper-bound polychlorinated dibenzo-*p*-dioxins/dibenzofurans (PCDD/F) toxic equivalent (TEQ) concentrations were up to 101 times greater than the ISQG value and up to 4 times greater than the PEL value in the IDZ samples, with the highest values detected in sediment from the west IDZ. The concentrations of the parameters that exceed guidelines were within the upper ranges observed during baseline monitoring and are not attributable to project influence, except PCDD/F TEQ.

The PCDD/F TEQ concentrations in the IDZ sediment samples ranged from 35.2 to 86.0 ng/kg above the upper range observed during baseline monitoring (26.4 ng/kg), with the highest values from the west IDZ samples that were noted to contain creosote and hydrocarbon residues. Creosote and hydrocarbon containing effluents are not discharged from the Project to Howe Sound, therefore it is speculated the PCDD/F results reflect sediment heterogeneity within the IDZ areas due to residual sediment contamination from historic pulp mill operations. FDS Condition 6.5 was addressed in the 2022 Annual FDS Report and is not relevant to 2024. Follow-up marine monitoring programs to fulfill FDS conditions 6.5.2 and 6.5.3 related to confirming HHRA model predictions and assessing POPCs tissue accumulation will be undertaken within two years of the start of construction (by November 2026). If human exposure risks due to the consumption of contaminated seafood are identified during this program, then the tissue sampling program will continue for a minimum of 3 years post-construction. Dungeness crab meat and hepatopancreas as well as sole meat will be collected from the same study areas and using the same protocols as previous programs to allow temporal comparisons. Newly collected tissue data will also be compared to historical data for the analysis of trends.

3.4 Land Use

Pursuant to FDS Condition 7.1, Woodfibre LNG has developed a communications protocol for marine transportation during construction. The protocol is outlined in the Construction Marine Transportation Management and Monitoring Plan which is posted on Woodfibre LNG's website. Information required to be communicated to the public as part of the protocol can be found on the website at https://woodfibrelng.ca/construction/marine-transportation-schedule/.

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

In support of FDS Condition 7.2, data was collected in 2024 by buoys installed in 2022 which will be used in the follow-up monitoring for wake effects.

3.5 Archaeological and Heritage Resources

Pursuant to FDS Condition 8.1.2 to 8.1.3, an Archaeological and Heritage Resource Management Plan for construction was developed in consultation with Indigenous Groups prior to the start of the construction phase.

This plan outlines procedures and practices for on-site monitoring of construction phase activities that may impact archaeological or heritage structures, sites, or things. The Archaeological and Heritage Resource Management Plan also includes a Chance Find Management Plan. No chance finds occurred in 2024.

An Archaeological Awareness and Chance Find Management Plan program was also developed during 2023. The program is provided to all staff working in the CPA and is conducted through a one hour long in person presentation. It provides participants with information about the significance of archaeological materials and the legal requirements surrounding them.

3.6 Listed Species at Risk

Pursuant to FDS Condition 9.1 pre-clearing surveys were undertaken within potential bat roosting habitat in the CPA to determine active roost sites for little brown myotis (*Myotis lucifugus*). Potential tree roosts were monitored using ultrasonic acoustic recorder units from June to August in 2023 and from May to August in 2024. In summary, five forested sites were confirmed as likely maternity roosts, of which four sites likely include little brown myotis. No tree clearing or other disturbance activities occurred near active bat roosts; therefore, no buffer zones were established in 2024.

One building, the former administration office, remained standing in 2024; the building was scheduled to be demolished in late summer 2024. As demolition of the administration building began in late August, bats were observed flying out of the building. Work immediately stopped and a bat QP was engaged to execute a monitoring and mitigation approach to avoid causing harm to bats and support the safe demolition of the building. On 29 August 2024 the QP confirmed little brown myotis was one species occupying the building and that the building was likely used as a multi-species maternity roost in 2024. The QP found one injured bat, a female little brown myotis, with evidence of recent lactation; the bat was transported to Wildlife Rescue Association in Burnaby and was euthanized due to extensive injuries. From 4 September 2024 (after the end of the maternity roosting period) to 31 October 2024, the bat QP, with assistance from other wildlife biologists, undertook inspections of the building (interior and exterior) and evening emergence surveys to determine potential entry and exit points used by bats and to identify suitable mitigation measures for evicting and excluding bats. Exclusion measures (e.g., one-way tubes, mesh, poly sheeting) were installed in accordance with guidance provided by the BC Community

Bat Program[2] and under the direction of the bat QP. Inspections included use of a FLIR camera, borescope, and hand-held EchoMeter detectors. Passive ultrasonic acoustic recording units were also deployed in the interior and exterior of the building to help determine bat activity. Emergence surveys were completed by two surveyors and methods followed standard procedures outlined in Section 5.3 Visual Counts of Inventory Methods for Bats[3] and guidance provided in BC Annual Bat Count Instructions.[4] In summary, Woodfibre LNG delayed demolition for nine weeks until the QP determined that bats were no longer occupying the building. From 29 August to 25 October 2024 several species of bat, including little brown myotis, were observed exiting or detected inside the building. Guano was collected on 31 October 2024 from inside the building and a sample was sent to Wildlife Genetics International for sequencing to identify species; it confirmed Yuma myotis (*Myotis yumanensis*). The building was demolished on the evening of 31 October 2024 following the final emergence survey of a zero-count and final inspection of the building by the QP. A report on bat monitoring and mitigation of the building[5] was provided to IAAC Enforcement Operations on January 31, 2025.

Pursuant to FDS Condition 9.2, the previously installed bat boxes were inspected for occupancy. These artificial roost sites were inspected visually in June, July, and August for presence of guano and bats and monitored using ultrasonic acoustic recording units from June to August 2024. One pair of maternity boxes and the rocketbox were confirmed occupied by bats. Yuma myotis was confirmed in the maternity boxes. Preliminary DNA analysis of the guano identified possibly little brown myotis or long-eared myotis (*Myotis evotis*) in the rocketbox; additional analysis (i.e., nuclear microsatellite sequencing) is underway to confirm species. Other bat species may also be present as acoustic recordings included up to possibly 10 species were actively foraging around the artificial roost sites.

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.

