15-Mile Processing Hub Project - Initial Project Description

2 June 2026

Land Acknowledgement

We at St. Barbara respectfully acknowledge that our operations and projects are located in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq People, and we acknowledge them as the past, present, and future caretakers of this land. The territory is covered by the Treaties of Peace and Friendship. We are all Treaty People.

We also acknowledge that people of African descent have been in Nova Scotia for over 400 years, and we honour and offer gratitude to those ancestors of African descent who came before us to this land.

Executive Summary

15-Mile Minerals and Renewables Ltd. (15-MMR), a wholly owned subsidiary of St Barbara Ltd. is proposing to construct, operate and reclaim the 15-Mile Processing Hub Project (the Project) near Halifax, Nova Scotia. St Barbara Ltd. is a gold mining, exploration and development company with a strategic focus on advancing projects within the province of Nova Scotia. The Project consists of the redevelopment of three historic mining sites: the 15-Mile Mine (including an open pit gold mine and the main ore processing hub) and the Old Austen Mine (formerly referred to as the Beaver Dam Mine Project) and the Old Mitchell Mine (formerly referred to as the Cochrane Hill Gold Project). The Old Austen Mine and Old Mitchell Mine will operate as conventional quarries supplying whole ore to the 15-Mile Mine for processing.

The 15-Mile Mine will comprise an open pit gold mine and associated infrastructure, including the processing plant, to which ore from the Austen Pit and Mitchell Pit will be transported for processing, as well as the main administrative buildings and tailings management facility (TMF). The Project is located on both privately held and provincial Crown lands within the traditional territory of the Mi'kmaq. For the purpose of this submission, Project Development Areas (PDAs) were defined for the 15-Mile Mine, the Old Austen Mine, and the Old Mitchell Mine. Each PDA was defined as a geographic area within which all proposed Project activities and associated infrastructure will be located. It includes the footprint of the main Project components as well as supporting features like access roads, utilities, laydown areas, and temporary construction areas. The PDA represents the maximum extent of land that could be disturbed during construction, operation, and closure of the Project.

The Project is designed with a mine life of approximately 11.4 years with an additional 1 year of construction and 15+ years for reclamation and monitoring, processing 3.0 million tonnes per year (Mt/y) of ore and producing an average of 103 thousand ounces (koz) of gold annually. The Project is expected to generate significant economic contributions, including an estimated 1,600 jobs during construction and 950 during operations, with a total provincial GDP contribution of $5 billion and over $559 million in tax revenues. An estimated 1,380 local jobs will be created in Nova Scotia during construction, with 740 jobs local to the province during operations. Local spending is estimated at $116 million during construction and a further $776 million during operations and closure, further supporting regional development.

15-MMR is committed to building relationships with the Mi'kmaq of Nova Scotia, respecting Mi'kmaq Treaty Rights and developing meaningful partnerships. Related to this Project 15-MMR is engaging with the Mi'kmaq to understand areas of interest, including traditional land and resource use, and mitigate potential Project impacts. Building on previous engagement, and lessons learned, the Proponent has incorporated Mi'kmaq knowledge and feedback into Project design placing Mi'kmaq engagement and participation at the forefront of Project planning. The redesign of mine layouts has incorporated Mi'kmaq feedback regarding traditional land and resource use, including removal of infrastructure in sensitive areas, elimination of the Beaver Dam Haul Road, and setbacks from key waterbodies such as the Killag River.

Broader stakeholder engagement has also shaped the refinement of the Project. Feedback from local residents, regulators, and other groups led to design changes that substantially reduce potential environmental impacts, consolidate infrastructure, and improve safety. The Project is intended to provide long-term socio-economic benefits within the communities that the Project will operate and to Nova Scotia while addressing concerns related to water quality, habitat protection, and cumulative effects.

Each of the three proposed developments was previously subject to separate regulatory review processes as stand-alone projects. Significant redesigns, focusing on reducing environmental effects, across all three mine sites have reduced effects on water, land, biodiversity, and traditional land uses:

15-Mile Mine

- Includes cleanup of historic tailings into the TMF, with capacity to accommodate additional material from both the Old Austen Mine and Old Mitchell Mine.
- Project infrastructure redesigned to avoid direct impacts to waterbodies and significant loss of catchment areas, including the East Lake Watershed.
- Relaxed mining rate to completely eliminate the medium and low-grade stockpiles on surface.
- Reduced mining rate and improved waste rock management approach updated so that potentially acid generating (PAG) material will be backfilled into vacant pits or placed in TMF, eliminating the need for a surface PAG stockpile and meeting best practices to reduce acid rock drainage.
- Re-use of existing infrastructure and milling equipment from the Touquoy Mine site.
- Redesigned TMF to improve water management and reduce dam risk classification.
- Direct disturbance to wetlands reduced by ~19% and number of watersheds affected reduced by ~8%.

- Avoidance of known instances of boreal felt lichen and reduced impacts on blue felt lichen.

Old Austen Mine

- PDA reduced by an estimated 45% and disturbance area within the footprint has been reduced by 43% to further reduce negative impacts to Traditional Land Use.
- Watersheds affected reduced from seven to four, with the Cope Brook watershed removed from the PDA; Cope Brook flows towards Beaver Lake IR 17, reducing loss of wetland habitat and potential loss of areas.
- Increased pit setback from Killag River from 60 metres (m) to 110 m, eliminating ~23 Mt of waste rock previously proposed for long-term surface storage.
- Complete avoidance of boreal and blue felt lichen and elimination of moose patch disturbance.
- Elimination of the Beaver Dam Haul Road due to concerns raised around interference with Traditional Land Use.
- Eliminated the need for surface water withdrawals with simplified infrastructure.

Old Mitchell Mine

- Reduced open pit size to avoid the need to re-route Nova Scotia Trunk Highway 7 (Marine Drive) and reduce overall waste rock, ore, stockpile sizes and increased distance from Nova Scotia Nature Trust protected land and St. Mary's River.
- Removal of process plant and TMF, reducing footprint and environmental effects.
- Introduction of PAG waste rock backfilling into the exhausted pits to be stored subaqueously, aligning with industry standard.
- Reduction of the disturbance area by approximately 55% to reduce environmental impacts.
- Project infrastructure redesigned to avoid direct impacts to waterbodies and significant loss of catchment areas, including the removal of infrastructure previously proposed within the direct St. Mary's River watershed.
- Direct disturbance to wetlands reduced by ~55% and number of watershed impacts reduced by ~11%.
- Eliminated the need for surface water withdrawals from Archibald Lake with simplified infrastructure.
- Blending the Old Mitchell Mine operations over the lifespan of the entire Project allows the site to operate at a reduced mining rate of 1.2 Mt per annum which is less than 55% of the previous mining rate.

The Project aligns with federal and provincial strategies that prioritize sustainable mineral development to support clean energy transitions and economic resilience. Nova Scotia recently recognized gold as a strategic mineral.

At both provincial and federal levels, the Project is positioned as a nation-building initiative—enhancing local employment and training, stimulating rural economies, and strengthening infrastructure, while maintaining a strong commitment to environmental stewardship.

All three PDAs have a history of mining disturbance, with legacy waste rock and historic tailings present. 15-MMR is committed to managing historic tailings within the PDAs if the Project proceeds. Nearly a decade of baseline environmental studies informs the understanding of local physical and biological conditions, ensuring that Project designs are grounded in sound science.

The 15-Mile Processing Hub Project represents a redesigned, more sustainable mining plan shaped by Mi'kmaq of Nova Scotia, stakeholder and regulator input. It delivers significant economic benefits while reducing environmental impacts and addressing legacy mining issues. With Mi'kmaq of Nova Scotia engagement central to planning, the Project is positioned not only to responsibly deliver strategic gold production but also to contribute to broader provincial and federal priorities in reconciliation and economic development.

Table of Contents

Tables

Figures

Appendices

Abbreviations

15-MMR	15-Mile Minerals and Renewables Ltd.
ACCDC	Atlantic Canada Conservation Data Centre
ACGIH	American Conference of Governmental Industrial Hygienists
ADT	Average Daily Traffic
AEMP	Aquatic Effects Monitoring Plan
AMNS	Atlantic Mining NS Inc.
AMOs	Abandoned Mine Openings
ARD	Acid Rock Drainage
ATV	All-Terrain Vehicle
CCME	Canadian Council of Ministers of the Environment
CEAA	Canadian Environmental Assessment Act
CDA	Canadian Dam Association
CLC	Community Liaison Committee
CMM	Confederacy of Mainland Mi'kmaq
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CPA	Community Partnership Agreement
CWQG	Canadian Drinking Water Quality Guidelines
CWS	Canadian Wildlife Service
DFO	Department of Fisheries and Oceans (Fisheries and Oceans Canada)
DO	Dissolved Oxygen
EMP	Emergency Response Plan
EIS	Environmental Impact Statement
EPP	Environmental Protection Plan
EQS	Environmental Quality Standards
ESA	Environmental Site Assessment
ESCP	Erosion and Sediment Control Plan
FWAL	Freshwater Aquatic Life
GCDWQ	Guidelines for Canadian Drinking Water Quality
GHG	Greenhouse Gas
GLCs	Ground Level Concentrations
GWP	Global Warming Potential
HADD	Harmful Alteration, Disruption, or Destruction
HHERA	Human Health and Ecological Risk Assessment
HRM	Halifax Regional Municipality
IBA	Impact Benefits Agreement
ICMM	International Council of Mining and Metals
ILE	Institution of Lighting Engineers
IPCC	Intergovernmental Panel on Climate Change
IR	Indian Reserve
KMKNO	Kwilmu'kw Maw-klusuaqn Negotiation Office
LAeq	A-weighted equivalent continuous sound level
MAA	Multiple Account Analysis

MAC	Maximum Acceptable Concentrations
MBCA	*Migratory Birds Convention Act*
MDMER	Metal and Diamond Mining Effluent Regulations
MDSTM	Municipality of the District of St. Mary's
MEKS	Mi'kmaq Ecological Knowledge Study
MEND	Mine Environment Neutral Drainage
MGS	Membertou Geomatics Solutions
ML/ARD	Metal Leaching/Acid Rock Drainage
MOU	Memorandum of Understanding
NAG	Non-Acid Generating Waste Rock
NAPS	National Air Pollution Surveillance
NGOs	Non-Government Organizations
NRCan	Natural Resources Canada
NSESA	Nova Scotia *Endangered Species Act*
NSDNR	Nova Scotia Department of Natural Resources
NSECC	Nova Scotia Environment and Climate Change
NSPI	Nova Scotia Power Inc.
PAG	Potentially Acid Generating Waste Rock
PDA	Project Development Area
PGI	Pellet Group Inventory
POR	Points of Reception
PSS	Pathway-Specific Standards
ROM	Run of Mine
SAR	Species at Risk
SARA	*Species at Risk Act*
SDS	Safety Data Sheet
SMPs	Special Management Practices
SOCI	Species of Conservation Interest
SSWQO	Site-specific Water Quality Objectives
TAG	Technical Advisory Group
TC	Transport Canada
TMF	Tailings Management Facility
TSP	Total Suspended Particulate
TSS	Total Suspended Solids
UTM	Universal Transverse Mercator
WMP	Wildlife Management Plan
WSS	Wetland of Special Significance

1 Introduction and General Information

1.1 Introduction

15-Mile Minerals and Renewables (15-MMR), a subsidiary of St Barbara Ltd., is a gold mining, exploration and development company with a strategic focus on advancing projects within the province of Nova Scotia. 15-MMR is proposing to construct, operate and reclaim the 15-Mile Processing Hub Project (the Project), located near Halifax, Nova Scotia. The Project will occur on both private lands owned by 15-MMR and provincial Crown Land within the traditional territory of the Mi'kmaq First Nations. The Project consists of the redevelopment of three historic mining sites: the 15-Mile Mine (formerly referred to as the Fifteen Mile Stream Gold Project), the Old Austen Mine (formerly referred to as the Beaver Dam Mine Project) and the Old Mitchell Mine (formerly referred to as the Cochrane Hill Gold Project). The 15-Mile Mine is centered between the Old Austen Mine and the Old Mitchell Mine and will act as the processing hub for the Project. 15-Mile will contain four open pits for gold mining with infrastructure to manage water, waste rock, overburden, processing, and tailings storage. The Old Austen and Old Mitchell Mines will be operated similar to conventional quarries and will each contain a single open pit with infrastructure to manage water, waste rock and material transport to the 15-Mile Mine.

For the purpose of this submission, Project Development Areas (PDAs) were defined for the 15-Mile Mine, the Old Austen Mine, and the Old Mitchell Mine. Each PDA was defined as a geographic area within which all proposed Project activities and associated infrastructure will be located. It includes the footprint of the main Project components as well as supporting features like access roads, utilities, laydown areas, and temporary construction areas. The PDA represents the maximum extent of land that could be disturbed during construction, operation, and closure of the Project.

The Project will operate over a 11.4-year mine life, and with a nominal material extraction rate of 11.9 million tonnes per year (Mt/y), an anticipated milling rate of approximately 3.0 Mt/y, and an average annual gold production of 103 kilo-ounces per annum (koz/y).

The Project is anticipated to generate an estimated 1,600 jobs during the construction phase and 950 jobs during operations, encompassing direct, indirect, and induced employment with $559.3 Million of combined municipal, provincial and federal tax revenue being generated and a contribution to the provincial GDP of $5 Billion over the life of the Project.

All three proposed PDAs have historic mining activity from the late 1800's and early 1900's by other parties with some volume of historic tailings and/or historic waste rock that has been left at surface. Disturbed tailings and contaminated soils will be managed per a historic tailings management plan similar to that completed by St Barbara at the Touquoy Mine site.

Over the past decade, extensive studies, permitting, and feasibility level engineering was advanced for previous iterations of the Project. The substantial body of technical work, modelling, and data, together with input from provincial and federal regulators, local communities, and the Mi'kmaq of Nova Scotia, has significantly informed the Project redesign, resulting in increased environmental protection and socially acceptable development. Each of the three proposed developments was previously subject to separate regulatory review processes as stand-alone projects, as follows:

- An Environmental Impact Statement (EIS) under the Canadian Environmental Assessment Act, 2012 (CEAA 2012) was submitted in relation to the Fifteen Mile Stream Gold Project in May 2018. The EIS was subject to one round of Information Requests before the environmental assessment was terminated by 15-MMR in September 2023.
- An EIS under CEAA 2012 was submitted in relation to the Beaver Dam Mine Project in March 2017. The EIS was subject to three rounds of Information Requests before the environmental assessment was terminated by 15-MMR in September 2023.
- The Cochrane Hill Gold Project commenced the environmental assessment process under CEAA 2012 in September 2018; the environmental assessment was terminated by 15-MMR in September 2023. No EIS was submitted for this project.

In response to feedback and concerns raised by regulators, the Mi'kmaq of Nova Scotia, and stakeholders during these previous environmental assessment processes, 15-MMR has made significant changes to the design, operation and closure of all three projects for the purposes of the 15-Mile Processing Hub Project. These changes include the following:

15-Mile Mine

- Includes cleanup of historic tailings into the tailings management facility (TMF), with capacity to accommodate additional material from both the Old Austen Mine and Old Mitchell Mine.
- Project infrastructure redesigned to avoid direct impacts to waterbodies and significant loss of catchment areas, including the East Lake Watershed.
- Relaxed mining rate to completely eliminate the medium and low grade stockpiles on surface.
- Reduced mining rate and improved waste rock management approach updated so that potentially acid generating (PAG) material will be backfilled into vacant pits or placed in TMF, eliminating the need for a surface PAG stockpile and meeting best practices to reduce acid rock drainage.

- Re-uses existing infrastructure and milling equipment from the Touquoy Mine site.
- Redesigned TMF to improve water management and reduce dam risk classification.
- Direct disturbance to wetlands reduced by ~19% and number of watersheds affected reduced by ~8%.
- Avoidance of known instances of boreal felt lichen and reduced impacts on blue felt lichen.

Old Austen Mine

- PDA reduced by an estimated 45% and disturbance area within the footprint has been reduced by 43% to further reduce negative impacts to Traditional Land Use.
- Watersheds affected reduced from seven to four, with the Cope Brook watershed removed from the PDA; Cope Brook flows towards Beaver Lake IR 17, reducing loss of wetland habitat and potential loss of areas.
- Increased pit setback from Killag River from 60 metres (m) to 110 m, eliminating ~23 million tonnes (Mt) of waste rock previously proposed for long-term surface storage.
- Complete avoidance of boreal and blue felt lichen and elimination of moose patch disturbance.
- Elimination of the Beaver Dam Haul Road due to concerns raised around interference with Traditional Land Use.
- Eliminated the need for surface water withdrawals with simplified infrastructure.

Old Mitchell Mine

- Reduced open pit size to avoid the need to re-route Nova Scotia Trunk Highway 7 (Marine Drive) and reduce overall waste rock, ore, stockpile sizes and increased distance from Nova Scotia Nature Trust protected land and St. Mary's River.
- Removal of process plant and TMF, reducing footprint and environmental effects.
- Introduction of PAG waste rock backfilling into the exhausted pits to be stored subaqueously, aligning with industry standard.
- Reduction of the disturbance area by approximately 55% to reduce environmental impacts.
- Project infrastructure redesigned to avoid direct impacts to waterbodies and significant loss of catchment areas, including the removal of infrastructure previously proposed within the direct St. Mary's River watershed.
- Direct disturbance to wetlands reduced by ~55% and number of watershed impacts reduced by ~11%.
- Eliminated the need for surface water withdrawals with simplified infrastructure, including removal of surface water withdrawal from Archibald Lake.
- Blending the Old Mitchell Mine operations over the lifespan of the entire Project allows the site to operate at a reduced mining rate of 1.2 Mt per annum which is less than 55% of the previous mining rate.

Figure 1.1-1, below, serves to illustrate the terminology used in this submission to describe the previous and current iterations of the proponent, Project, and developments. The previous version of the Project, referred to herein as the Moose River Consolidated Project per the NI43-101 published under that name, was originally proposed by Atlantic Mining NS Inc., a subsidiary of St. Barbara. Ltd. The Moose River Consolidated Project and its three developments serves as the design background for the current 15-Mile Processing Hub Project. Further details on changes made since the Moose River Consolidated Project can be read in Section 2.6.3 (Historic Project Alternatives).

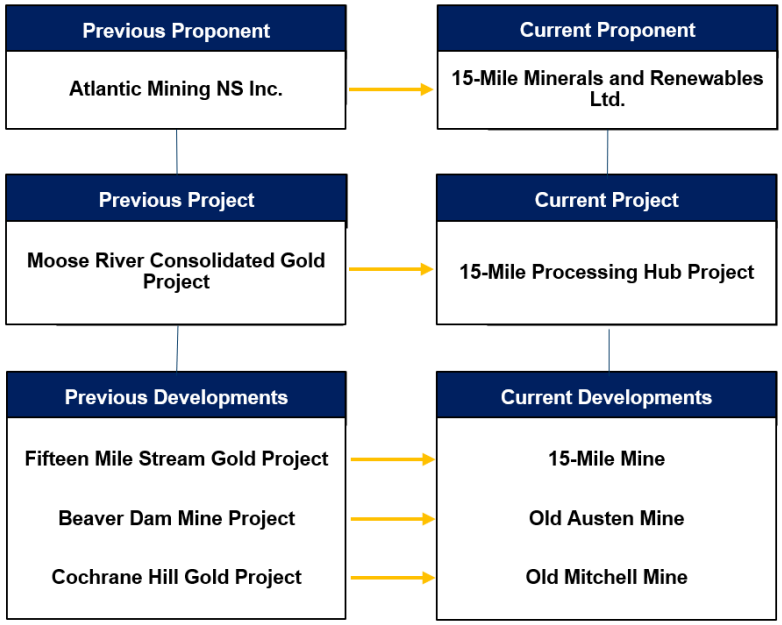


Figure 1.1-1 Project Terminology

1.2 Project Name, Sector, and Location

Table 1.2-1 Project Name, Sector, and Location

Project Name	15-Mile Processing Hub Project
Sector	• Mines and Minerals – precious metal mine
Location	• 15-Mile Mine: approximately 100 km northeast of Halifax, Nova Scotia • Old Austen Mine: approximately 85 km northeast of Halifax, Nova Scotia • Old Mitchell Mine: approximately 145 km northeast of Halifax, Nova Scotia

15-Mile Processing Hub Project

Project Location

St Barbara

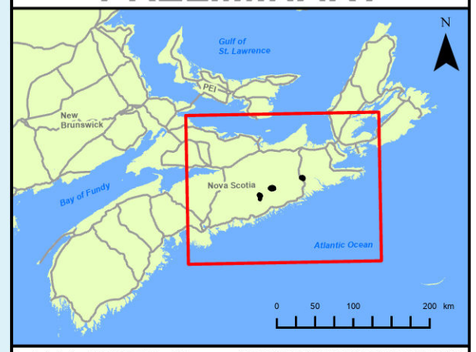
PEI
Northumberland Strait
CUMBERLAND
COLCHESTER
Truro
Minas Basin
HANTS
PICTOU
New Glasgow
ANTIGONISH
Antigonish
INVERNESS
VICTORIA
CAPE BRETON
RICHMOND
Port Hawkesbury
Guysborough
GUYSBOROUGH
Trafalgar
Melrose
OLD MITCHELL MINE
Sherbrooke
15-MILE MINE
OLD AUSTEN MINE
Marinette
Malay Falls
Sheet Harbour
HALIFAX
Halifax
Atlantic Ocean
0 10 20 30 km

Project Location
Town/City

County Boundary

- Antigonish
- Cape Breton
- Colchester
- Cumberland
- Guysborough
- Halifax
- Hants
- Inverness
- Pictou
- Richmond
- Victoria

PRELIMINARY



Coordinate System: NAD 1983 UTM Zone 20N

Sources: Esri, CGIAR, USGS, GeoNOVA, SNSIS, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

Date: 2026-03-05	Project #: 25-11616
Scale: 1:750,000	Drawing #: 1.2-1
Drawn By: E. Johnson	
Checked By: S. Allain	

strum CONSULTING

S:\Strum Project Files\2025 Files\25-11616\Drawings\ArcGIS\ArcGIS_Projects\25-11616_Municipalities_Rightsholders\25-11616_Municipalities_Rightsholders.aprx

1.3 Proponent

Table 1.3-1 Proponent Details

Item	Detail
Proponent	• 15-Mile Minerals & Renewables, a subsidiary of St. Barbara Ltd. • https://stbarbara.com.au/
Corporate Contact	• Craig Hudson, General Manager Projects • 15-Mile Minerals and Renewables Ltd. • 30 Damascus Road Suite 201 • Bedford, Nova Scotia, B4A 0C2 • craig.hudson@stbarbara.ca
Supporting Consultant	• Glen Merkley, Team Lead – Natural Resources & Impact Assessment • GHD Limited • 120 Western Parkway Suite 110 • Bedford, Nova Scotia, B4B 0V2 • glen.merkley@ghd.com

1.4 Project and Proponent History

In July 2019, Atlantic Mining NS Inc. (AMNS) (*TSX-V: AGB*) was acquired by St Barbara Ltd. (*ASX: SBM*), becoming a wholly owned subsidiary. The acquisition included:

- The Touquoy Mine.
- Three future development projects: Fifteen Mile Stream Gold Project, Beaver Dam Mine Project and Cochrane Hill Gold Project.
- All exploration licenses previously held by Atlantic Gold Corporation.

On May 1, 2025, AMNS underwent a corporate restructuring, resulting in the formation of two distinct entities: AMNS, retaining ownership of the Touquoy Mine, which is currently in reclamation, with newly approved permit conditions allowing for the processing of remaining stockpiled ore while continuing reclamation and 15-MMR, which now holds the proposed 15-Mile Mine, Old Austen Mine, and Old Mitchell Mine, along with all exploration mineral licenses and associated lands across Nova Scotia. Both AMNS and 15-MMR are subsidiaries of St Barbara Ltd., operating under a shared corporate framework but with distinct mandates; AMNS overseeing reclamation efforts at the Touquoy Mine, and 15-MMR leading the development of future mine sites and managing exploration assets across the province.

1.5 Summary of Engagement with Government Departments, Agencies and Regulators

1.5.1 Overview

15-MMR maintains a proactive and transparent approach to engagement with municipal, provincial, and federal government departments and regulatory agencies across all phases of the Project. Early outreach to local municipalities, elected officials, and key regulatory agencies has been undertaken to enhance understanding, support informed input, and promote meaningful local engagement. The Project supports regional economic development objectives while incorporating principles of environmental stewardship.

1.5.2 Government Departments, Agencies and Regulator Engagement

15-Mile Processing Hub Project

Engagement regarding the Project is ongoing and will continue to evolve as the Project advances. Our approach is grounded in transparency, collaboration, and ongoing dialogue to ensure meaningful input is considered throughout each phase of Project development. Current and ongoing engagement activities specific to the Project include the following:

- 15-MMR hosted three Open Houses in late Fall of 2025 to share information about the Project, focusing on supplier and employment opportunities to gauge interest from the surrounding communities. Invites were extended to local municipalities, counsellors and elected representatives.

- New Community Offices were opened in Stellarton and Guysborough, Nova Scotia in Fall of 2024 to support the Project and to create a welcoming space where people can drop in, ask questions, and stay connected. Invites for the grand openings were extended to local municipalities, counsellors and elected representatives.
- Creation of a Project specific website (https://stbarbaragold.ca/) to provide Project updates and information. The website also provides an opportunity for interested parties to view local career opportunities available.
- News and media releases relating to the Project.

Early engagement with relevant local, provincial and federal government departments has been initiated to review ongoing Project updates and optimizations. This engagement is intended to support regulatory alignment, consider potential environmental and social effects, and inform opportunities to refine Project design. The following groups have been engaged:

- Fisheries and Oceans Canada (DFO)
- Halifax Regional Municipality (HRM)
- House of Commons of Canada
- Impact Assessment Agency of Canada (IAAC)
- Invest Nova Scotia
- Municipality of the District of Guysborough
- Municipality of Pictou County
- Municipality of the District of St. Mary's
- Nova Scotia Department of Natural Resources (NSDNR)
- Nova Scotia Environment and Climate Change (NSECC)
- Nova Scotia Legislative Assembly
- Nova Scotia Office of L'nu Affairs
- Nova Scotia New Democratic Party (NS NDP)
- Town of New Glasgow
- Town of Stellarton

Ongoing updates regarding Project planning and development were provided to provincial ministries, including the Nova Scotia Department of Agriculture, Department of Energy, Department of Environment and Climate Change, Department of Finance, Department of Opportunities and Social Development and the Department of Natural Resources.

Additional information is provided in Appendix D: 15-Mile Processing Hub Project – Engagement Logbook, which outlines the communication channels for the Project and demonstrates how regulatory requirements are being met.

Previous Engagement with Government Departments, Agencies, and Regulators

Since 2016, the company under its previous name actively engaged with municipal, provincial and federal government departments, regulatory authorities and agencies on various aspects of the Project. Previous engagement activities are summarized below:

- Information sharing through emails, letters, phone calls and presentations.
- Meetings to discuss project changes, challenges and permitting needs.
- Site tours were completed as part of previous engagement efforts. The tour provided regulators with an opportunity to observe existing site conditions, review key Project components in the field, and discuss environmental management measures and technical considerations directly with project representatives.
- Attendance at Technical Advisory Group (TAG) Meetings to provide updates on project changes and updates.
- Meetings with government departments to discuss changes in regulatory standards that affect industry.

Through the previous engagement activities, 15-MMR's predecessor companies received formal feedback from federal, provincial and municipal government departments, agencies and regulators related to proposed project activities and mitigation measures. DFO provided feedback for the Beaver Dam Mine Project through a formal information request letter. Other agencies and government departments provided feedback on 15-Mile Mine through formal information requests.

Issues and concerns raised during these engagement activities are summarized in Appendix A: Previous Government Departments, Agency and Regulator Engagement and Key Issues and have been incorporated into the current Project plan. Additional information regarding previous engagement is available in Appendix E: Previous Moose River Consolidated Project Information.

1.5.3 Key Issues and Concerns Raised by Government Departments, Agency and Regulators

Areas of interest and concerns raised in relation to the previous projects as individual sites and a description of how these have been and/or will be addressed are provided in Table 1.5-1. A full list of concerns, issues, and comments are provided in Appendix A. It should be noted that the Old Mitchell Mine (formerly the Cochrane Hill Gold Project) was never formally submitted for review. As a result, no Information Requests (IRs) have been issued and there has been limited formal regulatory feedback to date. Accordingly, it has not been included in the table below or in Appendix A. 15-MMR is committed to continued engagement with government departments, agencies and regulators to discuss concerns and seek ways to collaboratively address them.

Table 1.5-1 Key Issues and Concerns Raised by Government Departments, Agency and Regulators

Key Issue or Concern	Action Taken and/or Planned
15-Mile Mine	
Detail surrounding the Fish & Fish Habitat Offsetting Plan	15-MMR is working with consultants to develop a detailed Fish & Fish Habitat Offsetting Plan to be submitted with future regulatory submissions. This will include detailed offsetting projects that will be discussed with DFO prior to submission. The Offsetting Plan will offset for fish and fish habitat altered as part of the development of the Project.
Seloam Brook Realignment design, focusing on fish passage	15-MMR has redesigned the Seloam Brook Realignment, focusing on fish passage. This redesign will be discussed with DFO for feedback. The Seloam Brook Realignment project will also present an opportunity to include remediation of ongoing contamination from historical tailings.
Clarify if a liner system is planned for the potentially acid generating (PAG) waste rock	15-MMR has done significant work to optimize the mine plan and material balance. Each site now has a relaxed mining rate to reduce extraction rates while also reducing stockpiles at surface. The Project redesign now includes immediate placement of PAG into the TMF, and backfilling of PAG into exhausted pits to be stored subaqueously – which is industry standard and promoted by MEND (Mine Environment Neutral Drainage) and by Nova Scotia Environment and Climate Change (NSECC) in recently released guidelines.
Disposal and treatment of Historic Tailings	Disposal of historic tailings will occur for the Project. Remediation for mercury-impacted soils will include excavation, transport and storage within a clay cell constructed within the 15-Mile TMF. Any soils disturbed by infrastructure exceeding site-specific soil quality guidelines will be remediated. Delineation will be completed as works on the historic tailings management plan progresses Details regarding disposal of historic tailings, waste rock and contaminated soils will continue to be developed as the Project is further progressed. 15-MMR will work with a consultant to ensure safe and efficient disposal of historic tailings, waste rock and contaminated soils.
Level of detail provided for the TMF design, including use of an unlined tailings facility	In 2025, 15-MMR completed a Multiple Accounts Analysis (MAA) that resulted in the optimization of the location and design of the TMF. Engineering has progressed to the pre-feasibility stage, leveraging knowledge from the St Barbara Touquoy Mine operation. Detailed engineering design work is currently underway with a third-party consultant reviewing each phase to ensure quality assurance and stakeholder confidence. This includes an Engineer-of-Record (a third-party professional engineer who takes legal and professional responsibility for the dam design, construction and performance as defined by MAC and GISTM guidelines) being identified for the life of the dam and ITRB reviewing dam performance annually. Preliminary groundwater and surface water modelling was completed to support the design. Detailed groundwater and surface water modelling is ongoing to confirm the design meets all regulatory standards and guidelines that protect water quality. The TMF will also be designed and managed in adherence to Canadian Dam Association (CDA) guidelines.
Lack of targeted surveys for bird and bats within and around the Project Development Area (PDA)	15-MMR has completed an environmental baseline gap analysis for the 15-Mile Mine Project. A 2025 breeding birds survey, nightjar survey and fall migration survey have been completed, along with a spring migration survey within each PDA in 2026. Bat acoustic surveys, along with maternity roosting surveys were completed for each mine. Surveys focus on areas in which bats are likely to mate or raise pups.

Old Austen Mine	
Potential impacts to downstream fish habitat in WC-23 (tributary to Cope Brook) and from the proposed Haul Road	The Old Austen Mine has been redesigned to minimize footprint, reduce environmental impacts wherever feasible, and further optimize its design. This includes reducing the PDA by 45% and fully removing the Cope Brook watershed from the PDA.
Inadequate information in the Environmental Effects Assessment	15-MMR retained a third-party consultant to review fish and fish habitat data and complete a gap analysis. A comprehensive fish and fish habitat field survey program was completed summer of 2024, 2025 and upcoming 2026 to address identified data gaps. Concerns with inadequate information relating to pathway of effects to fish and fish habitat, thermal data and effects on fish and fish habitat will be more thorough and 15-MMR targets to have adequate information available to make informed decisions.
Due to the high reactivity of historical gold mine tailings in Nova Scotia all historical tailings, waste rock, and till impacted by previous mining activities should be stored in a lined cell within the potentially acid generating waste rock stockpile footprint	Disposal of historic tailings will occur for the Project. Remediation for mercury impacted soils will include excavation, transport and storage within a clay cell constructed within the 15-Mile TMF. Any soils disturbed by infrastructure exceeding site-specific soil quality guidelines will be remediated. Delineation will be completed as the historic tailings management plan progresses Details regarding disposal of historic tailings, waste rock and contaminated soils will continue to be developed as the Project is further progressed. 15-MMR will work with a third-party consultant to ensure safe and efficient disposal of historic tailings, waste rock and contaminated soils.
Method for storing potential acid generating (PAG) waste rock	PAG waste rock generated will be stored on surface temporarily and placed back into the exhausted Austen Pit. Based on geochemical analyses indicating the potential for acid rock drainage, it is assumed that a clay or geomembrane liner will be required to collect and manage contact water from the PAG stockpile until the material can be backfilled into the empty pit. This aligns with industry standard and is promoted by MEND (Mine Environment Neutral Drainage) and by ECC in recently released guidelines.
Potential impacts on mainland moose population	The Project has been redesigned to minimize footprint, reduce environmental impacts wherever feasible, and further optimize its design. This includes micro-siting of infrastructure in areas to avoid moose patches Additionally, 15-MMR has minimized habitat fragmentation by prioritizing the upgrade of existing roads, which avoids the disturbance associated with constructing new roads. 15-MMR staff will provide wildlife awareness training to personnel to reduce interactions between site personnel and wildlife. A Wildlife Management Plan (WMP) will be developed and approved before construction begins.
Avoidance of wetlands should be completed where possible	The Old Austen Mine has been redesigned to minimize footprint, reduce environmental impacts wherever feasible, and further optimize its design. This includes reducing the PDA by 45% and reducing the number of wetlands impacted by 61%.

1.5.4 Plan for Future Engagement

As the Project continues to develop, the Proponent will continue engagement with government departments, agencies, and regulatory authorities. It is expected to re-engage existing groups, as well as include new parties as the Project advances. Building on the engagement efforts listed above, the following initiatives will also be included in the plan:

- Implementation of the Regulatory Engagement Plan.
- 15-MMR will continue to engage regulators through scheduled coordination meetings at key Project milestones to discuss technical studies, regulatory requirements, and permitting timelines.
- Updated technical information will be shared with relevant departments as studies are finalized to support informed review and feedback.
- Continue to offer site tours to regulators and government departments as part of ongoing engagement efforts. These tours provide an opportunity to observe site conditions firsthand, review key infrastructure locations, discuss mitigation measures in the field, and address technical questions in real time.
- Continue to keep regulators informed of planned public engagement activities, including the timing, format, and key discussion topics.

- 15-MMR is committed to maintaining transparent and timely communication with government departments and regulatory authorities to ensure they remain informed of Project developments and are provided with the information necessary to support their respective review and oversight roles.
- 15-MMR will continue to engage with both federal and provincial regulators to provide feedback on the draft co-operation agreement between Nova Scotia and Canada.

It should be noted that 15-MMR circulated a draft IPD for review and comment prior to submission. Comments were considered and incorporated, where feasible.

1.6 Summary of Engagement with the Mi'kmaq

1.6.1 Overview

The Mi'kmaq, the founding people of Nova Scotia, remain the predominant Indigenous group within Nova Scotia and hold both Aboriginal and Treaty rights. 15-MMR is committed to engaging with the Mi'kmaq of Nova Scotia as part of the 15-Mile Processing Hub Project, focusing on building meaningful relationships, trust, and fostering open, transparent dialogue throughout the life of the Project. Since 2016, the company – under its previous name – has actively engaged with the Mi'kmaq of Nova Scotia to seek understanding of community priorities and integrate Mi'kmaq perspectives into Project planning and decision-making. 15-MMR continues to engage with the Mi'kmaq of Nova Scotia, our engagement objectives include:

- Deepening our understanding of Mi'kmaq history, core values, knowledge and teachings through learning and listening.
- Engaging early and meaningfully to share Project information, understand interests and concerns, fostering inclusive, transparent, and open dialogue.
- Following community engagement protocols.
- Providing opportunities for discussion, including appropriate time for review and response.
- Identifying and addressing barriers to engagement.
- Collaborating to identify mitigation strategies, opportunities for Project participation and capacity building.

1.6.2 Mi'kmaq Engagement

15-Mile Processing Hub Project

15-MMR actively works to build relationships with the Mi'kmaq of Nova Scotia, striving to build meaningful relationships and partnerships throughout the province, respecting Mi'kmaq rights, working to understand areas of interest, and address potential Project impacts. 15-MMR respects the unique and specific insights of the Mi'kmaq and seeks to take those into consideration prior to making decisions. We are committed to working alongside the Mi'kmaq to develop a relationship rooted in mutual respect, transparent communication, and a commitment to meaningful, long-term engagement.

Figure 1.6-1 provides an overview of the Mi'kmaq First Nations communities across the province of Nova Scotia in relation to each of the PDAs. 15-MMR has engaged with Mi'kmaq leaders and communities in closest proximity to the Project locations. Part of the engagement process includes participating in established community engagement protocols. While engagement began in 2016, in early 2025, 15-MMR reinitiated engagement regarding the Project with the following communities and organizations:

- Millbrook First Nation
- Paq'ntkek Mi'kmaw Nation
- Pictou Landing First Nation
- Sipekne'katik First Nation
- Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO)
- Maritime Aboriginal Aquatic Resources Secretariat (MAARS)
- Maritime Aboriginal Peoples Council (MAPC)
- Native Council of Nova Scotia (NCNS)

Engagement continued to share Project changes including those made as a result of identified areas of interest and concerns raised during previous engagement. 15-MMR continues to seek opportunities to listen, learn and work collaboratively to address areas of concern and potential impacts of the Project, and develop a shared path forward. Details regarding engagement activities are included in Appendix D. Current engagement activities specific to the Project include:

- Meetings with Chiefs and Council members and St Barbara's CEO, to listen, learn, and understand community perspectives.
- Ongoing meetings with KMKNO to discuss updates regarding the 15-Mile Processing Hub Project, participation in baseline programs, site visits, data sharing and future plans for engagement.
- Initiated the Sipekne'katik Governance Initiative Protocol through submission of an application and beginning discussions.
- Invitations extended to communities to participate in site visits and baseline programs.
- An Open House was held for NCNS community members, with a representative from MAPC/MAARS also in attendance. The meeting opened with a presentation, after which poster boards were available for viewing and one-to-one conversations took place. A virtual meeting was held with KMKNO to discuss updates to St Barbara's projects, including revisions to the 15-Mile Processing Hub Project to address issues and concerns raised in earlier engagement with the Mi'kmaq of Nova Scotia.
- Ongoing meetings with NCNS and MAPC/MAARS to discuss the 15-Mile Processing Hub Project, participation in baseline programs, data sharing, future community events, including additional Open Houses and more. These meetings are occurring on a regular basis.
- Information packages were sent to provide an update about the 15-Mile Processing Hub Project, highlighting Project updates and focusing on changes 15-MMR has made in response to issues and concerns raised previously during Mi'kmaq engagement in relation to the previous projects. Packages were addressed to Chief Robert Gloade (Millbrook First Nation), Chief Lorraine Augustine (Native Council of Nova Scotia), Chief Tamara Young (Pictou Landing First Nation), Chief Michelle Glasgow (Sipekne'katik First Nation), Chief Juliana Julian (Paq'tnkek First Nation) and Chief Deborah Robinson (Wasoqopa'q First Nation). See Appendix F for a copy of the package sent.
- A Community Partnership Agreement (CPA) has been signed between 15-MMR and a Mi'kmaq Organization. CPAs assist in creating a respectful and collaborative relationship between the Proponent and the community. 15-MMR remains committed to working with Mi'kmaq communities to establish CPAs, and other forms of benefits agreements, that foster shared benefits and long-term, sustainable partnerships.

Project planning has been informed through the following Mi'kmaq Ecological Knowledge Studies:

- 15-Mile Mine MEKS (Mi'kmaq Ecological Knowledge Study) completed in November 2024 by Membertou Geomatics Solutions.
- Cochrane Hill Gold Project MEKS completed in April 2019 by Mi'kma'ki All Points Services Inc. An updated MEKS is in progress by Membertou Geomatics Solutions and expected to be complete in 2026.
- Beaver Dam Mine Project MEKS completed in June 2009 by The Confederacy of Mainland Mi'kmaq and a second study was completed in November of 2016 by Mainland Mi'kmaq Development Inc. An updated MEKS is planned to begin Spring 2026 by Membertou Geomatics Solutions and expected to be completed in 2027.

As the Project progresses, 15-MMR remains committed to engaging and strengthening relationships with the Mi'kmaq working to build trust and transparent communication. We are seeking opportunities for input at each phase of development.

Previous Engagement with the Mi'kmaq

15-MMR and its previous owners have been engaging with the Mi'kmaq on the Project and its predecessors since 2016. Previous engagement activities are summarized in Appendix B: Previous Mi'kmaq Engagement and Key Outcomes, and have included:

- Meetings with community Chiefs and Council members.
- Project presentations and updates with community members and representative organizations.
- Community Open Houses.
- Formal TAG established for the 15-Mile Mine Project. This group was dissolved when 15-MMR – formerly operated as Atlantic Mining Nova Scotia (AMNS) – chose to withdraw from the federal review process, formally terminating the environmental assessment in August 2023, to take time to redesign the Project.
- Project site tours.
- Sharing project information, including planning and project details, field permitting requests.
- Sharing baseline data, including baseline groundwater, surface water, and fish and fish habitat survey results.
- Providing responses to requests and concerns raised during meetings and received through formal correspondence.
- Preparation of gold mining information documents as requested by Mi'kmaq communities.
- Invitations to participate in baseline environmental monitoring programs and exploration drilling programs.

- Sharing employment opportunities.
- A community phone line for residents to call and ask questions, request updates, and employment opportunities.
- Community Offices open to the public as a space to ask questions about the Project and stay up to date.

Through the previous engagement activities, 15-MMR's predecessor companies received formal feedback from Mi'kmaq leaders, communities and representative organizations related to proposed project activities and mitigation measures. Millbrook First Nation provided feedback for the Beaver Dam Mine Project through a formal information request letter and correspondence from Chief and Council and completed a Community Wellness Study Analysis (Beaver Dam Community Wellness Study). The NCNS provided an information request letter for the Fifteen Mile Stream Gold Project and Beaver Dam Mine Project and comments on the draft EIS guidelines for the Cochrane Hill Gold Project. The KMKNO provided an information request letter and peer reviewed letter for the Fifteen Mile Stream Gold Project.

Issues and concerns raised during engagement, described in Section 1.6.3 and Appendix B, were thoroughly reviewed, and every effort has been made to address them, where feasible, in the current Project plan. Additional information regarding previous project engagement is available in Appendix E.

1.6.3 Key Issues and Concerns Raised by the Mi'kmaq

Areas of interest and concerns raised in relation to the current Project as well as for the individual sites and a description of how these have been and/or will be addressed are provided in Table 1.6-1. A full list of concerns, issues, and comments are provided in Appendix B. 15-MMR is committed to continued engagement with the Mi'kmaq of Nova Scotia to discuss concerns and seek ways to collaboratively address them.

Table 1.6-1 Key Issues and Concerns Raised by the Mi'kmaq of Nova Scotia

Key Issue or Concern	Action Taken and/or Planned
15-Mile Mine	
Monitoring dust and particle emissions during construction and operations	The redesigned layout of the 15-Mile Mine includes fewer stockpiles, eliminates the PAG waste rock stockpile by backfilling material directly into the TMF or empty pit, and removes the medium- and low-grade stockpiles. A Dust Management Plan will be developed for the Project. The plan will outline measures for monitoring, controlling, and mitigating dust emissions during all phases of the Project, including construction, operation, and closure. The process plant and crushing circuit are being reused from Touquoy Mine which includes dust control such as mechanical covers on conveyors, drop points and screen decks.
Conservation of Mi'kmaq artifacts	15-MMR engaged a third-party consultant to conduct archaeological screening and reconnaissance for the PDA. No pre-contact Mi'kmaq artifacts were found. During construction or operations, if archaeological deposits are encountered procedures and protocols developed by the Mi'kmaq of Nova Scotia and the Nova Scotia Museum will be implemented.
Absence of water treatment	15-MMR has re-designed the Project to include water treatment and will further refine water treatment during detailed water modelling and the permitting process. 15-MMR will take an impacts-based approach to water quality. This approach will model the impacts to aquatic populations and, based on if these impacts are predicted to be harmful, propose and implement mitigation. 15-MMR has conducted metallurgical test work to reduce the cyanide and reagents required for processing, with a further benefit of reducing the byproducts of cyanide destruction inclusive copper and ammonia. Test work and plant design has included pre-treatment of arsenic immediately after cyanide destruction to reduce dissolved arsenic in effluent. 15-MMR is committed to maintaining a robust water quality monitoring program to confirm water quality. 15-MMR is committed to completing a Human Health Risk Assessment. Monitoring will be ongoing throughout all phases of the Project.
Seloam Brook Realignment design, focusing on fish passage and dust impact on fish	15-MMR has redesigned the Seloam Brook Realignment, focusing on fish passage. This redesign will be discussed with KMKNO, NCNS and other relevant Mi'kmaq organizations, and DFO for feedback. A Dust Management Plan will be developed for the Project. The plan will outline measures for monitoring, controlling, and mitigating dust emissions during all phases of the Project. 15-MMR has retained a third-party consultant to complete an Ecological Risk Assessment to investigate potential effects of dust on fish and fish habitat. 15-MMR is committed to completing a Human Health Risk Assessment. Monitoring will be ongoing throughout all phases of the Project.
Adverse impacts to fish and fish habitat, loss of habitat and	15-MMR retained a third-party consultant to review fish and fish habitat data and complete a gap analysis. A comprehensive fish and fish habitat field survey program was completed summer of 2024, 2025 and upcoming 2026 to address identified data gaps.

Key Issue or Concern	Action Taken and/or Planned
migration of Indigenous fish species	15-MMR is committed to implementing an Offsetting Plan (which will be required to meet the requirements of a *Fisheries Act Authorization* (FAA)) to compensate for fish and fish habitat impacts. 15-MMR remains open to working collaboratively with the Mi'kmaq of Nova Scotia and DFO to identify fish offsetting projects that can be incorporated into the Offsetting Plan. 15-MMR is committed to completing a Human Health Risk Assessment. Monitoring will be ongoing throughout all phases of the Project.
Lack of targeted surveys for bird and bats within and around the PDA	15-MMR completed an environmental baseline gap analysis for the 15-Mile Mine Project. A 2025 breeding birds survey, nightjar survey and fall migration survey have been completed, along with a spring migration survey within each PDA in 2026. Bat acoustic surveys, along with maternity roosting surveys, have been completed for each mine site. Surveys focus on areas in which bats are likely to mate or raise pups.
Accidents and malfunctions in relation to the TMF	In 2025, 15-MMR completed a new Multiple Accounts Analysis (MAA) that supported the optimization of the location of the TMF. Detailed engineering design work is currently underway with a third-party consultant. A Dam Breach Study will be completed before permits are obtained. 15-Mile's TMF will be supported by third party professionals to ensure adherence to performance objectives, regulatory guidelines and best practices. This includes an Engineer-of-Record (a third-party engineer licensed professional engineer who takes legal and professional responsibility for the dam design, construction and performance as defined by Mining Association of Canada (MAC) and Global Industry Standard on Tailings Management (GISTM) guidelines) being identified for the life of the dam and independent tailings review board (ITRB) reviewing dam performance annually. St Barbara has had success constructing, operating and monitoring a TMF within Nova Scotia.
Flow reductions in East Lake and East Brook waterbodies	15-MMR has redesigned the Project to omit infrastructure from the East Lake Watershed. This redesign should significantly reduce or eliminate potential flow reduction issues.
Reclamation planning and timing for renewed access to the site after active mining is completed	The Project was redesigned with reclamation in mind. Simplified layouts, source term controls and reduced infrastructure improve reclamation timelines and scope. For example, backfilling vacant open pits accelerates final landforms by decades compared to previous designs of flooding. Designs have been optimized from experience with Touquoy Mine reclamation to support detailed timelines and progressive reclamation. Details will be further developed during permitting and throughout the life of mine through engagement with the Mi'kmaq. 15-MMR is planning to complete progressive reclamation during operations where practical, including backfilling PAG during operations at 15-Mile.
Old Austen Mine	
Food insecurity and rising food costs	15-MMR acknowledges community concerns around food insecurity and rising food costs. 15-MMR has attempted to significantly reduce its impact on country foods and use of the land for traditional purposes through the reduction of land disturbance associated with the Project through the redesign, reduced open pit size and elimination of the Beaver Dam Haul Road. 15-MMR remains open to discussions with Millbrook First Nation to explore potential options to provide support.
Concerns regarding the timing and on-set of acid rock drainage	PAG waste rock generated will be stored on surface temporarily and placed back into the exhausted Austen Pit, to reduce how long it remains exposed on surface. Water modelling will be updated during permitting as more information becomes available, and additional measures will be added if needed to manage acid rock drainage risks. The reduced open pit size has also reduced the amount of waste rock and PAG material.
Haul Road and potential impact on Traditional Land Use	Millbrook First Nation raised concerns about the potential disturbance to Crown Lands along the proposed haul road route and how it could interfere with Traditional Land Use. 15-MMR has now removed the haul road from the Project and will no longer construct, upgrade, or use this route for transporting ore.
Loss of Traditional Land Use	15-MMR redesigned the Old Austen Mine to reduce the size of the open pit and redesigned the layout to reduce the PDA by 45% in an effort to address this concern. The Old Austen Mine PDA is designed to maintain access to the Killag River from the west side for fishing purposes. 15-MMR is open to discussing site access with the community (Millbrook First Nation) throughout all phases of the Project, where safe and feasible.
Safety concerns relating to emergency response	A Project Emergency Response Plan (ERP) will be developed and submitted for regulatory approval. 15-MMR would like to collaborate with Millbrook First Nation to include their input to address concerns regarding emergency response.

