Great Atlantic Salt

Early Works Environmental Protection and Mitigations Plan

Atlas Salt Inc.

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Revision History

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Acronyms and Abbreviations

ARD	Acid Rock Drainage
CWS	Canadian Wildlife Services
DECC	Newfoundland & Labrador Department of Environment and Climate Change
DFFA	Department of Fisheries, Forestry and Agriculture
DFO	Department of Fisheries and Oceans
DGS	Digital Government and Service NL
EPP	Environment Protection and Mitigations Plan
GAP	Storage and Handling of Gasoline and Associated Products Regulations
GSC	Government Services Centre
HSE	Health, Safety & Environment
IET	Newfoundland & Labrador Department of Industry, Energy, and Technology
NLR	Newfoundland & Labrador Regulation
PPD	Pollution Prevention Division, Department of Environment and Climate Change, Newfoundland & Labrador
PAO	Provincial Archaeology Office
SDS	Safety Data Sheet
TBD	To Be Determined
TSS	Total Suspended Solids
WHMIS	Workplace Hazardous Materials Information System
WRMD	Water Resources Management Division, Department of Environment and Climate Change, Newfoundland & Labrador
WMD	Wildlife Management Division, Department of Fisheries, Forestry and Agriculture, Newfoundland & Labrador

1 Introduction and Purpose

The Project is located on the west coast of the Island of Newfoundland within the municipal boundaries of the Town of St. George's.

The Project will produce and export crushed salt for the road de-icing market, with an initial production capacity of 2.5 million tonnes of rock salt per year. The GAS Project will extract underground salt ore that is approximately 96% pure using electric continuous miner excavation. The ore will be crushed underground using conventional dry crushing and screening methods in three crushing stages and four screening stages. All processing activities will be completed underground.

The final salt product will be conveyed from the underground mine to the surface mine site then overland on a covered or enclosed conveyor to the Turf Point storage and Marine Terminal facility. From there, it will be loaded onto ships for destination markets in the Maritime Provinces, Quebec and Eastern United States.

The proposed development is located in Western Newfoundland, within the town limits of St. George's. The approximate central point of the Project Area is at longitude 58.49184, latitude 48.41892, or 387,550 E, 5,362,650N (NAD83 Zone 21 North).

The core components are presented in Figure 1 below and include:

- An underground salt mine and ore processing (crushing and screening) facilities;
- Mine site surface infrastructure;
- An overland conveyor system routed along the existing Flintkote Road;
- Use of the existing Turf Point marine facility, with some planned modifications and upgrades to the storage facilities; and
- Associated, ancillary infrastructure including access roads, water and sewer systems, and power supply.

Commencing Q4 2024 with detailed permitting, engineering and the procurement of key long-lead components, the current Project schedule would see construction activity in the field beginning in Q2 2025 and continuing year-round. The operations phase of the Project will commence upon completion of construction and associated commissioning, with initial (capital development) mining commencing in Q4 2025 and extending to approximately Q2 2029. This will be followed by the installation of underground infrastructure, after which mine production will ramp up to commercial

production levels in Q4 2029 and extend for an operational period of at least 34 years. Progressive rehabilitation activities will occur throughout the life of the mine with final closure and rehabilitation activities after the operations have ceased.

Figure 2 below provides a Gantt Chart of the Overall Project Schedule.

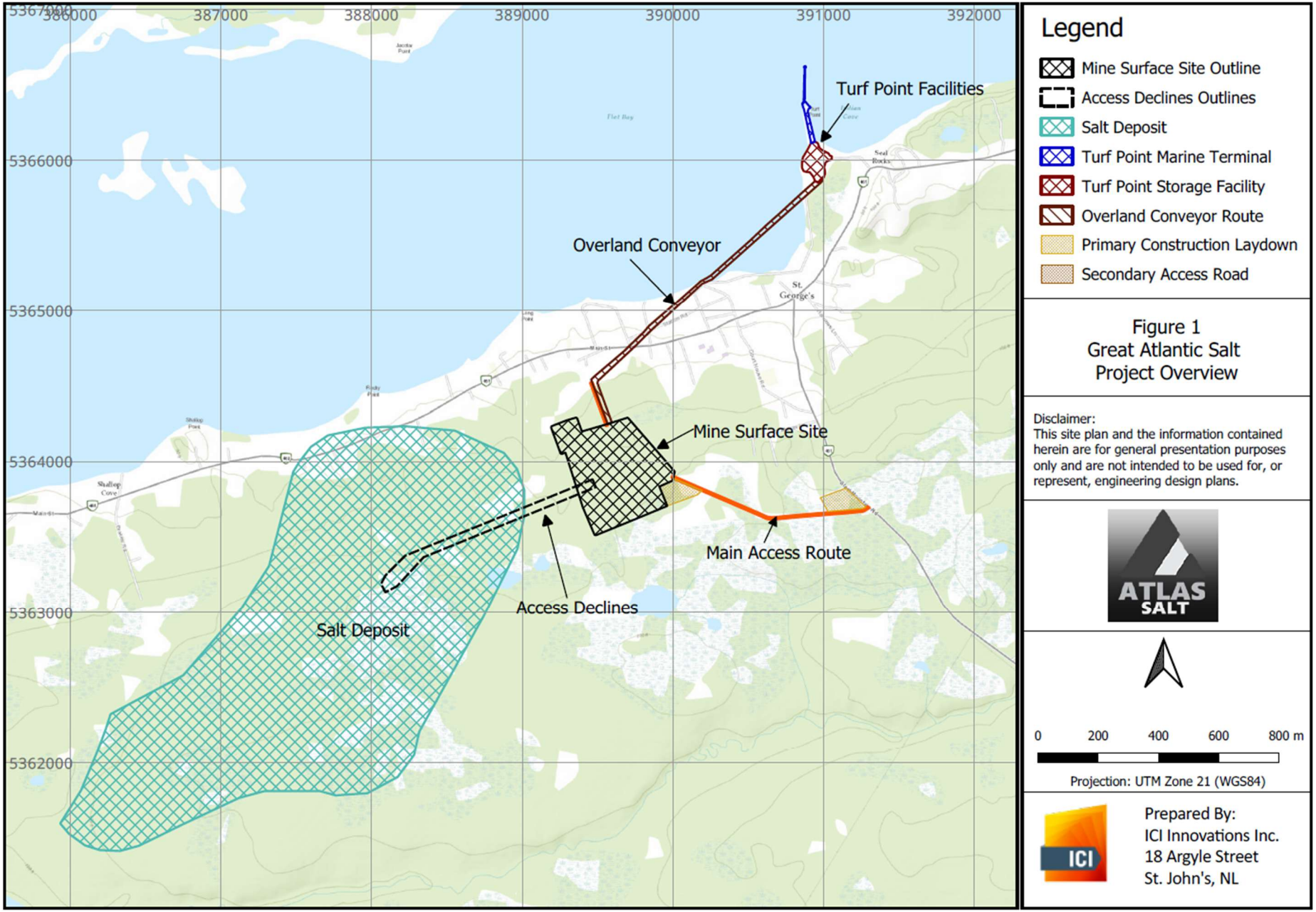

Figure 1: Atlas Great Atlantic Salt Project Overview

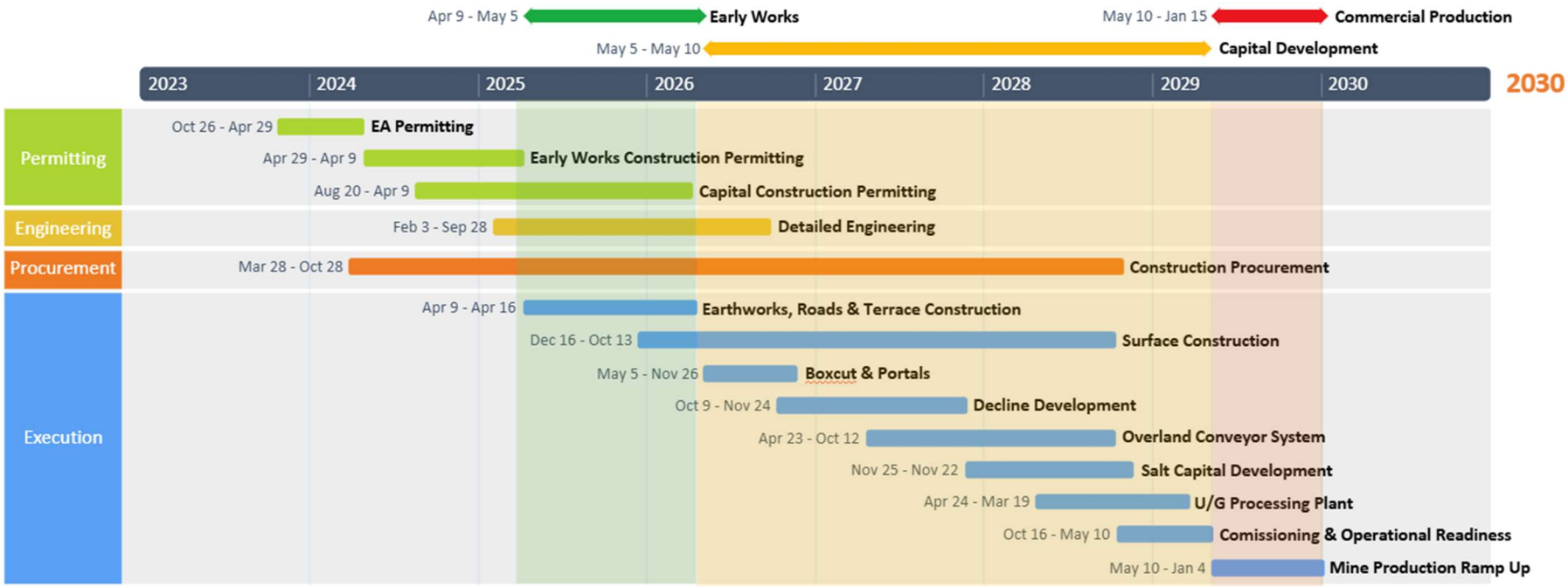

Figure 2: Atlas Great Atlantic Salt Project Schedule

1.1 Environmental Compliance and Commitment

Atlas submitted the required EA Registration in February 2024. The project was subsequently released from further environmental assessment on April 19, 2024. One of the conditions of Project release was a requirement for an Environmental Protection Plan that includes:

- Erosion/sedimentation protection measures
- Site water control measures (including settling pond) and
- Encroachment prevention procedures to prevent indirect effects around the Project area.

This document includes mitigation and protection measures for the prevention of adverse effects to the tributaries that flow into Dribble Brook and Flat Bay Brook. These measures aim to protect American eel, mummichog, and banded killifish.

Atlas Salt has a Mining Lease from the Mineral Lands Division, Government of Newfoundland and Labrador, that covers the boundaries of 027183M and has completed a professional land survey of the surface footprint of the land. The extent of this lease will provide more than 30 years of minable rock salt. Additionally, Atlas Salt has a Surface Lease (Surface Lease 179 and 180) for the crown lands required for the Completed Project.

2 Environmental Protection and Mitigations Plan

An Environmental Protection and Mitigations Plan (EPP) serves as an on-site guide for project staff (including contractors) to implement and adhere to the various environmental procedures laid out for the development of a project. This includes general mitigative measures, as well as contingency plans in the case of unplanned or unexpected events.

The purpose of this EPP is to:

- Ensure potential interactions related to the Project will be prevented or minimized
- Document environmental concerns and appropriate protection measures
- Provide a monitoring and revision system to review and improve EPP implementation

- Provide instruction to all project personnel, including Atlas Salt staff, consultants and sub-consultants, and contractors regarding procedures for protecting the environment and preventing or reducing environmental interactions
- Provide a reference document for personnel when planning and/or conducting field work, which also includes published environmental guidelines of various federal and provincial regulatory bodies (Appendix B)

The scope of activities covered under this EPP include the identified Early Works Construction Phase and commissioning activities identified in Section 2.1 below, as it relates to the overall project. A separate EPP will be designed and submitted, or this EPP amended and submitted, to support the post-early works Capital Construction Phase activities.

2.1 Project Description

This EPP focuses specifically on the defined activities associated with early works construction This includes surface earthworks, roads, terrace construction, stockpile foundations, onsite catchment ditching and peripheral berms / diversions ditching and fences. The outline of the area of disturbance of these activities is presented in Figure 3 below. Subsequent phases will include site infrastructure, power, water and sewer, and then a capital construction phase commencing later in 2026. The early works construction phase does not include any underground, conveyor, storage or marine terminal components. A full development and rehabilitation and closure plan will be submitted to address the full project construction, operation and closure and post closure phases of the project by the end of Q3 2025.