4.1 Accidents and Malfunctions

Pursuant to FDS Condition 11.5, Woodfibre LNG has developed a communication plan related to accidents and malfunctions. As described in Section 6.1, Indigenous Groups were invited to provide input on the plan, which was then incorporated.

[2] Got Bats? A BC Guide to Managing Bats in Buildings. Available: https://bcbats.ca/got-bats/excluding-bats-from-a-building/

[3] RISC (Resources Information Standards Committee). 2022. Inventory Methods for Bats, Standards for Components of British Columbia's Biodiversity No. 20. Version 3.0. British Columbia Ministry of Land, Water and Resource Stewardship, Ecosystems Branch, Victoria, BC.

[4] BC Annual Bat Count: Participant Instructions. Available: https://bcbats.ca/get-involved/counting-bats/

[5] Stantec. 2024. Former Administrative Building Demolition 2024 – Bat Monitoring and Mitigation. Memo to Woodfibre LNG.

On 18 December 2024, a collision occurred between two marine vessels. One individual required medical treatment, and the vessel the individual was on sank. A sheen of hydrocarbons was observed, and the emergency response plan was implemented. This incident was reported to IAAC as required by FDS Condition 11.4.1, and 30- and 90-day reports were submitted within the required timelines per FDS Conditions 11.4.3 and 11.4.4.

4.2 Emergency Response Plans and Communications with Indigenous Nations

The Emergency Response Plan was updated with contact names and phone numbers in 2024. Pursuant to FDS Condition 11.3, an Emergency Response Plan for construction was developed and consulted on with Indigenous Groups and relevant federal and provincial agencies in 2023. Pursuant to FDS Condition 11.4.1, the emergency response plan was implemented during the 18 December 2024 collision between marine vessels by the Incident Commander (IC) who gathered the Incident Management Team (IMT) on the floatel which served as the Incident Command Post (ICP). The Woodfibre LNG Emergency Operations Center (EOC) was located in the Vancouver office to provide support to the IC and assist with external regulator notification and other support functions. As part of the Emergency Response Plan, the relevant authorities and Indigenous groups were notified of the incident.

5.0 OFFSETTING

Pursuant to FDS Condition 3.11, and in-line with the offsetting requirements set out in the applicable environmental legislation, project permits and relevant policies, offsetting plans to compensate for residual Project effects to fish and fish habitat were developed during 2024. Detailed engineering design for marine offsetting, as required by the *Fisheries Act* authorization, started at the end of 2024.

A detailed Offset Effectiveness Monitoring Plan was provided to DFO by 15 March 2024. No habitat offsetting has been built yet.

6.0 CONSULTATION AND ENGAGEMENT

Woodfibre LNG implemented Indigenous and stakeholder consultation activities in 2024.

6.1 Indigenous Consultation

Woodfibre LNG remains committed to conducting robust consultation activities with all of the Indigenous Groups stipulated in the FDS. Pursuant to FDS Condition 3.6.3, this section summarizes Woodfibre LNG's engagement activities with Indigenous Groups in 2024 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 annual reports from 2020 through 2023, consultation with Indigenous Groups occurred across a range of different aspects related to the Project, and as required by the FDS conditions. This included consultation on the following Plans: CSMIP, CMTMMP, IPMP, MFFHMMP, TMP, Waste Management Plan - Construction, Water Management Plan – Construction, WMMP-C, WMMP-O, CEMP, AHRMP (FDS Condition 8.1), the communication plan for accidents and malfunctions (FDS Condition 11.5) and Emergency Response Plan (FDS Condition 11.3). Consultation relates to revisions to the plans, which were minor and non-material.

In 2024, Woodfibre LNG undertook the following activities:

- Monthly engagement with Indigenous Groups

- Quarterly Marine User Group meetings with Squamish Nation, Tsleil-Waututh Nation and Musqueam Indian Band. Key topics included impact of the floatel on marine traffic routes, updates to the Woodfibre LNG website, results of the wake analysis, TERMPOL, and marine safety zone for construction.
- Weekly marine mammal program meetings with Squamish Nation (starting 13 August 2024)
- 28 May 2024 – Department of Fisheries and Oceans *Fisheries Act* Authorization Technical Working Group meeting. Facilitated a technical working group to review marine monitoring performance in the previous window of least risk, to support improvements in the coming period. Squamish Nation, Tsleil-Waututh Nation and Musqueam Indian Band attended.
- 30 May 2024 – Squamish Nation workshop to review marine monitoring performance, identify lessons learned and improvements for future in-water work

6.2 Stakeholder Engagement

Pursuant to FDS Condition 2.6.3, this section summarizes how views and information received through stakeholder engagement activities were provided full and impartial consideration by Woodfibre LNG in 2024 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.

In 2024, Woodfibre LNG undertook the following activities:

- Monthly engagement with stakeholders
- Quarterly CSIMP meetings
- Quarterly Marine User Group meetings with Squamish Nation, Tsleil-Waututh Nation and Musqueam Indian Band. Key topics included impact of the floatel on marine traffic routes, updates to the Woodfibre LNG website, results of the wake analysis, TERMPOL, and marine safety zone for construction.
- Joint Woodfibre LNG and Fortis Quarterly Cumulative Impact Meetings began in 2024 and were held on 30 May, 05 September, and 13 December
- 28 May 2024 – Department of Fisheries and Oceans *Fisheries Act* Authorization Technical Working Group meeting. Facilitated a technical working group to review marine monitoring performance in the previous window of least risk, to support improvements in the coming period.

7.0 CLOSURE

This report has been prepared in fulfillment of the conditions set out in the FDS (as amended July 2024) issued to Woodfibre LNG for the Woodfibre LNG Project.

APPENDIX A
Federal Decision Statement Table of Concordance for the Woodfibre LNG Project (2024 Update)

Table A.1 Table of Concordance

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 2024 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 6 [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 6 [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 6 [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 2024.

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 2025:
		  ○ Federal Decision Statement Annual Report for 2023 (including executive summaries)
		  ○ 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.	• Ongoing consultation with Indigenous groups has occurred since summer 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 2024 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 2024 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.
3.2.1	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.	• Refer to Section 3.1 [Fish and Fish Habitat] of the attached report for more information.
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.	• Refer to Section 3.1 [Fish and Fish Habitat] of the attached report for more information.
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 2024 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.	• Refer to Section 3.1 [Fish and Fish Habitat] of the attached report for more information.