Concerns relating to contingency planning for accidents and malfunctions	Hazards will be identified and assessed based on risk with mitigation measures and contingency planning in place. An ERP will be developed and submitted for regulatory approval. 15-MMR would like to collaborate with Millbrook First Nation to develop an ERP to be followed in the event of an accident or malfunction. Reduced risk with simple quarry style project with less infrastructure and smaller stockpiles to eliminate potential for risks. 15-MMR will apply industry leading standards.
Community proximity to pollution source	15-MMR has redesigned the Old Austen Mine with a smaller open pit design and layout to reduce the PDA by 45%, creating a substantially smaller footprint. It is recognized that there is historical contamination in the PDA from historic tailings. As part of operations, these historical tailings will be remediated, improving the existing environmental conditions and reducing the risk of ongoing pollution. 15-MMR is committed to completing a Human Health Risk Assessment. 15-MMR would like to collaborate with Millbrook First Nation to develop contingency plans in the case of an accident or malfunction.
Proximity of community to the mine site	15-MMR has undertaken significant redesign efforts for the Old Austen Mine to minimize environmental impacts and respond to community concerns. As part of this work, the number of watersheds affected by the open pit and associated infrastructure has been reduced from seven to four, including the removal of the Cope Brook Watershed from the PDA. Cope Brook flows directly to Millbrook IR17, and this adjustment reflects 15-MMR's commitment to addressing Millbrook's concerns regarding water quality. Additionally, the Project has been further optimized to eliminate 23 Mt of surface waste rock, which is expected to reduce potential impacts on water quality.
Concern that noise and activity may disrupt the quietude of the area, affect wildlife behaviour	Noise modelling will be conducted for the Project, and noise suppression measures will be applied where appropriate. Vegetative buffers will be maintained to act as natural noise barriers. A Blast Management Plan will be developed, with blasting occurring during daytime hours. Nearby communities will be provided notification in advance of blasting. 15-MMR staff will be provided wildlife awareness training to reduce interactions between site personnel and wildlife. A Wildlife Management Plan (WMP) will be developed and submitted for regulatory approval prior to the start of construction. The Project redesign incorporates a reduced open pit, together with a lower proposed mining and haulage rate. These modifications materially decrease the overall scale and intensity of operations, resulting in a reduction in the quantity of mobile equipment required during operations. 15-MMR remains open to engage with Millbrook First Nation to continue to address concerns regarding the Project.
Old Mitchell Mine	
Environmental impacts, including potential impact to wetlands	15-MMR has reduced the open pit by 14 Mt and scaled back the overall PDA, resulting in a smaller infrastructure footprint. The revised design eliminates the need for a TMF and a process plant, and significantly reduces environmental effects, including a 55% reduction in the wetland disturbance footprint.
Volume of water withdrawal from Archibald Lake	15-MMR has redesigned the Old Mitchell Mine such that a surface water withdrawal is no longer required, and the PDA no longer includes Archibald Lake for water withdrawal or discharge.
Impacts to old growth forest	The redesign of the Old Mitchell Mine layout focused on avoiding impacts to sensitive environmental receptors, including identified Old Growth Forest within the PDA. 15-MMR is planning to conduct an Old Growth Forest field program early Spring of 2026. Where practical, the Old Mitchell Mine layout will be adjusted to avoid Old Growth Forest.
Concerns with proximity to St. Mary's River	15-MMR has redesigned the Old Mitchell Mine to avoid direct interaction with the St. Mary's watershed. Both the project area and open pit size have been reduced to further increase the buffer.
Concern over cumulative effects of multiple developments	15-MMR has redesigned the Project to minimize its footprint, reduce environmental impacts wherever feasible, and continues to optimize its design. By consolidating the three mine sites and redesigning them as a single, integrated Project, 15-MMR has optimized and balanced operational activities across all locations. This unified approach enables a comprehensive assessment of cumulative effects, considering the interactions and combined impacts of the three sites as components of one coordinated Project. 15-MMR is committed to completing a Human Health Risk Assessment.

1.6.4 Plan for Future Engagement

In 2025, 15-MMR renewed engagement with the Mi'kmaq of Nova Scotia, engagement will continue throughout all phases of the Project. Engagement activities will be developed through discussion with the Mi'kmaq. Building on the engagement efforts listed above, the following initiatives are planned:

- Meetings with community Chiefs and Council members
- Community Open Houses to share and discuss Project information. Open houses will be planned with the community to meet community objectives. Open houses present an opportunity to learn more about the Project, share concerns, ask questions and provide feedback.
- Invite communities to participate in environmental baseline studies, including site visits and review of data and reports where appropriate
- Provide draft regulatory documents for review and feedback, including the Initial Project Description (IPD) and baseline study results
- Provide funding and opportunities to participate in regulatory review processes
- Share job opportunities on Mi'kmaq job boards, which can include future training opportunities
- Exploration Agreements, Memoranda of Understanding (MOUs), Mutual Benefits Agreements (MBAs), and other agreements as relevant are currently under development, signed, or upcoming with the appropriate communities.

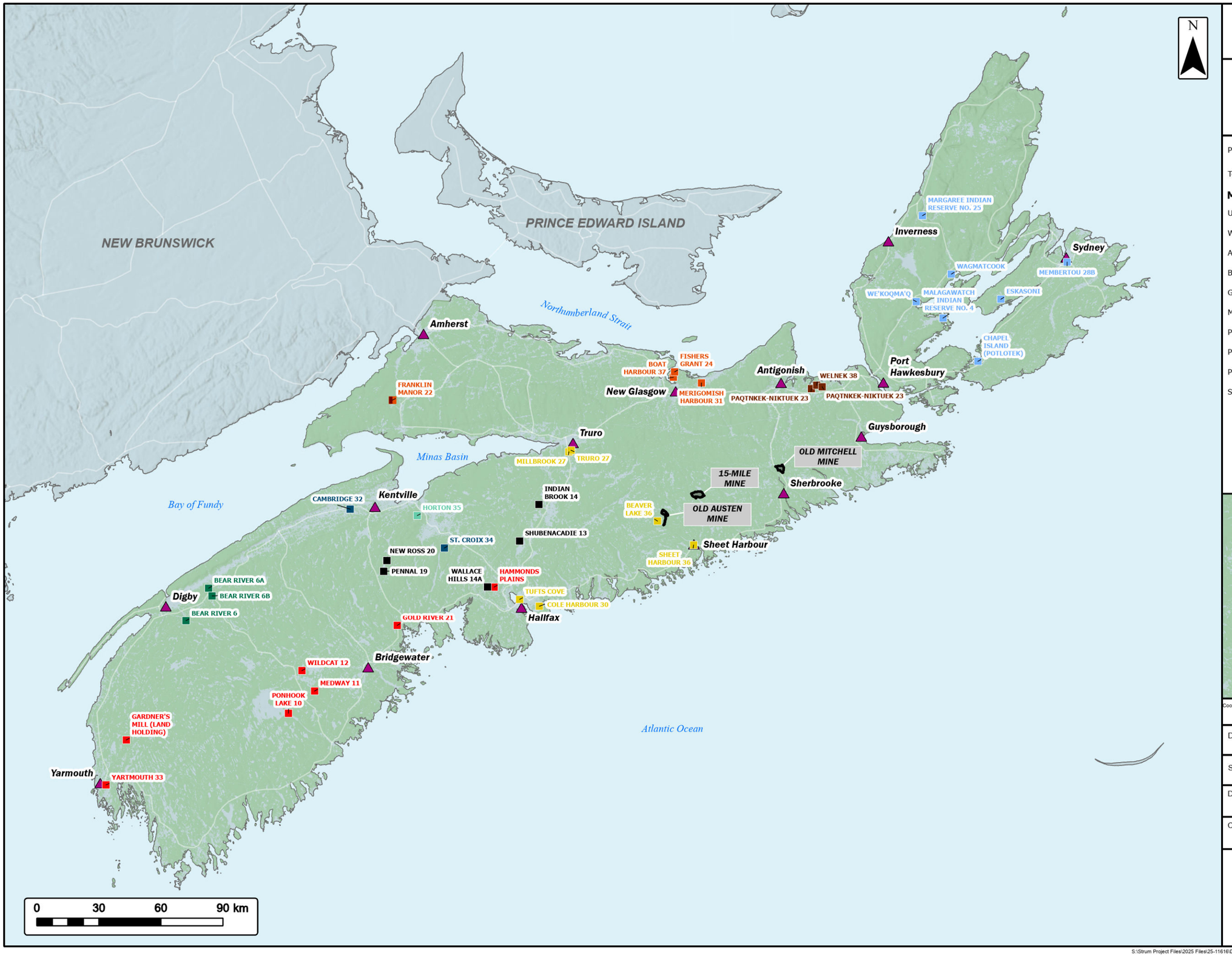
Project planning will continue to be informed by MEKS with updated studies to be completed for the Old Austen Mine and the Old Mitchell Mine. 15-MMR will adhere to established principles of data sharing and data use consent, as guided by the Mi'kmaq of Nova Scotia.

As part of our ongoing commitment to engagement and collaboration with the Mi'kmaq of Nova Scotia in relation to the Project, 15-MMR remains open to exploring support for Indigenous-led health and socio-economic baseline studies, including a country foods study, or to conducting co-designed baseline studies on Indigenous health, social, cultural, and economic conditions with potentially affected Mi'kmaq, and looks forward to the opportunity to work together. For any such studies undertaken, 15-MMR and the affected Mi'kmaq will collaboratively establish a set of guiding principles regarding ownership of both the information and the methodologies, enabling communities to replicate, update, or build upon these studies over time.

15-Mile Processing Hub Project

Mi'kmaq First Nation Communities of Nova Scotia

St Barbara



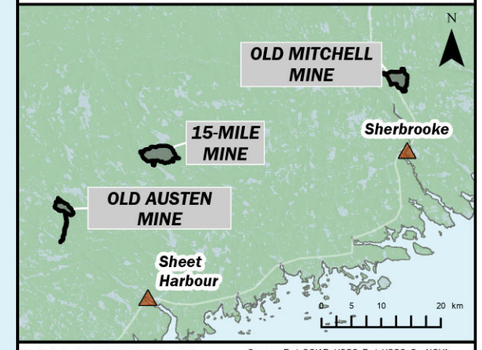
Project Location

Town/City

Mi'kmaq First Nation Communities of Nova Scotia

- Unama'ki First Nation
- Wasoqopa'q First Nation
- Annapolis Valley First Nation
- Bear River First Nation
- Glooscap First Nation
- Millbrook First Nation
- Paqtnkek Mi'kmaw First Nation
- Paqtnkek Mi'kmaw First Nation / Pictou Landing First Nation
- Pictou Landing First Nation
- Sipekne'katik First Nation

PRELIMINARY



Coordinate System: NAD 1983 UTM Zone 20N

Sources: Esri, CGIAR, USGS, Esri, USGS, GeoNOVA, SNSIS, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

Date: 2026-03-05	Project #: 25-11616
Scale: 1:1,750,000	Drawing #: **1.6-1**
Drawn By: E. Johnson	
Checked By: S. Allain	

strum CONSULTING

S:\Strum Project Files\2025 Files\25-11616\Drawings\ArcGIS\ArcGIS_Projects\25-11616_Municipalities_Rightsholders\25-11616_Municipalities_Rightsholders.aprx

1.7 Summary of Engagement with Stakeholders

1.7.1 Overview

15-MMR follows the St Barbara Community and External Relations Policy, which aims to engage with and contribute to the communities in which we operate, recognizing that mining can provide social and economic development for local communities. St Barbara is committed to help communities thrive, grow and prosper – building meaningful relationships, investing time and energy to create a positive legacy for future generations. 15-MMR will achieve this commitment by the following:

- Assess and understand the risks and potential impacts to local communities from our activities and supply chain and establish performance objectives and standards which are integrated into our management practices.
- Respect the dignity, culture, wellbeing and human rights of our employees, the communities and others affected by our operations.
- Engage with local communities to ensure healthy relationships with mutually beneficial outcomes.
- Invest in development projects that benefit the community beyond the life of the mine to deliver long-term outcomes for the community.
- Proactively engage with stakeholders with timely information about our activities.
- Provide accessible and effective grievance mechanisms and investigate complaints or other incidences and take corrective action when required and report to applicable authorities and within public reporting.
- Improve the health and wellbeing of local communities through education and health programs to reduce the impacts from preventable diseases.
- Continue to participate in local events and contribute to organizations that align with community interests and priorities.
- Comply with all legislation, regulations and permits including with respect to human rights.

1.7.2 Engagement Activities with Stakeholders

15-Mile Processing Hub Project

Engagement with stakeholders regarding the Project is ongoing and will continue to evolve as the Project advances. Our approach is grounded in transparency, collaboration, and ongoing dialogue to ensure meaningful input is considered throughout each phase of Project development. Current and ongoing engagement activities specific to the Project include the following:

- A Community Liaison Committee (CLC) was established for the Fifteen Mine Stream Gold Project and the Beaver Dam Mine Project to serve as a bridge between the Project and the local community. The committees are composed of local residents with diverse backgrounds and perspectives on mining and environmental matters. These forums facilitate two-way communication between 15-MMR and community members — sharing information, gathering feedback, and fostering trust and transparency. In the Spring of 2025, two separate meetings were held with the Fifteen Mine Stream Gold Project and the Beaver Dam Mine Project CLCs to provide Project updates and discuss ongoing changes. In the Fall of 2025, two separate meetings were held with each group providing greater detail regarding Project changes. In Winter of 2026, a meeting was held with the Fifteen Mine Stream Gold Project CLC to continue providing Project updates and present the results from Open Houses held late 2025 (described below). A meeting with the Beaver Dam Mine Project CLC is planned for Winter of 2026 to continue discussions on Project updates, provide Open House updates and respond to questions related to these changes.
- A CLC was previously established for the Cochrane Hill Gold Project under the previous iteration of the Project. While the CLC has been largely inactive recently, 15-MMR has reestablished contact with the members and plans to hold an informal meeting in February 2026. The purpose of the meeting is to explore interest and discuss options for developing a new CLC for the 15-Mile Processing Hub for community members near the Old Mitchell Mine.
- 15-MMR hosted three Open Houses in late Fall of 2025 to share information about the Project, focusing on supplier and employment opportunities to gauge interest from the surrounding communities. Environmental experts were present to help answer questions, and community members were able share their thoughts, ask questions, and raise concerns. The Open Houses also provided an opportunity for 15-MMR to connect with local residents and foster better understanding of what a project of this scale could mean for the area.
- 15-MMR designed and distributed a community feedback survey to understand preferred approaches to future engagement and topics people want to learn more about.
- A newsletter was sent out to over 40,000 households across the Project region to inform surrounding communities of Project plans and encourage dialogue with the 15-MMR team.

- New Community Offices were opened in Stellarton and Guysborough, Nova Scotia in Fall of 2024 to support the Project and to create a welcoming space where people can drop in, ask questions, and stay connected. These offices provide local businesses a chance to connect with the 15-MMR team and explore whether their services might be a good fit for our business needs.
- Continue to operate the Community Office in Sheet Harbour for the public as a space to ask questions about the Project and stay up to date on Project progression and news.
- Seventeen CPAs have been signed between 15-MMR and communities within the Project region. These CPAs help create a respectful and collaborative relationship between the Proponent and the community, demonstrating we are committed to working with the community. 15-MMR continues to collaborate with community groups to establish CPAs where they are mutually beneficial.
- A community phone line and email address, originally established for the previous projects, remain available for residents to submit questions, obtain Project updates, inquire about employment opportunities, and contact the 15-Mile Processing Hub Project team.
- Creation of a Project specific website (https://stbarbaragold.ca/) to provide Project updates and information. The website also provides an opportunity for interested parties to view local career opportunities available.
- 15-MMR has made multiple presentations to local high schools to raise awareness about the mining industry.
- Participation in community events, allowing 15-MMR to share Project updates, receive community feedback and build relationships within the community, including:
  - Attended as a Proponent representative and contributed as a sponsor to the Dalhousie Go Eng Girl Event, which hosts over 200 hundred high school girls interested in engineering. Female attendees answered questions about engineering, mining and what it is like to be a female in a male dominated industry.
  - Attended the 2025 Feast for A Cause, which is an annual event to raise money for the St. Mary's District Foodbank.
  - Attended multiple Remembrance Day ceremonies and participated in wreath-laying.
  - Participated in the Sheet Harbour Decorating Day for Christmas on Main Street. Helped local residents put up decorations, including trees and lights around the community to prepare for the annual Christmas on Main Street event.
  - Participated in the Sheet Harbour annual Christmas on Main Street event, providing treats, face painting, hot chocolate and other giveaways for attendees.
  - Hosted an afterhours event in Stellarton, which consisted of suppliers, industry and business owners within the community.
- The Proponent has made financial contributions to a number of groups and initiatives within communities across the Project's regional area, including:
  - Bursaries and donations to support graduating high school students.
  - Support for local outdoor and recreational groups including fishing derbies, ATV rallies, sports teams and community associations.
  - Industry sponsorships, including golf tournaments and conferences.
  - Over $50,000 has been donated to local food banks during the 2024 holiday season, helping to feed over 1,000 families and contributing gifts to the community giving trees.
  - Provided water to the Municipality of the District of St. Mary's during the Summer of 2025 drought, supporting community needs at a time when regional water levels were critically low and residential wells had run dry.

15-MMR is focused on engaging with local groups, community-based organizations and other non-government organizations (NGOs) to communicate Project updates. These updates focus on Project optimizations including reduced environmental impacts, enhancing community benefits and addressing stakeholder concerns. 15-MMR has initiated contact with the following stakeholders and is actively working to engage all prior and newly identified parties:

- Antigonish Chamber of Commerce
- Atlantic Hockey Group 2016 Storm Team
- Cochrane Hill Gold Project CLC
- Community of Guysborough County
- Community of New Glasgow
- Community of Sheet Harbour
- Construction Association of Nova Scotia (CANS)

- Country Harbour BroadHorns ATV Club
- Country Harbour Gun Club
- Dalhousie University (DAL)
- Ecum Secum Community Centre
- Fifteen Mile Stream Gold Project CLC
- Gerald Hardy Memorial Society
- Goldenville Heritage Society
- Goshen Community Recreation Centre
- Guysborough Academy/Chedabucto Education Centre
- Guysborough Amateur Athletic Association
- Guysborough and Area Food Bank Society
- Helping Hands (Square Roots)
- Highland District Soccer Association
- Historic Sherbrooke Village Development Society
- Karma Closet - Northumberland Regional High School
- Marine Drive Academy
- Men of the Deeps
- Mining Association of Nova Scotia (MANS)
- Mining Society of Nova Scotia (MSNS)
- Mushaboom Community Center
- Musquodoboit Rural High School
- North Nova Education Centre
- Nova Scotia Community College
- Nova Scotia Power Inc. (NSPI)
- Nova Scotia Salmon Association (NSSA)
- Nova Scotia Works
- Pictou County Chamber of Commerce
- Pictou County Food Bank East
- Royal Canadian Legion Branch 147 (Upper Musquodoboit)
- Sheet Harbour and Area Chamber of Commerce and Civic Affairs
- Sheet Harbour and Area Heritage Society
- Sheet Harbour Ground Search and Rescue
- Sheet Harbour Lion’s Club
- Sheet Harbour Marina Association
- Sheet Harbour Rockets Association
- Sheet Harbour ATV and Snowmobile Club
- Saint Francis Xavier University (STFX)
- St. Mary's Education Centre/Academy

- Tide Volleyball Club
- Touquoy Mine/Beaver Dam Mine Project CLC

Additional information can be found in Appendix D with regards to stakeholder engagement.

Previous Engagement with Stakeholders

15-MMR and its previous owners have engaged with stakeholders on the Project and its predecessors since 2016. Previous engagement activities are described in Appendix C: Previous Stakeholder Engagement and Key Issues, and have included:

- Information sharing through emails, websites, letters, pamphlets, presentations and meetings, Open Houses, and mailouts to distribute project information, including planning and project details, field permitting request, invitations to meet and data sharing.
- The Sherbrooke Community Office was opened in 2019 to provide a space for community members to ask questions and stay informed about project developments. The office closed in 2023 following the withdrawal of the Cochrane Hill Gold Project from the federal permitting process.
- Media and press releases to promote accurate information about the Project.
- Engagement activities on environmental assessment deliverables such as Plain Language Summaries of Project Valued Component and EIS for the previous projects.

Issues and concerns raised during these engagement activities are summarized in Appendix C and have been incorporated into the current Project plan and are described in Section 1.5.3. Additional information regarding previous engagement is available in Appendix E.

1.7.3 Key Issues and Concerns Raised by Stakeholders

Areas of interest and concerns raised in relation to the current Project as well as for the individual sites and a description of how these have been and/or will be addressed are provided in Table 1.7-1. A full list of concerns, issues, suggestions and comments are provided in Appendix C.

Table 1.7-1 Key Issues and Concerns Raised by Stakeholders

Key Issue or Concern	Action Taken and/or Planned
15-Mile Mine	
Level of detail provided for the TMF design, including use of an unlined tailings facility	In 2025, 15-MMR completed a MAA that resulted in the optimization of the location and design of the TMF. Engineering has progressed to pre-feasibility, leveraging the knowledge from the St Barbara Touquoy Mine operation. Detailed engineering design work is currently underway with a third-party consultant reviewing each phase to ensure quality assurance and stakeholder confidence. This includes an Engineer-of-Record (a third-party engineer licensed professional engineer who takes legal and professional responsibility for the dam design, construction and performance as defined by MAC and GISTM guidelines) being identified for the life of the dam and ITRB reviewing dam performance annually. Preliminary groundwater and surface water modelling was completed to support the design. Detailed groundwater and surface water modelling is ongoing to confirm the design meets all regulatory standards and guidelines that protect water quality. The TMF will also be designed and managed in adherence to the Canadian Dam Association (CDA).
Mine planning and material handling, focusing on PAG storage on surface, tonnage estimates and material balance	15-MMR has done significant work around optimizing the mine plan and material balance. Each site now has a relaxed mining rate to reduce extraction rates while also reducing stockpiles at surface. The Project redesign now includes immediate placement of PAG into the TMF, and backfilling of PAG into exhausted pits to be stored subaqueously – which is industry standard and promoted by MEND and by NSECC in recently released guidelines.
Uncertainty with regards to absence of water treatment	15-MMR has redesigned the Project to include water treatment based on initial source terms and success from Touquoy Mine water treatment. Water treatment will further be refined during detailed water modelling and the permitting process. 15-MMR will take an impacts-based approach to water quality. This approach will model the impacts to fish populations and, based on if these impacts are predicted to be harmful to fish, propose and implement mitigation. 15-MMR has conducted metallurgical test work to reduce the cyanide requirement for processing below industry standards and other reagents used in operation, with a further benefit of reducing the byproducts of cyanide destruction inclusive copper and ammonia. Test work and plant design has included pre-treatment of arsenic immediately after cyanide destruction to reduce dissolved arsenic in effluent. 15-MMR is committed to maintaining a robust water quality monitoring program to confirm water quality.

Seloam Brook Realignment design, focusing on fish passage and dust impact on fish	15-MMR has redesigned the Seloam Brook Realignment, focusing on fish passage. This redesign will be discussed with KMKNO, NCNS, and other relevant Mi'kmaq and stakeholder organizations for feedback, as well as DFO. A Dust Management Plan will be developed for the Project. The plan will outline measures for monitoring, controlling, and mitigating dust emissions during all phases of the Project.15-MMR has retained a third-party consultant to complete an Ecological Risk Assessment to investigate potential effects of dust on fish and fish habitat.
Access to existing ATV trails	Impacts to ATV trails are expected to be limited to those within the PDA or at areas where ATV trails cross or travel by roads utilized for hauling. 15-MMR is evaluating multiple ore transportation options which will determine whether routes will impact popular ATV trails. Mitigations may be suggested where appropriate. 15-MMR is committed to establishing a by-pass road around the 15-Mile Mine to maintain access to connecting ATV trails.
Old Austen Mine	
Method of PAG storage and historic tailings	15-MMR has done significant work around optimizing the mine plan and material balance. The Project redesign now includes PAG backfilling into the exhausted pits to be stored subaqueously – which is industry standard and supported by MEND and NSECC (based on recent policy updates). Additionally, the open pit has been significantly reduced in size to reduce the amount of PAG waste rock.
Proximity of pit to the Killag River	The redesign of the Austen Pit has been significantly reduced in size which resulted in an increased setback from the Killag River, which has also eliminated more than 23 M**t** of waste material previously proposed for long-term surface storage. The buffer between Austen Pit and the Killag River has increased from approximately 60 m to 110 m.
Flow reduction to the Killag River and adequacy of offsetting projects	15-MMR has redesigned the Old Austen Mine to minimize flow impacts to the Killag River and continues to work with experts to further reduce these effects. As part of this effort, 15-MMR is actively seeking offsetting opportunities and is eager to collaborate with the community and NGOs to identify and develop meaningful offsetting projects together. The Project is using an impacts-based approach to determine optimal discharge locations, reviewing flow losses from infrastructure and placing discharge to offset flow losses while ensuring limited water quality and fish impacts through modelling.
Concerns about hydraulic conductivity and impacts to water quality	15-MMR will conduct additional hydraulic conductivity testing, building on previous work, to verify groundwater pathways between the Killag River and the pit, if necessary. Optimization of the Mine design has further minimized groundwater impacts by reducing surface stockpiles, decreasing the PDA, and backfilling PAG material for subaqueous storage. This redesign also eliminates the need for surface water withdrawal as a significantly lower volume of water is required to operate. The optimized pit boundary is approximately 110 m from Killag River, an increase of approximately 50 m in comparison to previous project designs. The interpolated bedrock surface at the northern edge of the pit is approximately 5 m higher than at the river shoreline, demonstrating no overburden connectivity. Updated groundwater modelling is ongoing and will evaluate potential seepage between the open Austen Pit and the Killag River, if any.
Uncertainty over water treatment and thermal impacts to the receiving environment	15-MMR has revised the Project design to incorporate water treatment where necessary and is conducting further studies on thermal impacts to the receiving environment, including evaluating chilling options for effluent if needed. 15-MMR has optimized the layout such that surface water withdrawal is no longer required for the Old Austen Mine site.
Old Mitchell Mine	
Concerns regarding impacts to the St. Mary's River system and specifically the salmon population within	15-MMR has reduced the size of the Mitchell Pit, eliminating more than 14 Mt of waste material previously proposed for long-term storage, which now does not impact Highway 7 and the direct watershed to the St. Mary's River. The Project design now removes the process plant and TMF, to ensure that none of its infrastructure is in watersheds which flow directly to the St. Mary's River. 15-MMR will take an impacts-based approach to water quality across all three sites. It will model the impacts it will have on fish populations and, based on if these impacts are predicted to be harmful to fish, propose and implement mitigation. Onsite water quality monitoring will ensure that 15-MMR can confirm if it is having impacts on watersheds and as appropriate take actions to mitigate these impacts.
Impacts of noise emitted by the mine	Noise modelling will be completed at each site to determine if adverse impacts are expected. In addition, some mitigations to noise will include: - Where able, trees and other vegetation will be left in place to reduce nuisance noise - Berms will be constructed around the perimeters of the open pits

	A Blast Management Plan will be developed and submitted for regulatory approval. Blasting will occur during permitted hours. Communities within a specified radius will be notified in advance of blasting.
Re-routing Nova Scotia Trunk Highway 7 (Marine Drive)	The optimized pit design for the Old Mitchell Mine eliminates the need to re-route the highway.
Use of Archibald Lake as a discharge location	The Project redesign eliminates the use of Archibald Lake as a discharge location. Archibald Lake was designated a provincial wilderness area in 2023. The redesign of the Project also eliminates the need for surface water withdrawal, as much less water is required to operate. The Project is using an impacts-based approach to determine optimal discharge locations, reviewing flow losses from infrastructure and placing discharge to offset flow losses while ensuring limited water quality and fish impacts through modelling.
Water quality relating to the TMF	The Old Mitchell Mine has been redesigned and will no longer require a process plant and TMF. The Old Mitchell Mine has been redesigned to reduce the number of watersheds that will be impacted from infrastructure and mining activities.

1.7.4 Plan for Future Engagement

A Community Engagement Plan has been developed and is being implemented to guide Project engagement. As the Project develops, the Proponent will continue engaging with stakeholders, local communities and community members. Engagement will include re-engaging existing stakeholders and identifying new parties with interest in the Project as it advances. Building on the engagement efforts listed above, the following initiatives will be implemented:

- Extend office hours at each of the three operating satellite community office locations, including Sheet Harbour, Stellarton and Guysborough.
- Hold Open Houses to share Project updates including baseline data and modelling results. Technical experts will be available to respond to questions and listen to concerns.
- Circulate a draft IPD to active CLCs for review and comment prior to submission. Input will be considered and incorporated, where feasible.
- Continue participating in local events and contributing to organizations that align with community interests and priorities.

1.8 Studies/Assessments

15-MMR is not aware of any publicly available regional studies and assessments relevant to the Project.

While 15-MMR has conducted several MEKS for the three mine sites, 15-MMR is not aware of any publicly available Indigenous-led assessments relevant to the Project.

1.9 Strategic Assessments

The Project is anticipated to be in reclamation by 2050; therefore, a post-2050 net-zero plan is not required as described in the ECCC Strategic Assessment of Climate Change (SACC) (2020). Should a federal impact statement be required for the Project, the SACC will be implemented to quantify potential greenhouse gas (GHG) emissions, develop mitigation measures, and assess climate change resilience. Section 5.4.2 addresses the potential effects of the Project on the atmosphere.

15-MMR is unaware of any other known applicable strategic assessments.

2 Project Information

2.1 Purpose and Need for Project

The Project represents a domestic source of gold, aimed at delivering a reliable supply to support the increasing global demand (Natural Resources Canada, 2025). 15-MMR is dedicated to the responsible and sustainable development of its gold assets, aiming to generate economic value through job creation and local investment, while aligning with global initiatives to promote environmental stewardship and combat climate change.

The Project aligns with the goals of the province to remediate historic tailings in Nova Scotia. The Project includes remediation based on a historic tailings management plan prepared with a third-party professional. As some of these tailings fall on Crown land (portions of the 15-Mile and the Old Mitchell Mine), this would remove the burden of remediation from the Crown. Having gold processing infrastructure and tailings storage in the province may also open opportunities for further remediation of surrounding areas.

A May 12, 2025, news release titled, *Nova Scotia Updates Critical Minerals Strategy*, by the Government of Nova Scotia's Natural Resources sector highlights the province's expanded focus on critical and strategic minerals to create jobs, attract investment and help advance the move to clean energy (Government of Nova Scotia - Natural Resources, 2025). Gold, one of the four strategic minerals recently added to Nova Scotia's strategic minerals list, is in high demand for electronics, dentistry and finance purposes (Government of Nova Scotia - Natural Resources, 2025). This announcement highlights the growing need for gold, as well as the potential Nova Scotia has to supply natural resources, create jobs, and support a growing economy (Government of Nova Scotia - Natural Resources, 2025).

To further support this need, The Honourable Tim Halman, Minister of Environment and Climate Change stated, "Our mining industry is critically important and can play a larger role in supplying the minerals that are in global demand to fight climate change." (NSECC, 2025a). This provincial direction further supports the purpose and need for the Project, which aligns with the goals of sustainable mineral development.

On May 21, 2025, the Prime Minister of Canada, Mark Carney**,** issued a Mandate Letter outlining the federal government's vision for building a stronger, more inclusive economy that works for all Canadians (Carney, 2025). This directive emphasized seven national priorities designed to enhance economic resilience, competitiveness, and sustainability. Among these, a key priority is the expedited advancement of nation-building projects—large-scale initiatives with the potential to connect regions, strengthen critical infrastructure, and transform Canada's long-term economic and social landscape.

This federal focus on accelerating strategic, high-impact projects provides a clear policy backdrop for the proposed Project. As outlined in Section 2.1.1, the potential benefits of the Project extend beyond the provincial level to support national objectives by:

- Contributing to Canada's resource security and supply chains.
- Stimulating regional employment and training opportunities.
- Driving economic diversification in rural areas.
- Enhancing infrastructure and connectivity in the host region.
- Supporting environmentally responsible development aligned with federal climate and sustainability commitments.

By aligning with the Government of Canada's stated priority to "connect and transform our country"**,** the Project is positioned not only as a provincial economic driver but also as a contributor to broader nation-building objectives.

According to statistics published by Statistics Canada and the United States Bureau of Economics, Nova Scotia's per capita GDP in 2024 ranked 59th out of 60 provinces and states (the Hub, 2025). With an estimated $5 billion in total provincial GDP impact, the Project alone represents approximately a 1% increase in Nova Scotia's overall GDP; a substantial economic uplift that would meaningfully contribute to provincial growth, employment, and long-term prosperity.

The commitment to responsible sourcing and environmental stewardship forms a key part of the Proponent's structure and guiding principles, with the Project framed to meet rising global demand for dependable and sustainable gold concentrates.

2.1.1 Potential Benefits

Beyond the Project's role in job creation and economic benefits to Nova Scotia, the Project is anticipated to generate significant government revenue taxes through both construction and operations phases:

- Total provincial GDP impact over the life of the Project is estimated at $5 billion, which represents a 1% increase in provincial GDP.
- Over 1,600 full time jobs across the country during construction encompassing direct, indirect, and induced employment, with 1,380 jobs created in Nova Scotia during construction.

- Over 950 full time jobs across the country during operations encompassing direct, indirect, and induced employment, with 740 jobs local to the province during operations.
- Local spend (Eastern Halifax Regional Municipality Area, Guysborough, Antigonish, Pictou and Colchester) over the life of the Project is estimated at $0.9 billion.
- $66 million in tax revenue (federal, provincial, and municipal) per year during construction.
- $41 million in tax revenue (federal, provincial, and municipal) on average over 11.4 years of operations.
- Total direct spending over the life of the Project is estimated at just over $2.16 billion.

The KPMG studies prepared for 15-Mile Processing Hub Project (2025) provided general socio-economic information for the region (*i.e.*, Antigonish, Colchester, Guysborough and Pictou counties, as well as the Eastern portion of HRM). The assessment of economic effects relies on the Statistics Canada Input-Output (I-O) model to estimate the direct, indirect, and induced economic impacts associated with Project-related expenditures. Project expense data are mapped and allocated to the applicable industry sectors within the input-output framework. The expenditures are then processed through the Statistics Canada I-O model to evaluate how initial Project spending generates economic activity throughout the supply chain (indirect effects), as well as additional economic activity associated with household spending resulting from labour income (induced effects).

2.2 *Physical Activities Regulations* Provisions

This Project is expected to meet a provision under the *Physical Activities Regulations* (SOR/2019-285) pursuant to the *Impact Assessment Act* (IAA). This relevant provision is 18 (c) and (d):

> The construction, operation, decommissioning and abandonment of one of the following:
>
> (c) a new metal mine, other than a rare earth element mine, placer mine or uranium mine, with an ore production capacity of 5,000 tonnes per day (tpd) or more.
>
> (d) a new metal mill, other than a uranium mill, with an ore input capacity of 5 000 t/day or more.

Based on the current Project design, the new metal mine has an anticipated ore production capacity and milling rate of 3 Mt/y, or ~8,219 t/day, exceeding the 5,000 t/day ore production and mill input capacity. In response, 15-MMR is submitting an IPD to the Impact Assessment Agency of Canada as required by section 10(1) of the *IAA*.

2.3 Activities, Infrastructure, Structures, and Physical Works

15-MMR is planning to construct, operate, and reclaim new open pits at three different locations within the scope of the 15-Mile Processing Hub Project. The 15-Mile Mine PDA contains four open pits with infrastructure to manage waste rock, perform mineral processing, refining and tailings storage. The Old Austen Mine and the Old Mitchell Mine will each contain a single open pit with infrastructure to manage waste rock and transport ore to the 15-Mile Mine for processing. The final product at 15-Mile Mine will be a gold doré bar. As local communities exist within reasonable driving distance to the proposed mines, no accommodation infrastructure is included within the Project scope.

Refer to Table 2.3-6 located at the end of Section 2.3 for an overview of expected construction, operation, and closure activities that will take place during the Project lifespan.

In total the 15-Mile Processing Hub Project will process 33.4 Mt of ore over 11.4 years of operation. The breakdown of mined material at each site is summarized in Table 2.3-1 below.

Table 2.3-1 15-Mile Processing Hub Project Mined Material Breakdown

Relevant Site	Mined Ore		Total Mined Material	Average Daily Ore Transported[1]		
	Mt	%	Mt	%	t/d	%
15-Mile Mine	18.5	55	70.7	48	4,495	N/A
Old Austen Mine	4.5	13	22.5	15	1,627	N/A
Old Mitchell Mine	10.5	31	54.6	37	3,148	N/A
Total	33.4		147.8		8,019	

[1]Average Daily Ore Transported is presented for the operating period of each site. As each site has a different operating period, the total average over the operating period 11.4y is not the sum of averages shown for each site.

Note: All values rounded. Rounding may result in apparent summation differences.

2.3.1 15-Mile Mine Facilities and Infrastructure

The 15-Mile Mine will act as the processing hub and core of the 15-Mile Processing Hub Project. Some land within the 15-Mile Mine PDA is owned by 15-MMR, while the majority is Crown owned, with two parcels of private land owned by outside entities. All Project infrastructure and access roads will be situated on 15-MMR owned or Crown owned lands.

The 15-Mile Pits are expected to operate continuously over the 11.4-year mine life at a variable mining rate. Ore from all pits within the Project will be processed through milling infrastructure constructed at 15--Mile Mine. The milling infrastructure will operate continuously over the 11.4-year mine life at production capacity of approximately 3 Mt/yr. 15-MMR has adopted a conservative approach in designing the PDA, while continuing to refine the Project with the aim of further reducing its footprint. The proposed Project layout is shown Figure 2.3-1.

The below is a list of the major infrastructure based on the current design:

- Open pits: Egerton-MacLean, Hudson, Plenty and 149.
- Stockpiles: non-acid generating (NAG) waste rock, organics, topsoil, run of mine (ROM).
- Process plant area: crushing infrastructure, milling infrastructure, mill administration offices, process plant electrical room, assay laboratory, gold room, maintenance workshop, reagent storage, security gatehouse, pump house, and effluent treatment plant and tailings pipelines.
- Mine infrastructure: mine administration offices, truck shop, explosives storage, fuel storage and distribution.
- Tailings management facility.
- Water management: contact pond west, contact pond east, tailings seepage pond, ditching, water management infrastructure, water treatment plant, settling pond, fresh water pumphouse, potable water treatment plant, water pumps and pipelines.
- Waste management: temporary solid waste storage, domestic sewage treatment.
- Power supply: emergency backup generators, distribution lines, electrical substation, switchyard.
- Other Project infrastructure: roads (haul and access), fire safety, communications.

15-MMR retains a variety of infrastructure and equipment from the Touquoy Mine, which operated from 2017 to 2023. To expedite startup, reduce costs and reduce environmental impacts, where practicable, 15-MMR plans to relocate and re-use existing equipment and infrastructure from the Touquoy Mine. Re-used assets are being visually inspected by a third party to ensure reasonable condition prior to relocation and re-use. By integrating and re-purposing these assets, 15-MMR will reduce construction impacts, shorten hauling distances for materials, and align with industry best practices in sustainable development. Re-use of materials and facilities will also mitigate environmental impacts. The following list identifies major infrastructure components that 15-MMR intends to re-purpose:

- Crushing Circuit
- Grinding building
- Reagents building
- Mine truck shop building
- Gold room
- Process plant equipment (pumps, pipes, mechanical equipment etc.)
- Cranes
- Electrical equipment including, Motor Control Centres (MCC), panels, transformers etc.

Open Pits

The deposit at the 15-Mile Mine would be mined in four open pit shells. The total mass of material mined is expected to be 70.7 Mt, with 18.5 Mt of ore, 52.2 Mt of waste, inclusive 44.4 Mt of waste rock and 7.8 Mt of organics (overburden, topsoil or contaminated soils). Table 2.3-2 summarises mined material breakdowns by pit.

Table 2.3-2 15-Mile Pits Mined Material Breakdown

Pit	Mined Ore		Total Waste (Waste Rock + Organics)	
	Mt	%	Mt	%
Egerton-MacLean	13.3	72	32.7	63
Hudson	1.9	10	5.9	11
Plenty	1.9	10	9.8	19
149	1.3	7	3.8	7
Total	18.5		52.2	

Note: All values rounded. Rounding may result in apparent summation differences.

The 15-Mile Pits are characterized as follows:

- The Egerton-MacLean will be approximately 800 m long east to west, 160 m deep at the east end, and 80 m deep at the west end.
- The Plenty pit will be approximately 600 m long by 300 m wide and 90m deep.
- The Hudson pit will be approximately 350 m long, 250 m wide and 70 m deep.
- The 149 pit will be approximately 320 m long by 200 m wide and 70 m deep.

In addition to the open pits, the Project will also require clay for construction, for building the TMF and as a liner for ditches and ponds. The clay will be sourced from clay borrows located within the PDA or from external suppliers.

Stockpiles

The 15-Mile Mine will generate topsoil, overburden, and waste rock that will require storage prior to reclamation. Topsoil, overburden, and NAG waste rock stockpiles will be stored at surface during operations. Historic tailings (*i.e.,* from historical mining activity that occurred within the PDA before the Project) will be disposed of per the historic tailings management plan. No PAG stockpile is proposed due to measures taken by 15-MMR to ensure that PAG will be stored in sub-aqueous conditions to prevent acid generation.

PAG will initially be stored within the TMF until either Egerton-MacLean's upper phase or Plenty pit is sufficiently mined to accept backfill. After this point, all PAG and NAG waste rock excavated from pits will be directly backfilled into either the Egerton-MacLean or Plenty pits. The mine plan assumes that all material mined as of Year 9 (Y9) will either be NAG material used for construction or stored in some combination of either Egerton-MacLean's upper phase or the Plenty pit. In addition, some material from the NAG stockpile will be rehandled to the backfill pits in Y9 and Y10. As required, additional mitigation will be introduced to manage the impacts of PAG runoff as described in Section 5.4.6. Further details on reclamation can be found in Section 2.3.3.

Storage capacities for each of the stockpiles and pits at end of operations has been estimated in Table 2.3-3. The masses outlined may be subject to change as refinement occurs with additional engineering works.

Table 2.3-3 15-Mile Stockpile at End of Operation

Infrastructure	NAG (Mt)	PAG (Mt)	Organics (Mt)	Total (Mt)
NAG and overburden stockpile	15.7 (Max: 19.7, Y8)		4.8 (Y8: 3.8)	20.5 (Max: 23.6, Y8)
Organics stockpile	-	-	2.5	2.5
Topsoil stockpile	-	-	0.3	0.3
Pit backfill	7.0	4.0	-	11.0
TMF PAG storage*	-	7.5	-	7.5
All Infrastructure	22.7	11.5	7.5	41.7

Note: All values rounded. Rounding may result in apparent summation differences.

In addition to the above stockpiles, a ROM pad will be constructed with a storage capacity of up to 0.5 Mt of ore. This ore will be stockpiled temporarily prior to crushing to ensure a constant feed. Note that the above Table 2.3-3 does not account for all NAG rock mined, as it does not include 4.6 Mt of NAG waste rock which will be used for construction of the TMF and other site infrastructure. Table 2.3-3 also does not account for 2.4 Mt of PAG waste rock that will be used in the construction of the upstream TMF prior to the first 6.5Y of operation. PAG waste rock will only be stored in the TMF in areas below the modeled phreatic surface to ensure saturation.

Process Plant Area

The processing plant at 15-Mile Mine will be constructed to process whole ore feed from the 15-Mile, Austen and Mitchell Pits. The mill uses conventional gravity and leaching recovery methods and reuses the majority of the milling equipment from the Touquoy Mine. The product of the milling process will be gold bullion and tailings. The targeted processing rate for the mill is 8,219 tpd with a 92% availability.

The main processing facilities include the three-stage crushing and screening circuit, fine ore stockpile, grinding building (inclusive of milling, cyclone separation, gravity and elution infrastructure), Carbon-In-Leach and Detox Area (outdoor tanks), reagents building, and gold room (refinery and supporting assets). The final product of the 15-Mile process plant will be a gold doré bar. The 15-Mile process plant will require a new ball mill, but the majority of the equipment will be reused from the Touquoy Mine. Reusing equipment from an existing site minimizes material consumption and waste generation, contributing to the Project's environmental sustainability objectives.

Facilities at the process plant area include mill administration offices, assay laboratory, maintenance workshop, security gatehouse, process plant electrical room, pump house, and effluent treatment plant. The layout has been adjusted to consolidate infrastructure to limit disturbance.

Mine Infrastructure

Mining operations infrastructure will be located west of the process plant and will be accessed via Project roads. The infrastructure will include a parking lot, a fuel station, explosives storage, trucking workshop, warehouse, plant workshop, offices (administration and mine) and changerooms.

The parking lot will be a compacted gravel parking lot for use by mine operations and maintenance staff. The fuel station will allow for diesel tanks and fill stations for both the mobile fleet and light vehicles. Sizing will be determined based on recommendations of the supply contractor.

Explosive storage and handling will follow all federal and provincial laws and regulations. The magazine storage area will be constructed similar to the Touquoy Mine. This facility will be used for the storage of detonators, initiation systems, and packaged explosives, with a maximum storage capacity of approximately 6,000 kg. A separate bulk explosives storage pad will be established for the storage and handling of bulk emulsion. Emulsion will be stored and gassed within this area, which is designed to accommodate up to 40,000 kg of product, along with associated chemical containers and a water storage tank required for the gassing process. A site office trailer for blasting personnel will be located within the bulk storage area and will be supported by a dedicated generator.

Explosives supply, inventory management, and delivery will be the responsibility of the selected supplier. Both the magazine and bulk storage areas will be fully fenced and gated, with secure access controlled by the supplier. Bulk explosives will be delivered to the open pits as required for mining operations using a supplier-operated emulsion re-pump truck.

The workshop will include a 9-ton overhead bridge crane spanning the width of the building. The warehouse will include a mobile crane.

Tailings Management Facility

The proposed TMF would include a centerline dam with a clay core to store a portion of produced PAG, contact water as required for site water management, and all process tailings. All process tailings will undergo cyanide destruction and arsenic treatment prior to discharge to the TMF. To reduce the disturbance area of facility, PAG rock is also planned to be used for construction of the upstream slope until Y6.5. Any additional PAG can be accommodated in the TMF or backfilled into the exhausted pits. PAG waste rock will only be stored or used in upstream slope construction in areas that are below the final long-term phreatic surface to promote saturation and limit acid-rock drainage (ARD). The TMF will be designed to adhere to CDA and MAC guidelines. The TMF will contain water management structures to provide process water to the mill and convey water towards a water treatment system prior to a final discharge location at Anti Dam Flowage. The Anti Dam Flowage is a waterbody located near Trafalgar Creek in Nova Scotia, formed by other parties (see Figure 2.3-1). Details of water management are discussed in the following section.

The TMF will utilize seepage collection ditches and ponds around the perimeter to collect runoff. A perimeter access road will allow personnel in vehicles to access the perimeter for operations, maintenance and surveillance. During operations, the dam will be constructed in phases. Phases will be constructed to meet storage requirements, with precise build being defined during ongoing Project planning.

The location of the TNF and tailings deposition style/technology to be used was based on a multiple account analysis of potential options done in coordination with Stantec. Multiple factors were considered, with some important factors being limiting watershed impacts to a single watershed where the receiving watercourse is already impacted by pit infrastructure, the favourable topography to reduce disturbance area, and the limited impacts to environmental constraints (specifically wetlands of special significance and blue felt lichen). Conventional tailings deposition was selected over alternatives like dry stacking, thickening and cyclone tailings due to the water positive nature of the 15-Mile TMF, to maintain water cover of PAG and relatively flat topography lending limited if any advantage to various dried/thickened tailings varieties.

Cyanide is treated in the detox circuit of the mill. The detox circuit is designed to meet a regulated discharge concentration of below 1parts per million (ppm) weak acid dissociable (WAD; the portion of cyanide which is readily reactive) cyanide. Further reductions of cyanide concentration will occur within holding ponds such as the TMF and polishing pond as cyanide degrades when exposed to sunlight into carbon dioxide and nitrogen species.

The Cyanide supplier for the Project will comply with the International Cyanide Management Code (ICMC). The route for delivery is reviewed by the supplier prior to transport of materials. Transport will only be performed by certified transport complying with applicable responsibilities for safety, security, release prevent training, and emergency response. Cyanide is transported in a stable solid form (sodium cyanide) with 3 layers of containment. The solids are bagged, stored in steel-strapped wooden boxes and transported in a seacan. Upon arrival, cyanide will be offloaded within a concrete reagent building design for safe storage of the materials, with procedures in place to collect and utilize or remediate split reagent.