This early works development plan includes the following components:

a) Clearing of Site: Grubbing and Overburden
b) Provincial Road Access
c) Primary Access Road
d) Construction Laydown Areas
e) Temporary Construction Facilities
f) Temporary sediment and erosion control
g) Terraces
h) Life of Mine Stockpile Foundations for the organic, waste and pre-production stockpiles
i) Onsite Catchment Ditches
j) Secondary Access Road
k) Onsite Roads
l) Peripheral berms / diversion ditches and fencing

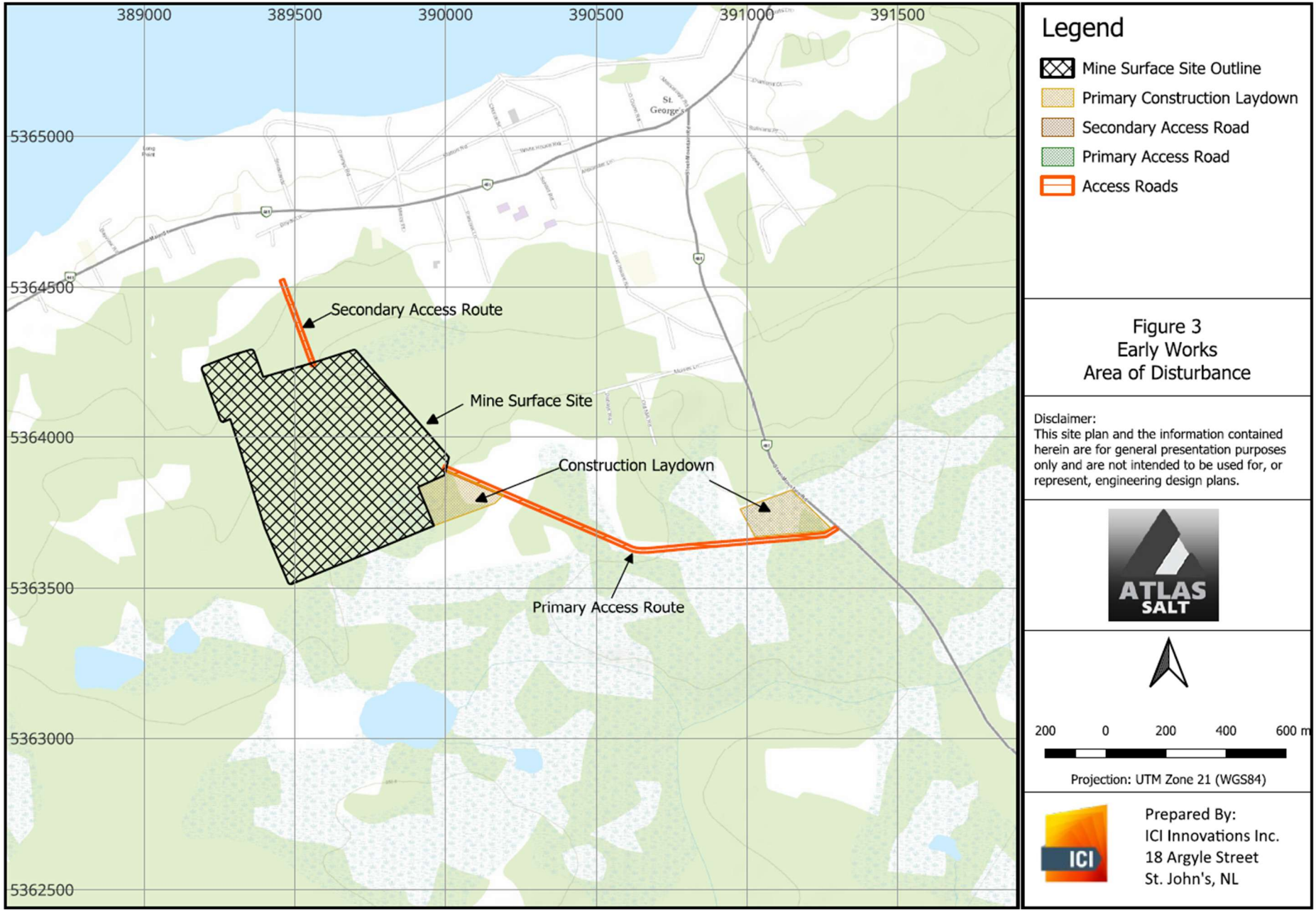

Figure 3: Early Works Area of Disturbance.

3 Reference Documents and/or Associated Forms

The following contains a list of the Provincial and Federal regulations and acts that are pertinent to this document. A complete list is contained in the References at the end of this document.

3.1 Provincial

The various provincial acts and associated regulations that may pertain to Early Works Construction are listed below.

- Environmental Protection Act
- Endangered Species Act
- Environmental Control Water and Sewage Regulations, 2003
- Fire Protection Services Act
- Fire Protection Services Regulations
- Forestry Act
- Forest Fire Regulations
- Water Resources Act SNL 2002
- Historic Resources Act
- Mining Act
- Occupational Health and Safety Act
- Occupational Health and Safety Regulations Storage and Handling of Gasoline and Associated Products Regulations, 2003 NLR 58/03
- Provincial Environmental Guidelines for Drum-Based Petroleum Products Storage & Operation
- Waste Material Disposal Act
- Wildlife Act
- Dangerous Goods Transportation Act

3.2 Federal

The various federal acts and associated regulations that may pertain to Early Works Construction are listed below.

- Prohibition of Certain Toxic Substances Regulations
- Transportation of Dangerous Goods Act
- Canadian Environmental Protection Act
- DFO Fact Sheets
- Migratory Birds Convention Act
- Fisheries Act

- Oceans Act
- DFO's Best Management Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador
- DFO's Timing Windows to Conduct work in and near water

3.3 Revisions

EPP holders and readers may initiate proposed revisions by forwarding recommended revisions to Atlas on the Revision Request Initiation Form (Appendix C) which provides the revision instructions and lists the sections being superseded. Once this EPP has been accepted, the Atlas Team will review and accept all revisions prior to being incorporated.

3.4 Revision Procedures

Once accepted by Atlas, revisions will be updated within the EPP and then issued to all EPP holders. Each revision must be documented on the Revision Control Record (Appendix D).

An updated Table of Contents will be included with each revision. This table of contents will indicate status of each section contained in the plan.

When EPP holders receive a revision, they are responsible to:

- Read the text of the revision;
- Check the control record to ensure all the listed pages have been received;
- Remove and discard the superseded pages;
- Insert the revised pages in the proper places;
- Check the pages of the plan using the updated table of contents to ensure the plan is complete and current;
- Enter the revision number and date on the Revision Control Record;
- Incorporate the revision into the area of responsibility, as appropriate;
- Ensure personnel are familiar with the revisions;
- Sign and return acknowledgment of receipt slip to Atlas

4 General Environmental Protection Procedures, Guidelines and Measures

This section provides general environmental protection procedures for anticipated activities routinely associated with fieldwork and associated support services.

4.1 Sensitive Time Periods

4.1.1 Environmental Concerns

An important part of project planning and avoiding interactions and impacts to the local environment is to design and plan construction to avoid sensitive time periods for various receptors. This may not always be achievable, but the sensitive periods outlined below will be considered in Project planning, where practical. Where activities are to be carried out during sensitive time periods, additional mitigations will be applied, as required.

The general environmentally sensitive time periods include:

- Freshwater Fish (including Atlantic Salmon): May 1 – September 30
- Avifauna (Migratory Birds) – April 15 to August 15
- Avifauna (Raptors) – March 15 to July 31
- Caribou – Spring Migration (April 1 to May 19); Fall Migration (November 1 to December 15)
- Newfoundland Marten – Natal and Maternal Denning (April 1 to June 30)
- Bats (Myotis species) - Maternity Roosting (May 1 to September 1); Hibernation (October 1 to April 30)

4.1.2 Environmental Protection Measures

The following environmental protection measures are defined for the early works phase:

- A complete schedule of activities, provided by the Contractor and accepted by Atlas, will be completed prior to commencement of any construction task and restrictions on timing will be noted on the schedule.
- While the ideal time of year for construction located near a waterbody is typically in early June through to late October (lower precipitation and surface water) construction may be occurring at other times where flows may be higher. Mitigations will be

implemented where feasible to reduce potential for interaction during those times.

- Where feasible, construction activities in or around waterbodies will be reduced or avoided between May 1 and September 30 to accommodate DFO's timing windows to avoid potential impacts to fish habitat (including Atlantic Salmon). If work is to be performed within this timeframe, it will be done so in accordance with DFO's Best Management Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador.
- Stripping, grading, excavating and/or rehabilitation activities will be scheduled to reduce the amount of time the soil is exposed to elements.
- Clearing of vegetation is planned to occur outside of the bat roosting period from May 1 to Sept 1. If that is not possible and clearing activities are planned during the bat roosting period, then a pre-clearing survey of all large trees and snags with a diameter at breast height of greater than 25 cm will be conducted. During construction, should an active bat colony be detected, a no-cut buffer of 250m will be implemented and a bat emergence survey completed in accordance with relevant provincial regulations.
- Activities will be conducted in such a way as to reduce the amount of time spent in or around a waterbody.
- Clearing of vegetation will be conducted whenever possible outside of the breeding season for birds (March 15 to August 15). If it is not possible, clearing activities that will need to take place will be targeted, and completed in accordance with relevant federal and provincial regulations.

4.2 Vegetation Clearing

4.2.1 Environmental Concerns

Vegetation clearing (e.g., trees, shrubs) will likely be required as part of construction activities (e.g., mine site terraces, paving and laydown areas, additional transmission Right of Way, etc.). This will include a mix of both manual and mechanical methods of clearing. The primary concern during clearing is to prevent ground disturbance that may result in the sedimentation of waterbodies, and to avoid impacts to nesting birds and damage to adjacent vegetation.

4.2.2 Environmental Protection Measures

Appropriate measures will be implemented to minimize potential negative effects of vegetation removal. A policy of minimum disturbance will be

maintained at all times. Clearing activities will comply with the requirements of all applicable permits, including the *Commercial Cutting Permit* and the *Operating Permit* provided through DFFA. Approval must be obtained before any clearing may begin.

- A cutting permit will be obtained from the DFFA Forestry Services Branch prior to the start of any required site clearing. Clearing or removal of trees, shrubs and ground cover will be restricted to the minimum areas needed for the site and stockpiles.
- Limits of clearing will be shown on all drawings issued for construction. Only those areas designated on drawings will be cleared. Trees will be identified (blazed/flagged) at intervals in advance of clearing to demarcate the limits of the work. Clearing activities will not remove trees outside the authorized clearing limits.
- Clearing will consist of cutting parallel to and within 15 cm or less of the ground, and properly disposing of all standing trees, as well as the removal of all shrubs, slash, and debris from the area. All trees and brush will then be cut into lengths to ensure neat piling. Brush will not be piled higher than 3 m. Slash will be piled so as not to cause unnecessary disfigurement of vegetation outside the cleared area. A 6.5 m break in slash piles will be made every 200 m to allow for drainage and animal access.
- All merchantable or forest product timber may be salvaged. The distribution of salvaged timber should be determined by Atlas in consultation with the Town of St. George's.
- Merchantable timber is defined as all species cut down to an 8 cm top and suitable for use as saw logs or firewood. This wood will be cut into lengths of 2.5 m and 1.22 m to ensure use down to the required 8 cm top diameter. At present there is no plan to sell timber, however it is recognized that A *Timber Purchase License*, issued under the *Forestry Act*, is required to purchase or acquire timber cut on crown or public land for subsequent sale or barter. This permit must be obtained from the DFFA.
- Open fires are not permitted during construction.
- Slash will not be permitted to enter any waterbody and will instead be piled above spring flood levels.
- Chain saws or other hand-held equipment will be used in clearing vegetation, except where alternative methods or equipment are approved. The use of mechanical clearing methods, such as heavy equipment, will not occur without prior approval of Atlas.
- If clearing is required within the vicinity of a waterbody, a buffer zone of natural vegetation of 30 m or more from the high-water

mark of the waterbodies will be maintained. A buffer zone of less than 30 m, if needed, will be considered and accepted by Atlas upon the request of project personnel prior to proceeding. See Section 4.10 (Buffer Zones) for more information

- Where possible, timber will be felled inward toward the work area to avoid damaging any standing trees within the immediate work area.
- Any features such as tent frames consisting of cut poles placed in a rectangular arrangement to hold a tent cover, or rocks piled or placed in an irregular or symmetrical fashion (e.g., circle) will not be disturbed. Such features are indicative of cultural or archaeological sites and will be avoided. Project personnel should follow procedures outlined in Section 4.16.
- A person will not use a power saw during the forest fire season unless the exhaust is fitted in accordance with the manufacturer's original specifications with muffler and proper screening or baffling devices to prevent the escape of sparks or particles of burnt carbon.
- Firefighting tools and water delivery systems must be available, as required, by the Operating Permit for clearing activities. Members of the cutting crew will be equipped with fire extinguishers on their person containing a minimum of 227 grams of ABC class dry chemical.
- Gasoline and chainsaw oil will be stored in sealed secondary containment. Gasoline containers will be clearly identified stating container's contents as well as the appropriate UN number.
- Absorbent pads will be placed underneath the chain saw during refuelling/re-oiling operations.
- No clearing will take place within 800 m of an active raptor nest. If an active nest is encountered during clearing activities, a buffer will be established and remain in place for the duration of the breeding season.
- If a tree containing an inactive raptor or corvid nest is encountered during clearing of construction sites (other than transmission lines), the nest will be assessed for viability. If the nest is deemed viable, a platform will be established as approved by the DFFA Wildlife Division.
- If a tree containing an inactive raptor nest is encountered during transmission line clearing, a platform will not be required as the transmission structure will provide an alternative nesting site.