Condition No.	Condition	Notes
3.8	The Proponent shall establish and maintain a marine mammal underwater noise impact areas for all construction activities 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 190 decibels at a reference pressure of one micropascal and the periods of time when each activity occurs; • 3.8.2 for all marine mammals except pinnipeds, 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 for pinnipeds, 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 where underwater noise levels reach 190 decibels or at a distance of 150 metres, whichever is the greater distance; • 3.8.4 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 areas identified in conditions 3.8.2 and 3.8.3 during construction activities identified in condition 3.8.1; • 3.8.5 stop or not start the construction activities identified in condition 3.8.1 if marine mammal(s) area detected in their respective marine mammal underwater noise impact area identified in condition 3.8.2 or condition 3.8.3, and only begin or continue the construction activities identified in condition 3.8.1 once the marine mammal(s) has moved out of their respective marine mammal underwater noise impact area; and • 3.8.6 implement mitigation measures, including sound dampening technology such as bubble curtains and soft-start procedures, to reduce construction noise levels in the marine mammal underwater noise impact areas identified in conditions 3.8.2 and 3.8.3. • 3.8.7 monitor continuously the levels of underwater noise at the boundaries of both marine mammal underwater noise impact areas while the construction activities identified in condition 3.8.1 are ongoing. The Proponent shall immediately halt the construction activities if hydroacoustic monitoring indicates that noise levels at either boundary exceed their respective threshold, and not resume without implementing sound attenuation measure(s), which could include increasing the distance of the underwater noise impact areas, to reduce noise levels below the thresholds.	• 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 2024 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 2024 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.	• Refer to Section 5.0 [Offsetting] of the attached report for more information.
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 2024 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 2024 reporting period.
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 6 [Consultation and Engagement] of the attached report for more information.

Condition No.	Condition	Notes
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 2024 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 6 [Consultation and Engagement] of the attached report for additional information.
5.1	[Modified and moved to Condition 6.1.4, *Budget Implementation Act, 2024*]	• Not applicable.
5.2	[Removed, *Budget Implementation Act, 2024]*	• Not applicable
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. • 6.1.4 utilize electric drives during operation for the compression of natural gas or utilize other technology that would result in equivalent or reduced emissions of air contaminants	• Refer to Section 3.3 [Human Health] of the attached report for additional information.
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 6 [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.	• Refer to Section 3.3 [Human Health] of the attached report for additional information.
6.4	The Proponent shall monitor, during construction and operation, water quality and sediment, using as a benchmark 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 attributable to the Designated Project 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 6 [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 6 [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 6 [Consultation and Engagement] of the attached report for additional information.
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 6 [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 2.2 [Implementation Schedule] of the attached report for additional information.

Condition No.	Condition	Notes
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 Section 6 [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.
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 2024 reporting period.
10.2	The Proponent shall implement the decommissioning plan referred in condition 10.1.	• Not applicable to the 2024 reporting period.
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 2024 reporting period.

Condition No.	Condition	Notes
11.1	The Proponent shall take all reasonable measures to prevent accidents or malfunctions that may result in adverse environmental effects.	• Refer to the 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.	• Refer to Section 6 [Consultation and Engagement] of the attached report for additional information.
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.	• Refer to Section 4.2 [Emergency Response Plans and Communications with Indigenous Nations] and Section 6 [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.	• Refer to Section 4.1 [Accidents and Malfunctions]
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.	• Refer to Section 4.1 [Accidents and Malfunctions]
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.	• Refer to Section 4.1 [Accidents and Malfunctions]
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.	• Refer to Section 4.1 [Accidents and Malfunctions]
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 2024 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.

Condition No.	Condition	Notes
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
Fish and Fish Habitat Non-Conformances and Corrective Actions

Table B.1 Fish and Fish Habitat Non-Conformances and Corrective Actions

Date	Type	Incident Description	Corrective Action
04-Jan-24	Release	A sheen was noticed on the water near the passenger dock. Preliminary investigation found that diesel impacted water from the hydraulic power unit secondary containment escaped the containment onto the barge deck and dripped into the water during the barge move. It is estimated that approximately 500 ml of oily water impacted water left the containment and approximately 250 ml entered the marine.	The sheen at the dock dissipated quickly and did not require clean up. The oily water found on the deck was immediately contained and cleaned up to prevent any further discharge into the marine.
05-Jan-24	Release	A spill from barge occurred when a gear oil leak from the crane housing on the barge contacted the deck and the rainfall washed the oil from the barge deck and into the water. The initial estimate is 0.5 L of gear oil fluid spilled to the barge deck and approximately 0.3 L entered the marine environment.	The crew contained the spill with spill booms and cleaned it up through the use of booms and absorbent pads. Ongoing follow-up inspection/cleaning of the deck in the morning after the event. Spill pads and spill booms were used to clean up the spill on the deck and in water.
20-Jan-24	Release	An APE 200 vibratory hammer leaked ~2-4 mL of hydraulic oil to the ocean during the vibratory piling of a 20" pile for the Floatel. The preliminary investigation found this was due to a twisted hydraulic line that triggered the pop-off valve resulting in a fluid release from the pressure release valve to drip onto the hammer. As the crew was lowering the hammer to deck level to assess the drip, the fluid dripped into the ocean.	Due to the small amount of fluid in the water the sheen dissipated immediately. No clean up required.
25-Jan-24	Release	During pilling at the MOF, ES Extreme foam was added to the water to make cuttings lighter for easier discharge. The hammer bit received a blockage, resulting in the air and water from the system going over the silt fence and migrating down the rip rap and into the ocean. An estimated total of 2ml of ES Extreme foam and 3ml of Mincon Bio-hydraulic oil mixed with water went into the ocean.	Spill response was initiated.
3-Aug-2024	Near Miss	A dewatering hose was found to have a hole. The line had only been running for a few minutes and was transferring water from a baker tank by the infiltration pond to a baker tank on the east side of the east sediment	Marine water quality samples were collected, spill response material was placed down on water and lab samples were collected from marine