At Touquoy, the effluent discharged to the environment averaged 1/10th of the concentration of the federal guideline for drinking water (0.20mg/L) (Health Canada, 2025).

Historic Tailings and Waste Rock Management

The 15-Mile PDA has a history of mining activity which has resulted in elevated contaminant levels in soil, sediment and surface water. To determine the impacts of historic mining activities, borehole and test pit data were separated as either non-impacted or impacted by historical mining activities. These classifications are drawn based on proximity to features such as historical mining infrastructure and features reported in soil logs (detailing visible waste rock or tailings in test pits and/or boreholes).

The data set used to quantify a 95th percentile for arsenic concentration in the non-impacted soils. Arsenic levels below the 95th percentile value of the non-impacted data set were considered to represent arsenic not related to historical mining activities.

As soil baseline sampling indicates that even non-impacted boreholes and test pit data are elevated in arsenic concentration, 15-MMR will work with NSECC to derive a site-specific soil guideline to screen soil that requires remediation and salvage soil intended for reuse in closure. Establishment of an appropriate risk-based value that is reflective of the elevated background levels within the PDA will allow for the re-use of additional soil cover material and limit surface stockpiles remaining in closure.

Horizontal delineation of contaminated soils was based on the calculated 95th percentile of arsenic from non-impacted data. This horizontal delineation will be revised based on site-specific soil guidelines once values are established. The data set was also used to delineate mercury impacted soil, as it presents in distinct areas and is more closely related to observed presence of historical tailings. Mercury concentrations were horizontally delineated based on samples with levels above Tier 1 EQS for an agricultural site.

Other constituents of concern (COC) were not horizontally delineated as the 95th percentile for arsenic concentration in non-impacted soils resulted in a conservative delineation of other COCs.

Vertical delineation of contaminated soils has not yet been determined and will be defined with support from subject matter experts within the historic tailings management plan to be developed. Vertical delineation may be revised based on site-specific soil guidelines once values are established.

Vertical delineation for mercury impacted soils assumes soils will be removed to bedrock within the horizontally delineated area. The mine plan estimates a volume based on average overburden depths from drill holes within the delineated area. This depth may vary, but the average resultant depth excavated is approximately 2.2m. This has resulted in an estimated 113,240 m^3 of mercury impacted soils to be remediated at 15-Mile Mine.

Delineated contaminated soils and mercury impacted soils based on the definitions above have been identified in Figure 2.3-2: 15-Mile Mine: Characterization of Impacts from Historical Tailings and Waste Rock.

Any soils disturbed by infrastructure which exceeds site-specific guidelines will be remediated. Delineation of this area will be completed as the historic tailings management plan progresses. Disturbed soils exceeding the soil quality guidelines that do not have elevated mercury will be remediated following practices based on 15-Mile Mine PAG management principles. The identified soils will be stored in the TMF until Plenty Pit is fully mined (Year 7). After Plenty Pit is fully mined this material will be stored within the exhausted Plenty Pit. The TMF and Plenty Pit were chosen for storage of soils exceeding the soil guideline as they allow for a single handle of the soils prior to storage and have high storage capacity. The mine plan contains provisions to excavate, transport and store all organic material impacted by infrastructure. The mine plan will continue to be updated as further works refine soil volumes exceeding the soil guidelines.

Soils delineated as mercury-impacted disturbed by infrastructure will be remediated with additional management practices due to elevated risks. Remediation for mercury impacted soils will include excavation, transport and storage within a clay cell constructed within the 15-Mile TMF. Once all mercury-impacted soils have been stored in the cell, the clay containment cell will be capped with a clay cover. The material will remain here permanently, being encapsulated in tailings and resolved in closure alongside the TMF closure. Costing provisions for excavation, transport, and storage as described above have been included in the mine plan.

Soil data from test pits and boreholes identified as impacted by historic mining activities was be integrated into source term development and used to inform site-wide water quality predictions. These will reflect anticipated field conditions (e.g., unsaturated versus saturated environments) and will be updated as additional data become available.

Management plans for excavation, transportation, and storage of materials, inclusive of any sampling, material handling, monitoring, and verification practices required to support remediation of historic tailings will be further defined with the historical tailings management plan.

Water Management

To achieve water management goals, the 15-Mile Mine will focus on minimizing raw water, capturing contact water across the PDA and directing to the TMF for re-use in the process plant, and managing water quality through two final discharge locations located in Anti Dam Flowage and Seloam Brook.

Contact water and groundwater seepage from the open pits will be pumped directly to the TMF. Contact water from mine facilities will be collected in ditches and channeled to ponds. Water management ditches and settling ponds are proposed to be lined with clay to reduce infiltration. As required, smaller secondary ponds will be implemented to act as sumps capable of pumping water to the contact ponds or the TMF. The contact ponds will either pump directly to the treatment infrastructure preceding a final discharge location or to the TMF for potential use as process water or for storage until eventual discharge.

15-MMR is configured to use two final discharge locations, one in Seloam Brook and the other at Anti Dam Flowage. An integrated water management system will be developed during detailed engineering design, which will ensure effluent meets all guidelines and be safely discharged to the environment. The current water management plan assumes active treatment for water pumped from the TMF, and a settling pond prior to each final discharge location. Active treatment will at minimum include ferric sulphate, lime, and hydrogen peroxide addition in a mixing vessel for precipitation of arsenic. The design of the water treatment infrastructure will be confirmed during detailed engineering design to ensure effluent meets quality requirements.

The fresh water supply for operations will be pumped from Seloam Lake. A light vehicle access road will run from the process plant to Seloam Lake to facilitate operational checks and maintenance at the freshwater pumping station. Fresh water will be stored in the raw water tank at the process plant. Process water supply for the operation will be pumped from water stored within the TMF.

The processing plant will manage water needs based on these two streams of water. Process water will be used in general industrial applications inclusive of the milling circuit. Raw water will be used for sanitary applications (fire suppression, safety showers, site sanitation water) or in industrial processes sensitive to contaminants (gland water, intensive leach reactor and elution circuit). It is expected that approximately 96% of water usage will be recycled from the TMF to the process plant reducing fresh water needs and creating a positive water balance for the 15-Mile Mine.

Waste Management

Sewage and gray water at the 15-Mile Mine will be collected into septic tanks and treated via filter pods. The solids from the tanks will be collected periodically via a truck and shipped for off-site disposal at an approved facility.

Non-hazardous waste materials will be stored in bins to be collected and shipped off-site to appropriate facilities. Materials that are hazardous or require special management will be appropriately stored and shipped off-site for disposal in a manner compliant with requirements for the specific material.

Temporary septic structures and waste structures may be erected during construction with all contents disposed of by shipping contents off-site to appropriate facilities.

Slag and collected dust will be reprocessed for gold and not require off-site disposal.

Power Supply

The estimated total power load at the 15-Mile Mine is as follows:

- Connected load = 15.1 MW
- Design operating load = 10.0 MW
- Essential loads (operating) = 1.1 MW

The power supply to the Project will be provided by NSPI. The power supply will be tapped from the nearby existing 69 kV powerline. This will be stepped down from 69 kV to 25 kV and distribution will be installed by NSPI to the substation by the mill.

One stand-alone, 600 kW, 600 V containerized standby diesel generator will be provided to power the identified essential loads in the mill area, main office and plant workshop in the event of an interruption of the utility power supply. In addition, diesel fired generation may be used in the early construction phase and during the closure phase when grid power is not available. The Project may also

employ some smaller diesel generators for use in emergencies, use for mobile tasks, or to power pumps in locations remote from power infrastructure.

Other Project Infrastructure

Communications will consist of inter-connected mobile and fixed systems, including a landline telephone network, radios, and internet as per the plant communications infrastructure.

Fire safety infrastructure will be implemented to comply with the local Nova Scotia and Canadian statutory requirements. Project design has been based on the National Building Code of Canada, provincial codes and the standards referenced therein.

The Project can be accessed through Seloam Lake Road off Nova Scotia Route 374. As Seloam Lake Road runs through Project infrastructure, it will be diverted to travel north to avoid interactions with the Project. A central haul road will be used primarily for the purpose of transporting ore and waste rock within the Project, will connect the pits, stockpiles, and TMF. Access roads are all Project roads which are not haul roads and are constructed for general transportation through the Project. An access road will be constructed off the existing Seloam Lake Road. Access and haul roads will be constructed using NAG rock extracted from the mined pits.

Aggregate Operations

Earthen material used in construction is expected to be sourced entirely from the PDA. NAG waste rock from the pit will be used as construction aggregate. As required, a mobile crusher will be sourced to process NAG waste rock and meet sizing specifications.

Seloam Brook Realignment

Seloam Brook is proposed to be realigned to the north to avoid proposed Project infrastructure, including the Egerton-MacLean, Hudson, and Plenty pits. Seloam Brook is a multi-branched fluvial system (multi-channel) that flows southwest from the control structure at the outlet of Seloam Lake into Fifteen Mile Stream near Highway 374. Water control structures operated by NSPI are located at the upstream end of Seloam Brook, and downstream of the brook in Anti Dam Flowage. The proposed realignment will be designed to maintain fish passage through the system and incorporate features to promote improved fish habitat.

2.3.2 15-Mile Mine Proposed Closure Activities

Reclamation and closure of the Project will be governed by Nova Scotia's *Mineral Resources Act* and associated regulations and align with International Council of Mining and Matels (ICMM) Integrated Mine Closure: Good Practice Guide. A Reclamation and Closure Plan will be submitted as part of the regulatory review stage. A Financial security estimate based on costs associated with reclamation activities will be provided in accordance with provincial requirements.

Active closure for the Project is expected to be completed 5 years after end of mine to allow for proper consolidation in the TMF, with post-closure activities and monitoring continuing for a further +5 years. A Gantt chart denoting important milestones can be seen in Section 2.5: Anticipated Project Lifespan.

Closure of the 15-Mile Mine is intended to result in a physically and geochemically stable landform that protects downstream water quality and is compatible with surrounding land uses. The PDA is anticipated to transition to a naturalized landscape that supports self-sustaining vegetation communities consistent with regional conditions. Closure success criteria will be defined in the detailed Reclamation Plan and are expected to include water quality performance objectives, vegetation establishment targets, and long-term geotechnical stability requirements. Progressive reclamation during operations will reduce Project disturbance footprint, overall environmental and financial liability of the Project at closure. Landform designs will consider projected climate conditions, including increased precipitation intensity. Post-closure monitoring will include surface water, groundwater, pit lake water quality, revegetation success, and infrastructure stability.

Engagement with Mi'kmaq communities and local stakeholders will continue to incorporate input related to long-term land use, access management, and environmental protection priorities.

Open Pit

At closure, 11.0 Mt of NAG and PAG waste rock will already be stored within Egerton-MacLean pit and/or Plenty pit from progressive reclamation activities during operations. Egerton-MacLean will only be partially filled with waste rock at closure.

Plenty pit will be backfilled with NAG from the NAG stockpile to surface. Due to this, Plenty pit closure is planned to include a dry cover. As required cut and fill activities will be executed along the pit perimeter to prevent dangerous changes in elevation.

Egerton-MacLean, 149 and Hudson at closure will be reclaimed as pit lakes. Pit lakes are proposed to be filled through precipitation and localized runoff. Highwalls above 3m will be managed through perimeter berm construction or mitigated using cut-and-fill recontouring. 15-MMR is currently reviewing whether accelerating filling through conveyance of water from catchment areas in the PDA will provide benefit in accelerating saturation of waste stored in pit and closure timelines. If accelerated filling is determined to be beneficial, the potential effects of water diversion for that purpose will be determined prior to implementation. Water modeling will be conducted on the pit lakes. Based on model results, additional mitigation may be proposed to manage water quality. During pit filling,

water quality will be monitored, and treatment will be implemented as required to meet regulatory discharge criteria. Once water quality in a pit meets regulatory criteria and the elevation is high enough to passively discharge water, that pit may be reconnected to the environment, flowing to Seloam Brook.

A comprehensive geochemical characterization program will be completed during operations to inform waste rock delineation and management strategies. Closure design will incorporate source control measures such as segregation of PAG and NAG materials, encapsulation and subaqueous storage of PAG material within the backfilled pits and the TMF, and engineered cover systems to limit oxygen ingress and infiltration. These measures are intended to minimize the potential for acid rock drainage and metal leaching. Geochemical predictions will be supported by modelling and ongoing monitoring to confirm performance and inform adaptive management, as required. Pit lake water balance and water quality modelling will be undertaken to assess filling timelines, predicted chemistry, and long-term discharge conditions. Discharge from pit lakes will only occur once water quality meets applicable regulatory criteria.

Stockpiles and Tailings Management Facility

PAG waste rock would already be progressively reclaimed by storing it in the TMF, Egerton-MacLean pit or Plenty pit during operations. The NAG waste rock will be used in the construction of TMF cover and also backfilled into pits. Overburden will be used for construction of infrastructure, and for backfilling or regrading during reclamation. Overburden and topsoil stockpiles will be used for soil cover. The NAG stockpile at closure will be regraded with slopes that promote local vegetation growth, soiled, seeded and planted with native species. The NAG stockpile is expected to have remaining material at closure, but the closure method as defined will still be applied if the stockpile is depleted. It is currently expected that all overburden and topsoil will be consumed during closure. Depleted topsoil and organics stockpiles will have their footprint regraded and seeded at closure. If there is additional overburden and/or topsoil material at closure, the remaining material will be re-graded with slopes that promote local vegetation and native species will be planted in the stockpile in addition seeding. The TMF will be reclaimed using an engineered cover system designed to limit infiltration, manage surface runoff, and promote vegetation establishment. Long-term embankment stability and seepage control will be confirmed through detailed engineering consistent with applicable industry guidelines. Closure water management infrastructure will remain operational until performance criteria are met, after which systems will be decommissioned in a manner that restores natural drainage patterns in closure. The appropriate cover for the TMF will be determined in the Reclamation Plan.

Water Management

Water within pits and the contact ponds will be monitored to confirm whether treatment is required to meet discharge criteria. Once water meets discharge criteria, water management systems will be decommissioned. Structures managing water will be sampled to ensure they meet water quality requirements and drained. Structures managing water will be regraded or breached to allow natural drainage to the environment.

Monitoring during closure and post-closure will confirm that downstream receiving waters remain protected, and adaptive management measures will be implemented, as required, if monitoring indicates performance objectives are not met.

Operations Infrastructure

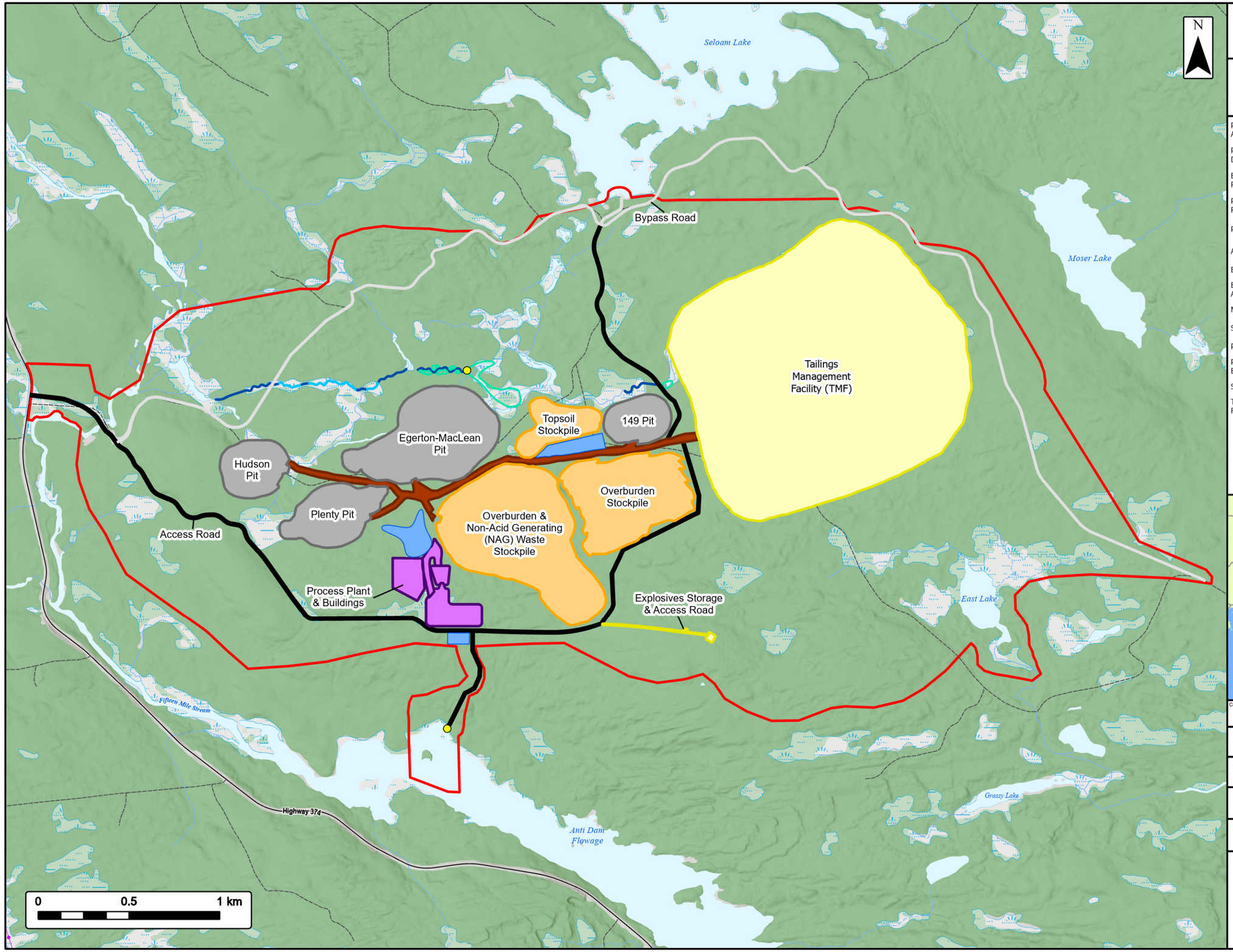
Project equipment would be managed based on value of the asset. Where applicable, assets with value would be posted for re-sale or recycled as scrap metal, while assets with no value will be disposed. Building demolition waste and equipment waste that cannot be sold for reuse, or scrap, and which are non-hazardous will be disposed of off-site in a licensed landfill in accordance with all applicable regulations. Hazardous materials will be managed case by case to meet requirements for safe disposal.

Buildings, foundations, and ancillary infrastructure not required for post-closure monitoring will be removed. Concrete foundations and slabs will be broken into pieces, protruding reinforcing steel will be removed, and the material will be buried in place with salvaged soil and revegetated. Disturbed areas not required for monitoring access will be regraded, covered with growth media, and revegetated.

15-Mile Mine

Site Overview

St Barbara



Project Development Area

Proposed Water Discharge Location

Existing Watercourse To Remain

Proposed Seloam Brook Realignment

Proposed Wetland

Access Road

Bypass Road

Explosives Storage & Access Road

Mine Haul Road

Stockpile

Pit

Process Plant & Buildings

Settling Pond

Tailings Management Facility

Transportation

Road

Unpaved Road

Utilities (Line)

Existing Transmission Lines

Water Features

Mapped Stream

Mapped Indefinite Stream

Mapped Lakes and Rivers

Mapped Wetlands

PRELIMINARY

Coordinate System: NAD83 UTM Zone 20N

Sources: ESRI Basemaps, Google Basemaps, GeoNOVA, SNSIS, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

Date: 2026-03-05	Project #: 25-11616
Scale: 1:20,000	Drawing #: **2.3-1**
Drawn By: E. Johnson	
Checked By: S. Allain	

strum CONSULTING

15-Mile Mine

Characterization of Impacts from Historical Tailings and Waste Rock

St Barbara

Seloam Lake

Moser Lake

East Lake

Grassy Lake

Anti Dam Flowage

Fifteen Mile Stream

Highway 374

Bypass Road

Tailings Management Facility (TMF)

Egerton-MacLean Pit

Topsoil Stockpile

149 Pit

Hudson Pit

Plenty Pit

Overburden Stockpile

Overburden & Non-Acid Generating (NAG) Waste Stockpile

Access Road

Process Plant & Buildings

Explosives Storage & Access Road

0 0.5 1 km

- Project Development Area
- Potential Areas of Metals Impacted Soil Related to Historical Mining Operations (Mercury)
- Potential Areas of Metals Impacted Soil Related to Historical Mining Operations (Arsenic)
- Proposed Water Discharge Location
- Existing Watercourse To Remain
- Proposed Seloam Brook Realignment
- Proposed Wetland
- Access Road
- Bypass Road
- Explosives Storage & Access Road
- Mine Haul Road
- Stockpile
- Pit
- Process Plant & Buildings
- Settling Pond
- Tailings Management Facility

Transportation

- Road
- Unpaved Road

Utilities (Line)

- Existing Transmission Lines

Water Features

- Mapped Stream
- Mapped Indefinite Stream
- Mapped Lakes and Rivers
- Mapped Wetlands

PRELIMINARY

Coordinate System: NAD83 UTM Zone 20N

Sources: ESRI Basemaps, Google Basemaps, GeoNOVA, SNSIS, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

Date: 2026-05-07	Project #: 25-11616
Scale: 1:20,000	Drawing #: 2.3-2
Drawn By: E. Johnson	
Checked By: S. Allain	

strum CONSULTING

2.3.3 Old Austen Mine Facilities and Infrastructure

The Old Austen Mine is proposed to be developed similar to a conventional quarry, with whole ore transported to the 15-Mile Mine for processing. The majority of the land within the Old Austen Mine PDA is privately owned, with a minor portion designated as Crown land.

The Old Austen Mine is expected to commence construction in Year 4 of the Project lifespan, delivering ore to 15-Mile Mine later that year. It will operate continuously over 7.4 years at a variable mining rate. By blending the Old Austen Mine operations over the lifespan of the entire Project, it allows the mine to operate at a reduced mining rate of 0.6 Mt per annum which is less than 30% of the previous designed mining rate, resulting in significantly less trucking between the Old Austen Mine and 15-Mile Mine.

15-MMR has adopted a conservative approach in designing the Old Austen Mine PDA, while refining the Project with the aim of further reducing its footprint during detailed engineering design. A Project layout is shown in Figure 2.3-3.

Below is a list of the major infrastructure based on the current design.

- Austen Pit.
- Stockpiles: NAG Waste Rock, temporary PAG Waste Rock, organics, topsoil, and ROM.
- Mine infrastructure: mine administration offices, truck shop, explosives storage, fuel storage and distribution
- Water management: contact ponds, ditching, water management infrastructures, water treatment plant, settling pond, freshwater wells, water pumps and pipelines.
- Waste management: temporary solid waste storage, domestic sewage treatment.
- Power supply: two 275 kV main generators, portable generators.
- Other Project infrastructure: roads (haul and access), fire safety, communications

Open Pits

The Old Austen Mine consists of a single ore deposit. The total mass of material mined is expected to be 22.6 Mt, with 4.5 Mt of ore, 15.5 Mt of waste, and 2.8 Mt or organics (overburden and topsoil). The Austen Pit is long and narrow, targeting the gold vein. The Austen Pit is planned to be approximately 750 m length, 320 m width and 112 m deep. The Austen Pit design was reduced significantly from previous iterations to minimize potential impacts to the Killag River.

The Old Austen Mine will require minimal clay for construction of liners in contact ponds, ditching and settling ponds, which will be sourced from within the PDA or from external suppliers.

Stockpiles

The Old Austen Mine will generate topsoil, overburden, and waste rock that will require storage prior to reclamation. Topsoil, overburden, NAG waste rock and PAG waste rock will be stored at surface during operations. Disturbed historic tailings, contaminated soil and historic waste rock within the PDA will be transported to the 15-Mile Mine TMF for long-term management as per the historic tailings management plan.

Once the pit is mined, all PAG waste rock will be backfilled into the open pit and covered with a layer of NAG rock and subsequently the pit will be allowed to flood leading to long term storage of PAG sub-aqueously. Based on geochemical analyses indicating the potential for acid rock drainage, it is assumed that a clay or geomembrane liner will be required to collect and manage contact water from the PAG stockpile until the material can be backfilled into the empty pit. Further details on reclamation can be found in Section 2.3.5.

Anticipated storage capacities at the end of operations for each of the stockpiles is summarized in Table 2.3-4 below. The masses outlined may be subject to change as refinement occurs with additional engineering works.

Table 2.3-4 Old Austen Mine Stockpile Masses at End of Operation

Infrastructure	NAG (Mt)	PAG (Mt)	Organics (Mt)	Total (Mt)
NAG waste rock and organics stockpile	11.0	-	-	11.0
PAG waste rock stockpile	-	3.9	0.4	4.3
Organics stockpile	-	-	2.3	2.3
Topsoil stockpile	-	-	0.2	0.2
All Infrastructure	11.0	3.9	2.8	17.6

Note: All values rounded. Rounding may result in apparent summation differences.

Note that for the stockpiles at the Old Austen Mine, the organics will be split between the NAG stockpile and a separate organic till stockpile. This was done to minimize project footprint.

In addition to the above stockpiles, a ROM pad will be constructed to temporarily store a maximum of 0.15 Mt of ore prior to transport to the 15-Mile Mine. The ROM pad will be constructed from crushed NAG rock. ROM material will be stored at the ROM pad on a short-term basis prior to processing; based on the assumed duration, it is not anticipated that the ROM pad will require a liner; however, this will be confirmed through water quality modelling during detailed engineering design.

The table above does not include 0.6 Mt of NAG waste rock that will be used in construction of infrastructure or the 4.5 Mt of ore that will be transported to 15-Mile Mine.

Process Plant Area

There will be no Process Plant Area at the Old Austen Mine as ore will be transported to and processed at 15-Mile Mine.

Mine Infrastructure

Mining operations infrastructure excluding the explosives storage will be located on the access road to the pit. Mine infrastructure will include a parking lot, a fuel station, trucking workshop, warehouse, and offices.

The parking lot will be a compacted gravel parking lot for use by mine operations and maintenance staff. The fuel station will allow for diesel tanks and fill stations for both the mobile fleet and light vehicles. Sizing is to be determined based on recommendations of the supply contractor.

See section 2.3.1 *Mine Infrastructure* for detailed information on explosive storage. The necessary size of this magazine will abide by the Nova Scotia *Blasting Regulations* as well as the Canadian *Federal Explosives Regulations* regarding quantity distance requirements and construction parameters.

Tailings Management Facility

There will be no TMF at the Old Austen Mine as ore will be transported to and processed at 15-Mile Mine.

Historic Tailings and Waste Rock Management

The Old Austen Mine PDA has a history of mining activity, and some of those activities have resulted in elevated contaminant levels in soil, sediment and surface water. Old Austen Mine will implement a similar approach to 15-Mile Mine, delineating contamination based on data from impacted and non-impacted borehole and test pit soil results, and assuming a 95th percentile concentration of non-impacted samples as a cut-off for contaminated soils. Refer to the *Historic Tailings and Waste Rock Management* section for 15-Mile Mine (2.3.1 15-Mile Mine Facilities and Infrastructure) for additional details on how data is classified as impacted or non-impacted and how soils are horizontally delineated.

Investigations into background soil quality indicate that soil arsenic levels are elevated within the PDA. 15-MMR will consult with NSECC to derive a site-specific soil guideline for the site to screen soil that requires remediation and salvage soil intended for re-use in closure. Establishment of an appropriate risk-based value that is reflective of the elevated background levels within the PDA will allow for the re-use of additional soil cover material and limit surface stockpiles remaining in closure.

Horizontal delineation of contaminated soils is based on the 95th percentile of arsenic concentration from non-impacted data. This horizontal delineation will be revised based on site-specific soil guidelines once those values are established. A delineation for mercury contaminated soils will also be generated as Environmental Site Assessment (ESA) work progresses. Other COCs were not delineated as the 95th percentile for arsenic concentration in non-impacted soils resulted in a conservative delineation of other COCs.

Vertical delineation of contaminated soils has not yet been determined and will be defined with support from subject matter experts within the historic tailings management plan to be developed. Vertical delineation may be revised based on site-specific soil guidelines once values are established.

Vertical delineation for mercury-impacted soils assumes soils will be removed to bedrock within the horizontally delineated area. The mine plan assumes an estimated 27,905 m^3 of mercury-impacted soils to be managed. This value is currently based on historic tonnes processed. This value is preliminary and will be updated to reflect horizontal and vertical delineation of mercury-impacted soils as works progress. In additional to remediating soils impacted by infrastructure, 15-MMR also proposes remediating two areas of historic tailings nearest to Crusher Lake which have elevated mercury levels.

Figure 2.3-4: Old Austen Mine: Characterization of Impacts from Historical Tailings and Waste Rock shows the areas classified as contaminated soils.

Any soils disturbed by infrastructure exceeding site-specific guidelines will be remediated. Delineation of these areas will be completed as works on the historic tailings management plan progresses. Disturbed soils exceeding the soils quality guidelines that do not have elevated mercury will be stored in the lined temporary PAG stockpile until the Old Austen Pit is fully mined. At Old Austen Mine closure,

the soils will be backfilled into the exhausted pit alongside the PAG waste rock. This backfill is sequenced to commence immediately after the pit is exhausted and will conclude within one year. The mine plan contains provisions to excavate, transport and store all organic material impacted by infrastructure. The mine plan will continue to be updated as soil volumes exceeding the site-specific guidelines are further refined.

Soils delineated as mercury-impacted and disturbed by infrastructure will be remediated with additional management practices due to elevated risks. Remediation for mercury-impacted soils will include excavation, transport and storage within a clay cell constructed within the 15-Mile TMF. Once all mercury-impacted soil has been stored in the cell, the clay containment cell will be capped with a clay cover. The materials will remain here permanently, being encapsulated in tailings and resolved in closure alongside the TMF closure.

Soil data from test pits and boreholes identified as impacted by historic mining activities have been integrated into source term development and used to inform site-wide water quality predictions. These will reflect anticipated field conditions (e.g., unsaturated versus saturated environments) and will be updated as additional data become available.

Management plans for excavation, transportation, and storage of materials, inclusive of any sampling, material handling, monitoring, and verification practices required to support remediation of historic tailings will be further defined with the historical tailings management plan.

Water Management

To achieve water management goals, the Old Austen Mine will focus on minimizing raw water usage, capturing contact water across the PDA, and managing water quality through two final discharge locations, which can be seen on Figure 2.3-3.

Contact water and groundwater seepage from the open pits will be pumped directly to a contact pond. Contact water from mine facilities will be collected in ditches and channeled to the contact ponds. Water management ditches, contact ponds, and settling ponds are proposed to be lined with clay to reduce infiltration. Where feasible, flow will be channeled directly to the contact pond. As required, smaller secondary ponds will be implemented to act as sumps capable of pumping water to the contact pond. The contact pond will be located immediately west of the PAG stockpile. The contact pond will pump directly to the treatment infrastructure preceding one of two final discharge locations.

15-MMR includes two final discharge location options, one in the Killag River and the other in the Tent Lake watershed. The current design assumes Tent Lake would receive water from the organics and topsoil piles, the only infrastructure within that watershed. All other collected water would be treated and discharged to the Killag River.

Due to the low water requirement on site, no surface water withdrawal will be required. Contact water from constructed ponds across site will be used for purposes of dust suppression. Wells will be drilled to supply the small amount of fresh water needed to support sanitation. Drinking water will be obtained from off-site sources.

Waste Management

Sewage at the Old Austen Mine will be collected into septic tanks and treated. The solids from the tanks will be collected periodically via a truck and shipped for off-site disposal at an approved facility.

Non-hazardous waste materials will be stored in bins to be collected and shipped off-site to appropriate facilities. Materials that are hazardous or require special management will be appropriately stored and shipped off-site for disposal in a manner compliant with requirements for the specific material.

Temporary septic structures and waste structures may be erected during construction with all contents disposed of by shipping contents off-site to appropriate facilities.

Power Supply

Due to the Old Austen Mine being in a remote location away from power lines, it will not be connected to the electrical grid. The site will be powered by two 275 kVA diesel-powered generators. A diesel fuel tank will be located directly adjacent to the diesel generators to support their function.

The Project may also employ some smaller diesel generators for use in emergencies, mobile tasks, or to power pumps.

Other Project Infrastructure

Communications will consist of inter-connected mobile and fixed systems, including a landline telephone network, radios, and internet as per the plant communications infrastructure.

Fire safety infrastructure will be implemented to comply with the local Nova Scotia and Canadian statutory requirements. The design has been based on the National Building Code of Canada, provincial codes (Nova Scotia) and the standards referenced therein.

The Project can be access through Beaver Dam Road off NS-224. An access road will be constructed off the Beaver Dam Road, with further haul roads being constructed for the purpose of hauling ore and waste rock. Access and haul roads will be constructed using NAG rock extracted from the mined pit.

Aggregate Operations

Material used in construction is expected to be sourced entirely from the PDA, with NAG waste rock from the pit used as construction aggregate. As required, a mobile crusher will be temporarily sourced to crush NAG waste rock and meet sizing specifications for construction.

Haul Route and Operations

It is anticipated that approximately 600,000 tonnes per year will be transported from the Old Austen Mine to the 15-Mile Mine site using 38-tonne B-Train tractor trailers. The proposed haulage rate represents a reduction to less than 30 percent of previous project designs.

15-MMR has completed supporting studies, including traffic impact assessments and physical condition evaluations of potential transportation routes and operating schedules. As part of the ongoing haul route study, multiple ore transportation options are being evaluated, with a clear objective of avoiding IR-17 in the preferred route selection. The preferred route utilizes existing public roadways and excludes nighttime operations to manage truck frequency and minimize potential effects on surrounding communities.

15-MMR will continue to engage with local communities regarding proposed trucking routes and operating hours and remains open to considering alternative routes and schedules where appropriate.

In September 2025, a new *Traffic Safety Act* was introduced in the Nova Scotia Legislature. The act is intended to modernize regulations for Nova Scotia's public highway network, including a framework to improve road safety and implement vehicle condition standards. Haul traffic generated by the Project will be regulated under this robust framework. In addition, 15-MMR is committed to outfitting each haul truck used in the Project with vehicle tracking devices to moderate speed and track location.

2.3.4 Old Austen Mine Proposed Closure Activities

Reclamation and closure of the Project will be governed by Nova Scotia's *Mineral Resources Act* and associated regulations. A Reclamation and Closure Plan will be submitted as part of the provincial regulatory review stage.

Active closure is expected to be on-going at the site for 5 years, with an additional 5 years of post-closure activities and monitoring. Subsections within the plan will detail progressive reclamation and post-operations reclamation activities intended within the scope of the Project. A Gantt chart denoting important milestones can be seen in Section 2.5: Anticipated Project Lifespan.

Closure of the Old Austen Mine will focus on achieving long-term stability of the pit backfill and reclaimed landforms while protecting the Killag River watershed. The site is anticipated to transition to a naturalized condition consistent with surrounding forested land. Closure success criteria will be established in the detailed Reclamation Plan and will address water quality, slope stability, and vegetation establishment. Engagement with Mi'kmaq communities and local stakeholders will continue to support closure planning and long-term land stewardship considerations.

Open Pit

The Austen Pit will be backfilled with PAG and historic tailings at closure. This PAG and historic tailings are intended to remain in place and be covered in a layer of NAG, prior to allowing the pit to fill with water, creating a pit lake. Filling the pit is currently planned to occur through precipitation and runoff to the pits. During pit filling, water quality will be monitored, and treatment will be implement as required to meet regulatory discharge criteria. Once water quality in the pits meet criteria and the elevation is high enough to passively discharge water, the pit may be reconnected to the environment, flowing to the Killag river. Highwalls above 3m will be managed through perimeter berm construction or mitigated using cut-and-fill recontouring.

Geochemical management will rely primarily on placement of PAG material within the pit and encapsulation with NAG material to limit oxygen exposure and reduce potential for acid generation. Pit lake formation is expected to promote long-term saturation of backfilled materials to inhibit ML/ARD. Geochemical characterization and predictive modelling will inform closure design and long-term monitoring requirements. Water balance and water quality modelling will be undertaken to assess filling rates, anticipated chemistry, and discharge conditions. Discharge to receiving watercourses will occur only once regulatory criteria are achieved. Monitoring during filling and post-closure will verify performance and ensure protection of downstream watercourses.

Stockpiles

Of the stockpiles, only the NAG waste rock stockpile will remain above surface elevation at closure. The PAG waste rock stockpile will be backfilled into the pit, while topsoil and organics will be spread around the site as part of reclamation activities. All depleted stockpile footprints will be scarified and regraded to promote positive drainage, covered with topsoil and revegetated. The NAG waste rock stockpile slopes will be reshaped as needed for stability and to promote vegetation growth. Upon obtained final landform shape, the stockpile will be soiled, seeded and planted with native species.

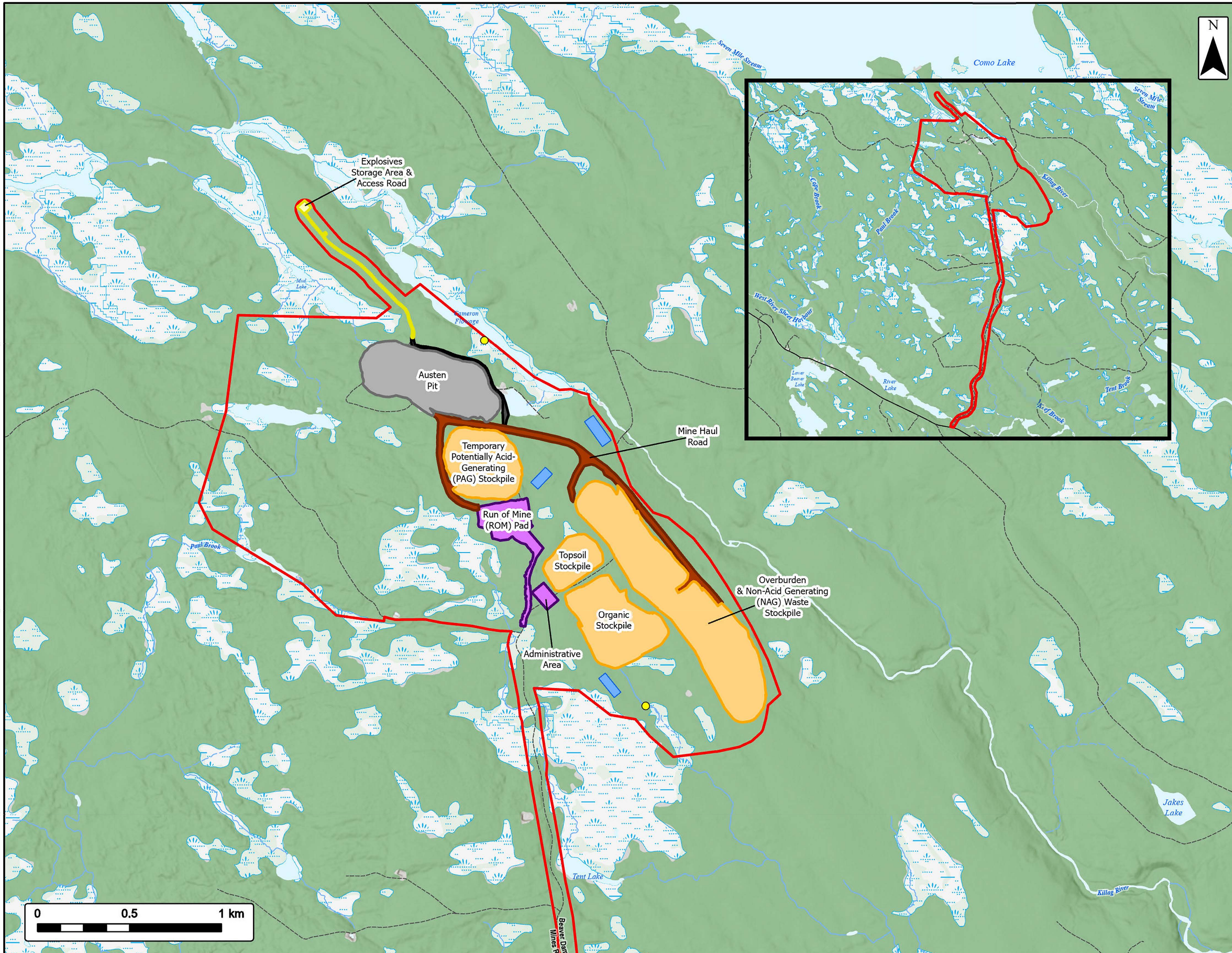
Landform designs will consider long-term climate projections and erosion resistance. Post-closure monitoring will include pit lake water quality, surface water, vegetation success, and landform stability. Adaptive management measures will be implemented if monitoring indicates performance objectives are not being met. Financial assurance will be provided in accordance with provincial requirements.

Water Management

Water within the pit and contact pond will be monitored to confirm whether on site management and/or treatment is required to meet discharge criteria. Once water meets discharge criteria, water management systems will be decommissioned. Structures managing water will be sampled to ensure they meet water quality requirements and drained. Structures managing water will be regraded or breached to allow natural drainage to the environment.

Operations Infrastructure

Equipment at the Old Austen Mine site will be managed in the same manner as at 15-Mile Mine. Additional details are provided in Section 2.3.2. Buildings, foundations, and ancillary infrastructure not required for post-closure monitoring will be removed. Disturbed areas not required for monitoring access will be regraded, covered with growth media, and revegetated.



Old Austen Mine

Site Overview

St Barbara

Legend	
Project Development Area	Transportation
Proposed Water Discharge Location	Road
Access Road	Unpaved Road
Administrative Area & ROM Pad	Water Features
Explosives Storage	Mapped Stream
Main Haul Road	Mapped Indefinite Stream
Pit	Mapped Lakes and Rivers
Stockpile	Mapped Wetlands
Settling Pond	

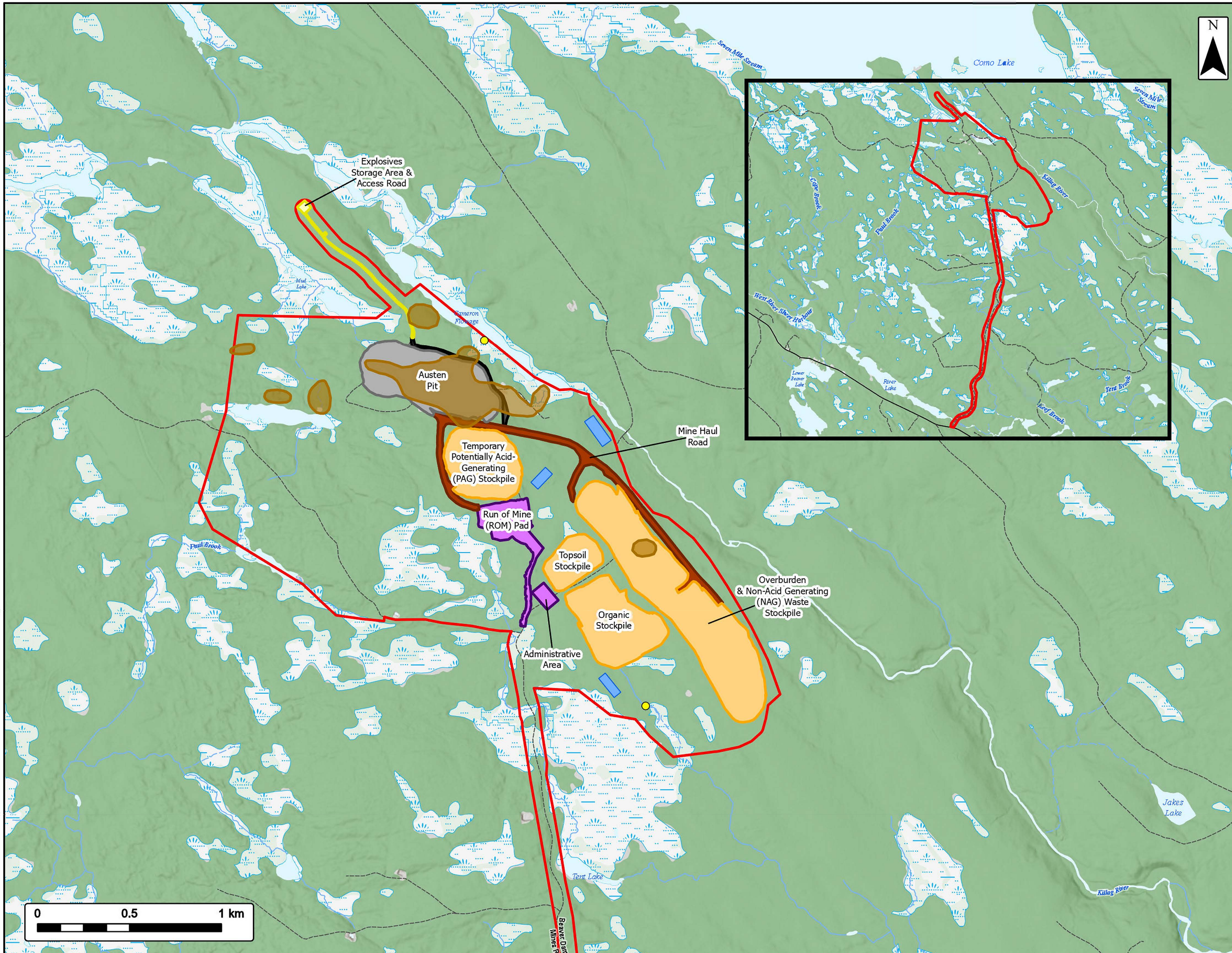
PRELIMINARY

Coordinate System: NAD83 UTM Zone 20N

Sources: ESRI Basemaps, Google Basemaps, GeoNOVA, SNSIS, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

Date: 2026-03-05	Project #: 25-11616
Scale: 1:20,000	Drawing #: 2.3-3
Drawn By: E. Johnson	
Checked By: S. Allain	

strum CONSULTING



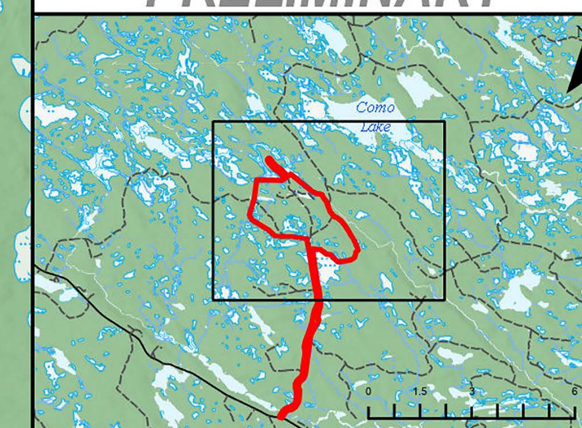
Old Austen Mine

Characterization of Impacts from Historical Tailings and Waste Rock

St Barbara

Legend			
Project Development Area		**Transportation**	
Potential Areas of Metals Impacted Soil Related to Historical Mining Operations		Road	
Proposed Water Discharge Location		Unpaved Road	
Access Road		**Water Features**	
Administrative Area & ROM Pad		Mapped Stream	
Explosives Storage		Mapped Indefinite Stream	
Main Haul Road		Mapped Lakes and Rivers	
Pit		Mapped Wetlands	
Stockpile			
Settling Pond			

PRELIMINARY



Coordinate System: NAD83 UTM Zone 20N

Sources: ESRI Basemaps, Google Basemaps, GeoNOVA, SNSIS, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

Date: 2026-05-07	Project #: 25-11616
Scale: 1:20,000	Drawing #: 2.3-4
Drawn By: E. Johnson	
Checked By: S. Allain	

strum CONSULTING

2.3.5 Old Mitchell Mine Facilities and Infrastructure

The Old Mitchell Mine is proposed to be developed similar to a conventional quarry, with whole ore transported to the 15-Mile Mine for processing.

The Old Mitchell Mine is expected to commence construction in Year 3 of the Project lifespan, delivering ore to the 15-Mile Mine later that year. It will operate continuously over 8.4 years at a variable rate. 15-MMR has adopted a conservative approach in designing the Old Mitchell Mine PDA. A Project layout is shown Figure 2.3-5.

Below is a list of the major infrastructure based on the current design. This list may be subject to change as refinement occurs with additional engineering works:

- Mitchell Pit.
- Stockpiles: NAG waste rock, temporary PAG waste rock, organics, topsoil, ROM.
- Mine infrastructure: mine administration offices, truck shop, explosives storage, fuel storage and distribution,
- Water management: contact ponds, ditching, water management infrastructures, water treatment plant (if needed), settling pond, freshwater wells, water pumps and pipelines.
- Waste management: temporary solid waste storage, domestic sewage treatment.
- Power supply: emergency generators, distribution lines, electrical substation, switchyard.
- Other Project infrastructure: roads (haul and access), fire safety, communications.

Open Pits

Old Mitchell Mine consists of a single ore deposit. The total mass of material mined is expected to be 54.6 Mt, with 10.5 Mt of ore, 42.1 Mt of waste rock, and 2.0 Mt of organics (overburden or topsoil).

The Mitchell Pit targets the ore while restricting the pit size to not impact NS Trunk Highway 7 (Marine Drive) located to the west of the open pit. The Mitchell Pit is planned to be approximately 800 m long, 450 m wide and 195 m deep.

The Old Mitchell Mine will require clay for construction, which will be sourced from within the PDA or from external suppliers. This clay is intended to be used as a liner for the temporary PAG stockpile, as well as contact ponds, ditching and settling ponds.