4.3 Fuel Storage, Handling, and Disposal

4.3.1 Environmental Concerns

During construction, several fuels and other potentially hazardous materials may be used during various activities. This includes fuels, lubricants, and other fluids for heavy machinery. Other potentially hazardous materials that may be used include:

- Propane;
- Explosives;
- Acetylene (e.g., for welding);
- Oxygen;
- Paints;
- Epoxies;
- Concrete additives;
- Wood treatments;
- Antifreeze; and
- Cleaners and solvents.

Concerns regarding the use of fuel include the potential for uncontrolled release to the environment through spillage and subsequent adverse effects on terrestrial, aquatic and marine habitat and species, soil, groundwater quality, and human safety and health.

Fueling of heavy equipment will only be carried out at specified locations that have been approved by Atlas. Fuel for heavy equipment operation will be delivered to site and dispensed to equipment by a fuel delivery vehicle as required. Bulk storage of fuel at work sites and the laydown area will not be permitted. Pick-up truck refuelling will take place at the nearest service station. Chainsaws will be refuelled using jerry-cans and chain oil will be environmentally approved prior to use. Appropriate spill kits will be kept with every machine as a contingency plan (Section 5.1of this plan).

4.3.2 Environmental Protection Measures

The following precautions should be taken to prevent and minimize spillage, misplacement or loss of fuels and other hazardous materials:

- The delivery, storage, use and disposal of these hazardous materials will be handled only by trained personnel in accordance with government laws and regulations.

- Contracted fuel suppliers are required to comply with this EPP. Before transporting or positioning fuel at the site, the contractor will read and accept the Spill Response Plan set out for the Project
- Operators will be in attendance for the duration of all refuelling operations. Refuelling of equipment will be monitored at all times to enable immediate shut down of fuel transfer and appropriate response in the event of a spill or leak being identified.
- All equipment to be used will be mechanically sound, with no oil or gas leaks. Equipment will be inspected frequently by the contractor. Equipment working in the placement of materials in the waterbody will be inspected at least twice daily. Any leaks will be repaired immediately.
- All fuel storage and handling will be conducted in accordance with the Storage and Handling of Gasoline and Associated Products Regulations (GAP) 2003, NLR 58/03. Handling and fuelling procedures will also comply with the Workplace Hazardous Materials Information System (WHMIS), applicable sections of the National Fire Code and Fire Prevention Act, and any additional requirements brought forth by Newfoundland and Labrador Digital Government and Service NL (DGS) to limit potential contamination of soil or water.
- Mobile fuel tanks must comply with the *Transportation of Dangerous Goods Regulations, SOR/2012*-245 which requires intermediate containers to comply with the requirements of CAN/CGSB-43.146-2002. Mobile tanks must also be properly secured.
- Fuel (diesel and gasoline) will be transported to the work site by vehicle in approved tanks; all fuel transported will have secondary containment.
- All fuel consuming equipment will have spill kits, drip pans/quick berms surrounding the fuel tank, and a supply of absorbent material stored with or within them, replaced as needed.
- Fuel will be stored in appropriate and approved storage containers up to a maximum capacity of 25 L.
- Helicopter refuelling (if required) will take place off site.
- Servicing or refuelling of mobile equipment on land will not be performed within 30 m of a waterbody
- Refuelling may be required within 30 m of a waterbody such as for water intake pumps used for dewatering (Figure 4). All water pumps will be equipped with a drip pan and lined with absorbent material to collect any leaks or spills that may occur.
- Fuel storage areas and fuel transfer lines will be clearly marked or barricaded to ensure they are not damaged by moving vehicles.

The markers will be visible under all weather conditions and barriers should be constructed in compliance with the GAP.

- Hoses or pipes used for fuel transfer will be equipped with properly functioning and approved check valves, spaced to prevent backflow of fuel in the case of failures.
- Used oils will be collected, stored, transported, and disposed of as per requirements outlined in the *Used Oil Control Regulations*, NLR 82/02. Companies involved in the collection, transportation, and storage of used oil must obtain a certificate of approval from DECC. Approvals must be requested and obtained prior to the handling and disposal of used oils and a copy kept on file. Used oil will be stored in a used oil storage tank meeting the requirements outlined in sections 18 and 21 of the *Used Oil and Glycol Control Regulations.* Used oil can be stored in 205 L drums as long as the quantity does not exceed 205 L; the drums are clearly marked "used oil"; the drum is 18 gauge steel; the drum has secondary containment; the top of the drum is equipped with a sufficient opening to prevent spillage during filling or emptying; the drum is equipped with venting if it is intended to be vacuumed out and; it complies with CAN/CGSB – 43.150-95 if the drum is to be transported by road.
- Any soil contaminated by leaks or spills of any petroleum product from equipment will be excavated, stored in an approved container and disposed of off-site at a licensed disposal site.
- Up-to-date Safety Data Sheets (SDS) must be available on-site prior to receipt of any hazardous materials.
- A copy of the Contingency Plan for Fuel and Hazardous Spills, Section 5.1 of this plan, will be present at storage facilities and during transfer of fuel. In the event of a spill, the outlined procedures will be followed.
- Contractors will at all times maintain in good condition at least one spill kit dedicated to each crew. Each spill kit will be stored in a weather-proof container.
- Only trained, qualified persons will handle fuels and other hazardous materials. The WHMIS will be implemented to achieve proper handling and storage. Operators will be in attendance for the duration of all fuelling operations.
- Diesel fuel and gasoline will be stored in appropriate 25 litre containers, e.g. yellow containers for diesel, red containers for gasoline. Containers will be clearly identified stating containers contents as well as the appropriate UN number.

- Smoking will be prohibited within 50 m of a fuel storage area. Fuel storage areas will be equipped with appropriate signage reflecting this requirement.
- Lubricants, hydraulic fluid, grease, gasoline, diesel or other fuels will not be stored within 30 m of any waterbody.
- Hazardous waste will not be permitted to be poured down drains, oil/water separators, septic systems or discharged into the environment in any form.
- Empty drums will be moved to and stored at an identified area (See Wate Management Plan). Bungs will be inspected and tightened prior to shipment off site.
- Handling and fuelling procedures will comply with the *Storage and Handling of Gasoline and Associated Products Regulations* (CNR 775/96), *WHMIS*, the *National Fire Code* and *Fire Prevention Act*, and any additional requirements brought forth by the DECC to limit potential contamination of soil or water.
- All used oil tanks will be inspected on a regular basis as per Section 24 of the *Used Oil and Used Glycol Control Regulations.* All fuel storage tank systems will be inspected on a regular basis as per Sections 20 and 21 of the GAP Regulations. This involves, but is not limited to, gauging or dipping and the keeping of reconciliation records for the duration of the program.
- Any stained soil resulting from the use of chemicals or fuels will be cleaned up and disposed of at an approved facility prior to leaving the work area.

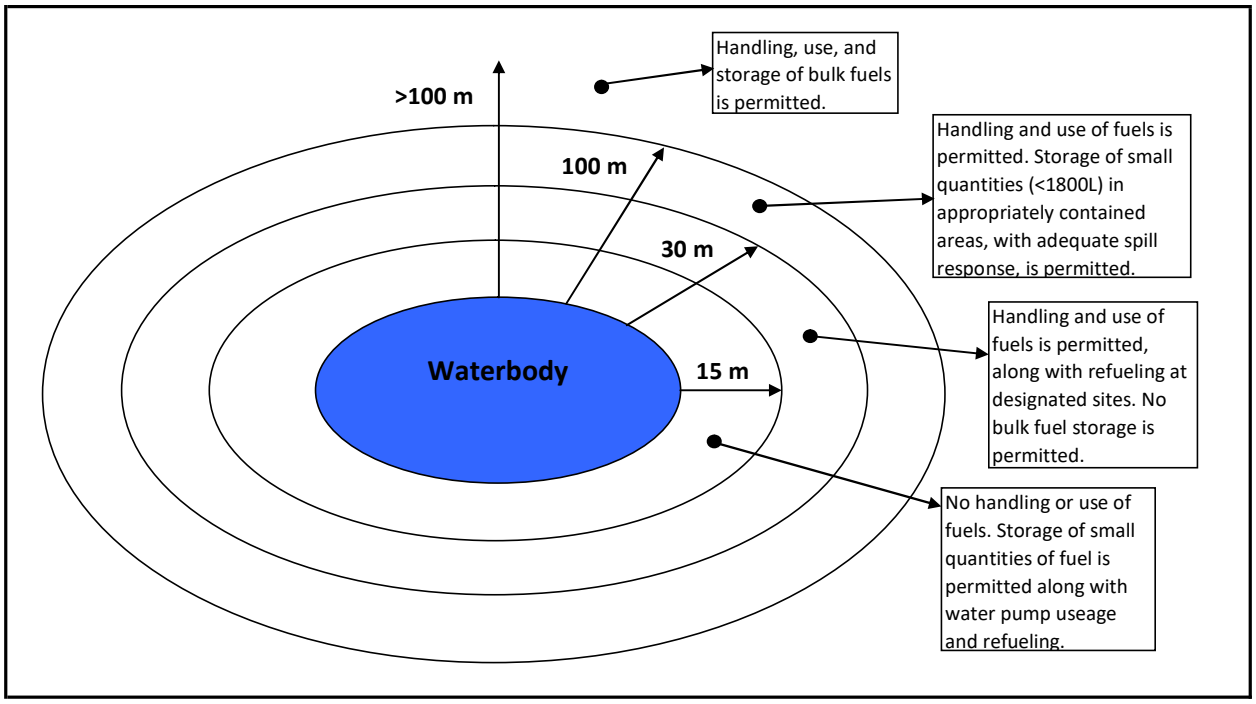

Figure 4: Fuel handling, use and storage near a Waterbody

4.4 Waste Management

During construction activities, there will be a variety of wastes generated. This includes both solid and liquid wastes, as well as human waste. A separate Waste Management Plan has been submitted to DECC to provide additional details as it relates to hazardous and non-hazardous waste management. The following provides content specifically as it relates to this EPP.

4.4.1 Solid Waste and Liquid Wastes - Environmental Concerns

Solid waste (e.g., domestic waste, paper, cardboard, wood, and others), if not properly controlled and disposed of, may cause safety and human health concerns, and could result in attraction of and / or conflict with local wildlife and land use.

4.4.2 Human Waste - Environmental Concerns

Human waste (i.e., sewage) if not properly controlled and disposed of by appropriate sanitary utilization may cause safety and human health concerns at the project site.

4.4.3 Environmental Protection Measures

- Waste reduction measures will be encouraged during operations.

- Portable washrooms and toilets (if required) will be routinely inspected and properly maintained. Sewage sludge removed from the facilities will be transported off site for approved treatment and disposal. Companies engaged to perform this work must have approval from Digital Government and Service NL and/or DECC. Copies of government approvals must be provided to the site supervisor before work can proceed. All human sanitary waste must be contained and disposed in a manner that meets all environmental and health requirements. Any concerns must be brought to the immediate attention of the site supervisor.
- Waste oils and lubricants will be stored in a labelled tank or drum and disposed of an approved facility. Other than periodic greasing of equipment there will be no servicing on the work site or laydown area. All servicing will be performed off site.
- Solvents, acids and caustic liquid waste will be collected separately and stored for removal and disposed by a waste management company specializing in such wastes.
- Solid waste produced by project personnel and operations will be collected and removed from the worksite on a regular basis for disposal at an approved waste disposal facility or for deposit at an appropriate recycling facility.
- Waste material generated on site will be collected in a proper container so that it does not pose an environmental, safety or health hazard, or cause conflict with wildlife or land users.
- All recyclable and reusable materials will be collected and transported to appropriate facilities for recycling or reuse on a regular basis.
- Domestic waste from the field, including food waste, should be gathered daily and stored for removal at approved waste disposal sites.
- Rags used in equipment maintenance and other potentially combustible materials will be kept in a separate container from other waste materials until the combustible material can be removed from the site for disposal.
- No waste material will be deposited in a waterbody.