Date	Type	Incident Description	Corrective Action
		pond. Approximately 5 L of potentially contaminated water was released to the marine environment due to a hole in the hose.	environment, as well as from the baker tank.
8-Aug-2024	Release	Approximately 2 cubic meters (2000L) of turbid water was released to the marine environment when a truck drove over a catch basin plug, allowing the pooled stormwater to enter the broken seal and pass through the outflow culvert. A large plume of turbid water was immediately noticed adjacent to the North Dock gangway. The release lasted approximately 5 minutes.	The affected manhole had previously been capped with asphalt prior to being broken. Marine water quality turbidity parameters were back to normal within 3 hours.
7-Sep-2024	Release	A hydraulic hammer hose's O-ring in the valve block broke resulting in a spill below the HHWL at low tide. Approximately 0.03L of bio-hydraulic oil (Panolin HLP Synth 32) was released to the ground and approximately 0.15L sprayed on the excavator/concrete attachment.	Machine was wiped down and impacted soil removed; clean-up of soil commenced immediately.
21-Sep-2024	Release	A spill had occurred in the marine environment at the main hammer rig at the stern of the barge. Approximately 10 ml of bio-oil spilled into the marine environment.	Spill response protocol was initiated with spill containment and clean up measures.
2-Oct-2024	Release	Approximately 0.01L of bio-hydraulic oil was released to water. During preparation for pile driving works, prior to placing pile into the pocket a slight hydrocarbon sheen was noticed on the surface of the water in proximity to preparation works. The sheen was a result of residual oil on the rock drill dripping into the water.	Spill response was initiated.
4-Oct-2024	Release	Approximately 0.25L of bio-hydraulic oil was released to water. The sheen was investigated, and it was determined that the source was a power pack unit. It was determined that between 250 ml and 500 ml. The residual biodegradable hydraulic oil originated from the hydraulic hose attachments on the outside of the power pack and from the spill tray under the hoses due to precipitation accumulation. The contaminant migrated from the surface of the barge to the water in Howe Sound.	Spill response was initiated.
8-Oct-2024	Release	A sheen was observed in the aquatic environment. An investigation determined that the cause of the sheen was Matex Environmentally Safe Drilling Fluid	Spill response was initiated.

Date	Type	Incident Description	Corrective Action
		originating from the drill steel during preparations for Pin-Pile installation. An estimated 30ml was released into the environment before intervention could occur.	
12-Oct-2024	Release	A leak of biodegradable hydraulic fluid was detected coming from one of the hydraulic hose lines of the vibratory hammer. The powerpack was immediately shut off (depressurizing the hoses), and the crew started clean-up efforts. In total, approximately6L of biodegradable hydraulic fluid was released to the marine environment. All fluid released was contained within the turbidity curtain excluded area around the MOF pilings.	Crews added additional spill booms around the hose leak and attached spill pads to capture all hydraulic fluid that would be release during the re-pressurization. Soiled booms were collected and disposed of.
4-Nov-2024	Release	Small traces of hydraulic oil leaking down the side of the Dynamic Beast and entering the marine waters was noticed. Heavy rainfall was occurring at this time. The cause of the sheen was traced back to the chain stopper manifold, which has four small hydraulic hose fittings for the anchor system that did not have their caps on. The caps were installed onto the hydraulic hose fittings, and the area under the hose fittings was wiped down with spill pads. The approximate volume of hydraulic fluid that made contact with the water was 3-5 ml.	Crew members responded to the release and used a spill boom on the marine waters to contain the sheen and spill absorbent pads on the side of the barge to wipe down and remove all traces of hydraulic fluid.
8-Nov-2024	Release	Approximately 250ml of bacon grease was released to the marine environment. It was determined that baking grease from the pan was put into a drain that goes overboard.	Spill response was initiated.
9-Nov-2024	Release	Approximately0.1L of biodegradable oil was released to the marine environment. The sheen was produced from the winch lines along the periphery of the barge. An inspection was conducted on deck with the crew foreman and trace amounts of sheen were observed on the water on three sides of the barge and several locations along the deck.	Crews deployed spill booms into the water at the bow of the vessel and spill pads were placed on multiple locations on the deck. The sheen was cleaned from the deck and spill booms were removed from the water.
15-Nov-2024	Release	When turning the hammer on, the pressure in the hydraulic lines was too high causing a release of hydraulic oil into the reservoir and spilling approximately 0.06L of hydraulic oil into the water.	The crew responded by containing the reservoir with spill pads, placing spill pads on the ground in the area and wiping down the equipment. The crews also launched a boat with spill booms to place in the water and contain the spill. When restarting

Date	Type	Incident Description	Corrective Action
			the drill for pre-testing after trying to troubleshoot, the crew placed down spill pads under the connections and had containers ready to catch any spills.
23-Nov-2024	Release	The released bio-hydraulic fluid had flowed through the cracks on the deck to the marine environment. Approximately 0.05L of bio-hydraulic oil was released to the environment.	The source of the release was contained and cleanup was completed.
23-Nov-2024	Release	A sheen was observed in the marine environment off the stern of the barge. Approximately 10 ml of the marine grease from the barges anchor lines reached the marine environment. The sheen was caused by residual marine grease seeping from the anchor lines to the deck of the barge and leaking through cracks in the periphery spill boom containment ring.	Spill booms were deployed to contain the spill.
28-Nov-2024	Release	Approximately 0.25L of biodegradable hydraulic oil was released to barge deck (0.1L) and marine environment (0.15L).	Spill response was initiated.
28-Nov-2024	Release	Approximately 0.15L of biodegradable oil was released to the marine environment. Work was halted, and spill response protocols were initiated.	Spill response measures was initiated and clean up took place.
7-Dec-2024	Release	Between 5 and 8L of diesel was released to the marine environment. During cleanup efforts it was determined the source of the release was from the Ken Mackenzie Tug. The Ken Mackenzie Tug crew identified the potential source was the starboard stern fuel tank. As trace amounts of what looked to be fuel were apparent at the stern of the vessel. They immediately started transferring as much fuel as possible through the vessel's fuel transfer system to the forward fuel tanks to stop/reduce the wicking of fuel from the tank. Based on the KM crews' observations it was suspected that the hull and outer wall of the stern fuel tank had been compromised. The Harken Tugboat and Marine Services reported to the Canadian Coast Guard Spill Response to inform them of the release (Report of a Marine Occurrence) as well as the Department of Fisheries and Oceans under their own spill response protocols.	The Ken Mackenzie Tug was sent to drydock for an inspection and maintenance. All contaminated absorbent materials products were collected and will be disposed of at an approved facility. All spill response products will be immediately re-stocked