Stockpiles

The Old Mitchell Mine will construct topsoil, overburden, and waste rock stockpiles that will require storage prior to remediation. Topsoil, overburden, PAG and NAG waste rock will be stored at surface in stockpiles during operation. Disturbed historic tailings, contaminated soil and historic waste rock will be disposed of as per the historic tailings management plan.

Once the pit is mined, all PAG waste rock will be backfilled into the pit and covered with a layer of NAG rock, after which the pit will be flooded leading to the PAG rock being stored sub-aqueously long term. Some PAG backfill will occur during Y11 and Y12 of operations, backfilling fully mined areas of the pit. Based on geochemical analyses indicating the potential for acid rock drainage, it is assumed that a clay or geomembrane liner will be required to collect and manage contact water from the PAG stockpile until the material can be backfilled into the empty pit. Further details on reclamation can be found in Section 2.3.7.

Storage capacities for each of the stockpiles at end of operations has been estimated in Table 2.3-5. The masses outlined may be subject to change as refinement occurs during detailed engineering design.

Table 2.3-5 Old Mitchell Mine Stockpile Masses at End of Operation

Infrastructure	NAG (Mt)	PAG (Mt)	Organics (Mt)	Total (Mt)
NAG stockpile	19.3	-	-	19.4
PAG stockpile	-	19.9 Max: 21.0 (Y10)	0.2	20.1 Max: 21.2 (Y10)
Organics stockpile	-	-	1.6	1.6
Topsoil stockpile	-	-	0.2	0.2
All Infrastructure	19.3	19.9	2.0	41.3

Note: All values rounded. Rounding may result in apparent summation differences.

In addition to the above stockpiles, a ROM pad will be constructed to temporarily store a maximum of 0.15 Mt of ore prior to transport to 15-Mile Mine. The ROM pad will be constructed from crushed NAG rock.

Table 2.3-5 above does not include 0.7 Mt of NAG waste rock used for construction of infrastructure or the 10.5 Mt of ore transported to 15-Mile Mine for processing.

Process Plant Area

There would be no Process Plant Area at the Old Mitchell Mine, as ore will be transported to and processed at 15-Mile Mine.

Mine Infrastructure

Mining operations infrastructure, excluding the explosives storage, will be located on the access road to the pit. The infrastructure will include a parking lot, a fuel station, trucking workshop, warehouse, and offices.

The parking lot will be a compacted gravel parking lot for use by mine operations and maintenance staff. The fuel station will allow for diesel tanks and fill stations for both the mobile fleet and light vehicles. Sizing is to be determined based on recommendations of the supply contractor.

See section 2.3.1 *Mine Infrastructure* for detailed information on explosive storage. The necessary size of this magazine will abide by the Nova Scotia *Blasting Regulations* as well as the Canadian *Federal Explosives Regulations* regarding quantity distance requirements and construction parameters.

Tailings Management Facility

There would be no TMF at the Old Mitchell Mine, as ore will be transported to and processed at 15-Mile Mine.

Historic Tailings and Waste Rock Management

The Old Mitchell Mine PDA has a history of mining activity, and some of those activities have resulted in elevated contaminant levels in soil, sediment and surface water. Old Mitchell Mine will implement a similar approach to 15-Mile Mine, with delineation of contamination based on data from impacted and non-impacted borehole and test pit soil results and assuming 95th percentile concentration of non-impacted samples as a cut-off for contaminated soils. Refer to the *Historic Tailings and Waste Rock Management* section for 15-Mile (2.3.1 15-Mile Mine Facilities and Infrastructure) for additional details on how data is classified as impacted or non-impacted and how soils are horizontally delineated.

Investigations into background soil quality indicate that soil arsenic levels are elevated within the PDA. 15-MMR will consult with NSECC to derive a site-specific soil guideline to screen soil that requires remediation and salvage soil intended for re-use in closure. Establishment of an appropriate risk-based value that is reflective of the elevated background levels will allow for the re-use of additional soil cover material and limit surface stockpiles remaining in closure.

Horizontal delineation of contaminated soils is based on the 95th percentile of arsenic concentrations from non-impacted samples. This horizontal delineation will be revised based on site-specific soil guidelines once those values are established. A delineation for mercury contaminated soils will also be generated as ESA work progresses. Other COCs were not delineated as the 95th percentile for arsenic concentration in non-impacted soils resulted in a conservative delineation of other COCs.

Vertical delineation of contaminated soils has not yet been determined and will be defined with support from subject matter experts within the historic tailings management plan to be developed. Vertical delineation may be revised based on site-specific soil guidelines once values are established. Vertical delineation of mercury impacted soils includes all organic material up to bedrock. The mine plan assumes an estimated 94,875 m^3 of mercury impacted soils to be stored. This volume is based a field observed area of approximately 23,000 m^2 identified as historic tailings with assumed depths based on drill data to estimate volume. This value is preliminary and will be updated as vertical and horizontal delineation of the material is progressed.

Figure 2.3-6: Old Mitchell Mine: Characterization of Impacts from Historical Tailings and Waste Rock shows the areas classified as contaminated soils.

Any soils disturbed by infrastructure exceeding site-specific soils guidelines inclusive of contaminated soils will be remediated. Delineation of this area will be completed as the historic tailings management plan progresses. Disturbed soils exceeding the soil quality guidelines that do not contain elevated mercury will be stored in the lined temporary PAG stockpile until the Old Mitchell Pit is fully mined. At Old Mitchell Mine closure, this material will be backfilled into the exhausted pit alongside the PAG waste rock. This backfill is sequenced to commence immediately after the pit is exhausted in Year 11 and will conclude in Year 13. The mine plan contains provisions to excavate, transport and store all organic material impacted by infrastructure. The mine plan will continue to be updated as further works refine soil volumes exceeding the site-specific soil guideline.

Soils delineated as mercury-impacted and disturbed by infrastructure will be remediated with additional management practices due to elevated risks. Remediation for mercury-impacted soils will include excavation, transport and storage within a clay cell constructed within the 15-Mile TMF footprint. Once all mercury-impacted soils have been stored in the cell, the clay containment cell will be capped with a clay cover. The materials will remain here permanently, being encapsulated in tailings and resolved in closure alongside the TMF closure.

Soil data from test pits and boreholes identified as impacted by historic mining activities have been integrated into source term development and used to inform site-wide water quality predictions. These will reflect anticipated field conditions (e.g., unsaturated versus saturated environments) and will be updated as additional data become available.

Management plans for excavation, transportation, and storage of materials, inclusive any sampling, material handling, monitoring, and verification practices required to support remediation of historic tailings will be further defined with the historical tailings management plan.

Water Management

To achieve water management goals, the Old Mitchell Mine will focus on minimizing raw water usage, capturing contact water across the Project, and managing water quality through two final discharge locations.

Contact water and groundwater seepage from the open pit will be pumped directly to the contact pond. Contact water from mine facilities will be collected in ditches and channeled to ponds. Water management ditches, contact ponds, and settling ponds are proposed to be lined with clay to reduce infiltration. As required, smaller secondary ponds will be implemented to act as sumps capable of pumping water to the contact ponds. There will be two contact ponds on site, one located west of the PAG pile and the other located south of the NAG pile. The contact ponds will pump to the discharge inclusive of any treatment as required to ensure regulatory requirements are met prior to discharge to the environment.

15-MMR includes two final discharge options, one in Cargill Lake and the other to a northwestern watercourse on site whose catchment area is impacted by the pit. The northwestern watercourse would receive a volume of water to offset losses to its catchment. The remaining water will be discharged to Cargill Lake.

Due to the low water requirement on site, no industrial water withdrawal will be required. Contact water from constructed ponds will be used for purposes of dust suppression. Wells will be drilled to supply the small amount of fresh water needed to support sanitation, and drinking water will be sourced and transported to site.

Waste Management

Sewage at the Old Mitchell Mine will be collected into septic tanks and treated via filter pods. The solids from the tanks will be collected periodically via a truck and shipped for off-site disposal at an approved facility.

Non-hazardous waste materials will be stored in bins to be collected and shipped off-site to appropriate facilities. Materials that are hazardous or require special management will be appropriately stored and shipped off-site for disposal in a manner compliant with requirements for the specific material.

Temporary septic structures and waste structures may be erected during construction with all contents disposed of by shipping contents off-site to appropriate facilities.

Power Supply

The power supply to the Project will be provided by NSPI. The power supply will be tapped from the nearby existing 14.4 kV powerline. This will be stepped down from 14.4 kV to 600 V by a transformer located at the truck shop. Power will be distributed from the truck shop to the effluent treatment plant and trailers by 600 V cables on cable trays and underground ducts.

In addition, diesel fired generation may be used in the early construction phase and during the closure phase when grid power is not available. The Project may also employ some smaller diesel generators for use in emergencies, use for mobile tasks, or to power pumps in remote locations away from power infrastructure.

Other Project Infrastructure

Communications will consist of inter-connected mobile and fixed systems, including a landline telephone network, radios, and internet as per the plant communications infrastructure.

Fire safety infrastructure will be implemented to comply with the local Nova Scotia and Canadian statutory requirements. The design has been based on the National Building Code of Canada, provincial codes (Nova Scotia) and the standards referenced therein.

The PDA can be accessed through by smaller roads stemming off NS Trunk Highway 7 (Marine Drive). Access to site will be constructed off Indian River Road, with haul roads being constructed to transport ore and waste rock throughout the Project. Access and haul roads will be constructed using NAG rock extracted from the pit.

Aggregate Operations

Earthen material used in construction is expected to be sourced entirely from the PDA. NAG waste rock from the pit will be used as construction aggregate. As required, a mobile crusher will be sourced to process NAG waste rock and meet sizing specifications.

Haul Route and Operations

It is expected approximately 1.1 Mt/y will be transported from the Old Mitchell Mine to the 15-Mile Mine site on 38t B-Trains 15-MMR has completed supporting studies, including traffic impact assessments and physical condition evaluations of potential transportation routes and operating schedules. The preferred route utilizes existing public roadways and excludes nighttime operations in order to manage truck frequency and minimize potential effects on communities.

15-MMR will continue to engage with local communities regarding proposed trucking routes and operating hours and remains open to considering alternative routes and schedules where appropriate.

In September 2025, a new *Traffic Safety Act* was introduced in the Nova Scotia Legislature. The act is intended to modernize regulations for Nova Scotia's public highway network, including a framework to improve road safety and implement vehicle condition standards. Haul traffic generated by the Project will be regulated under this robust framework. In addition, 15-MMR is committed to outfitting each haul truck used in the Project with vehicle tracking devices to moderate speed and track location.

2.3.6 Old Mitchell Mine Proposed Closure Activities

Reclamation and closure of the Project will be governed by Nova Scotia's *Mineral Resources Act* and associated regulations. A Reclamation and Closure Plan will be submitted as part of the provincial regulatory review stage.

Active closure is expected to be on-going at the site for 5 years, with an additional +5 years of post-closure activities and monitoring. Subsections within will detail progressive reclamation and post-operations reclamation activities intended within the scope of the Project. A Gantt chart denoting important milestones can be seen in Section 2.5: Anticipated Project Lifespan.

Closure of the Old Mitchell Mine is intended to return the site to a stable condition that protects receiving watercourses and supports natural revegetation. The reclaimed landscape is anticipated to align with surrounding land uses and ecological conditions. Closure performance objectives will be defined in the detailed Reclamation Plan and will address long-term water quality, geotechnical stability, and vegetation establishment. Continued engagement with Mi'kmaq communities and stakeholders will support integration of local perspectives into closure planning and long-term land stewardship considerations.

Open Pit

The Mitchell Pit will be backfilled with PAG and historic tailings at closure. This PAG and historic tailings are intended to remain in the pit and be covered in a layer of NAG, prior to allow the pit to fill with water, creating a pit lake. Filling the pit is currently planned to occur through precipitation and runoff to the pits. During pit filling, water quality will be monitored, and treatment will be implemented as required to meet regulatory discharge criteria. Once water quality in the pits meet criteria and the elevation is high enough to passively discharge water, the pit may be reconnected to the environment, discharging to the northwestern watercourse. Highwalls above 3m will be managed through perimeter berm construction or mitigated using cut-and-fill recontouring.

The closure strategy will emphasize in-pit placement of PAG waste rock, overlain by NAG material to reduce oxygen ingress and mitigate acid generation potential. Formation of a pit lake is expected to promote saturation of backfilled materials and further reduce ARD risk. Geochemical characterization and predictive modelling will guide final design parameters and monitoring requirements. Water balance and water quality modelling will be completed to estimate pit filling timelines and long-term discharge conditions. If accelerated filling is determined to offer environmental or schedule benefits, it will be evaluated through detailed assessment prior to implementation. Discharge to receiving watercourses will occur only once regulatory criteria are achieved. Water quality monitoring during closure and post-closure will confirm protection of downstream environments.

Stockpiles

Of the stockpiles, only the NAG waste rock stockpile will remain above surface elevation at closure. PAG waste rock stockpile will be backfilled into the pit, while topsoil and organics will be spread around the site as part of reclamation activities. All depleted stockpile footprints will be scarified and regraded to promote positive drainage, covered with topsoil and revegetated. The NAG waste rock stockpile slopes will be reshaped as needed for stability and to promote vegetation growth. Once the final landform shape is obtained, the stockpile will be soiled, seeded and plated with native species.

Surface landforms, including the remaining NAG stockpile, will be regraded to achieve long-term stability and erosion resistance. Growth media placement and revegetation will promote establishment of self-sustaining plant communities. Closure design will consider projected climate variability and extreme precipitation events to ensure resilience of reclaimed features.

Water Management

Water within the pit and contact ponds will be monitored to confirm whether on-site management and treatment is required to meet discharge criteria. Once water meets discharge criteria, water management systems will be decommissioned. Structures managing water will be sampled to ensure they meet water quality requirements and drained. Structures managing water will be regraded or breached to allow natural drainage to the environment.

Operations Infrastructure

Equipment at the Old Mitchell Mine site will be managed in the same manner as at 15-Mile Mine. Additional details are provided in Section 2.3.2. Buildings, foundations, and ancillary infrastructure not required for post-closure monitoring will be removed. Disturbed areas not required for monitoring access will be regraded, covered with growth media, and revegetated.

Old Mitchell Mine

Site Overview

St Barbara

Project Development Area

Proposed Water Discharge Location

Admin Area / Truck Stop / ROM Pad

Effluent Treatment Plant

Access Road

Explosives Storage Area & Access Road

Mine Haul Road

Stockpile

Pit

Settling Pond

Transportation

Road

Unpaved Road

Water Features

Mapped Stream

Mapped Indefinite Stream

Mapped Lakes and Rivers

Mapped Wetlands

PRELIMINARY

Cummings Lake
McKeen Brook
Cameron Lakes
Nine Mile Wds. O.R. 2
Melrose
Highway 348
Highway 7
Melrose Country Harbour Rd
Admin Area & Truck Stop
Access Road
Run of Mine (ROM) Pad
Overburden Stockpile
Mitchell Pit
Mine Haul Road
Topsoil Stockpile
Explosives Storage Area & Access Road
Indian River Rd
Temporary Potential Acid Generating (PAG) Stockpile
Non-Acid Generating (NAG) Stockpile
Effluent Treatment Plant
Cargill Lake
Twin Lakes
St. Marys River
Waternish Rd
St. Marys River
0 0.5 1 km

Gulf of St. Lawrence
PEI
New Brunswick
Nova Scotia
Bay of Fundy
Atlantic Ocean
0 50 100 200 km

Coordinate System: NAD83 UTM Zone 20N

Sources: ESRI Basemaps, Google Basemaps, GeoNOVA, SNSIS, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

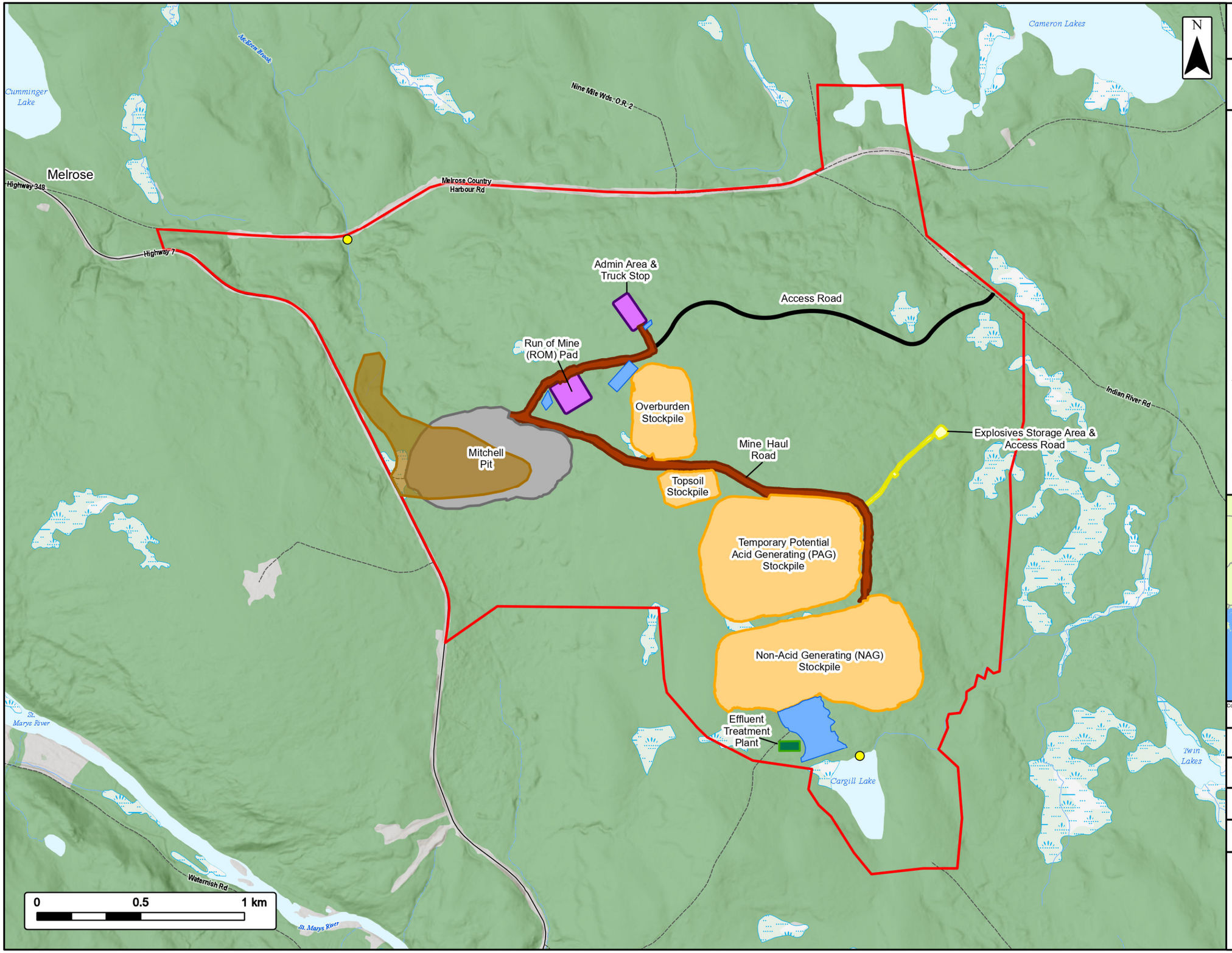
Date: 2026-03-05	Project #: 25-11616
Scale: 1:17,500	Drawing #: **2.3-5**
Drawn By: E. Johnson	
Checked By: S. Allain	

strum CONSULTING

Old Mitchell Mine

Characterization of Impacts from Historical Tailings and Waste Rock

St Barbara



Project Development Area

Potential Areas of Metals Impacted Soil Related to Historical Mining Operations

Proposed Water Discharge Location

Admin Area / Truck Stop / ROM Pad

Effluent Treatment Plant

Access Road

Explosives Storage Area & Access Road

Mine Haul Road

Stockpile

Pit

Settling Pond

Transportation

Road

Unpaved Road

Water Features

Mapped Stream

Mapped Indefinite Stream

Mapped Lakes and Rivers

Mapped Wetlands

PRELIMINARY

Coordinate System: NAD83 UTM Zone 20N

Sources: ESRI Basemaps, Google Basemaps, GeoNOVA, SNSIS, NSNRR, ACCDC, IBA Canada, CNWI, HERE, Garmin, USGS

Date: 2026-05-07	Project #: 25-11616
Scale: 1:17,500	Drawing #: **2.3-6**
Drawn By: E. Johnson	
Checked By: S. Allain	

strum CONSULTING

Table 2.3-6 Preliminary List of Activities for the 15-Mile Processing Hub Project

Construction Phase	Operations Phase	Closure Phase
Stripping of organics impacted by infrastructure, pits or stockpiles required to start operation.	Operate water treatment infrastructure prior to discharge locations, ensuring discharge meets regulatory requirements.	Implementation of environmental protection and monitoring plans
General earthworks, site levelling, foundations	Stripping of organics impacted by infrastructure, pits or stockpiles not completed during construction phase, inclusive of supporting water management infrastructure.	Implement all environmental monitoring and reporting plans for closure
Upgrade local access roads to all three PDAs, including new culverts/bridges where required[2]	Stockpiling topsoil and other material suitable for reclamation or construction	Remove mine equipment and open pit to floor
Establish water management plan and treatment works, including ponds, pipelines and treatment facilities. Implement water management plan for construction.	Mine all pits, including drilling blasting and excavation activities	Backfill any stockpiled PAG into empty pit
Stockpiling topsoil, organics, NAG and other material suitable for reclamation or construction	Transportation of ore to ROM pad for processing or transport[2]	Backfill designated volume of NAG into Plenty Pit[1]
Disassemble, transport and reassemble equipment and infrastructure that will be reused[1]	Transportation of waste rock to relevant stockpiles, tailings management facility or pit backfill[2]	Ongoing management of waste to appropriate disposal site, inclusive special considerations for reagents or hazardous goods
Movement of construction material to site	Transportation and hauling from Old Austen Mine and Old Mitchell Mine to 15-Mile Mine	Secure pits with highwalls above 3m, either through cut and fill operations or berms erected around the pits depending on pit topography.
Construction of Phase 1 of TMF[1]	Mineral processing[1]	Break-up concrete, scarify compacted grounds
Diversion of Seloam Brook[1]	Construct the remainder of the TMF raises to meet production needs	Demolition and removal of processing and mine support facilities
Construction of new surface infrastructure	Transportation of tailings to TMF via pipeline[1]	Decommissioning of Project access and haul roads, pipelines and powerlines while maintaining access for monitoring purposes[2]
Construction of power infrastructure inclusive of transmission lines, distribution lines, switchyard and generators[2]	Transportation of supplies to mine and administrative area to support operations	Use topsoil and overburden for closure activities including recontour and scarify disturbed area where required. Establish long-term stability and surface drainage.
Carry out fish and fish habitat offsetting projects	Maintenance activities of infrastructure (*e.g.*, roads)	Place growth material over affected areas to ensure vegetation
Development of on-site utilities and services	Ongoing management of waste to appropriate disposal sites, inclusive special considerations for reagents or hazardous goods	Implement and execute water management plan for closure, inclusive of continued treatment of water as required to meet regulatory requirements.
Implementation of management document	Complete progressive reclamation where able, including PAG backfilling	Connect the filled open pit to the local drainage system once the filled pit lake meets regulatory requirements
Manage and treat disturbed historic tailings and waste rock		Reclamation of water treatment infrastructure once no longer required to meets regulatory requirements
Management of waste to appropriate disposal sites		

[1] Activity exclusive to 15-Mile Mine

[2] Some activities or assets mentioned may not be present at one or more PDAs

2.3.7 Background on Historic Tailings

All three proposed locations within the 15-Mile Processing Hub Project have historic mining activity. The latest recorded production at each site concluded in 1998 for the 15-Mile Mine, 1988 for the Old Austen Mine, and 1930 for the Old Mitchell Mine. Documentation for gold production at the Old Mitchell Mine is limited, and further production may have continued until 1960. All locations have some volume of historic tailings and/or historic waste rock. The historic tailings and waste rock tend to be concentrated above and/or near the pits that were previously mined. Historic tailings, contaminated soils and waste rock that are disturbed by Project infrastructure will be remediated per a historic tailings management plan being developed.

2.4 Production Capacity Estimate

Material extraction for the open pits will vary throughout operations based on keeping consistent feed to the mill. Table 2.4-1 highlights mining rates and ore mining rates for the consolidated Project and by location.

Table 2.4-1 Mining Rates and Ore Production from Open Pits (Total Material)

	Mining Rates from Open Pits (Total Material)		
Location	**Average Rate (Mt/y)**	**Max Rate (Mt/y)**	**Max Rate Year Total (Mt)**
Consolidated Project	12.9	16.8	Year 5
15-Mile Mine	5.8	9.6	Year 3
Old Austen Mine	2.8	3.8	Year 5
Old Mitchell Mine	5.8	7.4	Year 3
	Ore Production Rates from Open Pits (Total Material)[1]		
Consolidated Project	2.9	3.0	Year 2
15-Mile Mine	1.6	3.0	Year 2
Old Austen Mine	0.6	0.6	Year 8
Old Mitchell Mine	1.1	1.2	Year 8

[1]Average ore mining rates are presented for operating period of each site. As each site has a different operating period, the total consolidated Project average over the 11.4y is not the sum of averages for each site.

Note: All values rounded. Rounding may result in apparent summation differences.

The milling rate at 15-Mile Mine is anticipated to be approximately 3.0 Mt/y throughout life of mine or 8,219 t/d. This would result in an average annual gold production of 103 koz/y and a max production of 113 koz in Year 5.

2.5 Anticipated Project Lifespan Schedule

15-Mile Mine's construction phase is anticipated to last one year, with the objective of delivering a fully constructed mining facility at the 15-Mile Mine. This timeline is based on achieving ramp up to 100% production capacity within the first three months of operation. The timeline is linked to both mining related activities and the surface operations in sequencing and duration.

The operations phase is anticipated to last for 11.4 years. During the operations phase construction will occur at the Old Mitchell Mine in Y3, and the Old Austen Mine in Y4, with construction at both developed planned to occur in under a year. The closure phase is planned over a 5-year period, with the post-closure phase lasting another 10 years.

An adaptive post-closure monitoring plan will be developed within the final Reclamation and Closure Plan. Some activities may extend past the post-closure period. Monitoring past post-closure will be informed by areas of concern, if any, identified during mining, and/or aspects of closure with high uncertainty/risk identified while monitoring during operations, closure and post-closure activities. Monitoring of water quality may continue past post-closure until water quality concentrations indicate that treatment is no longer required. Sampling and monitoring as required to remain compliant with *Metal and Diamond Mining Effluent Regulations* (MDMER) Environmental Effects Monitoring Program will be performed until the mine receives recognized closed mine status under MDMER.

A more detailed breakdown of Project activities can be seen in Table 2.5-1 below. It should be noted that:

1) Approval timelines may vary, any delay in the timeline will result in an equal delay to all subsequent activities.

2) The closure phase timeline is anticipated to be 5 years but may be adapted as required based on conditions at each PDA with post closure lasting another 10 years.

Activity	*Y-04*	*Y-03*	*Y-02*	*Y-01*	*Y01*	*Y02*	*Y03*	*Y04*	*Y05*	*Y06*	*Y07*	*Y08*	*Y09*	*Y10*	*Y11*	*Y12*	*Y13*	*Y14*	*Y15*	*Y16*	*Y17+*
Studies and Detailed Engineering	X	X	X	X																	
Regulatory Review		X	X																		
15-Mile Processing Hub Project																					
Construction Phase				X																	
Operations Phase					X	X	X	X	X	X	X	X	X	X	X	X					
Closure Phase																X	X	X	X	X	
Post-Closure Phase																					X
15-Mile Mine																					
Construction Activities				X																	
Operations Activities					X	X	X	X	X	X	X	X	X	X	X	X					
Closure Activities																X	X	X	X	X	
Post-Closure Activities																					X
Old Austen Mine																					
Construction Activities								X													
Operations Activities								X	X	X	X	X	X	X	X	X					
Closure Activities																X	X	X	X	X	
Post-Closure Activities																					X
Old Mitchell Mine																					
Construction Activities							X														
Operations Activities							X	X	X	X	X	X	X	X	X	X					
Closure Activities																X	X	X	X	X	
Post-Closure Activities																					X

Table 2.5-1 Gantt Chart of Project Schedule

2.6 Potential Alternatives

2.6.1 Alternatives to the Project

Alternatives to the Project are constrained by the location of the orebodies and proven extraction methodologies that are technically and economically feasible.

As the Touquoy Mine ceased operations in 2023 and entered reclamation, 15-MMR was provided an opportunity to redesign the Project from the ground up while incorporating feedback from previous regulatory submissions, engagement, and consultation. Specifically, 15-MMR examined alternative approaches to developing the 15-Mile Mine, the Old Austen Mine, and the Old Mitchell Mine in an integrated manner to reduce disturbance and anticipated environmental effects, address concerns raised during prior engagement and optimize Project economics. Changes made to each of the three sites are summarized in the section below. They are summarized as alternatives examined to progress the Project and changes made to improve the developments.

15-Mile Processing Hub Alternatives

During early study phases, 15-MMR considered alternative designs to the 15-Mile Processing Hub and the three project locations. This also considered some alternatives that included restarting the Touquoy Mine for operations in different capacities.

Alternatives considered in this regard are summarized in Table 2.6-1. The whole ore processing at the 15-Mile Mine was selected as the feasible basis for Project advancement based on various screening criteria.

Table 2.6-1 Alternative to 15-Mile Processing Hub Project

Alternative	Description	Technical Feasibility	Economic Feasibility	Key Environmental Considerations	Key Mi'kmaq / Social Considerations	Rationale for Advancement or Elimination
1. No Project	Do not proceed with development of the 15-Mile Project or associated deposits.	Not applicable.	Not applicable.	No new disturbance, no project GHG emissions. No tailings generation. No historic tailings clean up.	No employment, GDP growth or royalty benefits.	Does not meet purpose of responsible resource development or socio-economic benefits.
2. Standalone Mines and Processing at Each Deposit	Each deposit developed with its own mill and tailings facility.	Technically feasible. Highest overall demand for technical expertise due to 3 standalone operating sites.	Highest capital intensity due to duplicate infrastructure. Highest operational costs due to staffing and operating multiple processing plants.	Largest cumulative footprint. Introduces risks and disturbance area impacts of processing and TMF infrastructure at all mines. Greatest GHG emissions and impacts. Surface water withdrawal required.	Increased disturbance area impacts and risks associated with processing and tailings infrastructure. The Old Austen Mine and Old Mitchell Mine are closer to community and First Nations members than 15-Mile Mine.	Eliminated at preliminary stage due to expanded footprint and cumulative effects profile.
3. 15-Mile Processing Hub (Whole Ore Trucking) – Preferred	Construct one new processing plant and TMF at 15-Mile Mine, the Old Austen Mine and Old Mitchell Mine truck whole ore to hub.	Technically feasible, proven hub model. Infrastructure from Touquoy Mine may require refurbishment or replacement.	Economically favourable due to shared infrastructure and economies of scale.	Single tailings dam, increased GHG emissions associated with whole ore. Reduced disturbance area impacts at the Old Austen Mine and Old Mitchell Mine. Eliminates the need for surface water withdrawal at the Old Austen Mine and Old Mitchell Mine. Increased disturbance at 15-Mile Mine.	Processing centralized between the Old Austen Mine and Old Mitchell Mine reducing haul trucks on roads. 15-Mile Mine is less environmentally and socially sensitive location due to remote location and NSPI Dam upstream. Reduced impacts and risks at the Old Austen Mine and Old Mitchell Mine.	Preferred alternative. Balances environmental and social impacts while financially viable.
4. Restart Touquoy Mine as Processing Hub (Whole Ore Trucking)	Restart and repurpose the Touquoy Mine site as a regional mill and tailings facility. The Old Austen Mine and Old Mitchell Mine truck ore to Touquoy Mine.	Existing infrastructure may reduce construction requirements. Existing infrastructure requires refurbishment. New industrial approval and	Lower initial capital than new build. Insufficient tailings storage in open pit and existing TMF. Truck counts required to support optimal processing rate at Touquoy Mine unreasonably high due	Reuse of previously disturbed site reduces new footprint, no TMF capacity requiring new disturbance at Touquoy Mine. High GHG impact due to high haul truck usage.	Increased traffic and longer haul routes through communities. Delays Touquoy Mine closure and reclamation works.	Considered feasible. Trade-offs include haul distance, remaining TMF capacity, and closure planning integration.

Alternative	Description	Technical Feasibility	Economic Feasibility	Key Environmental Considerations	Key Mi'kmaq / Social Considerations	Rationale for Advancement or Elimination
		additional tailings capacity required.	to distance from Touquoy Mine to 15-Mile Mine and Old Mitchell Mine.			
5. Concentrator Model with Central Processing of Concentrate at 15-Mile or Touquoy Mine	Install crushing, grinding, gravity and flotation circuits at the Old Austen Mine and Old Mitchell Mine. Ship concentrate to central facility for final processing (CIL or off-site refining).	Technically feasible.	Higher capital at the Old Austen Mine and Old Mitchell Mine. Lower haul volumes. Lower trucking costs. Lower revenue from reduced concentrate recovery or lowest revenue from sale of concentrate. Capital required to upgrade mill to receive and process concentrates.	Reduced trucking volumes. Requires tailings facilities at the Old Austen Mine and Old Mitchell Mine. Reduces tailings requirement at processing hub (Touquoy Mine or 15-Mile Mine). Requires surface water withdrawal at the Old Austen Mine and Old Mitchell Mine. Introduces risks and disturbance area impacts of processing and TMF infrastructure at all mines.	Reduced heavy truck traffic. Increased disturbance area impacts and risks at the Old Austen Mine and Old Mitchell Mine associated with processing and tailings infrastructure.	Considered feasible. Not preferred due to reduced economics and increased disturbance at the Old Austen Mine and Old Mitchell Mine.
6. Reduced Scale Development (4,000 tpd milled)	Develop smaller throughput hub with future expansion option.	Technically feasible.	Lower initial capital. Reduced economies of scale increasing operating costs given the head grade. Longer operating period to process similar volume.	Lower peak water demand. Extended operating timeline delaying closure and land reclamation.	Reduced employment and economic contribution. Increased mine life and job retention time. Proponents have complained about "shifting goalposts" and want submissions to be fulsome, encapsulating all effects.	Considered feasible, does not optimize long-term resource recovery, and carries higher economics risks.

Alternative	Description	Technical Feasibility	Economic Feasibility	Key Environmental Considerations	Key Mi'kmaq / Social Considerations	Rationale for Advancement or Elimination
7. Underground Mining	Develop underground operations instead of or in combination with open pits.	Technically feasible. Complex to execute due to limited support for underground mining in Nova Scotia.	Higher operating costs, lower production rate, extended mine life, insufficient head grade to support underground operations, challenging deposit structure for underground, lack of skilled underground mine workers.	Reduced surface disturbance, lower waste rock volumes, groundwater management considerations.	Reduced surface impact, higher risks to workers, higher paying jobs but jobs are less likely to go to locals due to technical experience associated with underground mining.	Not economically feasible due to nature of gold deposits. Limited resources to support operations and safety of underground mining in Nova Scotia. Has failed previously in similar deposits in Nova Scotia.
8. Toll Milling at Existing Regional Facility (Other than Touquoy Mine)	Ship ore to another operating mill in Nova Scotia or Atlantic Canada.	Technically feasible but requires third party mill with capacity in economic distance of mines.	Lower capital, high long-term transportation cost, dependency on third party availability, low head grade does not allow for long transportation.	Increased trucking emissions, avoids new TMF construction at processing hub.	Extended haulage impacts across multiple jurisdictions. Less jobs and benefits. Less job security. Large portion of economic benefits will not impact locals assuming toll treatment is not performed locally.	Operationally and economically risky due to reliance on third party and limited availability for Toll Treating within an economic distance.

Alternative Means (Technologies)

Alternative means of carrying out the 15-Mile Processing Hub Project were evaluated during the Preliminary Economic Assessment, various environmental studies and engagement sessions. The preferred designs were advanced in the further stages are studies. Tables 2.6-2 through 2.6-4 below detail alternatives considered for each site, with a brief summary as to why they were or were not put forward as the preferred option.

Table 2.6-2 15-Mile Mine Alternative Means

Topic	Preferred	Alternative Means 1	Additional Alternative Means
Mining Method	Open Pit Local talent available with trades and equipment training are valuable assets. Ore deposits begin near surface with shallow overburden. Generates NAG material necessary for TMF construction. Ability to mine disseminated gold in host rock.	Underground Extremely high operating cost, not economical for this style of deposit and head grade. Not financially feasible. Minimal local experience and contractors with underground mining, especially concerning mine rescue. Failed underground operations with similar deposits.	
Fragmentation	Drilling and Blast Generally accepted as the most efficient method of breaking large volume of rock. Lower dust generation than alternatives. Economically and technically feasible.	Rock Breaking Hard native rock, rock breaking is not considered economical or technically feasible. Significant noise and dust generation.	
Recovery Methods	Conventional Gravity + Whole-ore leaching Leverages existing assets from Touquoy Mine. High recovery resulting in maximum use of the resource. Proven technology used worldwide in mining operations.	Gravity/Flotation Requires similar capital/operating to whole ore leach with lower recovery. Cost and risk associated with transport of concentrate is higher than doré. Lower product smelter return.	Whole Ore for Sale/Toll Treat Not economical and no economical market for sale or toll treat.

Topic	Preferred	Alternative Means 1	Additional Alternative Means
Mine Planning	Relaxed and Balanced Mine Plan Allows for backfilling of PAG minimizing TMF PAG storage. Egerton-MacLean has strong economic value early allowing for positive cashflow quickly to de-risk operations. Supplies sufficient NAG for initial TMF construction. Plenty pit complete as of Y5 to optimize ounce profile allowing consistent grade in early years. Technically and economically feasible with low impacts.	Prioritize High Grade Makes active reclamation works backfilling PAG difficult as no pit is fully mined until later years. Increase fleet demand to allow constant throughput while targeting highest grade. Highest NPV and IRR, and lowest risks concerning operating cashflow. Highest disturbance area due to larger WRSA, increases environmental risks, water treatment costs and reclamation costs.	Mining Austen Pit and Mitchell Pit First Accelerates vacant pits for PAG storage but poor economics due to lower grade ore in Austen Pit and Mitchell Pit. Technically feasible but not economically feasible.
Energy Sources	Permanent Grid Tie-In Existing power source is present 5km west of study area. Power demand is high enough that a steady reliable source of power is required. NSPI has a commitment to renewable energy.	Diesel-Powered Generators High GHG emissions. Additional environmental risks from large transport and storage infrastructure required to support operations. Not economically feasible.	Alternative Energy Sources Reliable renewable energy sources of sufficient capacity would not be economically feasible or practicable due to the high capital cost to produce the projected power load combined with the relatively short duration of the Project.
PAG Management	Mixed Tailings Dam and Backfill Allows PAG to never be stored at surface at 15-Mile to avoid potential acid rock formation. Allows for active reclamation once pits are fully mined. Increases Tailings Dam size and head pressure due to additional stored material.	Backfill into mind open pits Requires additional disturbance area to build temporary PAG stockpile during operation, with intent to backfill at closure. Some risk due to PAG at surface nearing sulphide oxidation accelerate during operating years. Reduced TMF size with no PAG capacity required.	Surface stockpile capped at closure Increased acid rock formation risk and long-term management risk/cost. Co-disposal with tailings High cost due to increased tailings size and increased tailings impacts/risk to handle all PAG material. Not economically feasible. Layering Blending NAG/PAG Explored but NAG/PAG ration does not allow for effective implementation. Not technically feasible.

Topic	Preferred	Alternative Means 1	Additional Alternative Means
NAG Management	Single Surface Stockpiles with Plenty Backfill Allows for NAG material near TMF for final cover at closure. Does not require accelerating mining to complete an open pit earlier. Accelerates final landform. Technically and economically feasible.	Backfill of Egerton-MacLean, Plenty and 149 Pits outside Plenty occur high additional rehandle. requirements/cost due to size (Egerton-MacLean) or distance from NAG stockpile (149 and Hudson). Requires an accelerated mining rate.	Surface Stockpiles (No NAG Backfill) Additional disturbance area and larger landform at closure. Technically and economically feasible but more disturbance.
Water Supply	Seloam Lake Allows for water volume required for sanitation purposes and specialized process operations. Large water body mitigates risks posed by extreme weather conditions. Area surrounding lake already disturbed by NS Power dam. Introduces complications to ensure NS Power has access to the area to control dam flow.	Anti Dam Flowage Allows for water volume required for sanitation purposes and process operations. Water body is long and shallow making continual operation under all conditions difficult. Level of water body is known to change seasonally and based on NS Power dam operations. Not technically feasible. Economically feasible.	Groundwater Wells Water demand for operations difficult if not infeasible to meet on groundwater wells. Not technically feasible.
Effluent Discharge Locations	Multiple Discharge Locations at East Lake and Anti Dam Allows supplement flow in areas where infrastructure has impacted water catchment. More complex water management. Technically and economically feasible. Less environmentally impactful.	Single Discharge Location at Anti Dam Operationally simple. All water is pumped to TMF, TMF water treated and discharged to Anti Dam. Does not allow supplement flow lost by infrastructure in catchment area of Seloam brook watercourse. More environmentally impactful.	Locations for Individual Stockpiles Most operationally complex, may requirement treatment at multiple discharge locations or lengthy pumping to move water to appropriate discharge.
Tailings Management Facility	Centerline Simplifies staged building of dam. More cost effective than downstream due to dam height and topography of dam location.	Downstream Increases disturbance area of dam. Highest cost of three options considered, with costs disparity increasing with dam size.	Upstream Reduced costs and disturbance area does not justify the increased risks associated with upstream construction.

Topic	Preferred	Alternative Means 1	Additional Alternative Means
Tailings Management Base and Wall Design	Clay Core Walls and Bedrock Base Meets water criteria at site based on preliminary modelling. Effective with seepage collection systems. Successfully utilized at Touquoy Mine site. Lowest capital and operational complexity. Allows use of PAG in upstream reducing overall size. Technically and economically feasible.	Base of Dam Geosynthetic Liner Captures most of the benefit of a geosynthetic liner while reducing price through not lining walls. High capital cost. Prone to failures.	Base of Dam Clay Liner Slightly worse seepage performance than geosynthetic liner based while reducing costs through use of clay from local borrow source. High capital and operationally complex due to clay requiring a cover over winter months. Will need to be built in stages. Geosynthetic Liner (Base and Walls) Operationally complex. Normal to have imperfections either in manufacturing or construction on geosynthetic liner causing localized seepage. Highest reduction in seepage from modelling but is prone to failure long term. High capital cost, with majority of seepage retention benefit coming from lining the base of the dam and minimal coming from lining walls (based on modelling).
Tailings Disposal	Conventional Slurry Tailings Well understood and operationally stable. Slightly higher disturbance area than densified tailings alternatives. Positive choice for sites like 15-Mile that operate on surplus water balance and have PAG material (waste rock and tails) stored in TMF.	Thickening (Partially Dewatered) Tailings Difficult to maintain benefits due to Nova Scotian moist climate. Slightly reduced disturbance are in contrast to conventional tailings. Typically used in facilities with steeper tailings beach to achieve a natural drainage slope towards downstream water collection area. Not applicable to 15-Mile. High capital costs.	Paste (Ultra-Thickened) Tailings Typically applied in areas where ultra thickened tailings can be used as construction aggregate or underground mine shaft backfill. Not appropriate for 15-Mile Processing Hub. Filtered (Dry Stack) Tailings Difficult to maintain due to Nova Scotian moist climate. Tailings must be dry to be self-supported so typically only done in arid areas or areas with permafrost. Lowest disturbance area. High operating and capital costs. Cycloned Tailings Minimal benefit from density increase of tailings for a high cost. Benefit would come from using cycloned tailings as a construction aggregate which is not appropriate for 15 Mile Processing Hub.

Topic	Preferred	Alternative Means 1	Additional Alternative Means
Seloam Brook	Seloam Brook Realignment Engineer and create floodplain and fish habitat along the channel to minimize impacts to fish and fish habitat. High capital costs Can be used as overflow locations in closure for Egerton-MacLean and 149.	Exclusion of Hudson Pit Assumes construction of Seloam Brook Realignment while excluding Hudson Pit from operations. Reduces length of Seloam brook that needs to be realigned. Large economic loss to project.	Straight Engineered Channel Does not adequately address risks fish and fish habitat. Operationally simple and lower capital.

Table 2.6-3 Old Austen Mine Alternative Means

Topic	Preferred	Alternative Means 1	Additional Alternative Means
Mining Method	Open Pit Local talent available, people with trades and equipment training are valuable assets. Ore deposits begin near surface with shallow overburden.	Underground Extremely high operating cost, not economical for this style of deposit and head grade. Minimal local experience and contractors with underground mining, especially concerning mine rescue.	
Fragmentation	Drilling and Blast Generally accepted as the most efficient method of breaking large volume of rock. Lower dust generation than alternatives.	Rock Breaking Hard native rock, rock breaking is not considered economical or technically feasible. Significant noise and dust generation. Noise and dust were a concern during engagement with First Nations communities.	
Recovery Methods	Whole Ore Shipping to 15-Mile Smallest environmental disturbance at the Old Austen Mine due to no tailings and limited infrastructure requirements. Requires increase in tailings storage volume at 15-Mile, also increasing the environmental impacts of the TMF at 15-Mile. Can be co-processed with whole ore from 15-Mile Mine to improve operating costs (Old Austen Mine mining rate is not sufficient to meet economical milling rate). Lowest Capital and operating costs of identified options. Highest recovery of identified options. Highest haul volume.	Gravity/Float Shipping to 15-Mile Would require construction of an additional TMF at the Old Austen Mine. Can be co-processed with whole ore from 15-Mile to improve operating costs. High capital and operating cost implications. Lower gold recovery from concentrate than whole ore leaching.	Conventional Gravity + Whole-ore leaching High capital and operating. High Environmental Disturbance. No Haul Road Required. Technically feasible, not economically feasible. Whole Ore shipping to Touquoy Mine Requires haul road to Touquoy Mine or long haulage High operating costs May require additional storage location for historic tailings Whole Ore for Sale/Toll Treat Not economical and no economical market for sale or toll treat.
Mine Planning	Reduced Pit Shell Lower economic value Lowers risks associated with gold price due to shorter and more targeted operation. Heavily reduces waste generated, project disturbance area and water management complexities.	Larger and Highest Economic Value Pit Shell Highest economic value. Encroaches on Killag river which is a sensitive watercourse.	

Topic	Preferred	Alternative Means 1	Additional Alternative Means
Energy Sources	Diesel-Powered Generators High GHG emissions. Additional environmental risks from large transport and storage infrastructure required to support operations. Allows for Stable operation. Eliminates disturbance and infrastructure run required for permanent grid tie-in.	Permanent Grid Tie-In High capital due to distance from existing power infrastructure. Would require remediation at closure and create disturbance during construction. Lower GHG Emissions. Would buy diesel-powered capital infrastructure with grid tie-in to allow continuation of operation during power outages. Reduces diesel transport environmental risk but storage environmental risk still present.	Alternative Energy Sources Requires Permanent Grid Tie-In. Reliable renewable energy sources of sufficient capacity would not be economically feasible or practicable due to the high capital cost to produce the required load for the relatively short duration of the Project.
Historic Tailings and Contaminated Soils Management	See Table 2.6-2 15-Mile Mine Alternative Means		
PAG Management	Backfill into mined open pits Some risk of PAG at surface undergoing sulphide oxidation acceleration during operating years. Minimal volume of PAG at the Old Austen Mine makes surface storage appropriate until mined pit is available for backfill.	Layering Blending NAG/PAG Reduces risk of sulphide oxidation acceleration during operating years. Increased operational complexity and increased opex cost due to additional haul operation. Explored but PAG is not expected to undergo sulphide oxidation acceleration during operating life.	Surface stockpile capped at closure Increased ARD risk and long-term management risk/cost. Reduce operating costs at end of mine life due to elimination of rehandle.
NAG Management	Combined NAG and Organics Stockpile Reduces disturbance area. Simplifies water management (single ditch/pond for both materials). Reduces useful NAG and Organics due to inability to use material in interface between the two materials.	Separate NAG and Organics Stockpile Higher disturbance area More complex water management. Easier access to organics and no loss due to mixing layer at interface between NAG and organics.	
Water Supply	Groundwater Wells Supports necessary water for sanitation purposes. Requires use of clean stockpile water for dust suppression at site.	Killag River Allows for excess of water. Higher impact to watercourse from which draw takes place. Allows use of watercourse water for dust suppression purposes.	

Topic	Preferred	Alternative Means 1	Additional Alternative Means
Effluent Discharge Locations	Multiple Discharge Locations Killag River and Tent Lake Watershed Allows supplement flow in each watershed impacted by site infrastructure. More complex water management and water treatment.	Single Discharge Location at Killag Operationally simple. All water is pumped to single pond for treatment and then discharged to Killag. Does not allow supplement flow lost by infrastructure in catchment area of Tent Lake watershed.	Locations for Individual Stockpiles Most operationally complex, may requirement treatment at multiple discharge locations or lengthy pumping to move water to appropriate discharge. Most infrastructure water catchment impacts the Killag River, so minimal difference between this option and other that propose singular discharge to Killag.