4.5 Equipment Movement and Operation

4.5.1 Environmental Concerns

A variety of equipment will be used on site during construction activities and may result in ground disturbance, leading to erosion and

sedimentation issues. Most physical disturbances to the environment result from moving vehicles and equipment.

The use of heavy equipment can affect environmental components such as wildlife, vegetation, surface water quality and historic resources. Noise associated with equipment operation and movement may negatively affect wildlife. Air emissions may have local air quality implications. Accidental leaks or spills of fuel or other hazardous materials may affect soils, water, fish, vegetation and wildlife. Tracked equipment has the potential to disturb the ground around/at the site.

4.5.2 Environmental Protection Measures

- All approvals, authorizations and permits for project activities will be followed.
- Where possible, existing roads should be used to supply operations, thus minimizing ground disturbances.
- UTV/ATV use is not anticipated, however UTV/ATV use should comply with the *Motorized Snow Vehicles and All-Terrain Vehicle Regulations* (CNR 1163/96) and the *Environmental Guidelines for Stream Crossings by ATVs*, and any forest fire potential travel restrictions in place at the time of use.
- Prior to the commencement of construction, equipment will be inspected for the presence of soil that could contain seeds and/or propagules of invasive and non-native species. If equipment is found to have soil attached, it will be cleaned (i.e., pressure washed) in a designated location to remove the potential seed source. In addition, equipment that may come from other regions or provinces will be clean and free of potential seed sources of invasive plants.
- The use of heavy equipment in and/or near waterbodies should be minimized and restricted to only when necessary. See section 4.6 (Working Within 15 Meters of a Waterbody) and 4.13 (Erosion Prevention and Sediment Control) for further mitigation measures
- If an archaeological or cultural site is encountered or disturbed due to vehicle movement, the Project Manager and Atlas should be notified immediately and the protection measures set out in Section 4.16 should be followed.
- Noise control procedures (Section 4.15) will be followed during construction activities.
- All equipment will have exhaust systems regularly inspected, and mufflers will be operating properly.

- All equipment will meet the requirements of the *NL Air Pollution Control Regulations* under the *Environmental Protection Act,* as required.
- Vehicles will be routinely inspected and in good repair, to reduce the potential for unplanned spills or leaks. If problems are identified the equipment will be taken out-of-service and repaired as needed.
- All equipment on the Project site will use only oils/lubricants that classify as "biodegradable", where feasible. Refer to Section 4.3 (Fuel Storage, Handling, and Disposal) of this document for additional information on the use of biodegradable oils/lubricants

4.6 Working Within 15 metres of a Waterbody

4.6.1 Environmental Concerns

Early works development will include some activities that involve work in areas within 15 m of a waterbody (e.g., wetlands) (map included in Appendix A).

Environmental concerns with near-water work include the release of materials into the local waterbody. Soil erosion caused by field activities can lead to stream degradation and turbidity downstream. Stream channels may become unstable because of the higher rates of runoff from surrounding land stripped of vegetation, and toxic wastes can impair water quality. Proper protection plans are required to minimize or eliminate sedimentation and water pollution and maintain riparian habitat near water bodies.

4.6.2 Environmental Protection Measures

When working within 15 metres of a waterbody, the Department of Environment and Climate Change (DECC) must be notified and a *Permit to Alter a Body of Water (Schedule H)* must be issued in accordance with the *Water Resources Act*. DFO should also be notified, and a letter of advice may be required.

The mitigation measures within the following sections apply here and should be referenced:

- Section 4.13: Erosion Prevention and Sediment Control
- Section 4.3: Fuel Storage, Handling, and Disposal
- Section 4.10: Buffer Zones

- Section 4.5: Equipment Movement and Operation
- Section 4.2: Vegetation Clearing

In addition, the following measures will be taken to minimize any potential harm that works could have on a waterbody:

- Where possible, the majority of the field activities will take place during low flow and the low rainfall period (i.e. summer months).
- Clear instructions regarding regulatory requirements and the operation of heavy equipment will be expressed to contractors and site personnel. All conditions of permits and approvals for working within 15 meters of a waterbody require strict compliance.
- Heavy equipment will be kept outside the high-water mark of all bodies of water.
- Where an acceptable biodegradable lubricant is available for a piece of equipment working within 15 m of a waterbody, the biodegradable lubricants will be used.
- Fuels, chemicals or deleterious materials will not be stored near a waterbody.

4.7 Watercourse Crossings – Fording, Culverts and Bridges

There are no identifiable rivers or streams (1:50,000 Topographic Mapping) within the Project area (see map in Appendix A). Culverts will be used along the identified access road to maintain natural hydrologic connectivity within the Project Area.

4.7.1 Environmental Concerns

Environmental concerns associated with fording, culvert installations, bridge construction and maintenance include direct disturbances to, or mortality of, fish and loss of fish habitat resulting from sedimentation and removal of habitat. Watercourses and waterbodies will be examined on a site-specific basis to evaluate the habitat type and species present at each watercourse crossing including upstream and downstream. Protection of fish habitat and water quality is important.

4.7.2 Environmental Protection Measures

Watercourse crossings (fording, culvert installation and bridge crossings) will be constructed in compliance with terms and conditions of permits

issued by the DECC and federal guidelines, including a letter of advice from the DFO.

The following measures will be implemented to minimize the potential impacts of watercourse crossings:

- Work will be performed in such a way as to ensure that deleterious substances including, but not limited to, materials such as sediment, fuel and oil do not enter watercourses and waterbodies.
- Site reconnaissance will be conducted to identify all water crossings that might require special attention.
- Attempts will be made to minimize the number of water crossings necessary to access the site.
- Attention will be given to scheduling. The longer a stream is disturbed; more sediment will enter the watercourse. The ideal time for construction Is during low flow, and the low rainfall period.
- In all areas, except at watercourse crossings, a minimum buffer of undisturbed natural vegetation (15 m from the high-water mark) will be left between the access route and the bank of any watercourse which it parallels.
- Grubbing will not be carried out within a 30 m buffer zone of any stream without a control and mitigation plan, and without approval of project management.
- Watercourse crossings will be selected to minimize unnecessary tree clearing.
- Temporary fuelling, servicing or washing of equipment in areas other than the main fuel storage site will not be allowed within 100 m of a watercourse, except within a refuelling site approved by the Construction Manager (or delegate). Conditions here will allow for containment of accidentally spilled fuels. All waste oil, filters, containers or other such debris will be removed from the work area and properly disposed of at an approved waste disposal site.
- Any alterations to a waterbody which may impact navigation will require a Navigable Water Protection Act Request for Review under the Navigable Water Protection Act from Transport Canada.
- When fording any watercourse, DFO will be notified and the Environmental Guidelines for Fording from DECC and the Water Resources Management Division will be applied. A permit to alter a waterbody would be required in conjunction with the Water Resources Act and the following guidelines:
  - Avoid areas of spawning habitat;
  - Restrict crossings to a single location;
  - Ensure crossings are made at right angles to the watercourse;

  - Minimize equipment activity within the watercourse by limiting the number of crossings;
  - Ensure that all equipment is mechanically sound to avoid leaks of oil, gasoline and hydraulic fluids;
  - Ensure that no servicing or washing of heavy equipment occurs within 100 metres of watercourses;
  - Stabilize the entire fording area using vegetation mats, corduroy roads or coarse material (125 mm diameter or greater);
  - Ensure that fording activities will not decrease the depth of the watercourses to less than 20 cm;
  - Ensure that fording activities are halted during high flow periods;
  - Stabilize all bank sections which contain loose or erodible materials. If banks must be sloped for stabilization, no material should be deposited within the watercourse. Sloping can be accomplished by back-blading, and the material removed should be deposited above the high-water mark of the watercourse;
  - All fording activities will comply with the required approvals from the DECC and DFO;
  - Divert the flow of water around the work area during the installation of a culvert to ensure dry conditions are prevalent for construction activities;
  - Mark culverts to indicate their position under the snow;
  - Equipment should be cleaned prior to entering a watercourse to minimize a potential release of contaminants into the environment.
- In those locations where installations or upgrading of existing culverts are required, permits are required from DECC. In addition, a request to DFO may be required. If a letter of advice is issued from DFO, all conditions will be followed.
- The culverts used will be sized to handle 1-in-100-year return period flood and will be constructed in accordance with the DECC Environmental Guidelines for Watercourse Crossings and Culverts and the DFO operational statement for Culvert Maintenance as well as the DFO fact sheets for Culvert Installations. The following measures will also be implemented:
  - Unless otherwise indicated, all work will take place in dry conditions, either by the use of cofferdam or by diverting the stream with pumps and hoses. All work involving major alterations to stream channels will be carried out at a time of low flow, in a manner that prevents downstream sedimentation

- Cylindrical culverts will be counter sunk when installed in fish habitat (as recommended by DFO) such that the culvert bottom is one-third the diameter below the streambed in the case of culverts less than 750 mm outside diameter; for culverts greater than 750 mm outside diameter, the culvert bottom will be installed a minimum of 300 mm below the streambed
- If two culverts are to be installed at one location, one culvert will be installed at an elevation lower than the other one. A maximum of two culverts are allowed at one location
- The natural flow regime of the watercourse will not be altered; culverts will not disrupt flow of water or cause ponding at the upstream side of the installation
- A culvert will not be installed before site-specific information such as stream gradient, fish habitat type and species present have been evaluated as required
- When rock energy dissipaters are utilized at culvert outlets, proper fish passage will be ensured
- Photographs of all culvert installations will be taken prior to and after the installation has been completed. The Construction Manager (or delegate) will be responsible for collecting these photographs
- Inlet and outlet areas will be adequately protected from erosion by installing erosion prevention structures such as rip rap
- Culverts will be of sufficient length to extend a short distance beyond the toe of the fill material
- Backfill material will be of a texture that will support the culvert and limit the seepage and subsequent washing out
- Culverts will be aligned such that the original direction of water flow is not significantly altered and the gradient at the culvert follows the stream channel gradient to the extent possible. Infilling or reduction of the natural cross-sectional area of the watercourse will not be permitted
- Fill and construction debris will be removed from the culvert area to a location above the peak flow level to prevent its entry into the water course
- Construction activity will be confined to the immediate area of the culvert
- Fill material will not be removed from stream/riverbeds or banks except when removal of material is necessary to ensure a flat foundation for installing a culvert
- The use of heavy equipment in watercourses or bodies of water will not be permitted

- Culverts will be marked to indicate their position under the snow

- In those locations where a bridge is required, any applicable environmental protection measure outlined above will be adhered to. In addition, the following measures will also be adhered to:
  - Any proposed bridge installations require a permit from DECC. In addition, a request for project review or project notification to DFO is required. If a letter of advice is issued from DFO, all conditions will be followed
  - Photographs of all bridge installations will be taken prior to and after the installation has been completed. The Construction Manager (or delegate) will be responsible for collecting these photographs
  - During bridge construction all applicable guidelines will be adhered to including, but not limited to, DECC Environmental Guidelines for Bridges and Watercourse Crossings, DFO Clear Span Bridges Operational Statement, DFO Fact Sheet for Temporary Bridges, and DFO Fact Sheet for Bridge Construction/Demolition
  - To safely convey peak flows, permanent bridges will be designed for a 100-year return period stream flow
  - Temporary bridges will consider the following basic design criteria:
    - Abutment logs will be placed a minimum of 1 m from the top of the bank
    - Deck height will be a minimum of 250 cm above the bank height, and
    - Deck height will be a minimum of 450 cm above the water surface at the time of installation
  - Each installation will take into consideration site-specific conditions and appropriate criteria will be accepted by the Construction Manager (or delegate).
  - The upstream and downstream sides of abutments must be protected with erosion prevention structures such as rip rap, to prevent erosion and scouring
  - Roadside embankments near the watercourse will be adequately protected from erosion by installing applicable erosion prevention structures
  - Adequate erosion protection such as filter fabric sediment capture dams will be provided where roadside ditches discharge into the watercourse near the bridge
  - Abutments and piers will be constructed in the dry and where possible during times of low flow

- During construction of concrete components, formwork will be constructed to prevent any fresh concrete from entering bodies of water. Dumping of concrete or washing of tools and equipment in any waterbody is prohibited
- Periodic maintenance such as painting, resurfacing, clearing of debris or minor repairs will be carried out without causing any physical disruption of the watercourse. Care will be taken to prevent spillage of pollutants into the water
- All waste materials will be removed from the site and disposed of at an approved waste management facility
- All areas affected will be returned to a state that resembles local natural conditions, and
- During rehabilitation activities following the end of construction, all temporary bridges will be removed

4.8 Alterations to a Waterbody / Instream Works

4.8.1 Environmental Concerns

There is no Instream work anticipated as part of the Early Works Construction (See maps in Appendix A). Tributaries to Dribble Brook are located >300m to the south of the proposed access road will remain undisturbed (See FFigure 5). The environmental concerns associated with alterations to waterbody include direct disturbance to, or mortality of, fish, disturbance to waterfowl, loss of fish habitat caused by sedimentation and removal of substrate, and disturbance to riparian vegetation.