Date	Type	Incident Description	Corrective Action
		The dry dock inspection revealed that the hull/fuel tank had not been compromised but rather a fuel line return valve was not fully closed. This slightly open valve would have permitted any diesel overflow to exit a vent and migrate through the winch well and into the water (below the waterline) on the starboard side. This accounts for the initial suspicion that the starboard fuel tank had been compromised. Further, the pumping down of the starboard tank and switching of the fuel tanks would have resulted in the complete closure of this return valve and explains why there was no sheen observed behind the Ken Mackenzie transiting and arrival at the shipyard.	
7-Dec-2024	Release	Approximately 0.015L of biodegradable oil was released to the marine environment. A sheen was observed on the marine waters at the stern of the Gumption Barge. Upon further investigation, it was determined that approximately 0.015L of unknown residual sheen from the stern of the Gumption Barge had entered the marine environment. Due to heavy rainfall, it is suspected that this unknown source likely originated from residual sheen on the deck of Gumption Barge flowing towards its stern.	Spill response was initiated, and spill booms were deployed into the water.
8-Dec-2024		Between 6 and 9L of biodegradable hydraulic oil was released to the marine environment. Total spill volume was approximately 30-50 L with a majority of the product released to the barge deck. It was determined that between 6-9L of biodegradable hydraulic oil were released into the sound covering an area of ~0.1 km2. The preliminary cause of the spill was a pressure release valve failure, which resulted in oil accumulating in the lifting jacks of the rotator during casing rotation. This oil buildup was not visible to workers until it overflowed into the sound.	Additional oil booms were deployed to surround the barges and further contain the sheen from spreading and used to skim the sheen from the surface of the aquatic marine environment via punt boats.
17-Dec-2024	Release	A sheen was observed on the starboard side of the Gumption barge. After a thorough investigation, it was determined that there was no active source of the spill on the Gumption, Pluto, or Arctic Tuk barges. During investigation, no sheen was observed on the barges, and no source of sheen was	Spill response was initiated.

Date	Type	Incident Description	Corrective Action
		identified on the deck of the barges. No source of sheen was discovered from the vessels.	
18-Dec-2024		A service vessel was pushing a lubricator barge towards the floatel in the early evening. As the vessel came in to moor at the stern of the floatel the vessel struck an unobserved small craft used for marine mammal observations. The small craft was crewed by one observer who was forced to escape the upturned vessel into the water. The vessel Master observed debris in the water and realizing he had struck a vessel raised the alarm. This resulted in ~250L of gasoline released to the marine environment from the overturned craft. The vessel also contained approximately 4.5 L of engine oil and two deep cycle batteries.	Spill response was initiated.
18-Dec-2024	Release	A 2" submersible pump pumping construction contact water to the riprap of Marine Area 9. A mix of non-contact and contact water being discharged into Howe Sound for approximately 45 mins. Total volume is estimated at ~15m^3.Lab analytics received from sampling taken shortly after event showed there weren't any exceedances.	Spill response was initiated.
18-Dec-2024		Approximately 0.25L of hydrocarbon was released to marine environment. It was observed that the accumulation of water (precipitation with presence of hydrocarbon sheen) on the Desanding 201- was overflowing the sealed (welded angle iron and Blueskin) edge at the stern of the barge.	Spill response was initiated
20-Dec-2024		Approximately 0.25L of hydrocarbon sheen was released to marine environment. The spill to the water was determined to be from a breach in the scupper seal, which had been punctured. This sheen was due to residual accumulation on equipment hoses and base components of stationary equipment affected during the incident on December 18. The previous rain event and incident had coated barge materials, and the subsequent rain event caused the accumulation to become apparent. Due to continuous rain and pooling	Spill response was initiated.

Date	Type	Incident Description	Corrective Action
		water at the stern of the 201, much of the equipment surfaces had become contaminated.	
25-Dec-2024		Approximately 0.025L of biodegradable hydraulic oil was released to the marine environment. During casing rotation activities on RIG 1 MRSS (PPM), a hydraulic line from the casing clamping mechanism was observed to have released hydraulic fluid (0.1 L) from a small diameter hole caused by wear and tear. Rotator was stopped and retaining clamp was used to hold the casing. As the clamp closed a hydraulic line started to leak through a small hole. Approximately 25ml entered the water below the rotator. No wildlife was in the area and spill booms were in place around rotator.	Equipment was shut down immediately and crew started spill response and contacted drilling foreman right away. Onsite mechanics inspected area and ran rotator for very short time to identify source/leak area, which was found to be on a line under a clamp.
28-Dec-2024		Approximately 0.05L of biodegradable oil was released to the marine environment. Water with sheen was observed running off deck into Howe Sound. Further investigation found that the contaminated water was coming from approximately 10m south of the barge corner and that the flow was enough to pass through the booms that were already present along the edge of the barge. An additional section of oil boom was installed as some of the oil boom recently installed was torn by the movement of the Gumption back into the area. Most existing sheens on the deck have been kept/managed near the center of the barge where most works and materials (e.g., casings) have been.	Sheen was already present and being managed on the deck of the Beast with spill supplies (e.g., booms to contain and absorb) and removal (e.g., vacuum and placement in barrels or totes).
28-Dec-2024		Approximately 0.005L of biodegradable hydraulic oil was released to the marine environment. It was determined that source of the spill was the result of pooling water from heavy rainfall, mixing with trace hydrocarbons from the barge deck and oversaturated oil booms lining the periphery of the open deck and various equipment on board, which then was released from the deck containment through rainwater impact and the draining pathway, contacting the marine environment. No specific equipment was identified to have been the source of the sheen.	Several dilapidated oil booms required replacement, which was completed on 30 December.