Table 2.6-4 Old Mitchell Mine Alternative Means

Topic	Preferred	Alternative Means 1	Additional Alternative Means
Mining Method	Open Pit Local talent available, people with trades and equipment training are valuable assets. Ore deposits begin near surface with shallow overburden.	Underground Extremely high operating cost, not economical for this style of deposit and head grade. Minimal local experience and contractors with underground mining, especially concerning mine rescue.	
Fragmentation	Drilling and Blast Generally accepted as the most efficient method of breaking large volume of rock. Lower dust generation than alternatives.	Rock Breaking Hard native rock, rock breaking is not considered economical or technically feasible. Significant noise and dust generation.	
Recovery Methods	Whole Ore Shipping to 15-Mile Smallest environmental disturbance at the Old Mitchell Mine due to no tailings and limited infrastructure requirements. Requires increase in tailings storage volume at 15-Mile, also increasing the environmental impacts of the TMF at 15-Mile. Can be co-processed with whole ore from 15-Mile to improve operating costs. Lowest Capital and operating costs of identified options. Highest recovery of identified options. Highest haul volume.	Gravity/Float Shipping to 15-Mile Would require construction of an additional TMF at the Old Mitchell Mine. Can be co-processed with whole ore from 15-Mile to improve operating costs. High capital and operating cost implications. Lower gold recovery from concentrate than whole ore leaching.	Conventional Gravity + Whole-ore leaching High capital and operating costs. High Environmental Disturbance including processing infrastructure and TMF. No Haul Road Required. Gravity Doré/Float Similar issues to Gravity/Float with higher complexity at the Old Mitchell Mine. Whole Ore Sipping to Touquoy Mine Distance too far to be Economical. Whole Ore for Sale/Toll Treat Not economical and no economical market for sale or toll treat.

Topic	Preferred	Alternative Means 1	Additional Alternative Means
Mine Planning	Reduced Pit Shell Lower economic value. Lowers risks associated with gold price due to shorter and more targeted operation. Heavily reduces waste generated, project disturbance area and water management complexities.	Highest Economic Value Pit Shell Highest economic value. Requires alteration to Highway 7 as ore body passes below the Highway. Increases pit disturbance area to be in a watershed leading directly to the St. Mary's River.	
Energy Sources	Permanent Grid Tie-In Reasonable CAPEX due to existing power infrastructure on Highway 7. Would require remediation at closure and create disturbance during construction. Lower GHG Emissions. Limited diesel infrastructure required to maintain ETP operation, sanitation, lighting and other infrastructure required for safe operation.	Diesel-Powered Generators High GHG emissions. Additional environmental risks from large transport and storage infrastructure required to support operations. Allows for Stable operation. Eliminates disturbance and infrastructure run required for permanent grid tie-in.	Alternative Energy Sources Requires Electrical Grid Tie-In. Reliable renewable energy sources of sufficient capacity would not be economically feasible or practicable due to the high capital cost to produce the required load for the relatively short duration of the Project.
Historic Tailings and Contaminated Soils Management	See Table 2.6-2 15-Mile Mine Alternative Means		
PAG Management	Backfill into mined open pits Some risk of PAG at surface undergoing sulphide oxidation acceleration during operating years. The Old Mitchell Mine has a large PAG waste rock volume requiring lined PAG waste rock stockpile even with only temporary storage.	Layering Blending NAG/PAG Reduces risk of sulphide oxidation acceleration during operating years. Increased operational complexity and increased operating cost due to additional haul operation. PAG to NAG ratio is not too high to allow effective usage of this technique.	Surface stockpile capped at closure Increased ARD risk and long-term management risk/cost. Large volume of PAG waste rock likely to cause ARD complications in long-term storage without saturation. Reduce operational costs at end of mine life due to elimination of rehandle.
NAG Management	Separate NAG and Organics Stockpile Higher disturbance area More complex water management. Easier access to organics and no loss due to mixing layer at interface between NAG and organics. Easier to microsite organics stockpiles in areas to avoid environmental constraints and manage watershed impacts.	Combined NAG and Organics Stockpile Reduces disturbance area. Simplifies water management (single ditch/pond for both materials). Reduces useful NAG and Organics due to inability to use material in interface between the two materials. Difficult to microsite such a large stockpile while balancing environmental constraints and watershed impacts.	

Topic	Preferred	Alternative Means 1	Additional Alternative Means
Water Supply	Groundwater Wells Supports necessary water for sanitation purposes. Requires use of clean stockpile water for dust suppression at site.	Cargill Lake Allows for excess of water. Higher impact to watercourse from which draw takes place. Allows use of watercourse water for dust suppression purposes.	Archibald Lake Designated the Archibald Lake Wilderness Area. Used for recreational activities. Not a viable option.
Effluent Discharge Locations	Multiple Discharge Locations Cargill Lake and SW4 Allows supplement flow in each watershed impacted by site infrastructure. More complex water management and water treatment.	Single Discharge Location at Cargill Lake Operationally simple. All water is pumped to single pond for treatment and then discharged to Cargill Lake. Does not allow supplement flow lost by infrastructure in catchment area of watercourse 14.	Discharge in Watercourse 10km from site. Operationally complex, lengthy pumping to move water to appropriate discharge location. High operational cost. Locations for Individual Stockpiles Most operationally complex, may requirement treatment at multiple discharge locations or lengthy pumping to move water to appropriate discharge. Infrastructure microsited to minimize impacts to surrounding watercourses and water bodies, not necessary with infrastructure design.

2.6.2 Reduced Impacts Comparing Moose River Consolidated Project and 15-Mile Processing Hub Project

This section summarizes reductions in environmental impacts, such as disturbance area and impacts to wetlands and watercourses, achieved by optimizations made in contrast to the Moose River Consolidated Project.

A comparison of the disturbance is shown in Appendix G: Moose River Consolidated Project vs 15-Mile Processing Hub Project Layout Comparison. The reductions in disturbance area are estimated to be:

- An estimated 23% reduction in overall disturbance area at the 15-Mile Mine.
- An estimated 43% reduction in overall disturbance area at the Old Austen Mine.
- An estimated 55% reduction in overall disturbance area at the Old Mitchell Mine.

At 15-Mile Mine, the TMF was relocated and expanded to include additional ore from the Austen Pit and the Mitchell Pit, while other infrastructure was consolidated, including the total elimination of the PAG pile. The number of watercourses disturbed was reduced by approximately 35%. The number of wetlands directly affected was reduced by approximately 19%. The revised layout avoids direct impacts to three additional occurrences of blue felt lichen and entirely eliminates direct impacts to boreal felt lichen, while reducing the number of watersheds directly affected by 8%.

At the Old Austen Mine, infrastructure was heavily consolidated. By doing so, the Old Austen Mine went from having infrastructure in seven watersheds (including the Cope Brook watershed which flows to Beaver Lake IR 17) to four watersheds. The number of watercourses disturbed was reduced by approximately 22%. The number of wetlands directly affected was reduced by approximately 61%. Direct disturbance to moose patch areas was entirely eliminated. The revised layout avoids direct impacts to blue felt lichen and boreal felt lichen completely.

At the Old Mitchell Mine, the removal of the processing operations and TMF substantially reduced anticipated environmental impacts. The revised layout of the Old Mitchell Mine reduced the number of watersheds directly affected by 11%, with no infrastructure proposed to be located in any watershed that flows directly to the St. Mary's River. The number of watercourses disturbed was reduced by approximately 23%. The number of wetlands directly affected was reduced by approximately 55%. The revised layout avoids direct effects to blue felt lichen and boreal felt lichen completely.

The proceeding sections highlight positive changes made to each of the three sites in contrast to the original Moose River Consolidated Project.

15-Mile Mine Redesign

15-Mile Mine was initially planned to be a concentrate project, where ore material would undergo initial processing within the 15-Mile Mine PDA prior to transport to the Touquoy Mine. It is now proposed to serve as the central processing facility for all three properties, using whole ore leach and gravity processing to produce doré bullion. Optimizations that were made to the project include:

- Closure and final landforms are now considered within the Project design.
- PAG waste rock material is rehandled directly in the TMF or backfilled into the pit to mitigate onset and impact of acidification.
- Greatly reduced volumes of surface stockpiles post-closure. It is expected all stockpiles will be depleted.
- Inclusion of by-pass trails for ATV and public use, based on feedback from the Sheet Harbour ATV Society.
- Inclusion of multiple discharge points to minimize flow rate impacts to watercourses and water bodies.
- Consolidation of haul roads to reduce disturbance area.
- Removal of low and medium grade stockpiles previously included within the Project scope to reduce disturbance footprint.
- Removal of settling pond attached to TMF to reduce water stored in the facility and risks associated with water storage; the settling pond will still be utilized after the treatment facility.
- Relocated the mill building and placed NAG and overburden waste rock stockpile between mill and TMF to mitigate potential risk in the unlikely event of a dam failure.
- Measures were taken to ensure that operational areas with personnel, including the mill, are situated away from the TMF.
- Moved infrastructure away from East Lake and the Toadfish Lakes Wilderness Area, based on community feedback (the current redesign has no infrastructure within the East Lake watershed).
- Increased the size of the TMF to account for ore from the Old Austen Mine and Old Mitchell Mine.
- Redesign of the Seloam Brook Realignment, focusing on fish passage.
- Introduction of water treatment.

Old Austen Mine Redesign

The Old Austen Mine was always planned as a quarry-style operation with no on-site ore processing; however previous iterations had planned for hauling to the Touquoy Mine. Ore from the Old Austen Mine is now proposed to be hauled to the 15-Mile Mine. Optimizations that were made to the project include:

- Closure and final landforms are now considered within the design, with PAG material rehandled back into the pit to mitigate onset and impact of acidification.
- Optimization of the pit resulting in a loss of produced ounces, but also heavily reducing waste rock production and retreating the pit away from the Killag River. This modification was made in response to Mi'kmaq community and DFO concerns regarding the project's potential impacts on the Killag River. Previously there was only a 60 m buffer to the Killag River, the redesign has increased the buffer to 110 m.
- The pit shell optimization reduced waste rock generation by 23 Mt which also heavily reduced the disturbance area.
- Redesigned the PDA to remove the Cope Brook watershed, which is upstream of Beaver Dam IR 17, based on concerns regarding water quality at the reserve.
- Relocated stockpiles to minimize environmental impacts. Stockpiles were placed with consideration of watercourses impacted while trying to avoid environmental constraints. For the Old Austen Mine, the stockpiles impact only two watersheds, the Killag River and the Tent Lake watershed. It is noteworthy that Tent Lake is only impacted by the topsoil pile and organics stockpile.
- Split discharge between the two impacted watersheds to minimize flow losses in receiving environments.
- Eliminated the need for surface water withdrawal due to the reduced site area.
- Eliminated the need for the Beaver Dam Haul Road to the Touquoy Mine, due to concerns raised around interference with Traditional Land Use.

Old Mitchell Mine Redesign

The Old Mitchell Mine was originally planned as a concentrate project, shipping concentrate to Touquoy Mine, but community feedback viewed the inclusion of a TMF at the location negatively. Based on feedback and economic factors, the project was re-worked to operate as a conventional quarry style operation with processing occurring at 15-Mile Mine. Optimizations that were made to the project include:

- Closure and final landforms are now considered within the design, with PAG material rehandled back into the pit to avoid oxidation.
- The Project has been redesigned and will no longer require a TMF.
- Significant reduction in open pit shell. Proposed pit shell no longer intercepts with NS Trunk Highway 7 (Marine Drive), heavily reducing waste rock generated. This was done based on feedback from the community, which was concerned regarding re-routing or impacting Highway 7.
- The pit shell optimization reduced waste rock generation by 14 Mt which also heavily reduced the disturbance area.
- Relocated stockpiles to minimize environmental impacts. Stockpiles were placed with consideration of watercourses impacted while trying to avoid environmental constraints. This approach consolidates infrastructure around Cargill Lake, while also considering methods to offset potential impacts from the pit.
- Changed from concentrate to quarry style, allowing for reduced disturbance area and removal of the TMF.
- Exited all watersheds that lead directly to the St. Mary’s River, based on concerns from the community regarding impacts on the St. Mary’s River.
- Redesigned the water discharge point to eliminate outflow into Archibald Lake, based on concerns from the community regarding impacts on Archibald Lake.
- Split discharge between the two impacted watersheds to minimize flow losses in receiving environments.
- Eliminated the need for surface water withdrawal.

3 Location Information

The following Section details the Project's proposed locations, including geographic coordinates, site maps, lands and ownership, and proximity to residences, communities, and Indigenous and federal lands.

3.1 Geographic Coordinates

3.1.1 15-Mile Mine

The 15-Mile Mine PDA is located approximately 100 km northeast of Halifax, in Halifax County, with geographic coordinates at:

- The 15-Mile Mine PDA is centred on 4998552 N, 537235 E (UTM NAD 83 Zone 20T).
- Latitude / Longitude are 45.139470 N, 62.526414 W.
- It is situated on NTS sheets 11E01/C and 11E02/D.

3.1.2 Old Austen Mine

The Old Austen Mine is located approximately 85 km northeast of Halifax, in Halifax County, with geographic coordinates at:

- Universal Transverse Mercator (UTM) 4989899 N, 521879 E (NAD 83 Zone 20T).
- Latitude / Longitude are 45.062218 N, 62.722099 W.
- It is situated on NTS sheets 11E02/A.

3.1.3 Old Mitchell Mine

The Old Mitchell Mine is located approximately 145km northeast of Halifax and approximately 13 km north of Sherbrooke, in Guysborough Country, with geographic coordinates at:

- Universal Transverse Mercator (UTM) 5011088 N, 20 577392 E (WGS 84 Zone 20T).
- Latitude / Longitude are 45.249038 N, 62.013774 W.
- It is situated on NTS sheets 11E/1D, 11E/8A, 11F/4C and 11F/5B.

3.2 Site Maps

Mapping provided in this document include:

- Figure 1.2-1 – 15-Mile Processing Hub Project Project Location
- Figure 1.6-1 – 15-Mile Processing Hub Project Mi'kmaq First Nation Communities of Nova Scotia

3.2.1 15-Mile Mine

- Figure 2.3-1 – 15-Mile Mine: Site Overview
- Figure 2.3-2 – 15-Mile Mine: Characterization of Impacts from Historical Tailings and Waste Rock

3.2.2 Old Austen Mine

- Figure 2.3-3 – Old Austen: Mine Site Overview
- Figure 2.3-4 – Old Austen Mine: Characterization of Impacts from Historical Tailings and Waste Rock

3.2.3 Old Mitchell Mine

- Figure 2.3-5 – Old Mitchell Mine: Site Overview
- Figure 2.3-6 – Old Mitchell Mine: Characterization of Impacts from Historical Tailings and Waste Rock

3.3 Description of Lands and Ownership

3.3.1 15-Mile Mine

The 15-Mile Mine PDA consists of land owned mainly by 15-MMR and the Crown (administered by the Province of Nova Scotia). 15-MMR owns a significant portion of the surface rights within the PDA, including three of the four main zones of mineralization. Mineral tenure within the PDA consists of nine exploration licences held by 15-MMR, comprising of 191 contiguous claims.

The northern portion of the 15-Mile PDA is located in the Musquodoboit Valley/Dutch Settlement Plan Area and is zoned Mixed Use. The southern portion of the PDA is located in the Eastern Shore (East) Plan Area and is zoned Rural Resource. Both the Mixed Use and Rural Resource zoning designations permit extractive facilities subject to zoning regulations. Extractive facilities are defined in the land use by-laws as "…all buildings, aggregate plants, material storage areas and weigh scales associated with extractive uses and may include residential uses which are accessory to the extractive facility provided such residential uses are connected to a properly installed on-site sewage disposal system" (HRM, 2023a; HRM, 2023b). Mineral extraction is regulated by the Province through the *Mineral Resources Act* and is not subject to municipal regulation.

3.3.2 Old Austen Mine

The Old Austen Mine PDA consists of privately owned land and Crown land. A large proportion of the privately owned land has been used for commercial forestry activities. Mineral tenure within the Old Austen Mine PDA consists of four exploration licences held by 15-MMR, comprising of 117 contiguous claims.

The Old Austen Mine PDA is PDA is located in the Musquodoboit Valley/Dutch Settlement Plan Area and is zoned Mixed Use. The Mixed Use zoning designation permits extractive facilities subject to zoning regulations. Mineral extraction is regulated by the Province through the *Mineral Resources Act* and is not subject to municipal regulation.

3.3.3 Old Mitchell Mine

The Old Mitchell Mine PDA consists of land owned mainly by the Crown. 15-MMR owns one parcel of land within the Old Mitchell Mine PDA, covering approximately 100 ha, some of which is within the PDA while some extends outside. Mineral tenure within the Old Mitchell Mine PDA consists of seven exploration licences held by 15-MMR, comprising of 172 contiguous claims.

The Old Mitchell Mine PDA is located in the Municipality of the District of St Mary's and is zoned Rural Resource. The Rural Resource zone is intended to accommodate resource-based industries and rural living (Municipality of the District of St. Mary's, 2022).

3.4 Proximity to Residences and Communities

The areas surrounding the 15-Mile Mine, the Old Austen Mine, and the Old Mitchell Mine are predominantly rural, characterized by widely dispersed residences that range from permanent dwellings to seasonal camps. No residences are located within any of the PDAs.

3.4.1 15-Mile Mine

The 15-Mile Mine PDA is located near Trafalgar, Halifax County, NS. The nearest town is Sheet Harbour, located 33 km south along Highway 374. Sheet Harbour has a population of 800 people and services a broader population of approximately 5000 people, mostly distributed in a string of small communities along the coastline. The closest residence is a seasonal property located 4.7 km south of the PDA, along Anti Dam Flowage. Two seasonal residences are located further south along Highway 374 on Marshall Flowage. Temporary residences in the vicinity of the 15-Mile Mine PDA include a disused warden's cabin in the Liscomb Game Sanctuary, located approximately 7.9 km south of the PDA. Refer to Figure 1.2-1, Project Location for additional detail.

3.4.2 Old Austen Mine

The Old Austen Mine is located near Marinette, Halifax County, NS. The nearest town is Sheet Harbour, located 19 km south along Highway 224. The closest residence is a permanent residence at the beginning of Beaver Dam Mines Road, located 6.5 km from the edge of the Austen Pit and a 60 m straight line distance from the proposed access road into the Old Austen Mine. Three seasonal residences are located within 1 km of the entrance to the proposed access road south along Highway 224. 15-MMR is unaware of any temporary residences within the vicinity of the Old Austen Mine PDA. Refer to Figure 1.2-1, Project Location for additional detail.

3.4.3 Old Mitchell Mine

The Old Mitchell Mine is located near Melrose, Guysborough County, NS. The nearest town is Sherbrooke, located 13 km to the south along NS Trunk Highway 7 (Marine Drive). Sherbrooke has a population of 400 and provides several services including secondary schooling and a hospital. The closest residence is a permanent residence located on Highway 7, 600 m from the edge of the Mitchell Pit and a 40 m straight line distance from the edge of the PDA. Three other permanent residences are located within 1.5 km from the edge of the pit, south along Highway 7. The community of Melrose is located approximately 2.5 km from the edge if the pit. 15-MMR is unaware of any temporary residences within the vicinity of the Old Mitchell Mine PDA. Refer to Figure 1.2-1, Project Location for additional detail.

3.5 Proximity to Indigenous and Federal Lands

3.5.1 15-Mile Mine

The closest federal lands to the 15-Mile Mine PDA are First Nations Reserves, as described below.

There are two Mi'kmaq First Nation reserves in the vicinity of the 15-Mile Mine PDA: Beaver Lake Indian Reserve (IR) 17 (49.4 ha) is located approximately 25 km from the 15-Mile Mine PDA, while Sheet Harbour IR 36 (32.7 ha) is located 25 km south of the PDA. These lands are part of Millbrook First Nation.

The Pictou Landing First Nation, located in Fisher's Grant, is the next closest Mi'kmaq First Nation community, approximately 59 km north of the 15-Mile Mine PDA. Pictou Landing First Nation encompasses five reserves (Boat Harbour West No. 37, Fisher's Grant No. 24, Fisher's Grant Reserve No. 24G, Franklin Manor No.22 (PART) and Merigomish Harbour No. 31) and according to the 2021 Census, the registered population was 449 (on reserve).

The Sipekne'katik First Nation, located in Indian Brook, NS, is located approximately 75 km west of the 15-Mile Mine PDA. Paq'tnkek Mi'kmaw Nation is located approximately 79 km northeast of the 15-Mile Mine PDA and encompasses three reserves (Franklin Manor 22, Paq'tnkek-Niktuek 23 and Welnek 38).

15-MMR commissioned a MEKS in 2024 to understand Indigenous land and resource use within the vicinity of the 15-Mile Mine. The Mi'kmaq of Nova Scotia currently use the 15-Mile Mine MEKS Study Area and surrounding lands for traditional purposes, including fishing, hunting, and gathering. Within 100 metres of the PDA, community members reported trout and salmon fishing, along with the collection of goldthread and mushrooms. Interviews conducted within the broader study area revealed trout and bass fishing as common activities, with deer hunting being the activity most frequently mentioned. Among gathered resources, sweetgrass was noted as the most gathered plant across the study area. The findings of the MEKS are discussed in Section 3.7.2.

3.5.2 Old Austen Mine

The closest federal lands to the Old Austen Mine PDA are First Nations Reserves, as described below.

There are two Mi'kmaq First Nation reserves in the vicinity of the Old Austen Mine: Beaver Lake IR 17 (49.4 ha) is located approximately 5.5 km from the Old Austen Mine, while Sheet Harbour IR 36 (32.7 ha) is located 20 km south. The lands are part of Millbrook First Nation.

The Sipekne'katik First Nation, located in Indian Brook, NS, is the next closest First Nation to the Old Austen Mine, approximately 57 km west. The 2021 Census reports a total of 2,784 people living on reserve at Indian Brook IR 14, New Ross IR 20, Pennal IR 19, Shubenacadie IR 13, and Wallace Hill IR 14A. Pictou Landing First Nation, located in Fisher's Grant, is approximately 74 km north of the Old Austen Mine. Paq'tnkek Mi'kmaw Nation is located approximately 98 km northeast of the Old Austen Mine.

15-MMR commissioned MEKS in 2009 and 2016 to understand Indigenous land and resource use within the vicinity of the Old Austen Mine (formerly Beaver Dam Mine Project). The MEKS indicated that residents of Beaver Lake IR, Sheet Harbour IR 36, and Millbrook frequently use the Old Austen Mine MEKS Study Area for hunting species such as deer, bear, rabbit, and grouse, with usage ranging from weekly to annually depending on species availability. Wildlife harvests are vital for food security and cultural continuity. Community members also gather berries, medicinal plants, and other natural resources within the Old Austen Mine MEKS Study Area for sustenance, health, and spiritual purposes. The findings of the MEKS are discussed in greater detail in Section 3.7.2.

3.5.3 Old Mitchell Mine

The closest federal lands to the Old Mitchell Mine PDA are First Nations Reserves, as described below.

The closest Mi'kmaq community to the Old Mitchell Mine PDA is the Paq'tnkek Mi'kmaw Nation located 23 km east of Antigonish and 44 km northeast of the proposed mine site.

The Pictou Landing First Nation is located approximately 80 km northwest of the Old Mitchell Mine. 15-MMR commissioned a MEKS in 2019 to understand Indigenous land and resource use within the vicinity of the Old Mitchell Mine (formerly Cochrane Hill Gold Project). No specific information indicated current use of land and resources by the Mi'kmaq within and surrounding the Old Mitchell Mine PDA. The findings of the MEKS are discussed in greater detail in Section 3.7.2.

3.6 Environmental Setting

The 15-Mile Processing Hub Project, which is located in a largely undeveloped area of rural Nova Scotia and is supported by existing provincial infrastructure, including highways and transmission lines. Each of the three sites has been subject to historic mining disturbances, with legacy tailings deposits left by previous operators.

Baseline environmental studies for the Project were initiated in 2015 and continue to the present, providing updated datasets and improved characterization of site-specific conditions. The physical and biological environmental settings described in Section 3.6 are informed by these long-term baseline monitoring efforts as well as traditional knowledge compiled in MEKS, which collectively provide a robust dataset spanning nearly a decade. Baseline studies for valued components benefiting from a continuous dataset (e.g., surface water and groundwater) have been ongoing since 2018.

3.6.1 Noise

The NSECC Guidelines for Environmental Noise Measurement and Assessment describes baseline noise as the existing sound level without any contribution from target noise sources (NSECC, 2023). The Guidelines also establish permissible sound levels, which are the maximum comprehensive sound levels that are permitted to be experienced at receptor locations.

15-Mile Mine

A baseline noise assessment was conducted in the area of the 15-Mile PDA over two days in February 2024, which evaluated baseline noise levels at two (2) representative Points of Reception (PORs) (GHD, 2024) (NSECC, 2023). The PORs, M1 and M2, included two sensitive receptors: seasonal cabins/outfitters and family cottages, located approximately 4.5 and 7.5 km southeast of the PDA. The PORs were assessed in accordance with the area classification, based on a qualitative description of community characteristics, and the area where the Project is located, which is characterized as “quite rural” in accordance with the NSECC Guidelines.

The average measured noise levels at monitoring location M1 were found to be: 46 dBA during the day (7am – 7pm, 12-hour A-weighted continuous equivalent sound level (LA_{eq})), 24 dBA during the evening (7pm – 11pm, 4-hour LA_{eq}), and 24 dBA during the night (11pm – 7am, 8-hour LA_{eq}). The average measured noise levels at monitoring location M2 were found to be: 47 dBA during the day (7am – 7pm, 12-hour LA_{eq}), 37 dBA during the evening (7pm – 11pm, 4-hour LA_{eq}), and 36 during the night (11pm - 7am, 8-hour LA_{eq}). These data indicate that ambient sound levels in the area are generally low and within the NSECC Guidelines (GHD, 2024).

The major contributor to sound levels during the daytime and evening were related to vehicle traffic. The major contributor to sound levels during nighttime were related to the natural environment, as well as occasional noise emissions from vehicle traffic (GHD, 2024).

Old Austen Mine

Baseline ambient sound level monitoring was conducted at several locations in the vicinity of the Old Austen Mine between January 2007 and September 2016 (AMNS 2021). The monitoring locations were selected to represent receptors within the general vicinity of the Project.

Based on the measured ambient sound levels at these monitoring locations, the estimated lowest baseline ambient sound levels were measured as follows: 33 dBA during the day (7am – 7pm, 12-hour LA_{eq}), 31 dBA during the evening (7pm – 11pm, 4-hour LA_{eq}), and 27 during the night (11pm – 7am, 8-hour LA_{eq}) (Atlantic Gold, 2021).

The baseline noise survey concluded that the sound levels and sound characteristics in vicinity of the Old Austen Mine are low (Atlantic Gold, 2021).

Old Mitchell Mine

Noise baseline conditions were measured within the vicinity of the Old Mitchell Mine. Background sound levels were measured continuously over a 24-hour period on November 1 and 2, 2017, at two monitoring sites located within the proposed Old Mitchell Mine PDA.

Logarithmic averages for both monitoring sites were 31 dBA during the daytime period (7am – 7pm, 12-hour LA_{eq}), 28 dBA during the evening (7pm – 11pm, 4-hour LA_{eq}), and 26 during the night (11pm – 7am, 8-hour LA_{eq}) (Wood, 2019).

The baseline noise survey concluded that the sound levels and sound characteristics within the Old Mitchell Mine PDA are low (Wood, 2019).

3.6.2 Air

In NS, air quality is regulated through the *Environment Act* and *Air Quality Regulations*. Maximum permissible ground level concentrations for ambient air quality have been established by NSECC.

15-Mile Mine

The area surrounding the 15-Mile Mine PDA is primarily rural and sparsely populated, with the primary industries being forestry and farming. The two closest industrial facilities are Scotia Atlantic Biomass Company, approximately 40 km to the west and the Touquoy Mine, approximately 35 km to the southwest. The main sources of air emissions in the 15-Mile Mine PDA are forestry activities, gasoline and diesel fueled vehicles on Route 374, dust from Route 374 and potentially forest fires.

The province of Nova Scotia operates various ambient air monitoring stations, most of which are in urban and suburban areas. For the 15-Mile Mine, air monitoring data collection focussed on particulate (*i.e.,* Total Suspended Particulate (TSP), particulate matter smaller than 10 micrometres (PM_{10}), particulate matter smaller than 2.5 micrometres ($PM_{2.5}$), particulate-bound arsenic, mercury, and manganese, nitrogen dioxide (NO_2), sulphur dioxide (SO_2), ammonia, and benzene data, as data on these pollutants is limited in remote areas of the province. Ambient air monitoring was conducted in September and October of 2024. TSP, PM_{10}, $PM_{2.5}$, arsenic, manganese and mercury samples were collected over a one-week period from September 23-27, 2024, and ambient air sampling for NO_2, SO_2, ammonia, and benzene parameters was conducted over a 1-month period from September 16-October 16, 2024. The

results of monitoring were used to establish baseline ambient air quality concentrations for 15-Mile Mine (Table 3.6-1). No sampled parameters are above the maximum permissible ground level concentrations listed in the NS *Air Quality Regulations*.

Table 3.6-1 Summary of Baseline Particulate and Metals Results for the 15-Mile Area

Parameter	Sample Characteristics (quantity, length of sampling)	Baseline Levels (µg/m3)
TSP	2, 24-hour 1, 48-hour	3.4
PM_{10}	4, 24-hour	3.4
$PM_{2.5}$	4, 24-hour	1.7
Arsenic	2, 24-hour 1, 48-hour	<0.0017
Manganese	2, 24-hour 1, 48-hour	<0.0017
Mercury	2, 24-hour 1, 48-hour	<0.00008
NO_2	1, 1-month	<0.19
SO_2	1, 1-month	0.52
Ammonia	1, 1-month	<0.07
Benzene	1, 1-month	<0.5
CO[(1)]	N/A	140

Note: [(1)] CO data was obtained from the province of NS ambient air monitoring at Sydney Station. The data were recorded in 2020 and used as a surrogate for CO data for 15-Mile Mine.

Old Austen Mine

Ambient air quality data for the Old Austen Mine PDA was obtained from the Government of Canada National Air Pollution Surveillance (NAPS) program as there were no permanent air monitoring stations in the immediate area. The nearest representative stations reviewed are all located in NS: Lake Major, Port Hawkesbury, Aylesford Mountain, Pictou, Halifax and Sydney. As TSP is not reported routinely anywhere in Canada, TSP was not represented in the NAPS data. NAPS background air concentration data were reviewed for 1/2-hour, 1-hour and 24-hours for CO, 1-hour and 24-hours for NO_2, 1-hour and 24-hours for SO_2, and 24-hours for PM_{10} and $PM_{2.5}$ for 2014, 2015 and 2016. The identified concentrations used to define background values are: 5.7 µg/m^3 for 24-hour $PM_{2.5}$, 41.4 µg/m^3 for 1-hour NO_2, 17.0 µg/m^3 for 24-hour NO_2, 7.9 µg/m^3 for 1-hour SO_2, 5.2 µg/m^3 for 24-hour SO_2, 834 µg/m^3 for ½-hour CO, 687 µg/m^3 for 1-hour CO, and 384 for 24-hour CO.

Between 2007 and 2017, air samples were collected for TSP and PM_{10} at nine locations in the Old Austen Mine PDA. The resulting TSP concentrations ranged from 1.7 to 41.7 µg/m^3. The 41.7 µg/m^3 concentration was considered an outlier, and the location was re-sampled in 2014 with a result reading of 4.6 µg/m^3. Thus, all samples collected were below NS *Air Quality Regulations* for TSP. Results for PM_{10} concentrations ranged from 7.1 to 13.1 µg/m^3.

Old Mitchell Mine

The area surrounding the Old Mitchell Mine PDA is primarily rural with few residents. As a result, ambient air concentrations for particulate are expected to be low due to lack of emission sources. Baseline particulate and metals recorded at two locations in November 2017 were 10.7 µg/m^3 and 10.7 µg/m^3 TSP over a 24-hour sampling period, 9.7 and 10.5 µg/m^3 PM_{10} over a 24-hour sampling period. Neither arsenic nor mercury were detected in the TSP samples. All recorded results in the Old Mitchell Mine PDA were below respective regulatory values.

Baseline data for NO_2 and SO_2 are limited for the area. The closest rural area in which NO_2 and SO_2 parameters were monitored is Goldboro, Nova Scotia, located approximately 29 km southeast of the Old Mitchell Mine PDA. The highest monitored 24-hour NO_2 concentration was recorded in 2004 at 5.2 µg/m^3 and the highest SO_2 value was 10.4 µg/m^3. The objective ambient air measurements in NS are 200 µg/m^3 for NO_2 and 300 µg/m^3 for SO_2, both over a 24-hour averaging period. $PM_{2.5}$ was monitored near Seal Harbour in the summer of 2004, and the highest monitored value was 4.0 µg/m^3.

3.6.3 Light

Nova Scotia currently has no regulations or guidelines for light emissions from industrial operations. Guidelines published by the Institution of Lighting Engineers (ILE) were used as a reference point to compare existing conditions and anticipated impacts from proposed lighting installations. The ILE has developed an Environmental Zone classification system where existing ambient light levels are used to determine the recommended maximum amount of light trespass to nearby receptors.

15-Mile Mine

The 15-Mile Mine PDA is located in a rural area with woods and waterbodies. The ILE “E2 Low District Brightness Areas” classification for rural areas, small villages, or relatively dark urban locations is applicable to 15-Mile Mine.

Ambient light data were collected on the night of September 9, 2018, at four representative sample locations within the 15-Mile Mine PDA. At all sample locations, ambient light was too low to be measured (<0.01 lux). Sky brightness ranged from 21.5 to 21.7 magnitudes per square arcsecond (mag/arcsec^2) at the four sampling locations, consistent with the low-light rural environment.

Old Austen Mine

The Old Austen Mine PDA is a historical mining area, in a rural setting including woods and waterbodies. As the PDA is in a remote, rural area, ambient light conditions are anticipated to be indicative of the ILE classification for “E2 Low District Brightness Areas”. Existing baseline light conditions around the Old Austen Mine PDA and surrounding areas are expected to be similar to background conditions at the Touquoy Mine. Thus, ambient light baseline conditions recorded for the 2007 Environmental Assessment of the Touquoy Gold Project (CRA 2007a) were used and no additional on-site baseline light monitoring was undertaken for the Old Austen Mine. All baseline light monitoring locations at the Touquoy Mine

were under-exposed, indicating ambient light levels were too low to be measured.

Old Mitchell Mine

The Old Mitchell Mine PDA is in a forested area with low light emissions and low population. Ambient light baseline data collection was completed in September and October 2018 and February 2019. Light levels were measured at seven monitoring locations within the Old Mitchell Mine PDA. Based on field readings, ambient light levels were too low (<0.01 lux) for measurement. Sky brightness on clear, dark sky nights was generally above 21-22 mag/arcsec^2, indicative of a generally rural to dark sky environment, with one location closer to 20.5 arcsec^2 indicative of a rural/suburban transition. The light baseline environment in the Old Mitchell Mine PDA met the criteria under the ILE classification for “E2 Low District Brightness Areas”.

3.6.4 Geology, Soils, and Sediment

The PDA is characterized by typical regional geology with a mix of bedrock, soils, and sediments shaped by past glacial activity. Soils are generally thin, and sediments in nearby waterbodies are made up of fine materials with some organic content.

15-Mile Mine

Regionally, the Goldenville Group has conformable contacts[1] with the Halifax Group to the north and south. The Goldenville and Halifax Groups form a series of eastern trending tight folds, which are present throughout southern NS. A large fault runs northwest southeast through Seloam Lake. The structural geology of the area is dominated by an overturned anticline, which is commonly referred to as the 15-Mile Stream anticline (Atlantic Gold, 2018).

Surficial geology around the 15-Mile Mine PDA is reflective of a landscape shaped by glacial activity. Glacial retreat during the Wisconsinan Age resulted in the formation of a till plain, drumlin fields and exposed bedrock. Two apparent drumlins are located at the western 15-Mile Mine PDA boundary. The topography is rolling, ranging from approximately 110 m above sea level (masl) north of Seloam Brook to 175 masl along the southern property boundary. Till thickness is similarly variable, ranging from 1 to 10 m thick, and is classified as a stony till plain based on its stony, sandy matrix with material primarily sourced from local bedrock.

Due to till composition, soils are moderately coarse and rapidly draining. Soils are classified as Gibraltar type (Agriculture and Agri-Food Canada, 1972), which are documented as being highly acidic and infertile. The Gibraltar unit is the most common in NS. Within the Gibraltar unit, the Danesville, Halifax, and Wolfville series were identified.

Soil quality throughout the 15-Mile Mine PDA is affected by widespread underlying historic waste rock and tailings depositions. A series of characterization assessments spanning from 2018 through 2023 and a review of historic documentation were used to map areas impacted by historic tailings and waste rock. The tailings appear to be largely concentrated along Seloam Brook within the 15-Mile Mine PDA, with four areas of elevated mercury identified near Seloam Brook. The central area of the PDA containing the Plenty, Egerton-MacLean and Hudson pits also see elevated metals concentrations likely due to historic tailings and waste rock.

[1] Boundaries between bedrock types which are continuous through time, and are not interrupted by erosion, intrusion, or faulting.

Baseline sediment samples were collected in 2019 and 2023. Samples were compared to Tier 1 EQS for freshwater sediment with one or more samples having elevated concentrations of arsenic, manganese, selenium, iron, mercury and/or silver within the PDA (Stantec 2024).

Baseline soil data was obtained by examining non-impacted borehole and test pit data from the PDA. The classification of impacted or non-impacted was assigned proximity to site features such as historical mining infrastructure and features reported in soil logs (detailing visible waste rock or tailings in test pits and/or boreholes). Non-impacted soil samples collected within the PDA has arsenic concentrations higher than Tier 1 EQS for an agricultural site indicating the influence of arsenopyrite within the local bedrock on soils.

A Metal Leaching/Acid Rock Drainage (ML/ARD) assessment conducted on bedrock from each of the four proposed 15-Mile Pits resulted in relatively similar proportions of PAG to NAG. Samples with a higher proportion of argillite to greywacke exhibited higher likelihood of being PAG (74%), while samples with a higher proportion of greywacke had a lower likelihood (40%). The 149 Pit had a higher proportion of PAG (63%), while the concentration was lower (56%) in the Plenty Pit. Silver, arsenic, mercury, lead, antimony, and tungsten were the primary elements of concern (Lorax, 2023).

The likelihood and subsequent relative hazard of seismic activity is considered low at the 15-Mile Mine PDA.

Old Austen Mine

Surficial and bedrock geology at the Old Austen Mine are similar to those of the 15-Mile Mine. As with 15-Mile Mine, the Old Austen Mine PDA is contained within the Goldenville Group, and is overlain by till plains, drumlins, and organic deposits.

Regional and Project-specific drilling has encountered bedrock materials that consist mainly of metamorphosed sedimentary rocks of the Goldenville Group, comprised of argillite and greywacke. Gold mineralization occurs both within quartz veins and disseminated through the above interbedded metasediments. The southern limb of an overturned anticline, created during the Appalachian Orogeny which formed the repeated regional Goldenville and Halifax Group folding, hosts the ore deposit. The host stratigraphy is offset into segments by two northwest trending faults: the sinistral Mud Lake Fault and the dextral Cameron Flowage Fault. The Mud Lake Fault truncates, and forms the eastern boundary to, the Main Zone mineralization. A narrow portion of the access road overlies the conformable contact with the Halifax Formation.

While the contact with the Halifax Formation to the south of the Old Austen Mine PDA is conformable, an intrusion of the Musquodoboit Batholith to the southwest is nonconformable and would have occurred approximately 135 million years after the deposition of the Goldenville Group.

Two drumlins are present within the Old Austen Mine PDA. One is located at the northernmost point of the Cameron Flowage, while the other is to the southwest of Crusher Lake. Two large organics deposits would have formed following glacial activities and are located to the north of Crusher Lake and beneath Beaver Dam Mines Rd. Topography ranges from approximately 125 to 170 masl. Soils are classified as Gibraltar type, containing Halifax and Bridgewater soil series.

Till and soil quality throughout the Old Austen Mine PDA may be affected in some areas by underlying historic waste rock and tailings deposits. Baseline soil data was obtained by examining non-impacted borehole and test pit data from the PDA. The classification of impacted or non-impacted was assigned proximity to site features such as historical mining infrastructure and features reported in soil logs (detailing visible waste rock or tailings in test pits and/or boreholes). Non-impacted soil samples collected within the PDA has arsenic concentrations higher than Tier 1 EQS for an agricultural site indicating the influence of arsenopyrite within the local bedrock on soils.

A Phase 1 Environmental Site Assessment (ESA) conducted in 2019 revealed a central area of historic tailings within the Austen Pit, with two smaller historic tailings deposits near Crusher Lake (Stantec, 2019b). Further sediment and soil samples works were performed in 2020 and 2025. These works added one additional smaller historic tailings deposit northwest of crusher lake. Two areas potentially impacted by historic mining were also added, one north of the pit and another below the proposed NAG stockpile location. These areas have elevated metals associated with historic mining, but do not have elevated mercury content.

Soil and sediment samples were compared to tier 1 EQS. Within the soils, the elevated levels of cobalt, copper, arsenic and mercury are likely due to the historic tailings and waste rock. Aluminum, iron, manganese, selenium and vanadium were also found to be above tier 1 EQS for an agricultural site, but these are likely to be attributed to background concentration and not historic tailings or waste rock (Stantec, 2025a).

Sediment samples did indicate impacts to the Killag river in the nearfield area with elevated metals inclusive of arsenic and mercury. Downstream samples had metals associated with the settling pond decrease below tier 1 EQS for freshwater sediment except for arsenic, iron, manganese and selenium. Arsenic is associated with background concentrations while the other three metals are assumed to be unrelated to the historic tailings and waste rock as they have low levels in the historical settling pond. Sediment samples did not exceed tier 1 EQS for freshwater sediment in any of the sediment samples taken at tent lake.

An ML/ARD assessment was conducted in 2018 on a variety of drill core samples, with the results ranging from argillite dominant to greywacke dominant lithologies (*i.e.,* physical characteristics of rocks). As the lithology shifted from argillite dominant to greywacke

dominant, the likelihood of PAG decreased. Eighty percent (80%) of argillite samples with less than 5% greywacke were classified as PAG, while 20% of greywacke samples with less than 20% argillite inclusions were classified as PAG (Lorax, 2018).

The likelihood and subsequent relative hazard of potential seismic activity is considered low at the Old Austen Mine.

Old Mitchell Mine

Surficial and bedrock geology within the Old Mitchell Mine PDA are like those of the 15-Mile Mine. As with the 15-Mile Mine, the Old Mitchell Mine PDA is located within the Goldenville Group, and overlain by till plains, drumlins, and organic deposits.

The local extent of the Goldenville Group is narrowly constrained between the Halifax Formation in the southern portion of the Old Mitchell Mine PDA, and the fluvial sandstones and conglomerates of the Horton Group along Melrose County Harbour Road in the north. As with 15-Mile Mine and Old Austen Mine, the ore deposit is contained with greywackes and argillites of the Goldenville Formation. However, a higher degree of metamorphism occurred in the Goldenville Group at the Old Mitchell Mine PDA, resulting in alteration of argillite to highly foliated mica schists. Gold mineralization is captured within an overturned anticline, known as the Cochrane Hill anticline.

The Old Mitchell Mine PDA is situated between extensive drumlin fields to the north and south, with three recorded drumlins within the Old Mitchell Mine PDA. A terrain analysis conducted in 2018 identified smaller scale glacial landforms, including alluvial channels, meltwater channels, meltwater scarps, and kame mounds (Knight Piésold, 2020). As a result, topography is highly variable, ranging between approximately 60 and 175 masl. Soils are classified as Gibraltar type. A 2019 geotechnical investigation confirmed these findings, and soils were described as coarse grained, with gravels and fines.

Overburden and soil quality within the Old Mitchell Mine PDA may be affected by historic waste rock and tailings depositions. Baseline soil data was obtained by examining non-impacted borehole and test pit data from the PDA. The classification of impacted or non-impacted was assigned proximity to site features such as historical mining infrastructure and features reported in soil logs (detailing visible waste rock or tailings in test pits and/or boreholes). Non-impacted soil samples collected within the PDA has arsenic concentrations higher than Tier 1 EQS for an agricultural site indicating the influence of arsenopyrite within the local bedrock on soils.

Historic tailings have been identified within the Old Mitchell Mine PDA, centered in the proposed Mitchell Pit. A small amount of un-reclaimed tailings were found in a watercourse flowing north-west from the Mitchell Pit. Soil samples were collected in 2018 and 2025, with sediment samples also being collected in 2025. Arsenic, cadmium, cobalt, lead, mercury, nickel, and zinc in soil are above the Tier 1 EQS for an agricultural site and are associated with impacts from historic tailings or historic waste rock and background conditions. Aluminium, beryllium, iron, manganese, molybdenum, selenium, and vanadium above Tier 1 EQS for an agricultural site are attributed to natural background conditions and not to historic tailings and historic waste rock (Stantec 2025).

Sediment also had several metals with concentrations above Tier 1 EQS for freshwater sediment. Arsenic, lead, mercury, and zinc in sediment are highest in the existing pit and the other areas of historical mining activity, decreasing with distance downstream to the north. (Stantec, 2025b)

Most argillite samples collected during a 2019 ML/ARD Assessment were classified as PAG, with silver, arsenic, bismuth, cadmium, lead, and zinc being the main parameters of potential concern. As lithology shifts from argillite dominant to greywacke dominant, likelihood of PAG decreases. Greywacke samples with less than 20% argillite had the lowest likelihood of being PAG (Lorax, 2019).

The likelihood and subsequent relative hazard of potential seismic activity is considered low at the Old Mitchell Mine PDA.

3.6.5 Groundwater

A comprehensive groundwater monitoring program has been implemented at all three PDAs to characterize baseline hydrogeological conditions. Groundwater levels and quality are monitored quarterly to capture seasonal variability, with samples analysed for a broad suite of physical, chemical, and metal parameters. All laboratory analyses are conducted in accordance with standardized methods, with detection limits consistent with applicable regulatory guidelines and water quality objectives.

15-Mile Mine

Groundwater monitoring has occurred at 15-Mile Mine since early 2018, following installation of a monitoring well network. This network has been expanded to 38 wells located within and outside of the PDA, and of varying depths, with a maximum depth of 22 metres below ground surface (mbgs). The monitoring wells target wetlands, overburden, and bedrock. During a geotechnical assessment in 2018, packer tests and slug tests were also conducted.

Packer testing conducted in all bedrock wells in 2018 showed that hydraulic conductivity was highly variable, ranging from 7×10^{-8} m/s to 6×10^{-5} m/s. Slug testing was conducted in overburden and bedrock wells, with resulting hydraulic conductivity ranging from 1×10^{-7} m/s to 4×10^{-5} m/s in overburden wells, and 6×10^{-8} m/s to 1×10^{-5} m/s in bedrock wells. In 2017, open pit deep angle borehole permeability testing was conducted in the vicinity of the Egerton-MacLean Pit to depths of up to 185 m. At deeper depths, hydraulic conductivity was a mean of 7×10^{-8} m/s, indicating lower hydraulic conductivity at increased depths. Open pit deep angle borehole permeability testing, which targeted two documented faults that intersect beneath the Egerton-MacLean Pit, showed a mean hydraulic

conductivity of 2.5 x 10^{-7} m/s, indicating hydraulic conductivity does not significantly increase within the fault zone (McCallum Environmental Ltd, 2021).

Due to the relatively shallow depth to bedrock, and low hydraulic conductivity of the bedrock unit, groundwater flow within the 15-Mile Mine PDA likely occurs mainly within the till, and upper (contact) portion of bedrock. As the 15-Mile Pits progress in depth, any seepage is likely to be sourced primarily from till and upper bedrock.

Groundwater elevations have been continuously measured using Solinst® Levelogger pressure transducers (loggers) in select monitoring wells since 2020. The loggers capture seasonal variations, response to precipitation events, and recharge rates following well purging. Generally, the continuous groundwater elevation patterns between overburden and bedrock wells are reflective of each other. Groundwater elevation levels are typically lower in summer months due to reduced precipitation, with recovery occurring through the late fall into early spring.

Groundwater quality samples were collected quarterly from 2018 to 2023, with a reduced program between 2023 and early 2025, and a return to full monitoring in 2025. Analytical results reflect bedrock geochemistry, with elevated concentrations of aluminum, arsenic, iron, and manganese, and slightly acidic pH values. These metals are considered common in elevated concentrations in NS, according to Groundwater Chemistry Maps released by the NS Geological Survey Division (NSDNR, various dates).

Multiple deposits of historic tailings are clustered along Seloam Brook. Several monitoring wells are located either within or directly adjacent to these deposits and samples have shown higher concentrations of arsenic than the remaining wells in the 15-Mile Mine PDA.

Old Austen Mine

Groundwater monitoring has been conducted at the Old Austen Mine since early 2018, when a monitoring well network was installed, targeting the overburden-bedrock interface, shallow bedrock, and deep bedrock. The monitoring network includes 49 wells located within and outside of the PDA, and of varying depths, with a maximum depth of 63.37 mbgs. During well installation, packer tests and slug tests were conducted at select wells to quantify hydraulic conductivity.

Slug testing was conducted at all wells following installation in 2018, with the exception of two deep monitoring wells, as they recovered too slowly to conduct the testing. Hydraulic conductivity ranged from 1.1 x 10^{-6} m/s to 3.8 x 10^{-2} cm/s, with conductivity generally being lower at the deep wells in comparison to the shallow overburden wells. Packer tests were conducted at three of the deep bedrock wells, with hydraulic conductivity ranging from 7.2x10^{-8} cm/s to 2.1x10^{-4} cm/s (GHD, 2018). Groundwater flow is expected to be greater in shallow bedrock relative to the less permeable deep bedrock.