4.8.2 Environmental Protection Measures

- Works within 15 m of a waterbody visible on a 1:50,000 scale map will require a Certificate of Approval from WRMD. A request for project review will be submitted to DFO. Work will adhere to conditions of the Certificate of Approval from WRMD and the Letter of Advice from DFO, if issued.
- Works conducted within or near a waterbody will follow the best practices laid out for activities within DFO-NL's Best Management Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador (DFO, 2022). Erosion stabilization methods and effective sedimentation control practices will be implemented when required, and these will conform to WRMD Environmental Guidelines and specific requirements of regulatory permits and approvals.

- Floating silt curtains or suitable alternative may be used to contain and control the dispersion of turbidity and sediment when working in or near a waterbody.
- The curtain will be located beyond the lateral limits of the construction site; the alignment will be as close as possible to the activities but not so close as to be disturbed by the construction equipment.
- The curtain will be firmly anchored in place by posts.
- The contractor will remove built up sediment and debris as required; if the fabric becomes clogged it will be replaced during construction of concrete components, formwork will be constructed to prevent any fresh concrete from entering bodies of water. Dumping of concrete or washing of tools and equipment in any waterbody is prohibited.
- Attention will be given to scheduling. The longer a waterbody is disturbed; there is more potential for sedimentation into it. The ideal time for construction Is during low flow, and the low rainfall period.
- Unless otherwise indicated, all work will take place in dry conditions, either by the use of a rock plug or by diverting the stream with pumps and hoses. All work involving major alterations to stream channels will be carried out at a time of low flow, in a manner that prevents downstream sedimentation.
- Inlet and outlet areas will be adequately protected from erosion by installing erosion prevention structures such as rip rap.

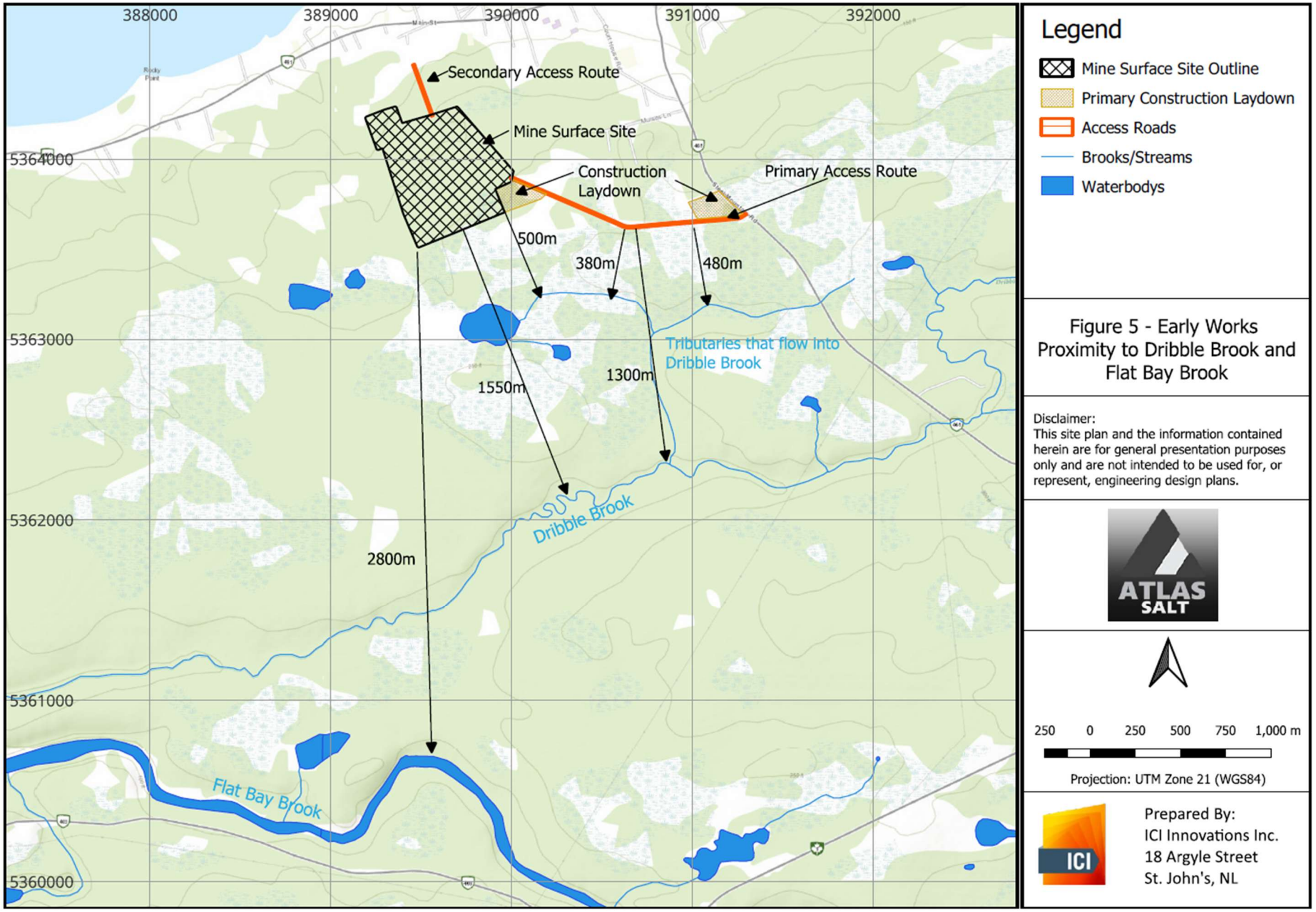

Figure 5: Early Works Proximity to Dribble Brook and Flat Bay Brook

4.9 Working in or Near Wetlands

4.9.1 Environmental Concerns

As part of early works construction activities, it is anticipated that there will be areas of wetland that will be altered to accommodate project components.

The environmental concerns associated with alterations to wetlands include direct disturbance to wildlife habitat caused by sedimentation and removal of substrate, and disturbance to riparian vegetation.

Refer to Atlas Salt's Early Works Wetland Conservation Plan for complete information on management measures related to wetlands.

4.9.2 Environmental Protection Measures

Environmental protection measures identified in Section 4.7 (Watercourse Crossings) and Section 4.8 (Alterations to a Waterbody / Instream Works) are also applicable to working in and around Wetlands. Additional measures for work in and around wetlands include:

- Wherever possible, the disturbance to wetlands from early works construction activities will be minimized and limited to the edges of the wetland.
- In the event where wetlands need to be removed / altered, or will be fragmented due to project construction activities, culverts will be used to maintain hydrologic connectivity.
- Wetland Areas outside of the designated project area are not to be physically altered by early works construction activities.
- Environmental Protection Measures related to erosion and sediment control (Section 4.13) will help maintain water quality in the surrounding area.

4.10 Buffer Zones

4.10.1 Environmental Concerns

The potential for erosion/sedimentation, spills, and resulting effects on wetland water quality, fish and fish habitat are key environmental concerns associated with construction activities. In addition, sensitive and rare environmental receptors (e.g., nesting sites, bat roosts, wetlands,

archaeological/historic resources) require protection from activities associated with construction.

Buffer zones of natural vegetation or undisturbed areas that separate these environmental receptors from construction activities are needed to mitigate adverse environmental effects. These undisturbed areas may also provide wildlife habitat and/or travel corridors near work areas and Project features.

Due to the many buffer zones referenced in various government documents and others that may be stated in regulatory permits for the Project, the appropriate buffer zone to use in a specific area may vary over time. Therefore, the Site Superintendent is the only Site Personnel to determine which buffer is applicable, and Contractors will be required to consult with these individuals prior to establishing buffers.

For general guidance, the following procedures define the minimum requirements during construction.

4.10.2 Environmental Protection Measures

- DFO recommends buffer zones to separate areas of land disturbance from waterbodies will be calculated by the following formula:

  Buffer Width (m) = 20 m + 1.5 x slope (%) (where slope >30%)

- A minimum buffer zone of natural vegetation 30 m from the high-water mark of waterbodies, and ecologically sensitive areas must be maintained around work areas, where available space poses a constraint, except where specified otherwise. If space available, then wider buffer zones of up to 100m will be maintained between construction areas, waterbodies, and ecologically sensitive areas.

- Buffer zones will be established for certain activities, in accordance with DFO Best Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador.

- Sediment control devices will be constructed outside buffer zones, as required. These devices are required to control runoff from areas of exposed soils and prevent transport of sediments towards waterbodies. Section 4.13 (Erosion Prevention and Sediment Control) outlines the acceptable sediment control measures.

- All aircraft (if required) must maintain a 500 m vertical and horizontal buffer from known active raptor nests.
- No clearing will take place within 800 m of an active raptor nest.
- For all work activities, a 200 m buffer will be respected for active raptor nests.
- Helicopters (if required) moving during spring and fall staging periods (typically May or September) will maintain a minimum altitude of 500 m from concentrations of waterfowl.
- A minimum buffer zone of 100 m will be maintained from the high-water mark of waterbodies and ecologically sensitive areas around any bulk fuel storage activities.

While not expected within the Project site, a minimum buffer zone of 50 m will be maintained around any discovered archaeological site. The size of buffer zones may increase or decrease depending on the type of site and the buffer zone will be determined through consultation with the Provincial Archaeology Office. Where the site has been designated for recovery and/or recording, the buffer zone will be maintained until it has been cleared with the Site Superintendent. Where available space poses constraints, this width may be reduced and supplemented by other protective measures. Site-specific mitigative measures for known historic resources in the Project area are provided in Section 4.16 (Historic or Archaeological Resources).Table 1 provides a summary of recommended buffer zones.

Table 1: Recommended Buffer Strips for Various Activities

Activity	Environmental Receptor	Recommended Width (m) of Buffer Strip
Handling, use and storage of bulk fuels (> 2000L)	Waterbody	100 m
Storage and handling of small quantities (<2000L) of fuel in appropriately contained areas and with adequate spill response	Waterbody	30 m
Handling and use of fuels (including transfer and fuelling of equipment). Storage of fuel in containers ≤25L	Waterbody	15 m
Clearing of Vegetation	Waterbody	20 m (+1.5 x slope (%) where >30%)
	Active Raptor Nests	800 m (between March 15 to August 15)
	Active Bat Colony	No-Cut Buffer of 250m until confirmed emergence
Aircrafts	Active Raptor Nests	500 m (vertical and horizontal)
	Waterfowl and Harlequin Duck Concentrations	500 m vertical distance
Quarrying and Aggregate Removal from Borrow Areas	Waterbody	100 m
All Activities	Archaeological sites	50 m
Cutting	Scheduled Salmon Rivers	50 m
Cutting	Black Bear Denning Sites (Late October – Late April)	50 m
Cutting/Construction	Active waterfowl/waterbird	100 m

Activity	Environmental Receptor	Recommended Width (m) of Buffer Strip
	nests (species not of management concern)	
Cutting/Construction	Active passerine nests (species not of management concern)	30 m
Cutting	Waterbody occupied by a beaver	30 m

4.11 Excavation, Backfilling and Grading

4.11.1 Environmental Concerns

The principal environmental concern associated with excavation, backfill and grading is the potential impact on aquatic ecosystems and water quality due to runoff of sediment-laden water. Potential disturbance to rare species and habitat (Section 4.17), and archeological/ historic resources (Section 4.16) must also be taken into consideration, along with the effect on forests, side hills and steep slopes (i.e. danger trees or wind falls).

4.11.2 Environmental Protection Measures

Work will be conducted in a manner that ensures the minimum amount of disturbance necessary.

See the following sections for mitigation measures that apply to excavation, backfilling, and grading activities.

- Section 4.2 – Vegetation Clearing
- Section 4.5 – Equipment Movement and Operations
- Section 4.13 – Erosion Prevention and Sediment Control
- Section 4.16 – Historic and Archaeological Resources

All works in the vicinity of waterbodies or watercourses will be performed in strict compliance with DECC and DFO guidelines and requirements. Work will be conducted in a manner that controls potential sedimentation of watercourses and waterbodies in or adjacent to the work areas as outlined in the following procedures:

- Excavation, backfilling and grading will be done only upon completion of grubbing and stripping. Where engineering requirements do not require grubbing and stripping (e.g., within the buffer zone of a stream crossing), filling will occur without any disturbance of the vegetation mat or the upper soil horizons.
- Excavation, backfilling and grading in the vicinity of a waterbody will be done in a manner that ensures that erosion and sedimentation of watercourses and waterbodies is minimized and is done in strict compliance with DECC and DFO guidelines and requirements.
- An adequate buffer zone will be maintained between all construction areas and waterbodies, except in instances where shoreline and riparian zone construction is needed.
- Mitigation measures within Section 4.3 (Fuel Storage, Handling and Disposal) will be followed for all fuel related activities associated with excavation, backfilling and grading activities.