Date	Type	Incident Description	Corrective Action
28-Dec-2024		Approximately 0.025L of diesel was released to the marine environment. It was determined that the spill was the result of pooling water from heavy rainfall, mixing with trace diesel from the barge deck, which then was released from the deck containment through an open scupper on the stern side, contacting the marine environment.	Following the initial investigation, the scupper was sealed by welding a steel plate to the exterior of the opening to prevent any further release to the marine environment. All oil spill booms and spill pads used in the cleanup were removed from incident location once it was determined that no further sheen was observed and were placed into a sealed used spill containment bin.
30-Dec-2024		Approximately 0.025L of fluid film was released to the marine environment. Water with sheen was observed running into Howe Sound off the eastern edge of the barge deck between the Beast and a small flexi-float / barge. It was raining in the morning prior to the spill. It is expected that sheen is from the fluid film used on the crane ring during the afternoon of 27 December, which has washed down to the base of the ring and onto the deck of the Beast and during morning rains the sheen continued to migrate to the edge of the barge and through the spill booms in place in the direction of the crane counterweight.	Spill response was initiated.
31-Dec-2024		Approximately 0.05L of diesel was released to the marine environment. During the repositioning of SS201, the assisting tugboats' (Ballantyne Straits) port aft fuel tank over-pressurized which resulted in in the migration ~0.5L of diesel fuel across the boat deck to port side scupper. ~0.05L contacted the water's surface.	Spill response was initiated.

APPENDIX C
Water Quality Exceedances

Table C.2 Summary of Freshwater WQG Exceedances for the 2024 Monitoring Program

Parameter	Units	WQG (LT)	N	N >WQG	Commentary
Field pH	pH units	6.5 - 9.0 (FWAL); 7.0 - 8.7 (EWAL)	160 (FWAL) 32 (EWAL)	65 (FWAL) 18 (EWAL)	Field pH measured in freshwater samples were occasionally below the lower limit of the FWAL and EWAL guidelines, respectively; however, values were within the pre-construction baseline ranges or represent background conditions in the creeks and are therefore not considered exceedances attributable to the project. Field pH measured at the Mill Creek estuary (station SW-03) on October 12 (pH 5.4) was below the minimum pH observed in the pre-construction baseline monitoring program at the Mill Creek estuary (pH 5.7).
Field Dissolved Oxygen (DO)	mg/L	>=9.5 (FWAL); >=8 (EWAL)	160 (FWAL) 32 (EWAL)	6 (FWAL) 0 (EWAL)	Field DO measured in freshwater samples from Mill Creek (SW-02) and East Creek (SW-04) were occasionally below the lower limit of the FWAL and EWAL guidelines, respectively. Values were within the pre-construction baseline ranges at Mill and East Creek and are therefore not considered exceedances attributable to the project, with the exception of field DO measured on July 31 (8.13 mg/L) at East Creek and on August 27 (8.56 mg/L) at Mill Creek.
Total Aluminum (Al)	mg/L	0.0055-2.1[1] (FWAL)	187 (FWAL) 38 (EWAL)	87 (FWAL) 0 (EWAL)	Total Al concentrations were 1.0 to 4.4 times greater than the corresponding FWAL guidelines for samples collected from Mill Creek and Woodfibre Creek stations; however, values were within those observed in the pre-construction baseline monitoring program at Mill and Woodfibre Creek or represent background conditions in the creeks and are therefore not considered exceedances attributable to the project. The T-Al concentration measured in East Creek (SW-04) on October 19 was 11.5 times greater than the corresponding FWAL guideline. A significant fall storm occurred October 18 to 19 resulting in heavy stormwater runoff across the project site. The total Al exceedance in East Creek can be attributed to elevated TSS (63 mg/L) in the sample. The T-Al concentration measured in East Creek (SW-04) on November 19 was 35.8 times greater than the corresponding FWAL guideline and can be attributed to elevated TSS (31 mg/L) in the sample.
Total Chromium (Cr)[2]	mg/L	0.001 (FWAL)	187 (FWAL) 38 (EWAL)	1 (FWAL) 0 (EWAL)	Total Cr measured in a sample collected from East Creek (SW-04) on October 19 was 1.4 times greater than the FWAL WQG. A significant fall storm occurred October 18 to 19 resulting in heavy stormwater runoff across the project site. The total Cr exceedance in East Creek can be attributed to elevated TSS (63 mg/L) in the sample.
Total Iron (Fe)	mg/L	0.3 (FWAL)	187 (FWAL) 38 (EWAL)	11 (FWAL) 0 (EWAL)	Total Fe concentrations were 1.0 to 19.7 times greater than the FWAL guideline for samples collected from East Creek on September 28, October 4, October 12, October 19, October 24, October 26, October 31, November 8, November 14, and December 19. Samples collected October 4, October 19, and November 14 are attributed to elevated TSS in the samples (28, 63, and 32 mg/L). Follow-up investigations indicate several sources may account for the observed total Fe concentrations including temporary untreated effluent discharge from the Fortis controlled portal area of the Eagle Mountain Pipeline on October 3 and 4 to the upper tributary, and seepage of groundwater to the lower tributary of East Creek during periods of heavy rain. There are visible metallic objects protruding from in the hillslope above the lower tributary that appear to be remnants of a historic landfill and some visible iron oxide staining along the bottom of the lower tributary streambed (observed December 12) that may be linked to seepage emanating from the hillside. There is limited LNG facility construction activity along the lower tributary which is the northern boundary of the East Catchment. The temporary water treatment issue at the Fortis controlled area has been resolved. Therefore, project influence is inferred to be a transient incident.