Groundwater can be expected to seep into the Austen Pit largely through surficial glacial till and fractures in the shallow bedrock. The more competent deep bedrock is not expected to substantially contribute to groundwater inflow to the open pit. Groundwater flow in the till mimics the topography, with recharge occurring in elevated areas and groundwater flowing towards and discharging into surface water bodies in low-lying areas.

Groundwater elevations have been continuously measured via loggers in all monitoring wells since well installation in 2018. The loggers have captured seasonal variations, response to precipitation events, and recharge rates following well purging. Generally, the continuous groundwater elevation patterns between overburden, shallow bedrock, and deep bedrock wells are reflective of each other. Groundwater elevations are typically lower in summer months due to reduced precipitation, with recovery occurring through the late fall into early spring.

Groundwater samples were collected quarterly from 2018 to 2023, with quarterly monitoring recommencing in 2025. Analytical results are reflective of bedrock geochemistry, with elevated concentrations of aluminum, arsenic, iron, and manganese, and slightly acidic pH values. These metals are common in elevated concentrations in NS (NSDNR, various dates).

Three areas of historic tailings disposal have been identified within the Old Austen Mine PDA. The largest disposal area is central to the proposed Austen Pit, where several monitoring wells have been installed in close proximity to historic tailings.

Old Mitchell Mine

Groundwater monitoring has been conducted at the Old Mitchell Mine since early 2018, when a monitoring well network was installed targeting the overburden-bedrock interface, shallow bedrock, and in areas with thick overburden, deep bedrock. The monitoring network includes 27 wells located within and outside of the PDA, and of varying depths, with a maximum depth of 55.3 mbgs. During well installation, slug testing was conducted at all wells, and packer tests were conducted at all shallow wells to quantify hydraulic conductivity.

Hydraulic conductivity at the Old Mitchell Mine PDA decreases with depth. Shallow bedrock and overburden have higher permeability. Therefore, groundwater flow is expected to be greater in shallow bedrock relative to the less permeable deep bedrock. Based on slug testing results, hydraulic conductivity ranged from 5×10^{-8} m/s to 2×10^{-5} m/s in overburden-bedrock interface wells, 7×10^{-9} m/s to 1×10^{-5}

m/s in shallow bedrock, and 4×10^{-9} m/s to 1×10^{-8} m/s in the deep bedrock. Packer testing in shallow wells confirmed the slug testing results, with a range in hydraulic conductivity from 2×10^{-8} m/s to 6×10^{-6} m/s (Golder, 2019).

Groundwater can be expected to seep into the Mitchell Pit largely through surficial glacial till, and through fractures in the shallow bedrock. The more competent deep bedrock is not expected to contribute significant groundwater inflow to the open pit.

Groundwater elevations have been continuously measured in all monitoring wells via loggers from 2020 through 2023, with redeployment in early 2025. The loggers have captured seasonal variations, response to precipitation events, and recharge rates following well purging. Generally, the continuous groundwater elevation patterns between overburden, shallow bedrock, and deep bedrock wells are reflective of each other. Groundwater elevation levels are typically lower in summer months due to reduced precipitation, with recovery occurring through the late fall into early spring.

Groundwater samples were collected quarterly from 2020 through 2023, with quarterly monitoring recommencing in early 2025. Analytical results are reflective of bedrock geochemistry, with elevated concentrations of aluminum, arsenic, iron, manganese, zinc, and slightly acidic pH values. These metals are considered common in elevated concentrations in NS (NSDNR, various dates).

Two areas of historic tailings remain within the Old Mitchell Mine PDA, the more significant being an area of reclaimed tailings central to the Mitchell Pit. One monitoring well, located adjacent to the tailings deposit, consistently reports higher concentrations of arsenic and lead than the remaining wells.

3.6.6 Surface Water

A comprehensive surface water monitoring program was implemented at all three PDAs to characterize baseline hydrological conditions. Surface water levels and quality are monitored quarterly to capture seasonal variability, with samples analysed for a broad suite of physical, chemical, and metal parameters. All laboratory analyses are conducted in accordance with standardized methods, with detection limits consistent with applicable regulatory guidelines and water quality objectives.

15-Mile Mine

All rivers and watershed sub-catchments within the 15-Mile Mine PDA are located within the East River Sheet Harbour Watershed. The watershed is composed of a range of land cover such as forest, wetland and lakes, including protected areas, with forestry as the primary land use. Three key drainage systems flow through the 15-Mile Mine PDA; Fifteen Mile Stream catchment, Seloam Brook Catchment and East Lake Catchment, all of which drain through Anti Dam Flowage south of the 15-Mile Mine PDA.

Fifteen Mile Stream is fed by Seventeen Mile Stream, which originates to the northwest of the 15-Mile Mine PDA and flows through a series of lakes (First Rocky Lake, Second Rocky Lake and Lower Rocky Lake) prior to confluence with Seloam Brook. The Seloam Brook Catchment forms north of the 15-Mile Mine PDA and encompasses Seloam Lake, a large lake with a surface area of ~310 ha. The Fifteen Mile Stream begins at the end of Seloam Brook and intersects Seventeen Mile Stream further downstream. Seloam Lake contains a dam controlled by Nova Scotia Power. Depending on the water level of Seloam Lake, Seloam Brook experiences a range of flows impacting the flow in Fifteen Mile Stream, which flows into Anti Dam Flowage to the south.

Both Fifteen Mile Stream and Seloam Brook are meandering channels with a range of channel depths and widths, depending on the geology forming the streambed in any location. The streams also exhibit low flow characteristics such as channel braids, which largely occur within wetland complexes with riparian buffers. The East Lake system (east of the 15-Mile Mine PDA) is a complex formation of wetlands, lakes and small streams, which connect with Anti Dam Flowage at its southeastern tip. Stream channels within the wider catchment system tend to be bedded with silts, clays, and organics in low energy portions and cobbles and boulders where water energy is higher.

Anti Dam Flowage, which has a total drainage area of approximately 17,800 ha, carries water from its receiving catchments to the southeast, ultimately draining into the Atlantic Ocean by way of the East River and Sheet Harbour. Anti Dam Flowage, along with Seloam Brook, forms part of the NS hydroelectric system, specifically the East River Sheet Harbour Hydro System (NSPI 2009). Five other water control features and/or hydroelectric generating stations occur along this river system. The 15-Mile PDA is located between water control dams on Seloam Lake and Anti Dam Flowage.

Surface water monitoring and sampling has been undertaken at the 15-Mile Mine PDA since July 2017. Baseline water quality at the 19 sampling points can be generally characterized as having acidic to sub-neutral pH, which is typically below the level (>6.5) stipulated in the CCME Water Quality Guidelines for Protection of Freshwater Aquatic Life (FWAL). Aluminum in the water samples has been consistently above CCME FWAL guidelines values for aquatic life. Concentrations for arsenic and iron are similar, although they show seasonal trends with more exceedances occurring in summer and autumn months. Other trace metals such as dissolved copper, cadmium and potassium, and total concentrations for mercury, manganese, potassium and zinc and ammoniacal nitrogen were also found to be above guideline values during sampling. Baseline surface water quality and quantity monitoring was recommenced within the 15-Mile Mine PDA in Q1 2025.

Exceedances of elements such as aluminum, arsenic, and iron are common in surface water in NS as the underlying bedrock contains arsenopyrite, an iron-arsenic sulfide compound, potentially impacting stream chemistry via runoff.

Old Austen Mine

The Old Austen Mine PDA is in the West River Sheet Harbour Watershed, which occupies an area of roughly 57,600 ha. The Old Austen Mine PDA and much of the catchment are predominantly forested land with multiple waterbodies, watercourses, and wetlands. The Old Austen Mine PDA borders the Musquodoboit River Valley system and drains generally southeast along several poorly drained streams, shallow lakes, and wetlands that flow into Cameron Flowage and then Killag River, the latter of which has a long and narrow drainage basin, with a main channel length of approximately 27 km.

Mud Lake and the Crusher Lakes are within the Old Austen Mine PDA, and both discharge into Cameron Flowage. In addition to the lakes within the Old Austen PDA, Cameron Flowage is also fed by two lakes within the headwaters of the catchment: Tait Lake system from the north and West Lake system from the northwest.

At the Old Austen Mine PDA, water quality is characterized as relatively clean, lightly acidic, with low alkalinity and hardness, and low concentrations of nutrients. This indicates that the water quality is largely unaffected by past mining activities, industrial activity and watercourse alterations. This has been validated by monthly surface water sampling results in the Old Austen Mine PDA from 2014 to 2015 and from 2019 to 2020.

The 2014-2015 surface water monitoring program indicated lightly acidic water conditions with a pH_{Lab} of 4.5 to 7.0 in multiple locations. Surface water monitoring within the Old Austen Mine PDA has shown that instream water can be more acidic with notably low pH_{Field} readings of less than 3 on two occurrences. Water quality data collected from 2019 to 2020 across 16 monitoring stations identified metals parameters including aluminum, arsenic, copper, lead, and iron at or above the CCME guideline concentrations.

Old Mitchell Mine

The Old Mitchell Mine PDA, and all rivers that intersect it, are within the St. Mary's River Watershed, which drains a total area of 134,000 ha. The watershed is primarily covered in forested land or plains and contains numerous freshwater lakes, streams, bogs and wetlands. St. Mary's River terminates at Sherbrooke on the Atlantic Ocean.

The headwaters of the St. Mary's River Watershed are near Trafalgar in the west, Eden Lake in the west-central and Lochaber Lake in the north. The Old Mitchell Mine PDA has three key hydrological systems: the Cargill Lake system flows along the southern boundary of the Old Mitchell Mine PDA; the Cameron Lake system drains water from the central and northeastern portions of the Old Mitchell Mine PDA and Paul Brook drains water from the northeastern corner of the Old Mitchell Mine PDA.

Quarterly surface water quality monitoring was undertaken from 2017 to 2023 at 20 locations in the vicinity of the Old Mitchell Mine PDA. Similar to 15-Mile Mine and the Old Austen Mine, aluminum, arsenic, and iron were all present in existing conditions due to bedrock chemistry with concentrations consistently above CCME guidelines. Aside from these metals, there were minor exceedances of analytes such as fluoride, ammoniacal nitrogen, manganese and zinc, though less common and usually below limits of detection or CCME Guideline concentrations.

Baseline surface water quality and quantity monitoring was recommenced within the Old Mitchell Mine PDA in Q1 2025.

3.6.7 Wetlands

Wetlands provide habitat for diverse and abundant animal and plant communities. Moreover, wetlands provide critical ecological functions such as water storage, management of downstream flooding, and improvement of water quality.

In NS, wetlands are protected under the provincial *Environment Act – Activities Designation Regulations* (Nova Scotia, 1995) and the Wetland Conservation Policy (NSECC, 2019). The *Environment Act* defines a wetland as "Land referred to as a marsh, swamp, fen, or bog that either periodically or permanently has water table at, near, or above the land surface or that is saturated with water, and sustains aquatic processes as indicated by the presence of poorly drained soils, hydrophytic vegetation, and biological activities adapted to wet conditions". Any alteration of wetland habitat requires provincial approval, with certain exceptions (*e.g.*, unregulated wetlands <100 m^2, specific linear developments).

The Wetland Conservation Policy applies to all freshwater and certain tidal wetlands. The policy's objectives include preventing net loss of wetland area and function, promoting wetland protection and stewardship, promoting a long-term net gain in wetland types that have experienced high historic losses, and enhancing impact mitigation efforts. The policy also provides a mechanism for the province to designate Wetlands of Special Significance (WSS), which may include wetlands known to support SAR.

The determination of wetland locations was aided by a combination of available information derived from topographic maps, provincial databases, NS Wet Areas Mapping, flow accumulation, LiDAR data, and aerial photo interpretation. This information was used to assist wetland specialists to identify the potential locations of wetlands for further field surveys and assessments.

Field surveys commenced in 2015 and continued across all mine sites through 2019, with shifts in Project layouts driving additional survey requirements. Wetland surveys consisted of wetland delineation and characterization, species at risk (SAR) / species of conservation interest (SOCI) identification and habitat suitability, and functional assessments. Each wetland was reviewed to assess for

potential WSS designation in consideration of the desktop and field assessments, the Wetland Conservation Policy and NSECC guidance received to date. Final WSS determination lies with NSECC.

All wetland habitats have been and will continue to be considered when planning the placement of Project infrastructure.

15-Mile Mine

A total of 274 freshwater wetlands have been delineated and assessed within the 15-Mile Mine PDA, accounting for 210 ha and representing 16.6% of total land cover.

Tree and shrub swamps combined represent the most abundant wetland type, accounting for 70% of all wetlands. Most swamps delineated within the 15-Mile Mine PDA Mine (97%) are under one hectare in size and collectively account for only 20% of the total wetland area.

Bogs account for 18% of all wetlands, while fens and marshes combined account for 3% of wetlands. Complexes (containing more than one wetland type) account for 9% of all wetlands and 61% of the total wetland area, ranging in size from 0.06 to 35 ha (AMNS, 2021a).

The predominant wetland feature within the 15-Mile Mine PDA is a complex that straddles Seloam Brook. This system functions as a groundwater discharge and is fed by tributaries from the east and the south. This system has many side channels and other associated wetlands, with general flow patterns following Seloam Brook from Seloam Lake in the northeast and continuing west towards Fifteen Mile Stream.

The vast majority (90%) of wetlands delineated are isolated or are only hydrologically connected to others by drainage instead of regulated watercourses (AMNS, 2021a).

Wetlands within the 15-Mile Mine PDA have experienced an array of natural and anthropogenic disturbance regimes. Wetlands along the Seloam Brook system have experienced higher degrees of disturbance related to historic mining activity, operation of the NSPI hydro facility, historic and ongoing timber harvesting, and associated road networks.

To date, SAR have been identified in 28 wetlands. It is anticipated that 21 of these wetlands also have suitable habitat required for critical life functions to support these species, and thus, these wetlands (or portions thereof) may be classified as WSS.

Old Austen Mine

A total of 236 freshwater wetlands have been delineated within the Old Austen Mine PDA and surrounding project vicinity. The majority of individual wetlands identified within the Old Austen Mine PDA and surrounding project vicinity were classified as swamps, accounting for 68% and 64% of all wetlands, respectively. Swamps identified in the Old Austen Mine PDA are consistent with swamp habitats observed throughout the province and are predominantly coniferous or mixed-wood treed swamps. A smaller proportion of shrub swamps were observed. Collectively, swamps account for 22% of the total wetland area. Most swamps are hydrologically isolated.

There are 30 wetland complexes (13% of all wetlands) that account for 56% of the total wetland area within the Old Austen Mine PDA and surrounding project vicinity. These complexes comprise a combination of swamp, bog, fen and, to a lesser extent, marsh wetland types. The average size of wetlands is approximately 1 ha.

In the Old Austen Mine PDA, hydrologic flow within wetlands is generally divided north and south where the Killag River tertiary watershed abuts the Cope Brook, Paul Brook and Tent Brook tertiary watersheds. Larger wetland complexes straddle watershed boundaries and act as primary water sources for downgradient wetlands, watercourses and waterbodies.

Wetland disturbances within the Old Austen Mine PDA include both natural (windthrow) and anthropogenic (historic mining, timber harvesting, and road networks) stressors. Eight wetlands occur in areas of historic tailing deposition or where tailings have been reworked into soils (AMNS, 2021b).

SAR have been identified in 24 wetlands to date, and suitable habitat for critical life functions is present in 21 of these wetlands. These wetlands (or portions thereof) may be classified as WSS.

Old Mitchell Mine

A total of 192 wetlands were found within the Old Mitchell Mine PDA, accounting for approximately 220 ha.

Swamps represent the most abundant wetland class in the Old Mitchell Mine PDA, accounting for 92% of all wetlands, and are predominantly mixed wood or coniferous. The majority of swamps delineated (76.2%) are under one hectare in size, and these features collectively account for 57% of the total wetland area. These wetlands vary in hydrological regime, with isolated, throughflow, outflow, and inflow swamps present across the landscape.

One bog, two fens, and two freshwater marshes each make up less than 1% of the total wetland area. Wetland complexes represent 5% of all wetlands delineated (n=3) but comprise 41% of the total wetland area.

A topographic high point in the centre of the PDA divides hydrological flow to the north and south. To the north of the topographic high, flows are directed towards McKeen Brook and are primarily funnelled through a few large wetlands. Similarly, flow in areas south of the topographic high moves through several large wetlands and eventually feeds into several lakes south of the of the Old Mitchell Mine PDA. Most wetlands are hydrologically connected in some way, through either inflow, outflow or throughflow. Primary wetland stressors within the Old Mitchell Mine PDA include roads and timber harvesting, but most wetlands are considered to have good wetland health and integrity (MEL, 2023).

3.6.8 Fish and Fish Habitat

Fish and fish habitat assessments have been conducted intermittently at the Project since 2015. Additional fish and fish habitat work was conducted in 2025 to ensure that sufficient baseline data is collected from all potentially affected areas.

15-Mile Mine

The 15-Mile Mine PDA encompasses fish and fish habitat within the 15-Mile Mine site and surrounding aquatic habitats, including Seloam Lake and Seloam Brook, East Lake and associated tributaries, Fifteen Mile Stream and associated tributaries and Anti Dam Flowage. A total of 35 aquatic features including watercourses, waterbodies and wetland mosaics and lacustrine systems were identified within the 15-Mile Mine PDA during the fish and fish habitat assessments that occurred between 2017-2024. During the fish and fish habitat assessments, fish community surveys, eDNA, surface water quality and primary and secondary productivity assessments were also completed within the PDA (MEL, 2024).

The watercourses assessed were a mixture of natural defined channels, intermittent watercourses, ephemeral watercourses and perennial watercourses. The in-water substrates within these watercourses varied, and included muck/detritus, rubble, boulder, cobble, gravel, mud, silt, and bedrock. Habitat types included riffles, runs, rapids and flats. Overall, the majority of aquatic features within the 15-Mile Mine PDA contained fish and provided direct fish habitat (MEL, 2024).

The majority of dissolved oxygen (DO) concentrations recorded across aquatic features were below the CCME recommended threshold for the early life stages of cold-water fish species. Approximately 25% of sampled features exhibited DO levels below the minimum required to support any life stage of either cold- or warm-water fish species (CCME, 1999). Low DO concentrations are typically associated with first-order, low-energy systems, where oxygen demand exceeds replenishment due to limited flow and reduced aeration. These conditions, combined with low pH levels and elevated water temperatures, contribute to diminished fish habitat quality within the PDA, particularly in small, sluggish streams and shallow open water features that experience reduced water depths during summer months (MEL, 2024).

Overall, over the five years of fish sampling, a total of ten species and 2652 individual fish were captured within the 15-Mile Mine PDA. Electrofishing and trapping were the methods used to complete the fish community surveys and, as previously mentioned, confirmed the presence of fish. Species confirmed to be present included American eel (*Anguilla rostrata*), common shiner (*Luxilus cornutus*), banded killifish (*Fundulus diaphanous*), brook trout (*Salvelinus fontinalis*), brown bullhead (*Ameiurus nebulosus*), golden shiner (*Notemigonus crysoleucas*), lake chub (*Couesius plumbeus*), ninespine stickleback (*Pungitius pungitius*), northern pearl dace (*Chrosomus eos*) and white sucker (*Catostomus commersonii*). Abundance and diversity were greater in higher order streams.

A series of seven hydroelectric dams are located within the East River Sheet Harbour secondary watershed, two of which constrain the 15-Mile Mine PDA. One is located at the outlet of Seloam Lake, which corresponds with the northeastern boundary of the PDA. The outlet of this system is Seloam Brook, which flows through the 15-Mile Mine PDA, joining with the Fifteen Mile Stream at the western end of the 15-Mile Mine PDA. Fifteen Mile Stream flows into Anti Dam Flowage, which is a reservoir created by the nearest downstream hydroelectric facility. Fish are present within the 15-Mile Mine PDA and the nearest upstream and downstream reservoirs, and each reservoir allows for the downstream passage of fish, but upstream passage of fish is limited by presence of hydroelectric facilities. However, despite these barriers, the 15-Mile Mine PDA supports suitable habitat for multiple life history stages of cold and cool water fish species, as well as for the only warm water species present (brown bullhead) (MEL, 2024).

Old Austen Mine

The Old Austen Mine PDA encompasses fish and fish habitat within the Old Austen, surrounding aquatic habitats and reference site/areas. This included the main stem of Killag River and selected tributaries, Cameron Flowage, Mud Lake and associated watercourses and a tributary of Cope Brook. The tertiary watersheds included Tent Lake, Cameron Flowage, Kent Lake, Cope Brook, Brandon Lake, Rocky Brook Lake, Lake Alma, Eagles Nest and Rocky Lake. A total of 21 aquatic features including watercourses, waterbodies and wetlands were identified within the PDA during the baseline detailed fish and fish habitat assessments that occurred in 2015 and 2019 to 2020. During the fish and fish habitat assessments, fish community surveys, eDNA, surface water quality and fish passage assessments were also conducted (MEL, 2021).

The watercourses assessed were a mixture of natural defined channels, no defined channel, ephemeral watercourses and intermittent watercourses. In-water substrates consisted of rubble, muck/detritus, boulder and cobble. Habitat types included runs, flats, pools and riffles. Although many aquatic habitat features were classified as providing direct fish habitat, several aquatic features were considered to not support fish habitat. This finding was supported by fish community surveys using multiple gear types, eDNA sampling and multiple habitat assessments that were completed during both low and high flows (MEL, 2021).

The aquatic ecosystem within the PDA is predominantly characterized by acidic conditions. Since 2005, liming activities have been implemented (by other parties) throughout the West River Sheet Harbour (WRSH) watershed to elevate pH levels and enhance habitat suitability for salmonid species. Despite these efforts, fish habitat quality remains constrained in certain systems due to persistently low pH, elevated water temperatures, and reduced DO concentrations, particularly within small, slow-flowing first-order streams and shallow open-water features that experience reduced water depths during summer months (MEL, 2021).

Electrofishing and trapping were the methods used to complete the fish community surveys and confirmed the presence of fish within the Old Austen Mine PDA. Species confirmed to be present included American eel, brook trout, banded killifish, brown bullhead, creek chub (*Semotilus atromaculatus*), golden shiner, lake chub, ninespine stickleback, whiter sucker and yellow perch (*Perca flavescens*). Juvenile Atlantic salmon (*Salmo salar*) were confirmed only in the Killag River, downstream of the Cameron Flowage. Within the Killag River, the total fish population calculation estimation based on electrofishing efforts ranged from 18 to 291 fish ± 23 individuals. The abundance and diversity of fish species were greater in higher order streams. Comprehensive fish habitat assessments conducted within the Old Austen Mine PDA identified suitable aquatic environments supporting all critical life stages including spawning, juvenile, young-of-the-year, and adult or both cold-water and warm-water fish species (MEL, 2021).

Old Mitchell Mine

The Old Mitchell Mine PDA encompasses fish and fish habitat within the Old Mitchell, surrounding aquatic habitats and reference site/areas. A total of 75 watercourses and 192 wetlands were delineated and assessed. Assessments also included the following waterbodies: Archibald Lake, Cameron Lakes, Cargill Lake and several open water-wetland mosaics. Assessments occurred between 2017 and 2020. Fish community surveys, surface water quality samples, primary and secondary productivity assessments were also completed within the PDA (MEL, 2023).

The watercourses that were assessed included a mixture of ephemeral, intermittent and permanent watercourses. The in-water substrate within these watercourses consisted of silt, sand, pebble, rubble, boulder, gravel and muck. The habitat types varied from flats, pools, riffles, glides and cascades. Overall, the majority of aquatic features within the Old Mitchell Mine PDA contained fish and provided direct fish habitat (MEL, 2023).

The aquatic ecosystem was generally characterized by slightly acidic conditions, with variability among tributaries, some exhibiting elevated acidity levels. This pattern is consistent with watershed characteristics typical of the Southern Uplands region. The thermal profiles of first and second order streams remained within the optimal range for salmonid species (<20 °C). The larger watercourses and waterbodies frequently exceeded temperature thresholds suitable for cold-water species during summer months. These conditions may instead support more thermally tolerant taxa such as yellow perch and American eel. No consistent spatial or temporal trends in DO were observed. However, persistently low DO levels were recorded in several watercourses during detailed habitat assessments conducted in mid-August. These reduced DO concentrations likely constrain habitat suitability for sensitive fish species, at least on a seasonal basis (MEL, 2023).

A total of fifteen fish species were documented within the PDA through electrofishing and trapping surveys, with brook trout identified as the most abundant and widely distributed species. Fish diversity was highest within a limited number of higher order watercourses and waterbodies. Of the fifteen species recorded, eleven, including Atlantic salmon, were confirmed exclusively within three systems: McKeen Brook, WC10 and its associated open water, and Cameron Lakes. These systems collectively form the larger McKeen Brook drainage basin. The fish community within smaller first and second order streams was typical of regional patterns, dominated by brook trout and American eel. These species were most frequently observed near the downstream sections of the assessed area, with reduced presence toward the central portions of the study area. The detection of young-of-year (YOY) brook trout suggests relatively high trout productivity in select small streams. Detailed habitat assessments indicated that fish habitat quality and accessibility in some first- and second order systems may be seasonally constrained by both natural and anthropogenic barriers to fish passage (MEL, 2023).

3.6.9 Terrestrial Habitat and Flora

The federal *Species at Risk Act* (SARA; Canada, 2002) and the *Nova Scotia Endangered Species Act* (NSESA; Nova Scotia, 1998) contain measures to protect plant and lichen species considered at risk. These Acts prohibit the killing or disturbing of listed SAR, destroying or disturbing residences, and destroying or disturbing critical or core habitat.

SAR are defined herein as species listed on SARA and/or the NSESA. SOCI are not listed species under provincial or federal legislation, but are designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as Endangered,

Threatened, or of Special Concern, and/or are ranked S1, S2, and S3 species or any combination thereof (*i.e.*, S3S4 is considered a SOCI)) by the Atlantic Canada Conservation Data Centre (ACCDC).

Baseline field programs undertaken from 2014 to 2019 included vegetation community assessments (*i.e.*, habitat assessments), botany surveys, and lichen surveys. Habitat surveys were designed to describe vegetation communities, note any uncommon communities, identify habitats that may support SAR or SOCI, and quantify habitat types. During dedicated plant and lichen surveys, general species lists were compiled while targeting land features with a higher likelihood to support SAR. Habitat, vascular plant, and lichen surveys continued within the three PDAs in 2025.

15-Mile Mine

Baseline habitat assessments were conducted at the 15-Mile Mine in July 2017, April 2018, and August 2019. A total of 39 habitat assessment points were distributed and assessed across upland habitats (wetlands assessed during dedicated wetland surveys, as described in Section 3.6.7). Vascular plant assessments occurred in June 2016, September and October 2017, June and September 2018, and August 2019. Dedicated lichen surveys were completed in November 2017, September 2018, and August 2019. SAR were also recorded incidentally during other biophysical surveys (AMNS, 2021a).

Eight different ecosites were documented within the 15-Mile Mine PDA, ranging in moisture regimes from dry to fresh with poor to rich nutrient regimes. Dominant habitat types are characterized by coniferous forest with nutrient poor acidic soils. Upland forests have experienced relatively high levels of anthropogenic disturbance through timber harvesting and historical mining, and over-mature stands are uncommon. Mature, undisturbed habitats are largely confined to wetland complexes.

A total of 37 tree stands were assessed for old-growth conditions within the 15-Mile Mine PDA. Of these 37 stands, seven were determined to be ineligible for old-growth status due to extensive blowdown, recent forest treatment, and/or early successional forest types comprising more than two thirds of the stand. Therefore, 30 stands were assessed according to the old-growth scoring procedure, and seven stands were determined to be old-growth (Strum, 2025).

A total of 277 species of vascular plants were identified during field investigations, and two SOCI plants were documented. No SARA listed vascular plant species have been identified to date. Additional detail regarding SOCI and SAR is provided in Section 3.6.12. The diversity of species is moderate to high considering the general low fertility of soils. The vascular flora observed are largely native species, with disturbed areas (clearings and linear disturbances) consisting of invasive and exotic species (AMNS, 2021a).

Lichen surveys have documented 59 species, including one SAR (blue felt lichen [*Pectenia plumbea*]) and eight SOCI. Rare lichen species were associated with habitats consisting of mature forested wetlands and upland habitats near open water and watercourses. No occurrences of boreal felt lichen (*Erioderma pedicellatum*; SARA endangered, NSESA endangered) have been identified to date (AMNS, 2021a).

Old Austen Mine

Baseline habitat assessments were conducted in and within the vicinity of the Old Austen Mine in October 2014, May 2015, and July to August 2019. In total, 51 habitat points were surveyed. Vascular plant surveys occurred in September and October 2014, June 2015, June and September 2016, September 2018, and August 2019. Lichen surveys were commenced in February 2015 and continued through May 2015, May 2016, September 2018 and July and August 2019. Surveys were conducted within a lichen study area which extended beyond the Old Austen Mine PDA and within the vicinity of the PDA. Lichen surveys prioritized the identification of SOCI and SAR while common lichen species were recorded opportunistically (AMNS, 2021b).

Habitat surveys confirmed 12 different ecosites, of which 10 were observed in the vicinity of the Old Austen Mine and nine in the surrounding Project vicinity. Collectively, and as a result of the dominance of nutrient poor acidic soils, predominant vegetation types comprised conifer species as the dominant canopy layer, often with sparse, low diversity herbaceous layers. Current and historic land use within the Old Austen Mine PDA has resulted in a patchwork of mature, immature, regenerating, and disturbed tree stands. There is a diversity of habitat types and landscape features, but also a considerable amount of disturbance and habitat fragmentation as a result of historic mine operations and current and historic timber harvesting practices. Uplands are generally characterized by immature or unevenly aged coniferous or mixed wood stands.

A total of 295 species of vascular plants were identified during baseline field investigations, of which four are SOCI. No SARA listed vascular plant species have been identified to date. The vascular flora observed are largely native species, with relatively low diversity and abundance of roadside exotic or invasive species (AMNS, 2021b).

Twenty-three species of lichen were recorded within the lichen study area. Of these species, two are listed both federally and provincially as SAR: blue felt lichen; and boreal felt lichen. Frosted glass-whiskers (*Sclerophora peronella*) is listed as a species of concern with the province under the *Wilderness Area Act and* has a special concern designation under federal SARA. Eight species are SOCI (AMNS, 2021b).

Old Mitchell Mine

Dedicated habitat, plant, and lichen studies commenced in and within the vicinity of the Old Mitchell Mine in 2014. Habitat assessments were expanded in 2018 and included 50 habitat points. Vascular plant surveys were completed June, August, and September 2015; June and September 2017; and June, July and September 2018. Lichen surveys, which targeted habitats having an elevated potential for SAR and SOCI lichens, were completed in November and December 2018, and April 2018 (MEL, 2023).

Ecosites present within the Old Mitchell Mine PDA are characterized by a variety of moisture and nutrient regimes. These ecosites primarily support vegetation types from the tolerant hardwood forest group. Generally, tolerant hardwood groups represent mid to late successional tolerant hardwood vegetation types and are usually dominated by sugar maple, beech, yellow birch and red maple. Old growth stands have been field identified by Nova Scotia Natural Resources and Renewables within the Old Mitchell Mine PDA (MEL, 2023). Disturbed areas from clear cutting and historical mining activities intersperse patches of intact forest.

A total of 330 species of vascular plants, of which eight are SOCI, were documented during baseline surveys. No SARA-listed plant species have been identified to date within the Old Mitchell Mine PDA (MEL, 2023). Most plants recorded are native species, while a limited number of exotics are present in disturbed areas (*e.g.*, roadsides, old mine workings).

Eighteen species of lichen were recorded during dedicated surveys, including two SAR (blue felt lichen and frosted glass-whiskers) and 14 SOCI. Rare lichens were predominantly associated with mature treed swamps or mature upland forests near wetlands. No boreal felt lichen have been identified during surveys to date (MEL, 2023).

3.6.10 Terrestrial Fauna

Survey methods for terrestrial fauna were driven by the identification of SOCI and SAR, the latter of which are protected by provincial and/or federal legislation (Nova Scotia, 1998; Canada, 2002).

Specialized fauna surveys were completed for rare species identified through desktop analyses as having a higher potential to be present within and in the vicinity of each PDA. Targeted surveys for bats, mainland moose (*Alces alces americana*), and wood turtle (*Glyptemys insculpta)* were conducted from 2014 to 2020 across all the PDAs. Dedicated invertebrate surveys were also conducted at the Old Mitchell Mine PDA.

Incidental observations and all various signs of mammals were documented and photographed during other biophysical field surveys. Signs included features such as dens and nests, scat, tracks, and forage evidence. Incidental observations for invertebrates occurred during all field programs, particularly wetland and watercourse delineation, and fish habitat surveys. Signs of odonates and lepidopterans included live adults, larvae, or cast skins. Signs of molluscs included live or dead individuals, or shells. The goal of both targeted surveys and incidental observations was to understand species presence and habitat use with an emphasis on SAR and SOCI.

The Recovery Plan for the Moose in Mainland NS (NSDNR, 2021) guided additional moose surveys and methods. Targeted surveys were continued from 2022 to 2024 and included winter tracking surveys, spring Pellet Group Inventory (PGI) surveys, and camera deployment within expanded study areas to better understand regional use around 15-Mile Mine by mainland moose. A full program, including winter tracking surveys, spring PGI surveys, and summer camera deployment occurred within the Old Mitchell Mine PDA in 2022. Results will be analysed and reported on concurrently with ongoing surveys.

Targeted terrestrial fauna surveys are continuing throughout all three PDAs through 2025, including dedicated turtle and moose surveys at the Old Mitchell Mine, and bat surveys (maternity roots and acoustic monitoring) at all three PDAs.

15-Mile Mine

Targeted surveys for terrestrial fauna within and in the vicinity of the 15-Mile Mine included those for mainland moose, potential bat hibernacula, and herpetofauna surveys.

Dedicated bat surveys commenced with a review of provincial government records of abandoned mine openings (AMOs). Field visits to confirm suitable habitat were conducted in spring and summer 2017, and summer 2018.

Forty moose track transects, approximately 1 km in length, were established through representative habitat types within and around the 15-Mile Mine PDA. Surveys were completed in winter conditions in January, March, and April 2018. One spring PGI survey was completed along these same transects in February 2018 due to limited snow cover.

Three wood turtle surveys were conducted in May 2018 on watercourses with suitable habitat. Opportunistic observations for other turtle signs were made during all other field programs.

Thirteen mammal species were observed within and in the vicinity of the 15-Mile Mine PDA, including one SAR species (mainland moose; Table 3.6-2). No SARA listed mammals, amphibians, or reptiles were observed within the 15-Mile Mine PDA.

Table 3.6-2 Mammal species observed within the 15-Mile Mine PDA

Common Name	Scientific Name	COSEWIC, SARA, NSESA	S-Rank
Mainland Moose	*Alces alces americana*	NSESA Endangered	S1
American Black Bear	*Ursus americana*	-	S5
American Red Squirrel	*Tamiasciursus hudsonicus*	-	S5
North American Beaver	*Castor canadensis*	-	S5
Bobcat	*Lynx rufus*	-	S5
Coyote	*Canis latrans*	-	S5
North American Porcupine	*Erethizon dorsatum*	-	S5
North American River Otter	*Lontra canadensis*	-	S5
Red Fox	*Vulpes vulpes*	-	S5
Short-tailed Weasel	*Mustela erminea*	-	S5
Snowshoe Hare	*Lepus americanus*	-	S5
Vole sp.	*Microtus* sp.	-	-
White-tailed Deer	*Odocoileus virginianus*	-	S5

No known bat hibernacula are present within 5 km of the 15-Mile Mine PDA (ACCDC, 2025a). Seventy-seven AMOs were assessed to determine suitability for bat hibernacula. All AMOs assessed were either blocked with a concrete cap or flooded. No bat hibernacula or bats were observed incidentally during other biophysical assessments (AMNS, 2021a).

The 15-Mile Mine PDA falls within a NSDNR significant mainland moose concentration area (NSDNR, 2012). To date, 28 observations of mainland moose have been reported within and in the vicinity of the 15-Mile Mine PDA. Most records were incidental observations recorded during botany, wetland, fish and bird surveys (AMNS, 2021a).

No observations of wood turtles or snapping turtles (*Chelydra serpentina*) were made incidentally or during targeted herpetofauna surveys; however, several potential suitable habitats for nesting and overwintering were observed along Seloam Brook and its tributaries (AMNS, 2021a). The ACCDC have no records of turtles within 5 km of the 15-Mile Mine PDA (ACCDC, 2025a).

Old Austen Mine

Field visits to confirm bat hibernacula based on AMO mapping within and in the vicinity of the Old Austen Mine PDA were conducted in September 2014.

Mainland moose surveys within the Old Austen Mine PDA were completed across six transects through representative habitat types. Three winter tracking surveys were completed along these transects in winter 2015, and a PGI survey was completed in May 2015.

Seven wood turtle surveys were conducted from May to June 2015 along one watercourse that provides suitable habitat within the Old Austen Mine PDA. No other suitable wood turtle habitat was identified across the Old Austen Mine PDA that warranted targeted survey for wood turtles.

Ten mammal species, including one SAR (moose), were observed within and in the vicinity of the Old Austen Mine PDA (Table 3.6-3).

Table 3.6-3 Mammal species observed within the Old Austen Mine PDA

Common Name	Scientific Name	COSEWIC, SARA, NSESA	S-Rank
Mainland Moose	*Alces alces americana*	NSESA Endangered	S1
American Black Bear	*Ursus americana*	-	S5
American Red Squirrel	*Tamiasciursus hudsonicus*	-	S5
North American Beaver	*Castor canadensis*	-	S5
Coyote	*Canis latrans*	-	S5

Common Name	Scientific Name	COSEWIC, SARA, NSESA	S-Rank
North American Porcupine	*Erethizon dorsatum*	-	S5
Snowshoe Hare	*Lepus americanus*	-	S5
White-tailed Deer	*Odocoileus virginianus*	-	S5
Eastern Chipmunk	*Tamias striatus*	-	S5
Raccoon	*Procyon lotor*	-	S5

No known bat hibernacula are present within 5 km of the Old Austen Mine PDA (ACCDC, 2025b). Of the 18 AMOs evaluated at the Mine site, all were either in-filled, contained a concrete cap blocking access, or were flooded, with the exception of one located on the Beaver Dam Road (AMNS, 2021b). The potential usage of this opening by bats was determined to be very low given the shallow opening and inferred proximity of groundwater to the top of the mine shaft (AMNS, 2021b). No bats, or evidence thereof, were observed incidentally during other biophysical surveys (AMNS, 2021b).

The Old Austen Mine PDA lies within a NSDNR significant mainland moose concentration area (NSDNR, 2012). Moose tracks were observed incidentally in two locations in September 2014. Tracks were recorded again in May 2015 during targeted PGI surveys within the Old Austen Mine PDA along roadside habitat (AMNS, 2021b).

No SAR or SOCI herpetofauna have been documented within 5 km of the Old Austen Mine PDA by ACCDC (2025b). Targeted turtle surveys within the Old Austen Mine PDA did not reveal any sightings of wood turtles or suitable nesting habitat. No opportunistic observations of wood turtles were documented incidentally during any other biophysical survey (AMNS, 2021b). One female snapping turtle (SARA/COSEWIC Special Concern; NSESA Vulnerable; S3) and nest was observed by DFO within the Old Austen Mine PDA in June 2019. The observation was on a rocky, man-made berm east of a historic settling pond. Suitable overwintering habitat for snapping turtles has been observed in numerous wetlands within the Old Austen Mine PDA containing deep standing water (>0.5 m) and muddy substrates (AMNS, 2021b).

Old Mitchell Mine

Targeted field surveys and incidental observations for various fauna species were completed throughout the 2015, 2017, and 2018 field seasons within and surrounding the Old Mitchell Mine. Targeted surveys were completed for bats, mainland moose, wood turtles, and invertebrates.

Fifteen AMOs were identified within the Old Mitchell Mine PDA through desktop analysis. Field visits to confirm conditions were conducted in September 2014.

Dedicated wood turtle surveys were repeated seven times between May and June 2015 along habitat features with potential to support wood turtle habitat.

Mainland moose surveys were conducted along seven transects within representative habitat types in 2015, including four winter tracking and one PGI survey. In March 2018, two winter surveys were conducted using non-standardized area searches to enhance coverage based on shifts in Old Mitchell Mine PDA.

Two targeted invertebrate surveys were completed in June 2017 by walking meandering transects across the Old Mitchell Mine PDA.

Thirteen mammal species were observed within and in the vicinity of the Old Mitchell Mine PDA (Table 3.6-4). No SAR or SOCI mammals have been identified to date.

Table 3.6-4 Mammal species observed within the Old Mitchell Mine PDA

Common Name	Scientific Name	COSEWIC, SARA, NSESA	S-Rank
American Black Bear	*Ursus americana*	-	S5
American Red Squirrel	*Tamiasciursus hudsonicus*	-	S5
Bobcat	*Lynx rufus*	-	S5
Coyote	*Canis latrans*	-	S5
North American Porcupine	*Erethizon dorsatum*	-	S5

Common Name	Scientific Name	COSEWIC, SARA, NSESA	S-Rank
North American River Otter	*Lontra canadensis*	-	S5
Red Fox	*Vulpes vulpes*	-	S5
Short-tailed Weasel	*Mustela erminea*	-	S5
Snowshoe Hare	*Lepus americanus*	-	S5
Mouse	*Mus musculus*	-	S5
White-tailed Deer	*Odocoileus virginianus*	-	S5
Muskrat	*Ondatra zibethicus*	-	S5
American mink	*Neovison vison*	-	S5

No AMOs within the Old Mitchell Mine PDA provide suitable conditions for bat hibernacula. All AMOs observed were either in-filled, contained a concrete cap blocking access, or were flooded. Mature forested stands are present throughout the Old Mitchell Mine PDA which could provide suitable roosting habitat for bats; however, no bats or evidence of roosting were observed (MEL, 2023).

The PDA falls within a significant mainland moose concentration area (NSDNR, 2012); however, no signs of mainland moose have been identified to date during targeted surveys or incidentally during other field programs. Habitat for moose was observed throughout the Old Mitchell Mine and includes habitat for summer foraging, winter and summer cover, and calving areas (MEL, 2023).

The ACCDC report documents wood turtles within 5 km of the PDA (ACCDC, 2025c). In addition, core habitat for the species is located within McKeen Brook and some of its tributaries. While no wood turtles were documented during targeted surveys, two wood turtles were observed incidentally during other field surveys in 2017 and 2018. Potential nesting and overwintering habitats for wood turtles were noted in watercourses throughout the Old Mitchell Mine PDA. No snapping turtles were observed during any surveys within or in the vicinity of the Old Mitchell Mine PDA (MEL, 2023). The ACCDC (2022) has identified snapping turtles within 10.5 km of the Old Mitchell Mine PDA.

No SAR or SOCI invertebrates were documented during dedicated surveys.

3.6.11 Avifauna

Migratory birds and avian SAR are protected under federal legislation, including the *Migratory Birds Convention Act, 1994* (MBCA; Canada, 1994) and SARA. In NS, the *Wildlife Act* (1989) further protects all birds by prohibiting, without a ministerial permit, the destruction, taking, possessing, buying or selling of any egg of a bird or disturbance of the nest of a bird; or the use of a snare, net or trap to take any bird (Section 51).

Avian surveys were completed to identify the presence of migratory birds, avian SAR and SOCI, and nesting activity across the PDAs to support regulatory compliance and inform appropriate mitigation measures.

Prior to conducting avian field surveys, preliminary desktop analyses were completed to identify suitable habitat for the target avifauna species or groups (*e.g.*, breeding birds, common nighthawk [*Chordeiles minor*], owls). Survey design was based on the *Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds* (ECCC, 2007), *The Guide to Addressing Wildlife Species and Habitat in an EA Registration Document* (NSECC, 2009), the *Maritime Breeding Bird Atlas* (Bird Studies Canada, 2024), as well as results from the priority species assessment and ACCDC report.

Based on this review, the following avifauna survey types were selected for each PDA:

- Spring and fall migration surveys
- Breeding bird surveys
- Nocturnal owl surveys
- Common nighthawk surveys
- Spring raptor migration surveys

Following the desktop evaluation, a suite of seasonal avifauna survey protocols was developed. Field methods followed the guidelines outlined in ECCC (2007). Although originally designed for wind turbine projects, these protocols provide a variety of survey methods that are considered applicable to other developments, such as quarries and mines, and is widely accepted for general avifauna assessments.

Targeted avifauna surveys are continuing within the Project PDAs through 2025 and 2026.

15-Mile Mine

Baseline avifauna surveys were completed at the 15-Mile Mine PDA during the following periods: spring nocturnal owl and spring migration in 2018; breeding bird surveys in summer 2017 and 2018; common nighthawk surveys in 2017; incidental winter bird observations in 2018; and fall migration surveys in 2017 and 2018.

A total of 6,644 individual birds representing 89 species were recorded during both dedicated avifauna surveys and incidentally during other biophysical surveys. Among these, six avian SAR were observed: eastern wood-pewee (*Contopus virens*), Canada warbler (*Cardellina canadensis*), common nighthawk, evening grosbeak (*Coccothraustes vespertinus*), rusty blackbird (*Euphagus carolinus*), and olive-sided flycatcher (*Contopus cooperi*). Two SAR species – evening grosbeak and common nighthawk - were identified as possible breeders, while Canada warbler and olive-sided flycatcher showed evidence of probable breeding.

An additional 12 avian SOCI were recorded: American goshawk (*Astur atricapillus*), American kestrel (*Falco sparverius*), bay-breasted warbler (*Setophaga castanea*), black-backed woodpecker (*Picoides arcticus*), boreal chickadee (*Poecile hudsonicus*), Canada (gray) jay (*Perisoreus canadensis),* greater yellowlegs (*Tringa melanoleuca*), pine siskin (*Spinus pinus*), purple finch (*Haemorhous purpureus)*, red crossbill (*Loxia curvirostra*), semipalmated plover (*Charadrius semipalmatus*), and spotted sandpiper (*Actitis macularius*).

Targeted avifauna surveys continued through to 2024. Results will be analysed and reported on concurrently with surveys planned for 2025 and 2026.

Old Austen Mine

Baseline avifauna surveys at the Old Austen Mine were completed during the following periods: spring nocturnal owl and spring migration surveys in 2015 and 2016; spring raptor migration surveys in 2015; breeding bird surveys in 2015, 2016, and 2019; common nighthawk surveys in 2015 and 2019; and fall migration surveys in 2014.

A total of 6,521 individual birds representing 82 species were recorded during both dedicated avifauna surveys and incidentally during other biophysical surveys. Eight avian SAR were observed: Canada warbler, common nighthawk, chimney swift (*Chaetura pelagica*), eastern wood-pewee, olive-sided flycatcher, barn swallow (*Hirundo rustica*), peregrine falcon (*Falco peregrinus*), and rusty blackbird.

An additional 11 avian SOCI were recorded: American goshawk (*Astur atricapillus*), bay-breasted warbler, black-backed woodpecker*,* blackpoll warbler (*Setophaga striata*), boreal chickadee, Canada (gray) jay, greater yellowlegs, pine siskin, red crossbill, Tennessee warbler (*Leiothlypis peregrina*), and Wilson's snipe (*Gallinago delicata*).

Old Mitchell Mine

Baseline avifauna surveys at the Old Mitchell Mine were completed during the following periods: spring nocturnal owl and spring migration in spring 2015 and 2018; raptor migration in spring 2015; breeding birds in summer 2015, 2017, and 2018; common nighthawk in summer 2015 and 2017; and fall migration in fall 2014 and 2018.

A total of 6,676 individual birds representing 131 species were recorded during dedicated avifauna surveys and incidentally during other biophysical surveys. Eight avian SAR were observed: Canada warbler, chimney swift, common nighthawk, eastern wood-pewee, evening grosbeak, olive-sided flycatcher, peregrine falcon, and rusty blackbird. Suitable habitat for all SAR species was present within the PDA, with Canada warbler and olive-sided flycatcher breeding habitat being the most widespread.

An additional nine avian SOCI were recorded: American goshawk, Baltimore oriole (*Icterus galbula*), bay-breasted warbler, boreal chickadee, Canada (gray) jay, fox sparrow (*Passerella iliaca*), pine siskin, red crossbill, and vesper sparrow (*Pooecetes gramineus*).

3.6.12 Species of Conservation Interest (SOCI) and Species at Risk (SAR)

SAR are protected under federal or provincial endangered species legislation. These pieces of legislation outline protection of these species and their habitats in the form of species-specific recovery strategies and action plans, where available. SOCI represent species whose populations are either currently or potentially threatened by natural or anthropogenic factors, but do not receive protections under SARA or the NSESA. These species are listed as S1-S3 (or any combination thereof) by the ACCDC, and/or are assessed as Endangered, Threatened, or of Special Concern by COSEWIC.

Desktop evaluations for SAR and SOCI were completed in advance of field programs to advise the field methodologies. Assessment of wildlife, vegetation, and habitat was completed based on the requirements outlined in the NSECC Guide to Addressing Wildlife Species and Habitat in an EA Registration Document (NSECC, 2009). A priority species list was used throughout the biophysical assessments to inform the field programs as it identified a broad list of priority species (inclusive of all SAR and SOCI) which have the potential to be present within each PDA. The desktop priority list was based on general species habitat requirements and the broad geographic area in which individual species are known to occur.