4.12 Quarrying and Aggregate Removal from Borrow Areas

4.12.1 Environmental Concerns

It is planned that aggregate for the Project will be supplied from nearby existing quarries and from on-site suitable materials. The main concerns for quarry development and associated aggregate removal include the potential for impacts on aquatic systems, loss of terrestrial habitat and historic resources, potential quarry development/rehabilitation plans.

4.12.2 Environmental Protection Measures

The following measures will be implemented to minimize these effects:

- Permits to quarry will be obtained from the NL Department of Industry, Energy and Technology before quarries are established. Quarry activity will be undertaken in compliance with these quarry permits and will comply with all other relevant regulations.
- Quarries will be located 100 m from a waterbody unless otherwise approved by the Department of Natural Resources. If approved, additional mitigative measures may be required.
- The development of quarry sites and rock excavations will require monitoring to determine the absence or presence of sulphide bearing rock. For environmental protection against Acid Rock Drainage (ARD), the quarry bedrock will be visually inspected before, during, and after excavation work on a periodic basis. In

the event visible evidence of ARD is noted, the Construction Manager (or delegate) will be notified immediately. Visible evidence of ARD is typically a yellowish color of water or sediment called yellow boy or evidence of sulphides in rock.

- Quarry areas will be developed in a controlled manner to minimize potential environmental effects and quarry locations will consider sensitive wildlife areas. The following protection procedures will be implemented to minimize disturbance and facilitate rehabilitation:
  - Where feasible, a buffer zone of undisturbed vegetation will be maintained between waterbodies and ecologically sensitive areas.
  - The quarry area, stockpile area and limits of clearing will be staked and/or flagged to prevent over-extension of the development, (corner posts at least 1 m high above ground will be installed to mark the quarry area).
  - The area to be excavated will be clear cut of all vegetation prior to grubbing, excavation or removal of any material.
  - All stumps, organic matter and topsoil will be stripped from the area to be excavated and stockpiled at least 5 m from uncleared areas; stockpiles will be kept at least 10 m from the area of excavation; separate overburden piles will be developed where this material is present; topsoil and the underlying overburden will not be mixed.
  - Stockpile areas are to be confirmed by the Construction Manager (or delegate), prior to stripping.
  - Upon completion of excavation of a quarry, no cliff faces or benches will be left at a height greater than 5 m for soil or 10 m for rock. Available material left over from quarrying and stockpiled overburden will be used to minimize slopes and face heights and to rehabilitate the area.
  - Each quarry will be evaluated by a geotechnical professional engineer on a site-specific basis to determine whether the cliff faces will be converted to rubble slopes.
  - Following sloping, the topsoil and any organic materials will be respread over the disturbed area to promote natural re-vegetation by adjacent seed sources.
- To prevent sedimentation of waterbodies, watercourses and ecologically sensitive areas, sediment control measures (basins and traps) will be established, if required, and cleaned on a regular basis, as required, to ensure that the retention capacity is maintained at all times.

- The Total Suspended Solid (TSS) content of construction-altered water that is released into a natural waterbody will not exceed 30 milligrams per litre and be in compliance with *Environmental Control Water and Sewage Regulations, 2003*.
- With respect to maintenance of water quality within receiving waterbodies on and around the site, the *CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life* will be used.
- The pH level of construction-altered water that is released into a natural waterbody will be between 5.5 and 9 pH units and be in compliance with *Environmental Control Water and Sewage Regulations, 2003.*
- Dust from aggregate processing, storage and handling will be controlled with water as required during times when temperatures are above freezing. A water use license must be obtained from DECC.
- If crushing activities in the quarry require a water source, a water use licence is also required from the Water Resources Management Division.

4.13 Erosion Prevention and Sediment Control

4.13.1 Environmental Concerns

The potential for erosion and resulting effects to water quality and fish and fish habitat is a key environmental concern associated with construction activities. Erosion and sedimentation within both terrestrial and aquatic environments can result in potential effects on wildlife and their associated habitats.

4.13.2 Environmental Protection Measures

Erosion and sedimentation control is an important aspect of the project, given that there are local wetlands and waterbodies outside of the mine footprint The application of erosion control measures is found throughout the activities listed in Section 4 but reiterated here to provide a more thorough evaluation of site-specific activities required by Project personnel.

4.13.2.1 General

The most effective way to control erosion and sedimentation is to avoid activities that lead to it. All areas of exposed soil are to be stabilized by grading to meet slope requirements. Where erosion along an exposed slope is a concern, and sufficient vegetation does not exist to act as a

buffer between the high-water mark of the waterbody and the exposed soil, a silt fence will be constructed to control sediment runoff. Engineering requirements will vary depending on the locations of the silt fence and will take factors such as drainage/surface area of exposed soils into consideration.

Contractors will use erosion and sedimentation control measures to ensure water control on site. Any water discharge into a waterbody, watercourse, or ecologically sensitive area, due to construction activities will comply with applicable discharge guidelines as presented in the Newfoundland and Labrador Environmental Control Water and Sewer Regulations under the *Environmental Protection Act*

4.13.2.2 Watercourses

There is no in-water / near-water work proposed for the project. There will be work in wetlands within areas of the site. See Section 4.9, Section 4.6 and Section 4.8 for works in and around wetlands.

4.13.2.3 Exposure of Erodible Soils

Areas with existing vegetative cover will be developed as part of the work program. These areas include the surface mine site. The following actions will be taken to minimize the erosion of exposed soils and the discharge of suspended sediment in runoff waters leaving these sites:

- preliminary site reconnaissance indicates that no natural streams flow through the areas to be developed (see Appendix A), however, if a natural water course is found in any area, a minimum 30 metre buffer will be left adjacent to the stream bank in which no overburden will be removed
- overburden from the cleared areas will be stockpiled in windrows on the upslope sides to divert rainwater flows from non-cleared areas away from areas of exposed soils
- the downslope side of each area will be ditched suitably to allow for the capture of surface drainage water flowing over the exposed soils
- sediment control basins/traps will be established within the downslope ditches, accumulated sediment will be removed as required to maintain retention capacity, and the structures stability will be checked regularly and repaired as required to maintain effectiveness
- the Total Suspended Solid (TSS) content of construction-altered water that is released into a natural waterbody will not exceed 30

milligrams per litre and be in compliance with *Environmental Control Water and Sewage Regulations, 2003*

4.14 Drilling

4.14.1 Environmental Concerns

Environmental concerns associated with drilling include surface disturbances, disposal of drilling fluids and cuttings, generation of dust, noise, and potential effects on terrestrial habitats, air quality, aquatic ecosystems, and historic resources.

4.14.2 Environmental Protection Measures

The following mitigation measures will be implemented to reduce the potential impacts associated with geotechnical drilling activities:

- Drilling sites will be cleared of vegetation following the procedures detailed in Section 4.2
- Any excavations associated with drilling will be completed in accordance with the procedures outlined in Section 4.2, 4.5, and 4.11
- The handling, storage, and disposal of all fuels and other wastes will be done in accordance with the mitigation measures outlined in Section 4.3.
- Garbage and solid waste will be removed from the drill site and disposed of at an approved landfill. Recyclable and reusable materials should be transported to appropriate facilities for recycling or reuse.
- Due to the nature of drilling activities, (i.e., quicksnaps, couplings) oil drops and leaks may occur. The area will be cleaned up at every opportunity and the rig will be equipped with oil absorbent material in the event of a leak or spill.
- In the unlikely event that natural hydrocarbons are encountered, water will be collected and disposed of appropriately. The consultant and Atlas will be notified immediately.
- Proper drainage will be maintained at drill sites to prevent build-up of standing water.

4.15 Noise

4.15.1 Environmental Concerns

Noises associated with equipment operation may cause negative effects on fish and wildlife and affect human safety and health. All necessary precautions should be taken to minimize potential effects. As the work is being undertaken within the municipal boundary of St. Goerge's, reducing noise levels within the community is an important consideration while undertaking the work.

4.15.2 Environmental Protection Measures

- All equipment will be equipped with properly operating mufflers and exhaust systems which will be regularly inspected and in good working order. See section 4.5 (Equipment Movement and Operation).
- Wildlife surveillance will be conducted prior to noisy activities.
- Project personnel will adhere to all relevant permits and approvals.
- All safe work procedures relating to noise will be followed by project personnel.

4.16 Historic & Archaeological Resources

4.16.1 Environmental Concerns

While not expected within the Project Area, field work has the potential to uncover / impact historic and archaeological resources.

4.16.2 Environmental Protection Measures

In the event of a discovery of a potential archaeological site or artifact, the following procedures will apply:

- All persons on site will be informed of the historic resource potential of the area, of their responsibility to report any unusual findings, and to leave such findings undisturbed
- An environmental awareness session to be attended by all staff and contractors to identify areas of high historic resources potential
- The Construction Manager (or delegate) will report to the PAO if any potential archaeological resources are uncovered during excavation

- The Construction Manager (or delegate) will be contacted immediately if historic resources are discovered during the course of the work. All work within 50 m of the discovery location will stop and contingency plan procedures implemented, and
- Regular monitoring will be conducted by the Construction Manager (or delegate) to ensure that site protection measures are adequate and that the terms and intent of the EPP requirements are being met.

4.17 Wildlife Protection

4.17.1 Environmental Concerns

Wildlife refers to all plant and animal life, introduced or native, aquatic or terrestrial, in Newfoundland and Labrador. As mentioned throughout Section 2, multiple activities have the potential to interact with and affect various wildlife species and their habitats.

It is possible that threatened, endangered and protected species of plants and animals may be present during construction activities. Many wildlife species and their habitats are protected under provincial and federal regulations such as the *National Species at Risk Act* and the Newfoundland and Labrador *Endangered Species Act*.

4.17.2 Environmental Protection Measures

- Travel routes and "no-go" zones will be established to avoid wetland areas outside of the identified Project Area, including the areas to the south. Animals and animal habitat, such as raptor nests, will also be identified and mapped.
- Prior to commencement of construction activities, Atlas will lay out approved travel routes and work areas that will easily identify trails, roads, and limits of the work area where there is potential for endangered species to be present.
- The Construction Manager (or delegate) should arrange a session for all work crew members prior to working on site to ensure they are aware of all wildlife concerns identified, work methods and any "no-go" zones on site. All site personnel should receive training to recognize any endangered or threatened species of plant or animals and its habitat prior to the start of any clearing.
- There should be no intrusion into "no-go" zones without prior permission of the Construction Manager (or delegate) and regulators.

- Crews should not travel outside of marked work areas. If markers are not clear or missing, or if questions regarding sensitive areas exist, the Construction Manager should be consulted prior to commencing or continuing with the work.
- The Construction Manager (or delegate) should monitor work activity in sensitive sites at all times and provide advice on access and travel requirements.
- Disturbance on the worksites should be kept to the minimum required to complete the work.
- Any potential impacts to rare or protected species and their habitat at the job site should be forwarded to Atlas immediately for evaluation. This includes, but is not limited to, leaks of fuels, oils or hydraulics, or other contaminants at the work site and any travel outside of the approved routes.
- All applicable activities that may have an interaction and/or effect on aquatic species and their habitat will be done in compliance with relevant permits, and using practices laid out in DFO's *Best Management Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador*.
- If required and when on site, any aircraft will maintain an altitude of at least 300 m from concentrations of birds or other wildlife, such as caribou, moose and bears.
- The Construction Manager (or delegate) is required to inform all helicopter pilots of the EPP requirements.

4.18 Abandonment of Work Sites

4.18.1 Environmental Concerns

Abandonment of work sites (as defined under the Mining Act) may cause disruption to wildlife and land users. Work sites must be returned to a condition as close as possible to what they were before work began.

4.18.2 Environmental Protection Measures

- No temporary buildings or structures associated with the work will be left at the site once construction and commissioning are complete.
- All solid wastes, including petroleum, oil and lubricant containers will be removed from the site and disposed of at an approved waste management facility. Recyclable and reusable materials will be transported to appropriate facilities for recycling or reuse.
- Notification (72 hours) will be given by contractors to Atlas before abandoning work sites.

- All work sites will be subject to an inspection by Atlas before considered approved.
- All excavations will be backfilled with excavated material upon completion. Organic material will be stockpiled and used as surface cover where feasible.
- No debris, including slash, should be permitted to enter any waterbody.