Dissolved Copper (Cu)	mg/L	0.00020-0.0036[1] (FWAL)	187 (FWAL) 38 (EWAL)	77 (FWAL) 0 (EWAL)	Dissolved Cu concentrations were 1.0 to 8.6 times greater than the corresponding FWAL guidelines for samples collected from all freshwater stations. Values were within those observed in the pre-construction baseline monitoring program or represent background conditions in the creeks and are therefore not considered exceedances attributable to the project, with the exception of some concentrations measured in Mill Creek and a discrete sample collected from East Creek. Dissolved Cu measured in Mill Creek (SW-02) on April 12 (0.00107 mg/L), May 23 (0.00035 mg/L), October 25 (0.00044 mg/L), and November 20 (0.00076 mg/L) was slightly above the maximum value observed in the pre-construction baseline monitoring program at Mill Creek (0.00031 mg/L) and above the corresponding background conditions in Mill Creek measured at station SW-07 on that day. A sample collected from East Creek on October 19 was above the maximum value observed in the pre-construction baseline monitoring program at East Creek (0.00105 mg/L) and above the corresponding background conditions in East Creek measured at station SW-09 on that day.
Dissolved Zinc (D-Zn)	mg/L	0.00020-0.0036[1] (FWAL)	187 (FWAL) 38 (EWAL)	1 (FWAL) 0 (EWAL)	Dissolved Zn was 1.2 times greater than the corresponding FWAL guideline for the sample collected from upstream Mill Creek (SW-07) on February 15. The dissolved Zn concentration is suspected to be erroneous as the total Zn concentration of the sample was reported below the detectable limit (<0.003 mg/L). Station SW-07 represents background conditions of East Creek; therefore, exceedances are not attributable to the project.

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 2024 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] A range for long-term WQGs is provided since guidelines were calculated on a sample specific basis.

[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 0.0089 mg/L.

Table C.3 Summary of Marine Water WQG Exceedances for the 2024 Monitoring Program

Parameter	Units	WQG (LT)	Location	N	N >WQG	Commentary
Field pH	pH units	7.0 – 8.7	0.5 m Below Surface	259	10	Field pH was occasionally below the lower limit of the WQG in samples collected at 0.5 m below the water surface (n=9) and in one sample collected at 2 m below the surface. Field pH was occasionally above the upper limit of the WQG in samples collected at 0.5 m below the water surface (n=1) and at 2 m below the water surface (n=2).
			2 m Below Surface	229	3	
			2 m Above Seafloor	223	0	
Field Dissolved Oxygen (DO)	mg/L	≥8.0	0.5 m Below Surface	256	10	Field DO levels were below the WQG lower limit in most deep water samples and occasionally in shallow water samples. Low concentrations of dissolved oxygen are indicative of influence from the deeper saline waters in the northern basin of Howe Sound and are a natural condition of the marine water in the CPA.
			2 m Below Surface	225	43	
			2 m Above Seafloor	219	184	
Total Cadmium (Cd)	mg/L	0.00012	0.5 m Below Surface	265	2	Total Cd was not detectable in the majority of monitoring samples; however, a raised detection limit (<0.0025 mg/L) observed for samples collected April 16 (n=3) and October 6 (n=4) were 2.1 times greater than the WQG. Ad-hoc samples collected October 19 of the marine receiving environment (W-G-RE) and pooled road water at station W-GANGWAY in the on-shore vicinity of location W-G-RE showed total Cd concentrations 3.0 and 4.1 times greater than the WQG, respectively. Due to stormwater runoff from heavy rains overnight from October 18 to 19, non-contact water followed topography to low lying areas along the road adjacent to the floatel. The resulting water pooling along the road discharged directly to Howe Sound in the vicinity of the floatel, bypassing the West Sedimentation Pond. The total Cd exceedances can be attributed to elevated TSS in the samples (609 and 1,120 mg/L).
			2 m Below Surface	224	4	
			2 m Above Seafloor	206	3	
Total Chromium (Cr)[1]	mg/L	0.0015	0.5 m Below Surface	265	7	Total Cr was not detectable in the majority of monitoring samples; however, raised detection limits (<0.005 to <0.025 mg/L) were 3.3 to 16.7 times greater than the WQG, respectively, for samples collected April 16 (n=6) and October 6 (n=6). Total Cr concentrations were 1.4 and 1.9 times greater than the WQG in a discrete sample collected on May 28 at 0.5 m below the water surface at the IDZ-E1 station and on June 18 at 2 m below the water surface at station WQ2, respectively. The total Cr concentrations were above the maximum values observed in the preconstruction baseline monitoring program and above background ranges observed at the marine reference stations; therefore, these exceedances may be attributable to the project. Ad-hoc samples collected October 19 of the marine receiving environment (W-G-RE) and pooled road water at station W-GANGWAY in the on-shore vicinity of location W-G-RE showed total Cr concentrations 7.5 and 9.6 times greater than the WQG, respectively. Due to stormwater runoff from heavy rains overnight from October 18 to 19, non-contact water followed topography to low lying areas along the road adjacent to the floatel. The resulting water pooling along the road discharged directly to Howe Sound in the vicinity of the floatel, bypassing the West Sedimentation Pond. The total Cr exceedances can be attributed to elevated TSS in the samples (609 and 1,120 mg/L).
			2 m Below Surface	224	5	
			2 m Above Seafloor	206	4	
Total Mercury (Hg)	mg/L	0.000016	0.5 m Below Surface	265	2	Ad-hoc samples collected October 19 of the marine receiving environment (W-G-RE) and pooled road water at station W-GANGWAY in the on-shore vicinity of location W-G-RE showed total Hg concentrations 4.1 and 5.8 times greater than the WQG, respectively. Due to stormwater runoff from heavy rains overnight from October 18 to 19, non-contact water followed topography to low lying areas along the road adjacent to the floatel. The resulting water pooling along the road discharged directly to Howe Sound in the vicinity of the floatel, bypassing the West Sedimentation Pond. The total Hg exceedances can be attributed to elevated TSS in the samples (609 and 1,120 mg/L).
			2 m Below Surface	223	0	
			2 m Above Seafloor	206	0	
Total Vanadium (V)	mg/L	0.005	0.5 m Below Surface	265	5	Raised detection limits for total V (<0.01 and <0.025 mg/L) were 2.0 and 5.0 times greater than the WQG, respectively, for samples collected April 16 (n=6) and October 6 (n=5).