The priority list of species was then further narrowed by identifying specific habitat requirements for each species. For example, if a listed NSESA species required open water lake habitat, and no open water lake habitat was present inside the PDA, this species would not be carried forward to the final list of priority species for field assessments.

Targeted field survey methodologies for SAR and SOCI are described through Sections 3.6.8 to 3.6.11. Incidental observations of SAR and SOCI were recorded during all other baseline biophysical surveys. Survey work is continuing through the 2025 and 2026 field seasons and include targeted surveys for lichens, vascular plants, avifauna, moose, herpetofauna, and fish, with an emphasis on the identification of priority species and the habitats that support them.

15-Mile Mine

A list of SAR and SOCI confirmed to date within the 15-Mile Mine PDA is provided in Table 3.6-5. Field studies have not identified any priority herpetofauna, though several potential suitable nesting and overwintering habitats for snapping turtle were observed along Seloam Brook. In addition, no bats or potential hibernacula have been identified. No records of either have been documented by the ACCDC within 5 km of the 15-Mile Mine PDA(ACCDC, 2025a). Bat maternal roost surveys, along with acoustic monitoring, is ongoing through the 2026 field season. No priority invertebrate species have been identified. Additional ongoing surveys within the 15-Mile Mine PDA include targeted surveys for lichens, plants, birds, and fish, with an emphasis on the identification of priority species and their habitats.

Table 3.6-5 SAR and SOCI species observed within the 15-Mile Mine PDA

Common Name	Scientific Name	COSEWIC, SARA, NSESA	S-Rank
Vascular Plants			
Silvery flowered sedge	*Carex argyrantha*	---	S3S4
Southern twayblade	*Neottia bifolia*	---	S3
Lichen			
Blue felt lichen	*Pectenia plumbea*	COSEWIC Special Concern SARA Special Concern NSESA Vulnerable	S3
A shingle lichen	*Fuscopannaria cf. sorediata*	---	S2S3
Appressed jellyskin lichen	*Scytinium subtile*	---	S3S4
Blistered tarpaper lichen	*Collema nigrescens*	---	S3
Crumpled bat's wing lichen	*Collema laptaleum*	---	S2S3
Eastern candlewax lichen	*Ahtiana aurescens*	---	S3
Fringe lichen	*Heterodermia neglecta*	---	S3S4
Ghost antler lichen	*Pseudevernia caldonia*	---	S2S3
Roughened shingle lichen	*Fuscopanaria cf, ahlneri*	---	S3
Fish			
American eel	*Anguilla rostrata*	COSEWIC Threatened	S3N
Brook trout	*Salvelinus fontinalus*	---	S3
Northern pearl dace	*Margariscus nachtriebi*	---	S3
Terrestrial Fauna			
Mainland Moose	*Alces alces americana*	NSESA Endangered	S1

Common Name	Scientific Name	COSEWIC, SARA, NSESA	S-Rank
Avifauna			
Canada warbler	*Cardellina canadensis*	COSEWIC Special Concern SARA Threatened NSESA Endangered	S3B
Common nighthawk	*Chordeiles minor*	COSEWIC Special Concern SARA Threatened NSESA Endangered	S3B
Eastern wood-pewee	*Contopus virens*	COSEWIC Special Concern SARA Special Concern NSESA Vulnerable	S3S4B
Evening grosbeak	*Coccothraustes vespertinus*	COSEWIC Special Concern SARA Special Concern NSESA Vulnerable	S3N, S3N, S3M
Olive-sided flycatcher	*Contopus cooperi*	COSEWIC Special Concern SARA Special Concern NSESA Threatened	S3B
Rusty blackbird	*Euphagus carolinus*	COSEWIC Special Concern SARA Special Concern NSESA Endangered	S2B
American goshawk	*Astur atricapillus*	---	S3S4
American kestrel	*Falco sparverius*	---	S3B,S4S5M
Bay-breasted warbler	*Setophaga castanea*	---	S3S4B, S4S5M
Black-backed woodpecker	*Picoides arcticus*	---	S3S4
Boreal chickadee	*Poecile hudsonicus*	---	S3
Canada jay	*Perisoreus canadensis*	---	S3
Greater yellowlegs	*Tringa melanoleuca*	---	S3B, S4M
Pine siskin	*Spinus pinus*	---	S3
Purple finch	*Haemorhous purpureus*	---	S4S5B, S3S4N, S5M
Red crossbill	*Loxia curvirostra*	---	S3S4
Semipalmated plover	*Charadrius semipalmatus*	---	S1B, S4M
Spotted sandpiper	*Actitis macularius*	---	S3S4B, S5M

Old Austen Mine

A list of SAR and SOCI confirmed to date within the Old Austen Mine PDA is provided in Table 3.6-6. No priority invertebrates have been confirmed during baseline studies. In addition, no bats or potential hibernacula have been identified, and no records of bats have been documented by the ACCDC within 5 km of the Old Austen Mine PDA (ACCDC, 2025b). Bat maternal roost surveys, along with acoustic monitoring, is ongoing through the 2025 field season. Additional ongoing surveys within the Old Austen Mine PDA include targeted surveys for lichens, plants, birds, and fish, with an emphasis on the identification of priority species and their habitats.

Table 3.6-6 SAR and SOCI species observed within the Old Austen Mine PDA

Common Name	Scientific Name	COSEWIC, SARA, NSESA	S-Rank
Vascular Plants			
Appalachian polypody	*Polypodium appalachianum*	---	S3
Lesser rattlesnake plantain	*Goodyera repens*	---	S3
Highbush blueberry	*Vaccinium corymbosum*	---	S3S4
Southern twayblade	*Neottia bifolia*	---	S3
Silvery flowered sedge	*Carex argyrantha*	---	S3S4
Lichens			
Blue felt lichen	*Pectenia plumbea*	COSEWIC Special Concern SARA Special Concern NSESA Vulnerable	S3
Frosted glass-whiskers	*Sclerophora peronella*	COSEWIC Special Concern SARA Special Concern	S3S4
Boreal felt lichen	*Erioderma pedicellatum*	COSEWIC Endangered SARA Endangered NSESA Endangered	S1
Blistered tarpaper lichen	*Collema nigrescens*	---	S3
Blistered jellyskin lichen	*Leptogium corticola*	---	S3S4
Eastern candlewax lichen	*Ahtiana aurescens*	---	S3
Fringe lichen	*Heterodermia neglecta*	---	S3S4
Peppered moon lichen	*Sticta fuliginosa*	---	S3S4
Powdered fringe lichen	*Heterodermia speciosa*	---	S3S4
Salted shell lichen	*Coccocarpia palmicola*	---	S3S4
Slender monk's hook lichen	*Hypogymnia vittata*	---	S3S4
Fish			
American eel	*Anguilla rostrata*	COSEWIC Threatened	S3N
Atlantic salmon	*Salmo salar*	COSEWIC Endangered (Southern Uplands Pop.)	S1
Brook trout	*Salvelinus fontinalus*	---	S3
Terrestrial Fauna			
Mainland Moose	*Alces alces americana*	NSESA Endangered	S1
Snapping turtle	*Chelhydra serpentina*	COSEWIC Special Concern SARA Special Concern NSESA Vulnerable	S3
Avifauna			
Barn swallow	*Hirundo rustica*	COSEWIC Special Concern SARA Threatened NSESA Endangered	S3B
Canada warbler	*Cardellina canadensis*	COSEWIC Special Concern SARA Threatened NSESA Endangered	S3B

Common Name	Scientific Name	COSEWIC, SARA, NSESA	S-Rank
Chimney swift	*Chaetura pelagica*	COSEWIC Threatened SARA Threatened NSESA Endangered	S2S3B, S1M
Common nighthawk	*Chordeiles minor*	COSEWIC Special Concern SARA Special Concern NSESA Endangered	S3B
Eastern wood-pewee	*Contopus virens*	COSEWIC Special Concern SARA Special Concern NSESA Vulnerable	S3S4B
Olive-sided flycatcher	*Contopus cooperi*	COSEWIC Special Concern SARA Special Concern NSESA Threatened	S3B
Peregrine falcon	*Falco peregrinus*	NSESA Vulnerable	S1B, SUM
Rusty blackbird	*Euphagus carolinus*	COSEWIC Special Concern SARA Special Concern NSESA Endangered	S2B
American goshawk	*Astur atricapillus*	---	S3S4
Bay-breasted warbler	*Setophaga castanea*	---	S3S4B, S4S5M
Black-backed woodpecker	*Picoides arcticus*	---	S3S4
Blackpoll warbler	*Setophaga striata*	---	S3B, S5M
Boreal chickadee	*Poecile hudsonicus*	---	S3
Canada jay	*Perisoreus canadensis*	---	S3
Greater yellowlegs	*Tringa melanoleuca*	---	S3B, S4M
Pine siskin	*Spinus pinus*	---	S3
Red crossbill	*Loxia curvirostra*	---	S3S4
Tennessee warbler	*Leiothlypis peregrina*	---	S3S4B, S5M
Wilson’s snipe	*Gallinago delicata*	---	S3B, S5M

Old Mitchell Mine

A list of SAR and SOCI confirmed to date within the Old Mitchell Mine PDA is provided in Table 3.6-7. Field studies have not identified any priority invertebrates or mammals, including mainland moose. The Old Mitchell Mine PDA is located within a significant mainland moose concentration area, and suitable habitat has been identified within the Old Mitchell Mine PDA including summer foraging, winter and summer cover, and calving area. Dedicated surveys for moose along with trail camera deployment are ongoing through 2025.

In addition, no bats or potential hibernacula have been identified. Bat hibernaculum or bat species occurrence has been identified by the ACCDC as present within the Old Mitchell Mine PDA (ACCDC, 2025c), but no bats or hibernacula have been confirmed to date. Bat maternal roost surveys, along with acoustic monitoring, is ongoing through the 2025 field season. Additional ongoing surveys within the Old Mitchell Mine PDA include targeted surveys for lichens, plants, birds, moose, herpetofauna, and fish, with an emphasis on the identification of priority species and their habitats.

Table 3.6-7 SAR and SOCI species observed within the Old Mitchell Mine PDA

Common Name	Scientific Name	COSEWIC, SARA, NSESA	S-Rank
Vascular Plants			
Appalachian polypody	*Polypodium appalachianum*	---	S3
Lesser rattlesnake plantain	*Goodyera repens*	---	S3

Common Name	Scientific Name	COSEWIC, SARA, NSESA	S-Rank
Highbush blueberry	*Vaccinium corymbosum*	---	S3S4
Southern twayblade	*Neottia bifolia*	---	S3
Woods-rush	*Juncus subcaudatus*	---	S3S4
Yellow ladies tresses	*Spiranthes ochroleuca*	---	S3?
Lichen			
Blue felt lichen	*Pectenia plumbea*	COSEWIC Special Concern SARA Special Concern NSESA Vulnerable	S3
Frosted glass-whiskers	*Sclerophora peronella*	COSEWIC Special Concern SARA Special Concern	S3S4
A shingle lichen	*Fuscopannaria cf. sorediata*	---	S2S3
A stubble lichen	*Chaenotheca brachypoda*	---	S3S4
Appressed jellyskin lichen	*Scytinium subtile*	---	S3S4
Blistered jellyskin lichen	*Leptogium corticola*	---	S3S4
Blistered tarpaper lichen	*Collema nigrescens*	---	S3
Crumpled bat's wing lichen	*Collema laptaleum*	---	S2S3
Corrugated shingles lichen	*Fuscopannaria ahlneri*	---	S3
Flexuous golden stubble lichen	*Chaenotheca servitii*	---	S1
Fringe lichen	*Heterodermia neglecta*	---	S3S4
Pompom-tipped shadow lichen	*Phaeophyscia pussiloides*	---	S3
Powdered fringe lichen	*Heterodermia speciosa*	---	S3S4
Salted shell lichen	*Coccocarpia palmicola*	---	S3S4
Shaggy fringed lichen	*Anaptychia palmulata*	---	S3S4
Tree pelt lichen	*Petligerea collina*	---	S3
Fish			
American eel	*Anguilla rostrata*	COSEWIC Threatened	S3N
Atlantic salmon	*Salmo salar*	COSEWIC Endangered (Southern Uplands Pop.)	S1
Brook trout	*Salvelinus fontinalus*	---	S3
Terrestrial Fauna			
Wood turtle	*Glyptemys insculpta*	COSEWIC Threatened SARA Threatened NSESA Threatened	S2

Common Name	Scientific Name	COSEWIC, SARA, NSESA	S-Rank
Avifauna			
Canada warbler	*Cardellina canadensis*	COSEWIC Special Concern SARA Threatened NSESA Endangered	S3B
Chimney swift	*Chaetura pelagica*	COSEWIC Threatened SARA Threatened NSESA Endangered	S2S3B, S1M
Common nighthawk	*Chordeiles minor*	COSEWIC Special Concern SARA Special Concern NSESA Endangered	S3B
Eastern wood-pewee	*Contopus virens*	COSEWIC Special Concern SARA Special Concern NSESA Vulnerable	S3S4B
Evening grosbeak	*Coccothraustes vespertinus*	COSEWIC Special Concern SARA Special Concern NSESA Vulnerable	S3N, S3N, S3M
Olive-sided flycatcher	*Contopus cooperi*	COSEWIC Special Concern SARA Special Concern NSESA Threatened	S3B
Peregrine falcon	*Falco peregrinus*	NSESA Vulnerable	S1B, SUM
Rusty blackbird	*Euphagus carolinus*	COSEWIC Special Concern SARA Special Concern NSESA Endangered	S2B
American goshawk	*Astur atricapillus*	---	S3S4
Baltimore oriole	*Icterus galbula*	---	S2S3B, SUM
Bay-breasted warbler	*Setophaga castanea*	---	S3S4B, S4S5M
Boreal chickadee	*Poecile hudsonicus*	---	S3
Canada jay	*Perisoreus canadensis*	---	S3
Fox sparrow	*Passerella iliaca*	---	S3S4B, S5M
Pine siskin	*Spinus pinus*	---	S3
Red crossbill	*Loxia curvirostra*	---	S3S4
Vesper sparrow	*Pooecetes gramineus*	---	S1S2B, SUM

3.7 Socio-economic Setting

Mi'kmaq language and terminology are used throughout the following Section. Based on best knowledge, Mi'kmaq is the plural, non-possessive form, while Mi'kmaw is the singular form. Despite this convention, the names of organizations and direct quotes are as stated by the organization providing the information.

3.7.1 Mi'kmaq of Nova Scotia

Nova Scotia's Indigenous Peoples, the Mi'kmaq, have established Aboriginal and Treaty rights, including the Aboriginal right to hunt, gather and fish, as well as the Treaty right to hunt and gather, and to fish for a "moderate livelihood", which may take place throughout the year. Thirteen (13) Mi'kmaq First Nations are located in Nova Scotia (CIRNAC, 2025). The Mi'kmaw language is part of the Algonquian language family, specifically within the Eastern Algonquian subgroup (Government of Canada, 2025). In 2022, Nova Scotia adopted *The Mi'kmaq Language Act*, officially recognizing Mi'kmaw as the original language of Nova Scotia (Office of the Commissioner of Official Languages, 2022).

Four First Nations are identified as having Reserve lands near the Project PDAs (Section 3.5). These First Nations are Millbrook First Nation, Pictou Landing First Nation, Sipekne'katik First Nation, and Paq'tnkek Mi'kmaw Nation.

15-Mile Mine

The nearest reserve lands, Beaver Lake 17 IR and Sheet Harbour 36 IR (both of Millbrook First Nation), are each 25 km from the 15-Mile Mine PDA. Information on Millbrook First Nation's population is presented in Table 3.7-1. In July 2024, the majority of Millbrook First Nation's registered population lived off reserve. Nearly 40% resided on their own reserve, while only 2% lived on other reserves (Table 3.7-1).

Table 3.7-1 Registered Population of Millbrook First Nation (July 2024)

	Male	Female	Total	%
Registered Population on Own Reserve	479	491	970	39%
Registered Population on Other Reserves	21	18	39	2%
Registered Population on Own Crown Land	0	1	1	0%
Registered Population on Other Band Crown Land	1	1	2	0%
Registered Population on Non-Band Crown Land	1	0	1	0%
Registered Population Off Reserve	715	741	1,456	59%
Total Registered Population	1,217	1,252	2,469	100%

Source: CIRNAC, 2025

No census data were available for four of Millbrook First Nation's Reserves: Truro 27A, Truro 27B, Truro 27C and Tufts Cove Indian Reserve. For the Reserves with available data, Millbrook 27 Reserve had the largest population generally and the largest Indigenous population, seen in Table 3.7-2. Cole Harbour 30 had a 2021 population of 208, though 81% were non-Indigenous. The 2021 median age of Millbrook 27 was approximately six years younger than that of HRM and 11 years younger than that of Nova Scotia, seen below in Table 3.7-2 (Statistics Canada, 2023b).

Table 3.7-2 Millbrook First Nation on Reserve Population in 2021

Reserve	Population	Median Age	Indigenous Identity	Registered Status
Beaver Lake 17	20	NA	NA	NA
Cole Harbour 30	208	62.8	40	40
Millbrook 27	921	34.8	775	760
Sheet Harbour 36	10	N/A	N/A	N/A
Nova Scotia	969,383	45.6	52,245	18,450

Source: Statistics Canada, 2023a

Old Austen Mine

The nearest reserve lands to the Old Austen Mine are also Beaver Lake 17 IR (5.5 km) and Sheet Harbour 36 IR (20 km). Population information for Millbrook First Nation and Beaver Lake 17 is presented in Table 3.7-2.

Old Mitchell Mine

At 44 km, Paq'tnkek Mi'kmaw Nation reserve lands are nearest to the Old Mitchell Mine. As of July 2024, the total registered membership of Paq'tnkek Mi'kmaw Nation was 616, seen in Table 3.7-3 below. Approximately 74% of members were living on Reserve lands and 25% lived off-Reserve.

Table 3.7-3 Registered Population of Paq'tnkek Mi'kmaw Nation (July 2024)

	Male	Female	Total	%
Registered Population on Own Reserve	200	228	428	69%
Registered Population on Other Reserves	11	22	33	5%
Registered Population on Own Crown Land	0	0	0	0%
Registered Population on Other Band Crown Land	0	0	0	0%
Registered Population on Non-Band Crown Land	0	0	0	0%
Registered Population off Reserve	66	89	155	25%
Total Registered Population	277	339	616	100%

Source: CIRNAC, 2025

No census data were available for two of Paq'tnkek Mi'kmaw Nation's Reserves: Franklin Manon 22 and Welner 38. In 2021, Paq'tnkek-Niktuek 23 had a population of 372 with 94% identifying as Indigenous, seen below in Table 3.7-4. The Reserve population had a median age nearly 18-years younger than that of NS.

Table 3.7-4 Paq'tnkek Mi'kmaw Nation on Reserve Population in 2021

Reserve	Population	Median Age	Indigenous Identity	Registered Status
Beaver Lake 17	20	N/A	N/A	NA
Cole Harbour 30	208	62.8	40	40
Millbrook 27	921	34.8	775	760
Sheet Harbour 36	10	N/A	N/A	N/A

Source: Statistics Canada, 2023a

3.7.2 Indigenous Land and Resource Use

15-Mile Mine

The information in this section is derived from a 2024 MEKS completed by Membertou Geomatics Solutions (MGS) for the proposed 15-Mile Mine. The MEKS report includes available baseline information on Mi'kmaq land and resource use for the 15-Mile Mine MEKS Study Area, which is a 5-km radius surrounding the 15-Mile Mine PDA. Other information on Mi'kmaq land and resource use (*e.g.*, interviews undertaken with Mi'kmaq knowledge holders from the communities of Sipekne'katik First Nation, Millbrook First Nation and Pictou Landing First Nation between November 2023 and June 2024, literature and archival review, and field sampling) was also used to complete the baseline for Mi'kmaq land and resource use for 15-Mile Mine.

The Mi'kmaq of Nova Scotia currently use the 15-Mile Mine MEKS Study Area and surrounding lands for traditional purposes. The area is actively used for fishing, hunting, and gathering. Within 100 m of the PDA, community members reported trout and salmon fishing, along with the collection of goldthread and mushrooms. Interviews conducted within the broader study area revealed trout and bass fishing as common activities, with deer hunting being the most frequently mentioned. Among gathered resources, sweetgrass was noted as the most gathered plant across the study area.

Community members also fish for Atlantic salmon and American eel, and gather black ash, all of which are listed in Canada as endangered, threatened, or species of special concern. These species continue to play an important role in Mi'kmaq sustenance and cultural ceremonies. As such, the MEKS report reiterates that any disturbance to their habitats could affect Mi'kmaq access and use, with potential impacts on traditional practices and ecological relationships.

As part of the MEKS interviews, participants were invited to share additional culturally significant information, including details about past settlements, traditional migration routes, sacred sites, and areas connected to oral histories or legends, as well as any concerns regarding the proposed Project. Information on issues and concerns gathered through the MEKS have been included in Section 1.6.3.

Old Austen Mine

The information in this section comes from several MEKS reports prepared for the Old Austen Mine (formerly Beaver Dam Mine Project). The Confederacy of Mainland Mi'kmaq (CMM) completed an initial MEKS for the proposed Beaver Dam Mine Project in 2009. CMM was retained in 2015 to update the study, and again in 2016 to incorporate changes to the PDA. These MEKS reports were based on the Beaver Dam Mine Project layout and PDA, which encompassed a substantially larger area than the current design. As such, the reports can be considered conservative in terms of the area assessed. The MEKS includes baseline information for the Mi'kmaq of Nova Scotia derived from a confidential Traditional Land and Resource Use Study (TLRUS) from Millbrook First Nation,

publicly available Indigenous Knowledge and information, and an archaeological screening and reconnaissance study. All information contained in this document is publicly available, and no confidential information has been used or disclosed.

The MEKS report includes available baseline information on Mi'kmaq land and resource use for the Old Austen Mine MEKS Study Area, encompassing a 5 km radius from the Old Austen Mine PDA. The MEKS Study Area is adjacent to two Reserves (*i.e.*, Beaver Lake 17 and Sheet Harbour 36), which are affiliated with Millbrook First Nation.

The MEKS indicated that residents of Beaver Lake IR 17, Sheet Harbour IR 26, and Millbrook frequently use the Old Austen Mine MEKS Study Area for hunting species such as deer, bear, rabbit, and grouse, with usage ranging from weekly to annually depending on species availability. Wildlife harvests are vital for food security and cultural continuity. Community members also gather berries, medicinal plants, and other natural resources for sustenance, health, and spiritual purposes.

While no ceremonial sites were identified, potential burial sites were recorded west of Beaver Dam Road. Camps used for traditional and recreational purposes are also present throughout the Old Austen Mine MEKS Study Area.

The Old Austen Mine is located within Eskikewa'kik or the 'skin dressing territory', a district of Mi'kma'ki spanning from Halifax County to Guysborough County. Despite changes over time, Mi'kmaw land and resource use in Eskikewa'kik remains active and culturally significant, with the area serving as an important resource for sustenance and cultural practice. Issues and concerns raised in MEKS interviews have been incorporated in Section 1.6.3.

Old Mitchell Mine

In 2019, a MEKS was completed for the Old Mitchell Mine (formerly Cochrane Hill Gold Project). The MEKS report includes available baseline information on Mi'kmaq land and resource use for the Old Mitchell Mine MEKS Study Area, which is a 5-km radius surrounding the Old Mitchell Mine PDA. The MEKS report was based on the Cochrane Hill Gold Project layout and PDA, which encompassed a substantially larger area than the current design. As such, the report can be considered conservative in terms of the area assessed. No specific information indicated current use of land and resources by the Mi'kmaq within and surrounding the Old Mitchell Mine PDA. Further, given the distance to the nearest Mi'kmaq community, Paq'tnkek Mi'kmaw Nation at 39 km, and no observations of unique ecological features or species of elevated interest to the Mi'kmaq during baseline surveys, it is unlikely that this area is used by the Mi'kmaq for land and resource use.

Interactions between Mi'kmaq traditional use and the Old Mitchell Mine are anticipated to be low, for the reasons identified above. The expected interaction with the Mi'kmaq relates to potential use of the area for traditional hunting, plant gathering, and fishing.

The rivers of the Old Mitchell Mine PDA would have been important transportation routes and a resource base for the Mi'kmaq and their ancestors for millennia prior to the arrival of European settlers. As a salmon river, St. Mary's River would have provided an important resource for food and ceremonial purposes for the Mi'kmaq (SMRA, 2024). Lands surrounding the Paq'tnkek-Niktuek 23 Reserve are used for traditional hunting and gathering.

Comprehensive and Specific Land Claims

In 1976, the Mi'kmaq Grand Council and the Union of Nova Scotia Indians (representing 10 Mi'kmaw First Nations: Acadia, Annapolis Valley, Bear River, Eskasoni, Glooscap, Paq'tnkek, Pictou Landing, Potlotek, Wagmatcook and We'koqma'q) submitted a comprehensive land claim (covering the whole of NS) to the Governments of Canada and NS (Government of Canada, 2024a; KMKNO, 2024). This claim was not accepted for negotiation by the Crown. KMKNO indicates the claim was rejected on the basis that it was "superseded by law" (KMKNO, 2024).

Currently, the Government of Nova Scotia prefers to resolve legal uncertainty around constitutional rights through negotiation rather than court challenges (NS Office of L'nu Affairs, 2011). Discussions among the parties have resulted in agreements such as the Mi'kmaq Education Agreement in 1997 and the Terms of Reference for a Mi'kmaq – Nova Scotia – Canada Consultation Process in 2010 (CIRNAC, 2016).

The Government of Canada has committed to settling specific claims, which relate to administration of land and other First Nation assets as well as fulfilment of historic treaties and other agreements. In Nova Scotia, six specific claims are in progress, 22 specific claims have been successfully concluded, and eight specific claims have been closed (CIRNAC, 2024b). Limited information was available on the location of specific claims, though Annapolis Valley, Paq'tnkek and Wagmatcook First Nations are identified as claimants.

3.7.3 Physical and Cultural Heritage

In Nova Scotia, known and unknown archaeological sites are protected under the *Special Places Protection Act*. Discovery of any potential archaeological resources requires cessation of work near the discovery and reporting to the Special Places Program at the Department of Communities, Culture, Tourism and Heritage.

15-Mile Mine

Cultural Resource Management (CRM) Group Limited conducted archaeological screening and reconnaissance at the 15-Mile Mine Archaeological Study Areas in 2008, 2018, 2019 and 2022. The 2008 work supported early planning. The 2018 work was based on an updated site plan and included archival research and consultation with KMKNO's Archaeological Research Division and Millbrook and Sipekne'katik First Nations. Additional screening in 2019 focused on the transmission line and eastern bypass road.

The Maritime Archaeological Resource Inventory does not list any registered archaeological sites within the 15-Mile Mine Archaeological Study Areas. However, as the area has a history of industrial use and settlement dating back to the mid-1800s, the absence of information may reflect limited investigation rather than a lack of archaeological resources.

The 2018 archaeological screening identified elevated potential for both pre-contact and historic Mi'kmaq archaeological resources, as well as those of Euro-Canadian heritage. Field reconnaissance conducted in 2008, 2018, and 2019 identified seven historic Euro-Canadian sites (Sites 1–7) and three areas (Areas 1–3) with potential for Mi'kmaw archaeological resources, including a burial site on Seloam Lake. CRM Group recommended intensified historical review, documentation, and shovel testing for Sites 1–7 if they fall within development areas for mining infrastructure. For Area 2, shovel testing was advised if the area would be impacted. No further measures were recommended for Area 1 due to its low archaeological potential.

CRM Group also conducted an archaeological screening and reconnaissance in 2022. The study area primarily consists of low, wet, hummocky terrain situated away from navigable waters and known cultural heritage sites, with no new cultural resources identified beyond those previously recorded in Areas 1 and 3 (Sites 1 and 3–7). Archaeological potential near Fifteen Mile Stream has already been diminished due to prior development. Overall, the remaining sections of the study area are considered to have low archaeological potential due to their physical characteristics and lack of evidence of historical use.

Old Austen Mine

Archaeological screening and reconnaissance programs were conducted at the Old Austen Mine PDA and the surrounding Project vicinity. These programs, including shovel testing in some areas, occurred in 2008, 2014, 2015, 2018, 2019 and 2020.

The Old Austen Mine Archaeological Study Areas lay within the historic Mi'kmaq territory of Eskikewa'kik. Due to the area's environmental characteristics, Indigenous land use, and history of industrial activity, the Old Austen Mine site was assessed as having high potential for archaeological resources from both pre-contact and historic Mi'kmaq culture, as well as Euro-Canadian heritage. However, some previously recorded features were found to have been destroyed by mining activities in the 1980s.

Thirteen areas within the Beaver Dam Mine Project PDA were identified as having elevated archaeological potential. Additional shovel tests were completed in these areas in fall 2020 to assess for presence of Mi'kmaq archaeological resources prior to development. One site was identified as having moderate to high potential for historic Euro-Canadian archaeological resources, while two areas were identified as having elevated potential for historic Mi'kmaq archaeological resources. Further archaeological investigations did not uncover any pre-contact Mi'kmaq artifacts. Potential burial sites were recorded within the Old Austen Mine MEKS study area on the western side of the Beaver Dam Mine Road but not within the Old Austen Mine PDA. These sites will not be affected by the Project.

Old Mitchell Mine

In 2014, 15-MMR undertook an archaeological screening and reconnaissance program at the Old Mitchell Mine PDA across the Cochrane Hill Archaeological Study Area including the location of the mine pit, waste rock storage, and processing plant, along with two options for tailings management. Field reconnaissance identified three features, all believed to be associated with former mining operations. One feature is north of the eastern side of NS Trunk Highway 7 (Marine Drive), and two features are on the western side. CRM Group indicated the locations of the three features should be subject to shovel testing. Additionally, it was recommended that, in conjunction with the shovel testing, more intensive reconnaissance be conducted around the open pit.

In 2014, initial research identified three archaeological sites. Building on this, CRM Group conducted follow-up fieldwork in 2017 to confirm sites' presence, establish protective buffer zones, and recommend shovel testing and more intensive historical research before development. To address potential gaps, a broader archaeological field program was carried out in 2018 within the Old Mitchell Mine PDA, examining the full development footprint.

CRM Group also conducted a screening and reconnaissance of the Old Mitchell Mine PDA in 2022. The study area is characterized by low, wet, hummocky terrain located far from navigable waters and recognized cultural heritage sites. Archaeological investigations revealed no new cultural resources within the area, aside from previously identified features and elevated potential zones (Features 1–3 and Elevated Potential Areas (EPA) 1–4), all of which are situated outside the currently proposed Project boundaries. Due to its physical nature and lack of evidence of historical use, the area is considered to have low archaeological potential.

Based on findings from the 2022 assessment and earlier studies (2014 and 2018), CRM Group recommended several archaeological management actions for the Old Mitchell Mine. Areas identified as potentially significant (Features 1–3 and EPA 1–4) should be avoided where feasible; if avoidance is not feasible, further historical research and subsurface testing should be conducted to assess their archaeological value. Should development impact the Elevated Potential Areas, shovel testing is advised to detect any buried

resources. Of the areas identified as potentially significant, only Feature 1 is located within the proposed disturbance footprint. Historic industrial features, including the "Old Mill," should be thoroughly documented using GIS, photography, and surveyed plans.

3.7.4 Socio-economic Conditions

This section presents an overview of non-Indigenous communities near the PDAs. The high-level information addresses topics such as population, labour force, economy, recreation, services and infrastructure and traffic where data were available from publicly accessible sources. Additional information comes from field observations for the previous effects assessments for 15-Mile Mine and the Old Austen Mine.

The KPMG studies prepared for 15-Mile Processing Hub Project (2025) provided general socio-economic information for the region (*i.e.*, Antigonish, Colchester, Guysborough and Pictou counties, as well as the Eastern portion of HRM). The assessment of economic effects relies on the Statistics Canada (I-O) model to estimate the direct, indirect, and induced economic impacts associated with Project-related expenditures. Project expense data are mapped and allocated to the applicable industry sectors within the input-output framework. The expenditures are then processed through the Statistics Canada I-O model to evaluate how initial Project spending generates economic activity throughout the supply chain (indirect effects), as well as additional economic activity associated with household spending resulting from labour income (induced effects).

This region is facing structural socio-economic challenges. Only a slight population increase was experienced between 2016 and 2021 (1.1%), compared to a provincial growth rate that was 4.5 times higher (5.0%). Over the same period, the region experienced an increase in the share of its population aged 65-years and older (15.4%), while its younger population (15-64) declined by 2.8%.

The region has a high unemployment rate of 13.0%, similar to the provincial average of 12.7% and higher than Halifax's at 11.4%. In addition, about one out of five working-age (15-64) individuals are not engaged in the labour market, suggesting a considerable pool of untapped labour potential in the region.

15-Mile Mine

The 15-Mile Mine PDA is in Halifax Regional Municipality (HRM). Malay Falls and Sheet Harbour are the closest communities to the PDA; however, census data were not available for both communities. In 2021, the population of HRM had increased over the previous census, as seen in Table 3.7-5. Population gain was experienced in the province generally and the data shows that HRM had a lower median age than NS.

Table 3.7-5 Halifax Regional Municipality

Jurisdiction	Population			Median Age (2021)
	2016	2021	Change (%)	
Halifax Regional Municipality	403,131	439,819	9.1	40.4
Nova Scotia	923,598	969,383	5.0	45.6

Statistics Canada, 2023b

Although HRM has an aging population, the labour force participation rose to 68.5% in 2024 (Halifax Partnership, 2025). The primary industries in the HRM include health care and social assistance, public administration, retail trade, professional, scientific and technical services, and educational services (Statistics Canada, 2023b). Men+[2] made up a larger proportion of the population in public administration, while women+[3] made up a higher proportion of the population in health care and social assistance (Statistics Canada, 2023b). Housing in HRM is primarily single detached homes, with an average household size of 2.3 people (Statistics Canada, 2023b).

Organizations in Sheet Harbour provide essential services including healthcare (Eastern Shore Memorial Hospital), education (a primary to senior school), public library, and other community organizations (Sheet Harbour Chamber of Commerce, 2019). Safety and emergency services are provided by the Royal Canadian Mounted Police (RCMP) and several fire stations, including professional / volunteer services and fully volunteer services (NSECC, 2021).

The Sheet Harbour Chamber of Commerce states the catchment area includes a population of approximately 5,000 (Sheet Harbour Chamber of Commerce, 2019a). The Port of Sheet Harbour supports local economic activity, by the shipment of wood chips for the pulp industry and imports of wind turbine segments (HRM, 2025). The community of Sheet Harbour relies heavily on forestry, fishing and tourism as its main economic drivers. Tourism development includes initiatives like the Wild Islands Tourism Advancement Partnership (WITAP), though the Eastern Shore had the lowest number of licensed room nights sold and the lowest occupancy rate in Nova Scotia in 2025 (Government of Nova Scotia, 2025a).

[2] Men+ includes men (and/or boys), as well as some non-binary persons.

[3] Women+ includes women (and/or girls), as well as some non-binary persons.

Recreational amenities include beaches, trails, parks, and community facilities in Sheet Harbour. Notable sites include Taylor Head Provincial Park and Spry Bay Lighthouse (Tourism Nova Scotia, 2025). Local groups such as the Sheet Harbour ATV Club and Wildlife Association actively use the surrounding forested areas for outdoor activities.

Traffic volumes near the 15-Mile Mine PDA are low. In 2022, a traffic count on Highway 374 from 15 Mile Stream Road to Lewiston Road (Lochaber Mines) recorded an average daily traffic (ADT) of 228 vehicles (Government of Nova Scotia, 2025b).

Old Austen Mine

The nearest community to the Old Austen Mine PDA is Marinette, which is also situated in HRM. Census data are not available for Marinette. HRM population is presented in Table 3.7-5.

The local housing in HRM consists primarily of single detached homes, with 57% owner-occupied and most maintained by individuals over the age of 55 (Statistics Canada, 2023b). Housing costs are generally considered affordable, with 79% of residents spending less than 30% of income on shelter. The average dwelling value in 2023 was $403,600.

Sheet Harbour serves as the commercial and service hub for the area surrounding the Old Austen Mine. Healthcare is provided through facilities in Sheet Harbour and Middle Musquodoboit (NS Health, 2025). Public safety services are provided by the RCMP. Fire prevention and response services are available locally. Drinking water is sourced from individual wells, and wastewater is treated through septic systems (NSECC, 2017). Solid waste is collected weekly and processed at regional transfer stations, with final disposal at the Otter Lake waste management facility (Government of Nova Scotia, 2025c).

Recreational activities include hunting, fishing, snowmobiling, and hiking. Recreation amenities include fitness centres, theatres, and provincial parks (NSECC, 2017). Temporary accommodations in the Sheet Harbour area include several motels, bed and breakfasts, and campgrounds, most operating seasonally.

Traffic volumes near the Old Austen Mine PDA are low as it is a rural area. In 2022, traffic counts resulted in an ADT of 547 vehicles on Highway 224 between Marinette-Sheet Harbour Line and Beaver Dam Mines Road (Government of Nova Scotia, 2025b).

Old Mitchell Mine

The nearest community to the Old Mitchell Mine PDA is Sherbrooke, located 13 km to the south. No census data were available for Sherbrooke, which is in St. Mary's Municipal District. In 2021, the population of St. Mary's Municipal District had decreased by more than 3% over the previous census and the median age was 12 years older than NS's as seen in Table 3.7-6.

Table 3.7-6 Population of St. Mary's Municipal District

Jurisdiction	Population			Median Age (2021)
	2016	2021	Change (%)	
St. Mary's Municipal District	2,233	2,161	-3.2	57.6
Halifax Regional Municipality	403,131	439,819	9.1	40.4

Statistics Canada, 2023b

The area surrounding the Old Mitchell Mine PDA is sparsely populated with permanent homes and seasonal cottages. Sherbrooke provides services and infrastructure including a secondary school and a hospital. The Town of Antigonish, about 40 km to the north of the Old Mitchell Mine PDA, provides a greater range of services.

Primary industries in St. Mary's Municipal District include agriculture, forestry, fishing and hunting, health care and social assistance, educational services, and construction (Statistics Canada, 2023b). Men+ made up a larger proportion of the population in agriculture, forestry, fishing and hunting, while women+ made up a higher proportion of the population in health care and social assistance.

Housing in St. Mary's Municipal District consists primarily of single detached homes, with 90% owner-occupied and most maintained by individuals over the age of 55 (Statistics Canada, 2023b). Housing costs are generally considered affordable, with 91.9% of residents spending less than 30% of income on shelter. The average dwelling value in 2023 was $172,000.

Traffic volumes near the Old Mitchell Mine PDA are low and increase closer to larger centres. A 2023 traffic count resulted in an ADT of 920 vehicles (eastbound and westbound combined) on NS Trunk Highway 7 (Marine Drive) between Stillwater and Melrose (Government of Nova Scotia, 2025b). In 2023, the combined eastbound and westbound ADT between Addington Forks Road (Exit 31) and Antigonish (Exit 32) was 7,249 vehicles.

4 Federal, Provincial, Territorial, Mi'kmaq and Municipal Involvement

4.1 Federal Funding Support

No federal funding or financial support is expected to be provided for the Project.

4.2 Federal Land Use

No federal lands are planned to be used for the purpose of carrying out the Project.

4.3 Jurisdictional Involvement

The 15-Mile Processing Hub Project is a designated Project pursuant to the *Physical Activities Regulations* (PAR) pursuant to the IAA. Specifically, as noted in Section 2.2, the Project involves the construction, operation, and decommissioning of a new metal mine with an ore production capacity exceeding 5,000 tonnes per day (18(c) of the PAR) and of a new metal mill with an ore input capacity exceeding 5,000 tonnes per day (18(d) of the PAR). The proponent, 15-MMR, is therefore providing this IPD to the IAAC to support IAAC's decision regarding whether a federal impact assessment of the Project is required.

The Project is also subject to provincial Environmental Assessment (EA) by the Province of Nova Scotia, pursuant to the Nova Scotia *Environment Act* and the *Environmental Assessment Regulations.* Specifically, the NS Act and Regulations require the registration of the Project as a Class I undertaking where the Project includes the extraction and processing of metallic minerals. The NS *Environmental Assessment Regulations* were amended on May 8, 2025, to address commitments made in the *Environmental Goals and Climate Change Reduction Act* to modernize the province's EA process. The provincial EA process will include consideration of potential effects of the Project on a wide range of biophysical and socio-economic matters, including (but not limited to) matters of federal interest, such as air quality and climate change, fish and fish habitat, birds (including migratory birds), aquatic and terrestrial species at risk, physical and cultural heritage (including archaeological resources), health, and other socio-economic conditions, including those of the Mi'kmaq of Nova Scotia. The provincial EA process includes mandatory Indigenous and public consultation.

On February 16, 2026, IAAC published a draft co-operation agreement between Nova Scotia and Canada to its website for public feedback. The announcement acknowledged Canada is committed to working with provinces to achieve "one project, one review." Under this approach, federal and provincial governments will work together to meet shared and respective responsibilities to protect the environment and uphold Indigenous rights with the goal of a single assessment for a project. The draft agreement acknowledges the robustness and high quality of Nova Scotia's assessment regime, informed by science, and Indigenous and community knowledge. The agreement also understands Nova Scotia is best placed to undertake the assessment and will rely on the province's established environmental assessment and regulatory processes to address adverse effects of mining projects that are primarily provincially regulated.

In addition to the federal and provincial impact assessment processes, other federal, provincial, and municipal authorizations, permits, licences, approvals, leases, and other approval mechanisms will be required for Project construction and operation, as outlined in the sections below.

In particular, potential adverse Project effects within federal jurisdiction will be addressed through robust federal regulatory review and permitting processes, including pursuant to the *Fisheries Act*, the *Migratory Birds Convention Act, 1994*, the *Species at Risk Act*, and others, as listed in Section 4.3.1 below. These processes also include mandatory Crown consultation with Indigenous groups.

It is anticipated that federal and provincial regulatory requirements will be met through a streamlined, coordinated process, consistent with the principle of "one project, one review" and with current initiatives at the federal and provincial levels to improve the effectiveness and efficiency of regulatory reviews.

4.3.1 Federal

Federal permitting will be required before the Project can proceed to construction and operation. Further details regarding federal permitting and the associated Project activities are provided in Table 4.3-1.

Table 4.3-1 Federal Approvals Anticipated to be Required for the Project

Legislation	Physical Activity and/or Trigger	Regulatory Authority
Fisheries Act	Authorization required for any direct or indirect disturbance of fish or fish habitat.	DFO
Fisheries Act Metal and Diamond Mining Effluent Regulations (MDMER)	Amendments to Schedule 2 of the MDMER are anticipated to be required to authorize the placement of mine waste in areas currently containing watercourses.	ECCC

Legislation	Physical Activity and/or Trigger	Regulatory Authority
Species at Risk Act (SARA)	SARA permit required for any activity that may affect species listed as extirpated, endangered, or threatened and which contravene the Act's general or critical habitat prohibitions.	DFO/ECCC
Explosives Act Explosives Regulations	License, certificate, or enrolment may be required under the Regulations to permit handling and storage of explosives.	Natural Resources Canada (NRCan)
Transportation of Dangerous Goods Act, 1992	Registration in Transport Canada Client Identification Database (CID) potentially required for transportation of reagents, including cyanide.	Transport Canada
Canadian Navigable Waters Act	Transport Canada Navigation Protection Program approval, notification, or exemption may be required if Project works were to interfere with navigation.	Transport Canada

4.3.2 Provincial

Provincial permits, approvals, and leases anticipated to be required for the Project development are detailed in Table 4.3-2, below.

Table 4.3-2 Provincial Approvals Anticipated to be Required for the Project

Legislation	Physical Activity and/or Trigger	Regulatory Authority
Environment Act – Environmental Assessment Regulations	EA required due to the construction, operation and decommissioning of a facility that extracts or processes metallic or non-metallic minerals.	NSECC
Environment Act – Activities Designation Regulations	An Industrial Approval (IA) is required for the construction, operation or reclamation of a surface mine using explosives and procuring mineral bearing ore. Water approval and/or notifications will be required for any water withdrawal and watercourse or wetland alterations.	NSECC
Nova Scotia Endangered Species Act and Regulations	The Act prohibits killing, injuring, disturbing, taking, or interfering with endangered or threatened species and/or their habitat.	NSDNR
Mineral Resources Act and Regulations	The Project will require a mineral lease and a bond for mining and the collection of royalties.	NSDNR
Crown Lands Act	Crown lands lease is required for mining-related activities occurring on Crown lands.	NSDNR
Public Highways Act	Work Within Highway Right of Way permit is required for any activity/work on the roadway or within the highway right-of-way.	Nova Scotia Public Works

4.3.3 Municipal

The 15-Mile Mine and Old Austen Mine PDA are both located within the HRM. The Old Mitchell Mine PDA is located within the Municipality of the District of St. Mary's (MDSTM). Municipal approvals anticipated to be required for Project development are detailed in Table 4.3-3.

Table 4.3-3 Municipal Approvals Anticipated to be Required for the Project

Legislation	Physical Activity and/or Trigger	Regulatory Authority
National Building Code of Canada as administered through the municipal building permit process	Approval for construction and occupation of buildings.	HRM
HRM Regional Plan – Eastern Shore (West) Plan Area	Industrial facilities and resource extraction are governed by HRM Municipal Planning Strategy and Land Use By Laws.	HRM
MDSTM Planning Strategy	Industrial facilities and resource extraction are governed by MDSTM Municipal Planning Strategy and Land Use By Laws.	MDSTM

5 Potential Effects of the Project

This section summarizes potential changes to the natural and human environment that may be caused by the carrying out of the Project. To support IAAC's decision-making, information is also provided about measures 15-MMR intends to implement to mitigate potential adverse effects, including effects within federal jurisdiction. The mitigation measures proposed by 15-MMR are well understood and proven and are expected to be effective at mitigating the potential adverse effects of the Project.

5.1 Potential Changes to Federally Regulated Environmental Components

5.1.1 Fish and Fish Habitat

Fish and fish habitat, as defined in subsection 2(1) of the *Fisheries Act*, may be affected directly and indirectly by Project development from activities such as clearing and grubbing, and construction of infrastructure. Potential effects on fish and fish habitat, proposed mitigation measures, and regulatory review mechanisms are summarized in Table 5.1-1, below.

Table 5.1-1 Potential Effects on Fish and Fish Habitat

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Direct habitat loss	Micro-siting of Project infrastructure to avoid fish habitat Fish rescue in advance of in-water work	Fisheries Act Authorization MDMER Schedule 2 Amendment
Changes to hydrology	Supplemental flows directed to receiving waterbodies	Fisheries Act Authorization
Changes to water quality	Project-specific erosion and sedimentation control plan (ESCP) Collection and treatment of all contact water prior to discharge	Fisheries Act Authorization Nova Scotia Environmental Assessment Registration Nova Scotia Industrial Approval
Blasting	Blast Management Plan	Fisheries Act Authorization Measures to Avoid Causing Harm to Fish and Fish Habitat Including Aquatic Species at Risk Pertaining to Blasting (DFO, 2018)

Potential Effects Pathways

Project operations may cause direct and indirect effects to fish and fish habitat through blasting and overpressure, sedimentation and erosion into streams, and changes to water quality and quantity from dust deposition and effluent discharge. Habitat that directly or indirectly supports fish may be altered or destroyed as a result of direct or indirect disturbances from the Project. Fish and fish habitat and aquatic SAR are protected under federal legislation by the *Fisheries Act* and *Species at Risk Act* (SARA). Any Harmful Alteration, Disruption, or Destruction (HADD) of fish habitat will require authorization under Section 35 of the *Fisheries Act*. Additionally, any deposit of mineral waste (overburden, waste rock, effluent) in waters frequented by fish will require waterbodies to be listed in Schedule 2 of the MDMER in accordance with Section 36 of the *Fisheries Act*.

Proposed Mitigation

As part of the early and iterative Project planning and site assessment efforts, multiple site layouts were considered for both Project efficiencies and the avoidance of impacts to fish-frequented waters. Although components such as the open pit are fixed due to the location of the resource, other Project infrastructure such as stockpiles, the TMF and road networks have some flexibility in their location and have been optimized in the proposed Project layout. As detailed in Section 2.6.3, the current iteration of the Project design has reduced the number of watercourses impacted by approximately 35% with comparison to the previous Moose River Consolidated Project footprint. Where avoidance of impacts to fish and fish habitat is not feasible, other mitigation measures must be employed to further reduce impacts to fish and fish habitat.

Individual fish will be protected throughout the construction phase by implementation of a fish rescue from all in-water work areas. A site-specific fish rescue plan will be developed by a professional biologist for the Project. Fish will further be protected by restricting all in-water work to site specific timing windows based on the fish species. A site-specific ESCP will be developed and reviewed by a qualified aquatic ecologist or equivalent professional. Appropriate measures will be incorporated to protect fish and fish habitat from sedimentation risks, in accordance with applicable regulatory guidelines and best practices.

A Project-specific ESCP will be developed and implemented prior to construction to prevent the release of sediment-laden runoff to watercourses and wetlands. Sediment control fences will be installed in areas (*e.g.*, slopes and embankments) where organic materials and till are exposed to potential erosion and siltation. Sediment control fences will be inspected and maintained until the disturbed areas have stabilized and revegetation has occurred.