5 Contingency plans

5.1 Fuel and Hazardous Material Spills

5.1.1 Environmental Concerns

Unplanned release of fuel and other hazardous materials can be damaging to vegetation, soil, surface water, ground water, wildlife, aquatic organisms, historic resources and human safety and health. Any spill or leak regardless of quantity, that has the potential to contaminate nearby property or enter a waterbody or sewer is considered a hazardous material spill. These spills ideally will not happen during construction and commissioning activities but should be planned for in the unlikely event they do occur.

5.1.2 Environmental Protection Measures

In the event of a fuel or hazardous material spill, the following procedures will apply:

- The individual who discovers the leak or spill will make a reasonable attempt to immediately stop the leakage and contain the flow if it is safe to do so. It will also be reported to Atlas immediately. This will include details such as location, type of material spilled, and an estimated amount.
- Contractors conducting work on site will have and maintain a minimum of one spill kit in the vicinity of where work is taking place. If work is being conducted in more than one location simultaneously, then an appropriate number of spill kits will be in place to respond to a potential spill. The amount of spill response equipment needed will be determined by the contractor and Atlas prior to the commencement of work.
- Any spill or leak of fuel, in or near a waterbody or, 70 L or more on land, should be reported immediately to the Construction

Manager, Atlas, and Canadian Coast Guard Spill Report Number (1-800-563-9089). Required information includes:

- Name of reporter and phone number
- Time of spill or leak
- Time of detection of spill or leak
- Type of product spilled or leaked
- Amount of product spilled or leaked
- Location of spill or leak
- Source of spill or leak
- Type of accident - collision, rupture, overflow, other
- Owner of product and phone number
- If the spill or leak is still occurring
- If the spill or leaked product is contained, and if not, where it is flowing
- Amount and type of containment material on site
- Weather conditions at the time of spill
- Proximity to waterbodies, water intakes, and facilities
- Snow cover and depth, terrain, and soil conditions

- The supervisor directly on site should take action as the immediate response commander for the purposes of containing and/or cleaning up a fuel or hazardous materials spill until additional resources arrive. They have full authority to take necessary and appropriate action without unnecessary delay. Overall responsibility for coordinating a cleanup and maintaining this contingency plan rests with the Contractor/Consultant conducting the work.
- In reaching decisions on containment and clean-up procedures, the following criteria will be applied:
  - Minimize danger to persons
  - Protect water supplies
  - Minimize pollution of watercourses
  - Minimize area affected by spill
  - Minimize the degree of disturbance to the area and watercourses during clean up
- The on-scene-commander will act in consultation with the Consultant/Contractor, Atlas, and the regulating authorities to:
  - Assess site conditions and environmental effects of cleanup procedures
  - Assess potential for fuel recovery versus burning
  - Deploy on-site staff to mobilize pumps, absorbents, or other equipment as needed

  - Dispose of all contaminated debris, cleaning materials and absorbent by burning, if appropriate, or by placing it in an approved landfill site
  - Take all necessary precautions to ensure that the incident does not recur
- The on-scene-commander will be responsible for preparing a written report (including photographs) which will be sent (as soon as possible, and no later than 30 days after the spill) to the contractor / consultant and Atlas, and from there to Government Service Centre and Environment Canada's Emergency Response Coordinator.

5.2 Wildlife Encounters

5.2.1 Environmental Concerns

Wildlife encounters pose a potential risk for both wildlife species involved and project personnel. As a protection measure, hunting, trapping or fishing by Project Personnel is not permitted. Firearms and ammunition are not permitted at the work site unless authorized by Atlas and government regulators for use as protection against wildlife. Personal pets are also not permitted to be on site at any point.

This contingency plan is aimed at providing Project Personnel with practical information to:

- Avoid bears and other potentially dangerous animals
- Prevent injuries, and
- Avoid harming wildlife, including species at risk

5.2.2 Environmental Protection Measures

5.2.2.1 Prevention

The following procedures relating to food preparation, storage and waste disposal will be implemented:

- Site and working areas will be kept clean of food scraps and garbage
- Solid waste will be collected daily for disposal, stored at a designated site, and taken to an approved waste management facility on a regular basis. Recyclable and reusable materials should be transported to appropriate facilities for recycling, and

- Project Personnel will follow existing Atlas safe work practices (Appendix E) that minimize the safety and health risks associated with wildlife encounters. Project Personnel will be oriented to and follow the Health and Safety Plan for the Project.

Inspections of work areas may be carried out in addition to regular inspections by Atlas.

5.2.2.2 Response Actions

In case a wildlife encounter does occur during project-related activities, Project personnel should abide by the following rules in cases of wildlife encounters:

- No attempt should be made to chase, catch, divert, follow or otherwise harass wildlife by aircraft, vehicle or on foot by any person at a work site.
- Equipment and vehicles will yield the right of way to wildlife.
- Project Personnel will be aware of the potential for encounters with wildlife and be instructed to immediately report all sightings to the Construction Manager (or delegate). The Construction Manager (or delegate) will notify Atlas.
- Responsive actions will be determined by Atlas in consultation with Wildlife Management Division (WMD). All actions will comply with WMD regulations and permits.
- Any incidents that result in the displacement or killing of wildlife will be documented, complete with details on the incident and the names (and contact numbers) of the persons involved.
- Project Personnel will not attempt to feed any wildlife.
- Field personnel and supervisors will be supplied with bear deterrents such as bangers or spray.
- If any endangered species or migratory bird nests are identified in the area of project activities, all work should cease within 30 m of the discovery. The Construction Manager (or delegate) should contact Atlas, who should then advise the WMD of the discovery. The site area should be flagged for protection and avoidance. The WMD, in consultation with the Atlas, should provide direction regarding the discovery.
- Any potential impacts to rare or protected species and their habitat, or migratory bird nests at the job site should be forwarded to Atlas immediately for evaluation. This includes, but is not limited to, leaks of fuels, oils or hydraulics, or other contaminants at the work site.

5.2.2.3 How to React to a Bear Encounter

The following precautions must be taken when working in areas known to be inhabited by bears and other potentially dangerous animals:

1) Everyone should keep an eye out for bears;
   - Select a route that is open and well cleared, if possible;
   - Be aware of the wind direction and walk with the wind whenever you can;
   - Don't investigate bad smells, as bears are usually attracted to them;
   - Have binoculars readily available to help spot bears from a safe distance.
2) Bears normally avoid encounters with humans. However, there is always a possibility you may surprise a bear at close range or meet a bear which is not afraid of people. There is no guaranteed method for reacting to a bear encounter because each encounter is different. However, the following guidelines can help minimize the risk:
   - Assess the situation and think about your surroundings before you react;
   - Try to stay calm and keep the bear in sight at all times;
   - If traveling in a group, stay close together;
   - Do not run unless you are reasonably sure you can reach a safe place before the bear catches you. Running may invite the bear to pursue you, and a bear can run faster than a human;
   - Continue to walk slowly in the opposite direction from the bear;
   - In close confrontations, the bear is likely to feel threatened. Its natural tendency is to remove the threat. Try to act as non-threatening as possible, particularly if it is an adult bear or a female with young. Do not make direct eye contact;
   - Give the bear an opportunity to leave; make sure it has an escape route.

5.2.2.4 How to React to a Coyote Encounter

- Stay calm.
- Back away slowly while facing the animal.
- Leave the coyote a way to escape.
- Raise your voice and speak firmly.

- If the coyote approaches or acts aggressively, wave your arms and make yourself look larger. Shout, make noise and throw any available objects.
- In the unlikely event that you are attacked by a coyote, fight back. Try to remain standing and use rocks, sticks, tools and your hands to fend off the attack. Keep the animal away from your neck and head.

5.3 Historic & Archaeological Resources

5.3.1 Environmental Concerns

Historic and Archaeological Resources are valued by Indigenous people and the public at large for their intrinsic value and for the information they provide on the pre-contact and historic human activity in the province. They are non-renewable and, in many cases, the resources themselves and the information and cultural meaning they hold cannot be replaced if damaged or destroyed.

The management and protection of Historic and Archaeological Resources falls under the mandate of the Provincial Archaeology Office (PAO) of the Newfoundland and Labrador Department of Tourism, Culture, Arts and Recreation. The PAO administers its mandate through the Newfoundland and Labrador Historic Resources Act (1985), which has its own distinct regulatory requirements, in addition to those of the broader environmental assessment process.

Project Personnel are not permitted to knowingly disturb or destroy historic resources, including excavating archaeological sites and collecting artifacts. Project Personnel will take all reasonable precautions to prevent persons from removing or damaging any such articles or sites and may be held liable for prosecution under the provincial *Historic Resources Act* (1985) for all contraventions.

Any work which involves ground disturbance, such as operation of heavy equipment, trenching, cutting and clearing, requires historic resources assessment and clearance prior to beginning the activity. A review of Historic and Archaeological Resources information should be conducted, along with a Historic and Archaeological Resources Assessment.

5.3.2 Environmental Protection Measures

There is always the possibility that undiscovered archaeological sites such as structures, tools, butchered animal bones and graves may be discovered or disturbed during project activities. As a result, all personnel involved in these activities will be informed of their responsibility to report any suspected findings. In the event of an inadvertent discovery of a pre-contact or historic artifact or site, the following procedures would apply:

- In the event of a confirmed or potential discovery of an historic resource, all work should cease in the immediate area of the discovery until the proponent has consulted with the PAO and is authorized to resume work.
- Archaeological materials encountered should be reported to the Construction Manager and Atlas, who will then immediately file a report to the PAO at (709) 729-2462, fax (709) 729-0870 with the following information:
  - Nature of activity resulting in the find;
  - Nature of the material discovered;
  - The precise location of the find.
- Discoveries, or suspected discoveries, of historic resources should be flagged or marked with a bright colored object in the field and the area protected as required.

Following an assessment of the significance and mitigation needs, a report will be made to Atlas and the PAO. Any proposed mitigation will first be accepted by Atlas and approved by the PAO.

5.4 Forest Fires

5.4.1 Environmental Concerns

There are a number of field activities that could result in a fire which could in turn spread to the surrounding area. Forest fires pose safety and health risks and could negatively affect wildlife and vegetation.

5.4.2 Environmental Protection Measures

The fire prevention and fire-fighting procedures described below will be followed and Project Personnel will take all precautions necessary to prevent fire hazards when at the work sites such as ensuring the disposal of all flammable waste on a regular basis.

In the event of a forest fire, the Contractor/Consultant or other Project Personnel will take immediate steps to contain or extinguish the fire to the extent practical and safe.

Fires will be reported immediately to the nearest Forest Management Unit office (Appendix F) and to Atlas. The following information will be provided:

- Name of the reporter and phone number;
- Time of detection of the fire;
- Size of the fire;
- Location of the fire.

Sufficient firefighting equipment to suit the labour force and fire hazards should be provided. Equipment will be provided as specified in the Forest Fire Regulations and *Operating Permit* and will include shovels, back tanks and axes. Such equipment will comply with and be maintained to the manufacturer's standards. Project Personnel will be trained in the use of such equipment.

During the fire season, machinery and equipment will be equipped with a fire extinguisher containing a minimum of 4.5 kilograms of ABC dry chemical.

A person will not carry out a logging or industrial operation on forest land during the forest fire season unless the logging or industrial operation is carried out under an operating permit issued by the forest service.

The forest fire suppression equipment referred to in the operating permit will be provided at the operating site in the ratio defined in Table 2.

Table 2: Forest Fire Equipment Requirements During Fire Season

Employees	**Backpack tanks, axes or Pulaski tools and grubbers or shovels**
5 or less	1
6 – 10	2
11 – 15	3
16 – 20	4
Over 20	Add 1 back tank pump, 1 axe or Pulaski tool and 2 grubbers or shovels to the above figure for each group of 5 additional

	employees or fraction of that number of employees. The back tank pump must have a capacity of 20 litres and be of a type approved by the forest service.

When the number of employees reaches 20 or over, one fully functional forest fire pump will be available at the site. Pump accessories will include: a gated "Y" valve, hose strangler and two nozzles for each unit, additionally, 610 meters of forest fire hose will be available for each unit. Forest firefighting equipment will be forest service approved.

The forestry official issuing the operating permit may specify deviations from the equipment requirements should local operating conditions warrant deviations. The actual location of the forest fire suppression equipment in relation to the operating site may be designated by the forestry official issuing the permit.

A copy of the operating permit will be on the operating site and will be shown when requested by a forestry official. The operating permit may be temporarily suspended by a forestry official if the fire weather index for that locality rises to high or extreme. Where a forest fire occurs on forest land in an area where logging or industrial operations are being carried out, the person/s carrying out the operations will immediately notify the nearest forest management district office or ranger station and commence fighting the fire with all labour, materials, equipment and facilities at his or her disposal until relieved of this responsibility by a forestry official or the fire is extinguished.