			2 m Below Surface	224	4	Ad-hoc samples collected October 19 of the marine receiving environment (W-G-RE) and pooled road water at station W-GANGWAY in the on-shore vicinity of location W-G-RE showed total V concentrations 9.9 and 14.6 times greater than the WQG, respectively. Due to stormwater runoff from heavy rains overnight from October 18 to 19, non-contact water followed topography to low lying areas along the road adjacent to the floatel. The resulting water pooling along the road discharged directly to Howe Sound in the vicinity of the floatel, bypassing the West Sedimentation Pond. The total V exceedances can be attributed to elevated TSS in the samples (609 and 1,120 mg/L).
			2 m Above Seafloor	206	4	
Naphthalene	mg/L	0.0014	0.5 m Below Surface	244	1	The naphthalene concentration was 1.3 times greater than the WQG in sample collected at 0.5 m below the water surface at station WQ2 on August 20. The naphthalene concentration was above the maximum values observed in the preconstruction baseline monitoring program and background ranges observed at the marine reference stations; therefore, the exceedance may be attributable to the project.
			2 m Below Surface	208	0	
			2 m Above Seafloor	195	0	

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 marine aquatic life guideline.
N = number of samples.
Non-detect results are screened using the detection limit value.
[1] 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 C.4 Summary of Marine Water WQG Exceedances for the 2024 In-Marine Works Monitoring Program

Parameter	Units	WQG (LT)	N	N <WQG	Commentary
Field pH	pH units	7.0 – 8.7	4,857	23	Field pH was infrequently below the lower limit of the WQG in samples collected at 0.5 and 2 m below the water surface in August. Surface waters in the near-shore environment are likely influenced by freshwater inputs with lower pH.

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 C.5 Summary of Marine Sediment SQG Exceedances for the 2024 Monitoring Program

Parameter	Units	CCME Guideline	N	N >ISQG	N>PEL	Commentary
Total Arsenic	mg/kg	7.24 (ISQG); 41.6 (PEL)	15	4	0	• Total As concentrations are up to 3.2 times greater than the ISQG value. • In one sample, total Cd concentrations are 1.2 times greater than the ISQG value. • Total Cu most frequently shows concentrations above the SQG. T-Cu concentrations are up to 32.1 times and 5.6 times greater than the ISQG and PEL values, respectively. • Total Pb concentrations are up to 11.9 times and 3.2 times greater than the ISQG and PEL values, respectively. • Total Hg concentrations are up to 3.2 times greater than the ISQG value. • Total Zn concentrations are up to 2.3 times and 1.1 times greater than the ISQG and PEL values, respectively.
Total Cadmium	mg/kg	0.7 (ISQG); 4.2 (PEL)	15	1	0	
Total Copper	mg/kg	18.7 (ISQG); 108 (PEL)	15	15	3	
Total Lead	mg/kg	30.2 (ISQG); 112 (PEL)	15	2	2	
Total Mercury	mg/kg	0.13 (ISQG); 0.7 (PEL)	15	2	0	
Total Zinc	mg/kg	124 (ISQG); 271 (PEL)	15	2	1	
Acenaphthene	mg/kg	0.00671 (ISQG); 0.0889 (PEL)	4	4	2	• PAH concentrations are elevated above the ISQG and/or PEL in all of marine sediment samples tested for PAHs (n=4). • Marine sediment samples collected from IDZ-W show PAH concentrations up to 226 times greater than the samples collected from IDZ-E. Of the PAHs, concentrations for acenaphthene, anthracene, fluorene and phenanthrene are most notably higher in the IDZ-W samples relative to the IDZ-E samples. • PAH concentrations are up to 2,012 times greater than the corresponding ISQG value and up to 152 times greater than the corresponding PEL value.
Acenaphthylene	mg/kg	0.00587 (ISQG); 0.128 (PEL)	4	4	2	
Anthracene	mg/kg	0.0469 (ISQG); 0.245 (PEL)	4	4	2	
Benzo(a)anthracene	mg/kg	0.0748 (ISQG); 0.693 (PEL)	4	4	2	
Benzo(a)pyrene	mg/kg	0.0888 (ISQG); 0.763 (PEL)	4	4	2	
Chrysene	mg/kg	0.108 (ISQG); 0.846 (PEL)	4	4	2	
Dibenz(a,h)anthracene	mg/kg	0.00622 (ISQG); 0.135 (PEL)	4	4	2	
Fluoranthene	mg/kg	0.113 (ISQG); 1.494 (PEL)	4	4	2	
Fluorene	mg/kg	0.0212 (ISQG); 0.144 (PEL)	4	4	2	
2-Methylnaphthalene	mg/kg	0.0202 (ISQG); 0.201 (PEL)	4	4	2	
Naphthalene	mg/kg	0.0346 (ISQG); 0.391 (PEL)	4	4	2	
Phenanthrene	mg/kg	0.0867 (ISQG); 0.544 (PEL)	4	4	2	
Pyrene	mg/kg	0.153 (ISQG); 1.398 (PEL)	4	4	2	
Aroclor 1254	mg/kg	0.0633 (ISQG); 0.709 (PEL)	4	4	0	• Concentrations of Aroclor 1254 were below detection limit in all marine sediment samples; however, detection limits are up to 3.2 times greater than the ISQG value. • Concentrations of total PCBs were below detection limit in all marine sediment samples; however, detection limits are up to 28.0 times greater than the ISQG value and up to 3.2 times greater than the PEL value.
Total Polychlorinated Biphenyls (PCB)	mg/kg	0.0215 (ISQG); 0.189 (PEL)	4	4	4	
PCDD/F TEQ Lower Bound	ng/kg	0.85 (ISQG); 21.5 (PEL)	4	4	4	• Lower-bound and upper-bound PCDD/F TEQ concentrations were up to 101 times greater than the ISQG value and up to 4 times greater than the PEL value.
PCDD/F TEQ Upper Bound	ng/kg	0.85 (ISQG); 21.5 (PEL)	4	4	4	

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

N = number of samples

Polychlorinated dibenzo-*p*-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) are typically evaluated for toxicity and the individual parameter concentrations are converted to toxic equivalent (TEQ) values that are summed and reported as a single PCDD/F TEQ parameter. A “lower-bound PCDD/F TEQ” is calculated assuming a concentration of zero for results reported as not detected, therefore, if all 17 of the individual compounds in the sub-set are not detected the lower-bound PCDD/F TEQ will equal zero. An “upper-bound PCDD/F TEQ” is calculated assuming a concentration equal to the detection limit for results reported as not detected.