6 References

Department of Fisheries and Oceans (DFO), Best Management Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador. Available online at: https://www.dfo-mpo.gc.ca/pnw-ppe/ffhpp-ppph/publications/nfl-freshwater-protection-eau-douce-tnl-eng.html

Environment and Climate Change Canada (ECCC). Canadian Environmental Protection Act. Available online at: https://laws-lois.justice.gc.ca/eng/acts/c-15.31/

Environment and Climate Change Canada (ECCC). Migratory Birds Convention Act. Available online at: https://laws-lois.justice.gc.ca/eng/acts/m-7.01/

Environment and Climate Change Canada (ECCC). Prohibition of Certain Toxic Substances Regulations. Available online at: https://pollution-waste.canada.ca/environmental-protection-registry/regulations/view?Id=114

Environment and Climate Change Canada (ECCC). Species at Risk Act. Available online at: https://laws.justice.gc.ca/eng/acts/s-15.3/

Fisheries and Oceans Canada (DFO). Fisheries Act. Available online at: https://laws-lois.justice.gc.ca/eng/acts/f-14/

Fisheries and Oceans Canada (DFO). Oceans Act. Available online at: https://laws-lois.justice.gc.ca/eng/acts/o-2.4/

Fisheries and Oceans Canada (DFO). Best Management Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador. Available online at: https://www.dfo-mpo.gc.ca/pnw-ppe/ffhpp-ppph/publications/nfl-freshwater-protection-eau-douce-tnl-eng.html

Fisheries and Oceans Canada (DFO). Timing Windows to Conduct Work in and Near Water. Available online at: https://www.dfo-mpo.gc.ca/pnw-ppe/timing-periodes/index-eng.html

NL Department of Environment and Climate Change (NL ECC). Environmental Protection Act. Available online at: https://www.assembly.nl.ca/legislation/sr/statutes/e14-2.htm

NL Department of Environment and Climate Change (NL ECC). Water Resources Act. Available online at: https://www.assembly.nl.ca/legislation/sr/statutes/w04-01.htm

NL Department of Environment and Climate Change (NL ECC). Storage and Handling of Gasoline and Associated Products Regulations. Available online at: https://www.assembly.nl.ca/legislation/sr/regulations/rc030058.htm

NL Department of Environment and Climate Change (NL ECC). Guidelines for Drum-Based Petroleum Products Storage at non-remote Sites. Available online at: https://www.gov.nl.ca/ecc/files/publications-env-protection-gd-ppd-072-2.pdf

NL Department of Environment and Climate Change (NL ECC). Best Management Practices for the Storage of Waste Dangerous Goods/Hazardous Waste (HDG/HW) at Business Sites. Available online at: env-protection-waste-guidancedocs-gd-ppd-077-best-management-practices-for-the-storage-of-waste-dangerous-goodshazardous-waste-wdghw-at-business-sites.pdf

NL Department of Fisheries, Forestry, and Agriculture (NL FFA). Forestry Act. Available online at: https://www.assembly.nl.ca/Legislation/sr/statutes/f23.htm

NL Department of Fisheries, Forestry, and Agriculture (NL FFA). Forest Fire Regulations. Available online at: https://www.assembly.nl.ca/legislation/sr/regulations/rc960011.htm

NL Department of Fisheries, Forestry, and Agriculture (NL FFA). Wildlife Act. Available online at: https://www.assembly.nl.ca/Legislation/sr/statutes/w08.htm

NL Department of Fisheries, Forestry, and Agriculture (NL FFA). Endangered Species Act. Available online at: https://www.assembly.nl.ca/Legislation/sr/statutes/e10-1.htm

NL Department of Industry, Energy, and Technology (NLIET). Mining Act. Available online at: http://www.assembly.nl.ca/legislation/sr/statutes/m15-1.htm

NL Department of Tourism, Culture, Art, and Recreation. Historic Resources Act. Available online at: https://www.assembly.nl.ca/legislation/sr/statutes/h04.htm

Service NL. Occupational Health and Safety Act. Available online at: https://www.assembly.nl.ca/Legislation/sr/statutes/o03.htm

Service NL. Dangerous Goods Transportation Act. Available online at: RSNL1990 CHAPTER D-1 - DANGEROUS GOODS TRANSPORTATION ACT

Transport Canada (TC). Transportation of Dangerous Goods Act. Available online at: https://laws-lois.justice.gc.ca/eng/acts/t-19.01/

APPENDIX A: Scale Maps

APPENDIX B: Permits and Approvals
(Attached)

APPENDIX B List of Potentially Applicable Permits and Authorizations (Provincial, Federal, Municipal)

Approval Potentially Required	Legislation / Regulation	Project Component / Activity Requiring Approval or Compliance	Department or Agency	Requirements
Government of Newfoundland and Labrador				
Certificate of Approval for any Alteration to a Waterbody	*Water Resources Act*	Any activities which may alter a waterbody	WRMD, DECC	Permits are required for construction activities within 15 m of the high watermark of any waterbody. An application form is required for each alteration.
Certificates of Approval for any Instream Activity	*Water Resources Act*	Any in-stream activity	WRMD, DECC	Approval is required for any in-stream activity before undertaking the work.
Certificate of Approval for Construction Site Drainage	*Water Resources Act*	Any run-off from the project site being discharged to receiving waters	WRMD, DECC	Approval is required for any run-off from the project site being discharged to receiving waters.
Water Use Licence	*Water Resources Act*	Extraction of water from a surface or groundwater source	WRMD, DECC	Approval is required to extract water from a surface or groundwater source for subsequent use.
Policy Directives	*Water Resources Act*	Project activities (as applicable)	WRMD, DECC	The Department has a number of potentially applicable policy directives in place for particular

Approval Potentially Required	Legislation / Regulation	Project Component / Activity Requiring Approval or Compliance	Department or Agency	Requirements
				types of in or near water work
Cutting Permit	*Forestry Act*	Clearing of trees from quarry and laydown areas	FFA (DFFA)	A cutting permit is required from the local Forestry office
Compliance Standard	*Forest Fire Regulations*	Equipment use during forest fire season	FFA (DFFA)	ATVs and equipment must comply with exhaust spark reduction requirements.
Compliance Standard	*Fire Prevention Act,* and *Fire Prevention Regulations*	On-site structures (temporary or permanent)	Engineering Services Division, Service NL	All structures must comply with fire prevention standards.
Compliance Standard	*Environmental Control Water and Sewage Regulation* under the *Water Resources Act*	Any waters discharged from the Project	PPD, DECC	A person discharging sewage and other materials into a waterbody must comply with the standards, conditions and provisions prescribed in these regulations for the constituents, contents or description of the discharged materials.
Compliance Standard	*Occupational Health and Safety Act* and Regulations	Project-related occupations	Service NL	Outlines minimum requirements for workplace health and safety. Workers have the right to refuse

Approval Potentially Required	Legislation / Regulation	Project Component / Activity Requiring Approval or Compliance	Department or Agency	Requirements
				dangerous work. Proponents must notify Minister of start of construction for any project greater than 30 days in duration.
Compliance Standard	*Workplace Hazardous Materials Information System (WHMIS) Regulations*, under the *Occupational Health and Safety Act*	Handling and storage of hazardous materials	Operations Division, Service NL	Outlines procedures for handling hazardous materials and provides details on various hazardous materials.
Permit to Occupy Crown Lands	*Lands Act*	Use of laydown area	Crown Lands Division DFFA, Department of Municipal and Inter governmental Affairs	A permit is required to occupy crown lands.
Government of Canada				
Applications for Authorization under Paragraph 35(2)(b) of	*Fisheries Act* and *Regulations*	Project activities in or near water	DFO	This federal legislation provides protection to commercial, recreational, and Aboriginal fisheries by protecting the fish

Approval Potentially Required	Legislation / Regulation	Project Component / Activity Requiring Approval or Compliance	Department or Agency	Requirements
the *Fisheries Act*				resources and habitats that support these activities. Any potential serious harm to fish as a result of a project that results in the death of fish or the permanent alteration to, or destruction (PAD) of, fish habitat as determined by DFO requires authorization under Section 35(s) of the *Fisheries Act*, including adequate and appropriate measures to offset any such serious harm. Proponents may prepare and submit a request for review to DFO to determine/ confirm whether or not such an approval is needed.
Compliance Standard	*Fisheries Act*, Section 36(3), Deleterious Substances	Any run-off from the project site being discharged to receiving waters	Environment Canada DFO	Environment Canada is responsible for Section 36(3) of the *Fisheries Act*. However, DFO is responsible for matters dealing with sedimentation.

Approval Potentially Required	Legislation / Regulation	Project Component / Activity Requiring Approval or Compliance	Department or Agency	Requirements
				Discharge must not be deleterious and must be acutely non-lethal.
Compliance Standard	*Migratory Birds Convention Act* and *Regulations*	Any activities which could result in the mortality of migratory birds and endangered species and any species under federal authority	CWS, Environment Canada	Prohibits disturbing, destroying or taking a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird, and possessing a live migratory bird, carcass, skin, nest or egg, except when authorized by a permit. The Canadian Wildlife Service should be notified about the mortality of any migratory bird in the project area.
Compliance standards; permits may be required.	National Fire Code	On-site structures (temporary or permanent)	Service NL	Approval is required for fire prevention systems in all approved buildings.
Compliance standards; permits may be required.	National Building Code	On-site structures (temporary or permanent)	Service NL	Approval is required for all building plans.
Municipalities				

Approval Potentially Required	Legislation / Regulation	Project Component / Activity Requiring Approval or Compliance	Department or Agency	Requirements
Development or Building Permit	*Urban and Rural Planning Act, 2000,* and Relevant Municipal Plan and Development Regulations	Development within municipal boundary	Community Council	A permit is required for any development or building within municipal boundaries.
Approval for Waste Disposal	*Urban and Rural Planning Act, 2000,* and Relevant Municipal Plan and Development Regulations	Waste disposal	Community Council	The use of a community waste disposal site in Newfoundland and Labrador by proponents/contractors to dispose of waste requires municipal approval. Restrictions may be in place as to what items can be disposed of a municipal disposal site.

APPENDIX C: Revision Request Initiation Form

REVISION REQUEST INITIATION FORM
SECTION TO BE REVISED:
NATURE OF REVISION:
RATIONALE FOR REVISION:
SUBMISSION:

Please submit request to the Consultant

APPENDIX D: Revision Control Record

Revision Control Record

EPP Section	Revision Date	EPP Holder's Signature

APPENDIX E: Atlas Salt HSE Policy (Attached)

APPENDIX F: Contact List

Project Name/Number: Atlas Salt Great Atlantic Salt Project

Location: St. George's, NL

Prime Contractor:

Agency	Phone Number	Location
Atlas Salt - Project Manager	Andrew Smith, Mine Project Manager 902-403-6807 asmith@atlassalt.com	Sudbury, ON
Atlas Salt – Local Contact	Lyndelle Spicer, Field Office Coordinator 705-795-2065 lspicer@atlassalt.com	St. George's, NL
Environment Canada Environmental Protection District Environmental Emergencies Coordinator	709-772-4285	NL
Environment and Climate Change Emergency Report Line	(709) 722-2083 1-800-563-9089	St. John's, NL
Fisheries and Oceans Canada Area Habitat Coordinator	709-772-4423 (general Inquiries) 709-772-6319 (Resource Management Officer)	St. John's, NL
Canadian Coast Guard 24-hour Pollution Line	1-800-563-2444	St. John's, NL

Agency	Phone Number	Location
Canadian Coast Guard Superintendent of Environmental Response	709-772-2292	St. John's, NL
Canadian Coast Guard Air Search and Rescue Coordination Center	1-800-565-1582	Halifax, NS
Newfoundland and Labrador Department of Tourism, Culture and Recreation – Provincial Archaeology Office	709-729-2462	St. John's, NL
Newfoundland and Labrador Department of Government Services Dept. of Occupational Health and Safety (Accident Reporting) WHSCC	709-729-4444 709-778-1000	NL
Newfoundland and Labrador Department of Fisheries, Forestry, and Agriculture – St. George's District Forestry Office	(709) 646-3720 Emergencies: (709) 290-0364	St. George's, NL
Newfoundland and Labrador Department of Wildlife Headquarters	(709) 637-2025	Corner Brook, NL
Newfoundland Water Resources Management Division – Corner Brook Regional Office	(709) 729-2563	Corner Brook, NL
Forest Fire Reporting	1-866-709- FIRE (3473)	NL
Town of St George's Fire Dept	709 647-3283	St. George's, NL
RCMP – Bay St. George Attachment	709 643-2118	Stephenville, NL
Stephenville Hospital	709 643-5111	Stephenville, NL