Indirect impacts to fish and indirect impacts to fish behaviour, spawning grounds, and migration patterns are possible from blasting activities associated with mine development. 15-MMR will adhere to setback recommendations and other mitigation strategies to minimize impact to fish and fish habitat from blasting activities outlined by DFO in the Measures to Avoid Causing Harm to Fish and Fish Habitat Including Aquatic Species at Risk Pertaining to Blasting (DFO, 2018).

Direct and indirect impacts to fish and fish habitat will be offset and compensated for in accordance with the *Fisheries Act* and the DFO Fish and Fish Habitat Protection Program. A fish habitat offset plan will be developed in consultation with DFO, the Mi'kmaq of Nova Scotia, and relevant stakeholders.

The conceptual design completed for the realignment of Seloam Brook included channel features designed to enhance fish habitat and increase productivity. These features included natural channel design (pools, riffles, runs, and wetlands), woody debris for cover, and suitable spawning, rearing, and overwintering habitat. The realigned channel also considered thermal mitigation through maintenance of existing groundwater seeps and riparian planting.

A series of environmental management and monitoring plans will be developed and implemented prior to Project development, including an aquatic effects monitoring plan (AEMP) to be implemented during construction, operation, and closure phases of the proposed Project. The AEMP will be established as a requirement of the permits and licenses under which the proposed Project will operate (*e.g.*, MDMER under the *Fisheries Act*, FAA, provincial IA, and NSECC wetland and watercourse approvals). The focus of the AEMP will be to ensure regulatory compliance, monitor the effectiveness of mitigation measures, and to verify effect predictions.

15-MMR is also committed to adhering to DFO codes of practice relevant to Project activities, including those for culvert maintenance, in-water structure maintenance and repair, and temporary fords.

In addition to the mitigation measures identified above, 15-MMR is committed to adhering to relevant standard mitigation measures issued by IAAC (2026) for protection of fish and fish habitat as listed in Table 5.1-2, below.

Table 5.1-2 IAAC Standard Mitigation Measures for Protection of Fish and Fish Habitat

Project Activity	Mitigation
General Activities that disturb soils and sediment	Implement, at a minimum, the following mitigation measures to control sedimentation, runoff and erosion, as appropriate, during all phases of the Project in order to meet applicable total suspended solids (TSS) thresholds: • Stabilize all erodible areas (including excavated materials) and regularly inspect and maintain the stability of these areas until they are permanently stable. • Install settling basin and/or filtration systems for water flowing onto the site and water being pumped or diverted from the Project site such that water run-off meets applicable TSS criteria before discharge into the receiving environment. • For any dewatering, do so gradually to prevent sediment resuspension and bank destabilization. • Install temporary clear span bridges to accommodate expected high-water flows. • Maintain an undisturbed vegetated buffer zone between areas of on-land activity and the high-water mark of any waterbody. • Isolate in-water Project activities from the receiving fish bearing waters to mitigate intensity, spatial scale and duration of sedimentation in fish habitat taking into account DFO's Standard: In-Water Site Isolation. • Install structures to reduce scouring and sedimentation in aquatic areas intended to receive concentrated drainage, including water ditch checks, blocks, riprap, silt fencing as appropriate.

Project Activity	Mitigation
General activities that disturb materials that may be acid generating/metal leaching	During all phases of the Project in order to meet applicable water quality thresholds, undertake, at a minimum, the following: • Describe the methods used to characterize and confirm through geochemical testing acid rock drainage and metal-leaching potential of rock materials that follow the methodologies provided in the MEND program's Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials, including static and kinetic methods and the frequency and timing of characterization. • Characterize the acid rock drainage and metal-leaching potential of materials with potential geochemical risk for acid generation and metal leaching prior to construction. • Confirm through geochemical testing, as appropriate to validate initial characterization and predictions. • Use only rock materials characterized as not acid-generating, non-potentially acid-generating and non-metal-leaching for project works. • Limit oxidation reactions in materials characterized as acid generating and metal leaching or potentially acid-generating and metal-leaching, which may include the use of covers.
General activities in fish habitat that may cause harm or death to fish	Implement, at a minimum, the following measures to protect fish and fish habitat during Project activities conducted in fish-bearing waters, unless otherwise authorized by DFO: • Conduct Project activities in or near fish-bearing water bodies in accordance with DFOs Timing windows to conduct projects in or around water. • Maintain fish passage in watercourses frequented by fish by avoiding activities that reduce minimum flows or remove existing passage structures–except in cases where watercourses are permanently removed for the construction of Project components. • Safely capture and relocate fish that may become trapped in isolated or enclosed areas, ensuring they are returned to the same watercourse or waterbody.
Vehicle and equipment movement	Avoid the introduction or propagation of invasive species within the PDA by cleaning vehicles and equipment before entering the PDA and prior to leaving any known site with invasives species within the PDA.
Use of explosives in and around fish habitat	Avoid injury and mortality to fish when using explosives in and around fish bearing waters, unless otherwise authorized by DFO, by ensuring the following thresholds in their Guidelines for the Use of Explosives in or near Canadian Fisheries Waters are not exceeded: • An overpressure of 100 kilopascals (kPa) in fish habitat. • Peak particle velocity of 13 mm•s-1 in a spawning bed during the period of egg incubation.
Use of concrete in fish habitat	Implement the following measures when using concrete, cement, mortars and other Portland cement or lime-containing construction materials in fish bearing waters: • Prevent sediments, debris, concrete, and concrete fines and any water contacting uncured or partly cured concrete or Portland cement or lime-containing construction materials, including water that may be used for exposed aggregate wash-off, wet curing, equipment and truck washing, from entering the receiving environment directly or indirectly. • Use pre-cast concrete, instead of cast-in-place, unless not feasible. • Have a CO2 tank with regulator, hose and gas diffuser, or other equivalent technology easily accessible during these Project activities so that they can be deployed quickly to mitigate any spills that may occur and neutralize pH.
Installation of structures in fish habitat	Use only non-treated wood materials (e.g. pre-cast concrete, steel or plastic) for construction in fish bearing waters, where feasible. If the use of non-treated materials is not feasible, only use wood treated with water-based preservatives.
Use of water intake pipes in fish habitat	Install screens on the water intake structures taking into account DFO Interim Code of Practice for End-of-Pipe Fish Protection Screens for Small Water Intakes in Freshwater.

Project Activity	Mitigation
Overprinting of fish habitat and other activities that cause residual harmful alteration, disruption, or destruction of fish habitat, and death of fish that cannot be otherwise mitigated	Develop, to the satisfaction of DFO and in consultation with Indigenous groups, and implement any offsetting plan for activities that may result in the harmful alteration, disruption, or destruction of fish habitat, or the death of fish associated with the Project. These plans should be developed taking into account DFO's Policy for Applying Measures to Offset Harmful Impacts to Fish and Fish Habitat. For any offsetting measures proposed in the plan that may cause direct or incidental adverse effects, develop and implement, following consultation with Indigenous groups and relevant authorities, measures to mitigate those effects.

Regulatory Review & Best Management Practices

The *Fisheries Act* prohibits the carrying out of any work, undertaking or activity, other than fishing, that could result in the death of fish and/or HADD of fish habitat. If a project is unable to avoid or otherwise mitigate the death of fish or HADD of fish habitat, then an authorization (*e.g.*, FAA) under Subsection 35.(3) of the *Fisheries Act* is required in order for the Project to proceed. In an FAA application, proponents are required to detail the potential effects of a project on fish and fish habitat, measures proposed to avoid and otherwise mitigate those effects and provide a plan for offsetting any remaining impacts.

Potential impacts to fish and fish habitat will also be assessed through the provincial EA process in accordance with the Nova Scotia *Proponent's Guide to Environmental Assessment* (2025).

15-MMR will adhere to setback recommendations and other mitigation strategies to minimize impact to fish and fish habitat from blasting activities outlined by DFO in the Measures to Avoid Causing Harm to Fish and Fish Habitat Including Aquatic Species at Risk Pertaining to Blasting (DFO, 2018).

5.1.2 Aquatic Species

No aquatic species at risk, as defined in subsection 2(1) of SARA, occur or have the potential to be affected by the Project. There are several aquatic species listed under COSEWIC that occur in the Project vicinity, in particular Atlantic salmon and American eel. Potential Project effects and mitigation measures to address effects for these species are consistent with those presented in Section 5.1.1 for Fish and Fish Habitat. The Project will not cause any adverse changes to marine plants, as none occur in the Project area (the Project is located inland and will not adversely affect any marine environments).

5.1.3 Migratory Birds

Migratory birds, as defined in subsection 2(1) of the *Migratory Birds Convention Act (*MBCA*), 1994*, may be affected by the Project through a combination of direct and indirect means, including direct mortality from collisions with vehicles, habitat loss and fragmentation, sensory disturbance (*e.g.*, from lighting, noise, and vibration), and potential changes to air and water quality. Potential effects on migratory birds, proposed mitigation measures, and regulatory review mechanisms are summarized in Table 5.1-3, below.

Table 5.1-3 Potential Effects on Migratory Birds

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Habitat loss and alteration	• Micro-siting of Project infrastructure to avoid important migratory bird habitats • Minimize Project footprint to avoid important migratory bird habitats such as wetlands and mature forests. • Reduce the total footprint of infrastructure to minimize potential effects to migratory bird habitat. • Compensate for any wetland losses. • Vegetation clearing outside of nesting season if feasible or pre-clearing nest surveys • Setback distances from known or identified nests • Progressive reclamation	• Nova Scotia Environmental Assessment Registration • Guidelines to Avoid Harm to Migratory Birds (ECCC, 2023) • Nova Scotia Wetland Conservation Policy (NSECC, 2019)
Sensory disturbance	• Sound, dust, and light suppression • Mine site-specific WMP	• Nova Scotia Environmental Assessment Registration • Guidelines to Avoid Harm to Migratory Birds (ECCC, 2023)

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Injury and mortality	• Vegetation clearing outside of nesting season or pre-clearing nest surveys • Setback distances from known or identified nests • Manage stockpiles to discourage ground and burrow-nesters • Speed limits • Bird deterrents on TMF • Collection and treatment of all contact water prior to discharge • Mine site-specific WMP	• Nova Scotia Environmental Assessment Registration • Guidelines to Avoid Harm to Migratory Birds (ECCC, 2023)

Potential Effects Pathways

Migratory birds and their habitats may be directly or indirectly altered or lost through Project construction and operations. Land disturbance activities such as road construction, vegetation clearing, excavation, and blasting conducted during the breeding season may directly affect nests or nesting habitats for certain species. Direct morality and injury may occur from vehicle strikes, interactions with infrastructure, and vegetation clearing and grubbing. There is also potential for migratory birds to attempt to use the 15-Mile Mine TMF as a waterbody for staging or resting. Migratory birds may also experience sensory disturbance caused by increased noise, lighting, and vibration, particularly during construction and operations phases. Migratory birds and avian SAR are protected under federal legislation by the MBCA and SARA. Provincially, SAR birds are protected under the NSESA. Under the provincial *Wildlife Act*, it is illegal to destroy or disturb bird nests or eggs without a permit.

Proposed Mitigation

Important migratory bird habitats such as wetlands and mature forests have been avoided by mine infrastructure where feasible, with siting of Project infrastructure prioritized to areas with existing disturbances, such as existing roads and historically cleared areas. As outlined in Section 2.6.3, the total footprint of infrastructure considered in the current Project design has been reduced by approximately 38% compared to the previous Moose River Consolidated Project, significantly reducing potential effects to migratory birds.

To minimize potential effects to individual migratory birds, 15-MMR will avoid the destruction of active nests and will implement mitigation measures by adhering to timing windows to avoid clearing or conducting pre-clearing nest surveys to ensure the absence of nesting activity prior to any disturbance. During active construction, setback distances from known or identified nests will be adhered to as feasible and as determined through consultation with NSNR or ECCC-Canadian Wildlife Service (CWS). Ground-nesting or burrow-nesting species (*e.g.*, bank swallows) will be discouraged by managing borrow pits, stockpiles, or other exposed soils during breeding season.

Dust suppression mechanisms and noise and light reduction will be implemented during construction, operations, and closure of the Project to minimize impacts to migratory birds and their habitat. Speed limits will be established to minimize the effects of vehicle collisions.

15-MMR will ensure migratory birds are considered when drafting an ERP and WMP These plans will include measures to deter birds from accessing the TMF, including use of audio) and visual deterrents to dissuade birds from landing in the TMF. WMPs will outline site-specific mitigation and monitoring measures for terrestrial wildlife, including avifauna and migratory birds. Wildlife observation will be recorded throughout all phases of the Project. Human food and waste will be securely contained to minimize the potential for attracting birds. As wetlands provide habitat to several priority bird species, wetland monitoring will be completed to ensure the integrity of wetland conditions and wetland function is maintained. Wetlands were avoided to the extent practicable during design of proposed Project infrastructure.

15-MMR is committed to doing progressive reclamation, where feasible, during operations. During the mine closure phase, reclamation will allow for site restoration of a native assemblage of plant communities to contribute to long-term habitat recovery.

In addition to the mitigation measures identified above, 15-MMR is committed to adhering to relevant standard mitigation measures issued by IAAC (2026) for protection of migratory birds as listed in Table 5.1-4, below.

Table 5.1-4 IAAC Standard Mitigation Measures for Protection of Migratory Birds

Project Activity	Mitigation
Vegetation clearing, site preparation, blasting, and other land-disturbing activities	• Determine, under the direction of a qualified individual, the presence, or likely presence of migratory bird nest(s) protected under the Migratory Birds Convention Act, 1994 and its regulations and residences protected under the Species at Risk Act that may be adversely affected by the Project prior to initiating the activity. Non-intrusive methods used to determine the presence or likely presence of migratory bird nests should be appropriately selected based on the habitat type. • Establish and delineate, under the direction of a qualified individual, setback distances around the nest(s) and residence(s) whose presence is likely or confirmed above, within which that activity shall not occur while those nest(s) are protected under the Migratory Birds Convention Act, 1994 and its regulations or the Species at Risk Act or both. When establishing setback distances, take into account Environment and Climate Change Canada's Guidelines to avoid harm to migratory birds - Establishing buffer zones and setback distances.
Lighting design and operation	Control project lighting, while meeting regulatory, operational, health and safety requirements, to mitigate attraction and disorientation of migratory birds, taking into account the Convention on Migratory Species' International Light Pollution Guidelines for Migratory Species including by implementing the following measures: • Use directional lighting that targets only the areas where illumination is essential. • Optimize lighting design to reduce the total amount of lighting needed. • Use shielded fixtures to minimize glare and prevent light leakage into directions where light is not essential. • Use automatic sensors or strobe lighting in areas where continuous lighting is not essential.
Contact water management	Ensure migratory birds do not access sources of contact water that consistently exceeds relevant water quality criteria by implementing deterrent measures.

Regulatory Review and Best Management Practices

The MBCA protects all migratory birds while they are present in Canadian jurisdiction, including on land, in the air, and on the water. The Migratory Birds Regulations, 2022, protect nests of species listed under Schedule 1 for a set period. Detected nests lists under Schedule 1 can be registered under the Abandoned Nest Registry to begin the waiting period. Under the provincial *Wildlife Act*, it is illegal to destroy or disturb bird nests or eggs without a permit.

Migratory birds (along with all avifauna) will be addressed through the provincial EA as per the Guide to Addressing Wildlife and Habitat in an EA Registration Document (NSECC, 2009).

15-MMR will adhere to setback recommendations and other mitigation strategies to minimize impacts outlined in the Guidelines to Avoid Harm to Migratory Birds (ECCC, 2023). Setback distances will be determined in consultation with NSNR and/or ECCC/CWS.

All wetland losses will be compensated in accordance with the wetland alteration process outlined in the NS *Wetland Conservation Policy* (Nova Scotia Environment, 2011).

5.1.4 Potential Changes to Federal Land Environment

No federal lands are in proximity to 15-Mile Mine PDAs, and no development activities are planned on federal lands. Thus, the Project is not anticipated to impact federal lands, including Reserve lands.

Given its scale and location, the Project is not expected to cause environmental effects outside the province or Canada.

5.1.5 Potential Changes to the Marine Environment

The Project is located inland with no expected impacts on the marine environment.

5.1.6 Potential Changes to Jurisdictional Waters

The Project is located inland with no expected impacts on interprovincial, boundary, or international waters.

5.2 Potential Impacts to the Mi'kmaq – Environment and Land Use

15-MMR acknowledges that 15-Mile Processing Hub Project activities may result in effects to the Mi'kmaq including their culture, and traditional and current land uses. Project effects could include loss of Mi'kmaq archaeological resources, and potential changes to land

and resource use including the ability to practice culture and access land used for hunting, fishing, and gathering and/or trapping. Section 1.6.3 provides a summary of comments from the Mi'kmaq of Nova Scotia that arose during engagement activities conducted to date. Potential effects on physical and cultural heritage as well as land and resource use, proposed mitigation measures, and regulatory review mechanisms are summarized in Tables 5.2-1 and 5.2-3 below.

The following section provides a brief description of any non-negligible impacts on physical and cultural heritage, land and resource use for traditional purpose, or any structure, site, or thing that is of historical, archaeological, paleontological, or architectural significance, that may be caused by the carrying out of the Project.

5.2.1 Physical and Cultural Heritage

The Mi'kmaw Archaeological Protocols published by Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs defines Mi'kmaq archaeological resources as cultural landscapes, sites, features and artifacts. The Nova Scotia *Special Places Protection Act* defines heritage objects as archaeological, historical, or palaeontological objects or remains. Such resources may be affected directly and indirectly by Project development from activities such as clearing and grubbing, and construction of infrastructure. Potential effects on archaeological resources, proposed mitigation measures, and regulatory review mechanisms are summarized in Table 5.2-1 below

Table 5.2-1 Potential Effects on Physical and Cultural Heritage

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Loss of Mi'kmaq archaeological resources (cultural landscapes, sites, features and artifacts)	• Reduction of infrastructure footprint. • Reduction of wetland area disturbance. • Incorporate results from archaeological studies into Project design. • Areas of elevated potential for Mi'kmaq archaeological resources will be avoided where feasible. • If avoidance is not feasible, develop site specific mitigation measures in discussion with the Mi'kmaq and Nova Scotia Museum. • Develop a Protection of Heritage and Archaeological Resources procedure with input from the Mi'kmaq.	• Mi'kmaw Archaeological Protocols by Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs (2024) • Statement of Principles Regarding Archaeological Resources Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs (2016) • Nova Scotia Special Places Protection Act (1989) • Nova Scotia Environmental Assessment Registration

Potential Effects Pathways

Archaeological assessments, including field screening and reconnaissance, desktop studies and shovel tests, have been completed for the 15-Mile Mine (2008, 2018, 2019, 2020, 2021), the Old Austen Mine (2008, 2014, 2018, 2019, 2020) and the Old Mitchell Mine (2014, 2018, 2022). While various archaeological sites were identified as being potentially affected by the Project at both the 15-Mile Mine and at the Old Mitchell Mine, none were of Mi'kmaq provenance. Development of infrastructure at the Old Austen Mine may affect areas of elevated potential for archaeological resources. Shovel testing conducted in fall 2020 found that one site has moderate to high potential for historic Euro-Canadian resources, however this site has since been removed from the Project Development Area. Additionally, two areas near the project disturbance area have elevated potential for historic Mi'kmaq resources. No pre-contact Mi'kmaq artifacts were found.

Proposed Mitigation

Identified areas of elevated potential for Mi'kmaq archaeological resources within Project PDAs will be avoided, where feasible. If avoidance is not feasible, site-specific mitigation measures will be developed in discussion with the Mi'kmaq and Nova Scotia Museum.

A Protection of Heritage and Archaeological Resources procedure will be developed outlining the process to be implemented during construction and operation. This procedure will be developed with input from the Mi'kmaq. If Mi'kmaq archaeological deposits are encountered during construction or operation of the Project, all work will be halted, and immediate contact will be made with the Mi'kmaq of Nova Scotia and the Nova Scotia Museum.

In addition to the mitigation measures identified above, 15-MMR is committed to adhering to relevant standard mitigation measures issued by IAAC (2026) for protection of physical and cultural heritage as listed in Table 5.2-2, below.

Table 5.2-2 IAAC Standard Mitigation Measures for Protection of Physical and Cultural Heritage

Project Activity	Mitigation
Ground-disturbing activities	Implement the following mitigation measures to protect and manage chance finds for any previously unidentified structures, sites or things of historical, archaeological, paleontological or architectural significance discovered within the PDAs: • Immediately halt work at the location of a discovery; • Delineate an area around a discovery as a no-work zone; • Notify Indigenous groups and IAAC within 24 hours of a discovery and allow Indigenous groups to monitor archaeological works; • Develop mandatory training on chance finds, which includes the identification of sensitive locations within the Project area and the implementation of the above measures; and deliver this training to all employees and contractors associated with the Project.

Regulatory Review and Best Management Practices

If archaeological resources are encountered during construction or operation of the Project, a mitigation plan will be developed through engagement with the Mi'kmaq of Nova Scotia and the Nova Scotia Museum. 15-MMR will adhere to the directions provided regarding protection of archaeological resources, including regulatory requirements.

5.2.2 Land and Resource Use

Use of land and resources may be affected directly and indirectly by Project development from construction activities, operation, closure and post-closure due to exclusion from secured areas, reduction in available natural resources and changes to landscapes and view scapes. Potential effects on land and resources use, proposed mitigation measures, and regulatory review mechanisms are summarized in Table 5.2-3, below.

Table 5.2-3 Potential Effects on Land and Resource Use

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Limited access to land	• Incorporate ecological and traditional knowledge from MEKS into Project planning where feasible. • Avoid or minimize (footprint and/or timing) Project interactions with identified sites where feasible.	• Mi'kmaq Ecological Knowledge Study Protocol 2nd Edition by Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs (no date) • Government of Nova Scotia Proponents' Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia (2011) • IAAC Guidance: Protecting Confidential Indigenous Knowledge Under The Impact Assessment Act • IACC Guidance on Indigenous Knowledge Under the Impact Assessment Act: Procedures for Working With Indigenous Communities • IAAC Indigenous Policy Framework for Project Reviews and Regulatory Decisions

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Reduction in availability of fish, wildlife and plant resources	• Incorporate ecological and traditional knowledge from MEKS into Project planning where feasible. • Avoid or minimize (footprint and/or timing) Project interactions with identified sites where feasible. • Mine site-specific WMP. • Implementation of measures (noted in previous sections) to mitigate potential effects on fish, wildlife and vegetation will mitigate consequential effects (e.g., resulting from dust deposition or disturbances due to noise or light) on the availability of resources for use.	• Mi'kmaq Ecological Knowledge Study Protocol 2nd Edition by Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs (no date) • Government of Nova Scotia Proponents' Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia (2011) • IAAC Guidance: Protecting Confidential Indigenous Knowledge Under The Impact Assessment Act • IACC Guidance on Indigenous Knowledge Under the Impact Assessment Act: Procedures for Working With Indigenous Communities • IAAC Indigenous Policy Framework for Project Reviews and Regulatory Decisions
Altered landscape/viewsheds supporting traditional use and cultural practices	• Incorporate ecological and traditional knowledge from MEKS into Project planning where feasible. • Avoid or reduce (footprint and/or timing) Project interactions with identified sites where feasible. • Implement a post-closure reclamation plan and active reclamation during Project operations to reduce the duration of disturbance and alteration. • Reduce artificial light outside daytime hours where practical. • Direct light downwards and internal to the Project site. • Use natural topography to reduce light spill where practical.	• Mi'kmaq Ecological Knowledge Study Protocol 2nd Edition by Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs (no date) • Government of Nova Scotia Proponents' Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia (2011) • IAAC Guidance: Protecting Confidential Indigenous Knowledge Under The Impact Assessment Act • IAAC Guidance on Indigenous Knowledge Under the Impact Assessment Act: Procedures for Working With Indigenous Communities • IAAC Indigenous Policy Framework for Project Reviews and Regulatory Decisions • Nova Scotia Environmental Assessment Registration

Potential Effects Pathways

15-MMR has contracted Indigenous owned companies to conduct various MEKS. These studies provide valuable information regarding ecological knowledge and traditional use that has been and will continue to be incorporated into Project planning. The following studies have been completed or are underway:

- Beaver Dam Mines Project MEKS 2016
- Fifteen Mine Stream Gold Project MEKS 2018, and an updated 15-Mile Mine MEKS 2024
- Cochrane Hill Gold Project MEKS 2019, and an updated MEKS for the Old Mitchell Mine began in June 2025

Traditional Mi'kmaq resource use activities, such as hunting, trapping, gathering, fishing, and spiritual practices, may be constrained within and near the Project PDAs. These effects may be most pronounced during the Project's construction and operation phases. 15-MMR acknowledges that the post-closure landscape will be altered, with reduced forest cover potentially affecting the nature of traditional practices given resources (*e.g.*, fish, birds, plants, animals) may be affected.

Sensory disturbances from the Project, including elevated noise and light levels, may potentially alter wildlife behaviour and affect hunting practices as well as the experience of traditional land use activities during Project construction and operations as well as active closure activities. The surrounding viewscape may be affected, with Project infrastructure visible from several vantage points.

Proposed Mitigation

15-MMR will continue, where feasible, to incorporate ecological and traditional knowledge provided in the MEKS conducted for the Project into design and subsequent actions including avoiding and/or minimizing (footprint and/or timing) Project interactions with identified traditional use sites where feasible.

To mitigate potential effects on wildlife and wetlands, where feasible, 15-MMR will incorporate ecological information and traditional knowledge from the MEKS into Project planning, design, and implementation. This information will be used to identify environmentally and culturally sensitive areas and to inform appropriate avoidance and mitigation measures.

Where feasible, Project interactions with identified sensitive sites will be avoided or minimized through adjustments to Project footprint, design, and activity timing. Adjustments have included removal of infrastructure in sensitive areas, elimination of the Beaver Dam Haul Road, and setbacks from key waterbodies such as the Killag River.

Consideration will be given to seasonal cycles of wildlife and sensitivity of wetlands to reduce potential disturbances to traditional land use activities.

A WMP will be developed and implemented to guide Project activities. The plan will include measures for wildlife observation, avoidance, and incident response, as well as procedures for minimizing disturbance and managing wildlife encounters during construction and operations.

Ongoing engagement with the Mi'kmaq will inform identification of other potential mitigation measures.

In addition to the mitigation measures identified above, 15-MMR is committed to adhering to relevant standard mitigation measures issued by IAAC (2026) for protection of land and resource use as listed in Table 5.2-4, below.

Table 5.2-4 IAAC Standard Mitigation Measures for Protection of Land and Resource Use

Project Activity	Mitigation
Project employees' and contractors' recreational use of site and surrounding areas for non-project purposes	Prohibit employees and contractors associated with the Project from fishing, hunting, trapping, gathering plants, and using off-road vehicles for recreational purposes within the Project area, or from using the Project area to access surrounding areas for these purposes, unless such access is granted specifically to enable the exercise of Indigenous rights.
Ground-disturbing activities	Conduct progressive reclamation of areas temporarily disturbed by the Project to progressively return them to a state as close as possible to, or better than, baseline once they are no longer required for the Project, including: • Identify plant species of interest in consultation with Indigenous groups for use in establishing self-sustaining vegetation communities; • Invite Indigenous groups to participate in the reclamation activities.

Regulatory Review and Best Management Practices

Where feasible, 15-MMR will continue to incorporate ecological and traditional knowledge from the MEKS into Project design. Applicable provincial and federal guidance documents such as *Proponents' Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia* (2011), IAAC Guidance: *Protecting Confidential Indigenous Knowledge Under The Impact Assessment Act*, IAAC *Guidance on Indigenous Knowledge Under the Impact Assessment Act: Procedures for Working With Indigenous Communities* and IAAC *Indigenous Policy Framework for Project Reviews and Regulatory Decisions* will be used to inform Project personnel about management of Indigenous knowledge and guide discussions with the Mi'kmaq. Effects on the Mi'kmaq of Nova Scotia land and resource use are also addressed in the Nova Scotia effects assessment process (Section 5.4) and indirectly through federal and provincial legislation regarding fish or wildlife, and regulatory controls related to dust, vibration, noise and light.

5.3 Potential Impacts to the Mi'kmaq – Health, Social and Economic

15-MMR continues to engage with the Mi'kmaq of Nova Scotia to seek their views regarding the potential impacts to health, social and economic conditions that may arise because of Project development. Section 1.6.3 summarizes comments regarding land use and Project participation provided by the Mi'kmaq during engagement activities to date. Project effects may include potential changes to access to traditional land, and resource use, restricted access, temporary loss of lands used for hunting, fishing, gathering and/or trapping, as well as the ability to practice culture.

Table 5.3-1 Potential Effects on Health, Social and Economy

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Limited access to traditional lands	• Consider information provided in the Millbrook First Nation Community Wellness Study in Project design. • Incorporate ecological and traditional knowledge from MEKS into Project design where feasible. • Avoid and/or minimize (footprint and/or timing) Project interactions with identified sites where feasible. • Implement a Reclamation and Closure Plan. • Micro-siting of infrastructure to minimize Project footprint to avoid sensitive and rare habitats and species, where feasible.	• Millbrook First Nation Community Wellness Study (2021) • Mi'kmaq Ecological Knowledge Study Protocol 2nd Edition by • Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs (no date) • IAAC Guidance: Protecting Confidential Indigenous Knowledge Under The Impact Assessment Act • IACC Guidance on Indigenous Knowledge Under the Impact Assessment Act: Procedures for Working With Indigenous Communities • IAAC Indigenous Policy Framework for Project Reviews and Regulatory Decisions • Nova Scotia Environmental Assessment Registration
Restricted access/ability to locally source food (hunting, fishing, harvesting)	• Incorporate ecological and traditional knowledge from MEKS. • Avoid and/or minimize (footprint and/or timing) Project interactions with identified sites where feasible. • Implement a post-closure site rehabilitation plan. • Limit disturbed areas to the extent feasible. • Implementation of measures (noted in previous sections or in Section 5.4) to mitigate potential effects on fish, wildlife and vegetation will mitigate consequential effects on the availability of resources for use. • Reduction of wetland area of disturbance. • Sound, dust, and light suppression. • Develop and implement Blast Management Plan and Blast Designs. • To reduce noise, maintain equipment, vehicles, and haul trucks and equip them with appropriate mufflers. • To reduce dust, develop and implement a Dust Management Plan including dust suppression measures (e.g., regular equipment maintenance, stockpile stabilization). • To reduce light, implement the following measures where feasible: place light sources as far from residential receptors, reduce artificial light outside daytime hours, direct light downwards and internal to the Project site, use natural topography to reduce light spill. • To reduce silt or other contaminants in surface water, implement the following measures where feasible: Erosion and Sediment Control Plan (ESCP) including vegetating or covering exposed surfaces, and a Water Management Plan including collection and treatment of all contact water prior to release. • Mine site-specific WMP.	• Mi'kmaq Ecological Knowledge Study Protocol 2nd Edition by • Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs (no date) • IAAC Guidance: Protecting Confidential Indigenous Knowledge Under The Impact Assessment Act • IACC Guidance on Indigenous Knowledge Under the Impact Assessment Act: Procedures for Working With Indigenous Communities • IAAC Indigenous Policy Framework for Project Reviews and Regulatory Decisions • Nova Scotia Environmental Assessment Registration
Restricted traditional economic activities	• Consider information provided in the Millbrook First Nation Community Wellness Study in Project design. • Incorporate knowledge from MEKS where feasible.	• Millbrook First Nation Community Wellness Study (2021) • Mi'kmaq Ecological Knowledge Study Protocol 2nd Edition by Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs (no date)

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
	• Explore support for community-led programs supporting social priorities. • Pursue partnerships and Mutual Benefit Agreements to provide sustainable and long-term socio-economic benefits based on input from the Mi'kmaq.	• IAAC Guidance: Protecting Confidential Indigenous Knowledge Under The Impact Assessment Act • IACC Guidance on Indigenous Knowledge Under the Impact Assessment Act: Procedures for Working With Indigenous Communities • IAAC Indigenous Policy Framework for Project Reviews and Regulatory Decisions • Nova Scotia Environmental Assessment Registration

Potential Effects Pathways

The health of Indigenous Peoples, including the Mi'kmaq, is intrinsically linked to access to traditional lands that support cultural practices such as hunting, fishing, and gathering of country foods – not only as sources of nutrition, but as foundations of identity, mental wellness, and intergenerational knowledge transmission. Restricted access to traditional lands can disrupt cultural continuity and contribute to adverse health outcomes, reflecting broader social determinants of health such as land dispossession, food insecurity, and loss of cultural connection.

A Community Wellness Study was completed by Millbrook First Nation in 2021 for the Beaver Dam Mine Project. As documented in the study, Mi'kmaq communities in Nova Scotia experience lower household incomes and are particularly vulnerable to health impacts from environmental disturbances and industrial activities, including through contamination of water and traditional foods. Community engagement has also highlighted mental health concerns, such as stress, loss of recreational space, and sensory impacts associated with land and livelihood changes (Beaver Dam Community Wellness Study). Further, the study outlined socio-economic concerns in the region, including a high risk of food insecurity.

15-MMR acknowledges that the Mi'kmaq of Nova Scotia use the Project's PDAs and surrounding areas for recreational purposes and for non-commercial/trade economy purposes. These land-based activities are not only important for food security, but also cultural continuity, mental wellness, and community resilience. During the construction, operation, and closure phases of the Project, access to the PDAs will be restricted, which may disrupt the activities and may affect Mi'kmaq individuals and families who rely on the land. Some Mi'kmaq individuals currently use the PDAs specifically to gather food for sustenance for themselves and/or their family members. Thus, for the Mi'kmaq, the temporary loss of access or restricted access to areas within the PDAs may affect food security and require adjustments to traditional hunting and gathering practices, either by shifting activities to other areas near their traditional territory outside the mine PDAs, or by purchasing food instead. This could increase financial strain, reduce access to culturally preferred foods, and restrict culturally significant activities, thereby limiting opportunities to practice culture and transfer intergenerational knowledge, with the effects noted above.

The Project may have economic implications for Mi'kmaq communities, including impacts to traditional economic activities. Restricted access to land and natural resources could diminish opportunities for subsistence practices, potentially leading to reduced income, increased reliance on purchased goods, and a higher cost of living for families dependent on these resources. In some cases, individuals may be required to relocate traditional practices, leading to potential economic, health and cultural impacts. Additionally, while recruitment of local workers to the Project would have financial and other benefits to individuals and families, it could contribute to labour shortages in other sectors within Indigenous communities, potentially resulting in a non-negligible adverse change to the economic conditions and/or wellbeing of Indigenous Peoples.

Indigenous Peoples have special relationships with lands and waters used to harvest foods and other natural materials as well as for cultural practices. Effects on Indigenous Peoples' health from resource development may occur through direct pathways such as exposure to contaminants through air, water or soil or indirectly through perceptions of contamination. Direct effects may also result from disturbance to, loss of access to, or accidents and malfunctions in, lands and waters used for harvesting and other cultural purposes. Indirect effects may occur through changes to the availability and/or quality of resources such as plants, fish, wildlife or lands. Indigenous Peoples may experience disproportionately high exposure to mining-related pollution due to project locations in rural areas in or near their traditional territories, and due to service gaps in remote communities (World Health Organization 2026; Fernández-Llamazares et al. 2020).

15-MMR has committed to undertaking a Human Health and Ecological Risk Assessment (HHERA) for each of the three mine sites associated with the Project. The HHERA will evaluate whether human health could be harmed by exposure to contaminants through various media (e.g., air, water, soil, food, medicinal resources) affected by Project activities. An HHERA typically examines contaminant sources and pathways, means by which people could be exposed (e.g., inhalation, ingestion, skin contact), toxicity and dose–response, and risk levels compared to health-based standards. The HHERA will be scheduled along with other studies to fulfill the requirements of regulatory submissions required for the Project.

Proposed Mitigation

Measures to mitigate potential Project impacts will be developed through continued engagement with the Mi'kmaq. 15-MMR will continue, where feasible, to incorporate ecological and traditional knowledge provided in the MEKS conducted for the Project including avoiding and/or minimizing (footprint and/or timing) Project interactions with identified sites where feasible.

To mitigate potential effects on community labour availability and to support Mi'kmaq participation in the workforce, 15-MMR will maintain ongoing engagement with Mi'kmaq communities throughout all phases of the Project. Engagement will inform exploration and development of a Mi'kmaq employment strategy that aligns Project labour needs with community capacity and priorities.

Where practicable, 15-MMR will avoid employment practices that could result in the displacement of individuals from essential service delivery roles. Employment planning will consider the timing and scale of workforce requirements to minimize disruption to communities.

15-MMR will engage with the Mi'kmaq to develop and implement mitigation measures, which may include targeted employment, training programs, apprenticeships and environmentally focused roles to support Mi'kmaq participation in the workforce, capacity building, and to explore development of a Mi'kmaq procurement strategy to create opportunities for Mi'kmaq-owned businesses. Other opportunities may include support for community-led programs supporting social priorities.

Partnerships and Mutual Benefit Agreements will be pursued where there is interest from the Mi'kmaq in entering into such arrangements to support sustainable, long-term socio-economic benefits. Partnerships and agreements will be informed by Mi'kmaq input and priorities and may include provisions related to employment, training, capacity development, and ongoing collaboration.

In addition to the mitigation measures identified above, 15-MMR is committed to adhering to relevant standard mitigation measures issued by IAAC (2026) for protection of the health, social, and economic conditions of Indigenous Peoples, as listed in Table 5.3-2, below.

Table 5.3-2 IAAC Standard Mitigation Measures for Protection of the Health, Social, and Economic Conditions of Indigenous Peoples

Project Activity	Mitigation
Material handling and site operations that generate fugitive dust emissions	Implement, at a minimum, the following mitigation measures to control fugitive dust emissions from the Project, as appropriate, to mitigate adverse effects on the health of Indigenous Peoples: • Establish speed limits on Project roads; • Use water or an environmentally acceptable alternative to stabilize the surface of Project roads and areas that may generate dust; • Cover or enclose material that may become a source of fugitive dust in stockpiles, moved on conveyors or transported within and outside the PDAs.
Vehicle and equipment operation	Implement, the following mitigation measures to control fugitive particulate emissions from mobile equipment and vehicles operating in the PDAs, as appropriate, to mitigate adverse effects on the health of Indigenous Peoples: • Establish and enforce a policy to prohibit unnecessary idling, except when required for health, safety, or operational reasons; • Ensure regular inspection, servicing, and maintenance of engines and exhaust systems on all mobile equipment and vehicles; • Prioritize, where feasible, the use of off-road equipment equipped with engines that meet the most stringent emission standards available, including the latest applicable tier of the Off-Road Compression-Ignition Engine Emission Regulations.

Operation of noise- and vibration-generating equipment and processes	Implement, the following mitigation measures to reduce exposure of noise and vibration from the Project, as appropriate, to mitigate adverse effects on the health of Indigenous Peoples: • Schedule blasting activities between 9:00 a.m. and 5:00 p.m., and avoid blasting on statutory holidays and on days of cultural importance as identified in consultation with Indigenous groups; • Provide advanced notice to Indigenous groups of the location and timing of Project activities that may impact health via noise or vibration through methods determined in consultation with Indigenous groups; • Limit the operation of mobile equipment to designated areas, avoiding key locations traditionally used by Indigenous groups; • Establish a process for receiving and addressing complaints within 48 hours of the complaint being received and implement corrective actions to reduce exposure in a timely manner.
Employment, procurement, and contracting processes	Implement the following mitigation measures to create and enhance opportunities for Indigenous Peoples, including Indigenous women and Indigenous businesses, to obtain and retain employment, procurement or contracting opportunities related to the Project, as appropriate: • Identify the prerequisite skills and training, both certified and uncertified, required to be employed by the Project; • Identify existing gaps in relation to the prerequisite skills and training among Indigenous Peoples that may be employed by the Project and describe additional measures under the care and control of the Proponent for filling these gaps, including the provision of on-the-job training and apprenticeship programs for Indigenous Peoples; • Inform Indigenous groups, using targeted communication procedures designed in consultation with Indigenous groups, of the skills and training prerequisites and measures to achieve these prerequisites; • Inform Indigenous Peoples of Project–related employment and procurement opportunities, using targeted communication procedures designed in consultation with Indigenous groups; • Promote equitable hiring and promotion processes; • Support the transition of Indigenous employees through the decline in employment and contracting opportunities during Project decommissioning and post-closure.
Workforce management and community integration	Implement the following mitigation measures to promote safe, respectful and inclusive conduct in the workplace and community, as appropriate: • Implement a workplace anti-harassment, anti-bullying, anti-discrimination and anti-violence policy that incorporates gender-appropriate, gender-specific, and culturally appropriate policies and processes, including sexual harassment and assault counselling as well as confidential and culturally sensitive care; • Implement a workplace policy on the use and possession of drugs and alcohol, which prohibits the use of, or being under the influence of, illicit drugs or alcohol during work hours; • Develop mandatory cross-cultural awareness training and provide the training to all employees and contractors associated with the Project; • Establish a worker code of conduct that outlines expectations and requirements in relation to the measures developed to promote safe, respectful and inclusive conduct in the workplace and the community while incorporating above policies; • Implement a fair and timely process to investigate and resolve incidents and complaints from Project employees.

Regulatory Review and Best Management Practices

15-MMR will incorporate information provided in the ecological and traditional knowledge from the MEKS, where feasible, into Project design. Applicable provincial and federal guidance documents such as Proponents' Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia (2011), IAAC Guidance: Protecting Confidential Indigenous Knowledge Under The Impact Assessment Act, IAAC Guidance on Indigenous Knowledge Under the Impact Assessment Act: Procedures for Working With Indigenous Communities and IAAC Indigenous Policy Framework for Project Reviews and Regulatory Decisions will be used to guide discussions with the Mi'kmaq. Effects on the Mi'kmaq of Nova Scotia regarding health, social and economic interests are also

addressed in the Nova Scotia effects assessment process and indirectly through engagement with Indigenous groups. First Nations may enter into agreements regarding benefits such as training and employment.

5.4 Potential Changes to Non-Federally Regulated Environmental Components

While not required by the *Information and Management of Time Limits Regulations*, potential changes to non-federally regulated environmental components are described here to provide clarity and context to the prediction of potential changes to federally regulated components (see Section 5.1, 5.2 and 5.3). These changes are discussed for the Project generally except where effects are expected to differ by PDA.

5.4.1 Acoustic Environment

The acoustic environment may be affected directly and indirectly by Project development from activities during construction and operations phases such as operation of heavy equipment and blasting. Potential effects on the acoustic environment, proposed mitigation measures, and regulatory review mechanisms are summarized in Table 5.4-1.

Table 5.4-1 Potential Effects on Acoustic Environment

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Changes to acoustic landscape	• Where feasible, haul roads and infrastructure to reduce haul distances and leave trees and vegetation to muffle noise • Construct berms around open pits. • Maintain equipment, vehicles, and haul trucks and equip them with appropriate mufflers to reduce noise.	• Nova Scotia Workplace Health and Safety Regulations • Nova Scotia Pit and Quarry Guidelines (NSEL, 1999) • Guidelines for Environmental Noise Measurement and Assessment (NSECC, 2023) • Nova Scotia Industrial Approval
Blasting noise and overpressure	• Develop and implement Blast Management Plan and Blast Designs	• Fisheries Act Authorization • Measures to Avoid Causing Harm to Fish and Fish Habitat Including Aquatic Species at Risk Pertaining to Blasting (DFO, 2018)

Potential Effects Pathways

Potential changes to the acoustic environment include increased noise from operation of heavy equipment and during blasting, which may produce higher noise emissions than typically experienced in rural areas such as those surrounding the Project PDAs. As a result, workers, land users and nearby residents may experience nuisance noise effects from Project activities. Potential adverse effects on fish and fish habitat are discussed in in Section 5.1.1 (Fish and Fish Habitat). To better understand potential noise emissions, a noise impact study will be completed for the Project.

Proposed Mitigation

Project infrastructure will be designed to mitigate effects to the acoustic environment where feasible. Haul roads and infrastructure will be designed to reduce haul distances. Where practical, trees and other vegetation will be left in place or encouraged to grow to muffle nuisance noise. Berms will be constructed around the perimeters of the open pits to provide additional mitigation of noise emissions.

Blasting will be conducted by a certified contractor who will develop a Blast Management Plan and Blast Designs prior to carrying out the work. Blasts will be designed to meet vibration and overpressure limits at appropriate distances from any existing structures, Project infrastructure, and fish habitat. A monitoring plan will be implemented to record vibration and overpressure for each blast.

Equipment, vehicles and haul trucks will be maintained in good working order and equipped with appropriate mufflers to reduce noise.

Ongoing noise monitoring will be conducted based on the final Project layout and mill design, and in accordance with regulatory requirements. Noise and air pressure monitoring will be conducted to confirm noise impacts are below the prescribed thresholds for nearby residents and compliant with regulations. Additional mitigation will be implemented in the event noise monitoring results exceed applicable regulatory criteria. These measures will serve to mitigate any sensory disturbance to wildlife or humans using the area for traditional land use or recreation.

Regulatory Review and Best Management Practices

Potential impacts to the acoustic environment will be assessed through the provincial EA process in accordance with the Nova Scotia *Proponent's Guide to Environmental Assessment* (2025).

The *Nova Scotia Workplace Health and Safety Regulations* detail compliance requirements for all workplaces to which the *Occupational Health and Safety Act* applies. Regarding sound levels, compliance is based on the threshold levels established by the Threshold Limit Values and Biological Indicators published by the American Conference of Governmental Industrial Hygienists (ACGIH).

The Nova Scotia Pit and Quarry Guidelines (NSEL, 1999) apply to all pit and quarry operations in Nova Scotia. They detail requirements related to separation distances for pit and quarry operations, liquid effluent discharge, suspended particulate levels, blasting concussion and ground vibration limits, rehabilitation, financial security, and protection of groundwater resources. Regarding sound level limits, condition VII states sound limits that are to be observed at property boundaries and notes that sound monitoring stations are to be located at the property line.

The Guidelines for Environmental Noise Measurement and Assessment (NSECC, 2023) were created to assist proponents who are required to undertake noise measurement and assessment activities under the *Environment Act*. Appendix 1 of the guidelines details Permissible Sound Levels to be used to assess compliance at receptor locations.

The *Fisheries Act* prohibits the conduct of any work, undertaking or activity, other than fishing, that could result in the death of fish and/or HADD of fish habitat. If a project is unable to avoid or mitigate the death of fish or HADD of fish habitat, then an authorization (*e.g.*, FAA) under Subsection 35.(3) of the *Fisheries Act* is required for the Project to proceed. In an FAA application, proponents are required to describe potential effects of a project on fish and fish habitat, measures proposed to avoid and mitigate those effects and to provide a plan for offsetting any remaining impacts.

15-MMR will comply with *Nova Scotia Workplace Health and Safety Regulations*, Nova Scotia Pit and Quarry Guidelines (NSEL, 1999), relevant guidance. 15-MMR will also adhere to setback recommendations and other mitigation strategies to minimize impact to fish and fish habitat from blasting activities outlined by DFO in the Measures to Avoid Causing Harm to Fish and Fish Habitat Including Aquatic Species at Risk Pertaining to Blasting (DFO, 2018).

5.4.2 Atmospheric Environment

The atmospheric environment may be affected directly and indirectly by Project development activities such as operation of open pit mining equipment, open pit blasting, crushing activities, vehicle movement at the PDAs and movement of mobile equipment within the PDAs. Climate change is known to be exacerbated by GHG, which will be generated through the combustion of fuel during equipment and vehicle use throughout all Project phases. Potential effects on the atmospheric environment, contributions to climate change, proposed mitigation measures, and regulatory review mechanisms are summarized in Table 5.4-2.

Table 5.4-2 Potential Effects on Atmospheric Environment

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Changes to air quality	• Develop and implement personnel operational guidelines (e.g., reduced speed limits, reduced material dumping heights). • Develop and implement infrastructure and equipment operational guidelines (e.g., equipment maintenance, stockpile stabilization, dust suppression). • Develop and implement Dust Management Plan. • Develop and implement Air Quality Management Plan.	• Air Quality Regulations • Nova Scotia Workplace Health and Safety Regulations • Nova Scotia Industrial Approval
Greenhouse gas emissions	• Perform regular equipment maintenance, implement measures to reduce idling.	• Air Quality Regulations • Greenhouse Gas Emissions Regulations
Dust deposition	• Develop and implement dust suppression measures (e.g., regular equipment maintenance, stockpile stabilization)	• Fisheries Act Authorization

Potential Effects Pathways

The Project has the potential to adversely affect local air quality due to combustion emissions from mining equipment and vehicle movement at the PDAs. At certain times of year, fugitive dust emissions from open pit blasting, crushing activities, and movement of mobile equipment within the PDAs may be noticeable to land and resource users depending on location and activity.

Within the PDAs, dust emissions will be primarily an occupational health and safety concern for Project staff. However, fugitive dust may affect surrounding vegetation, soils, watercourses and wetlands in the immediate area outside of the PDAs through direct

deposition. Dust deposition may result in changes to vegetation structure and composition resulting in an indirect effect on wildlife habitats.

Dust deposition can alter waterways and wetlands by reducing water quality, especially due to increased total suspended solids (TSS). Dust and TSS may affect fish directly via clogging of gill epithelium or indirectly via impacts to water opacity (*e.g.*, reducing ability to detect prey), light penetration (changes in primary and secondary producer community), and benthic substrate characteristics (settling between cobbles and gravels in spawning habitat, smothering eggs and invertebrates). Additionally, the presence of dust on vegetation, soils, watercourses and wetlands may result in changes to land use for Indigenous and non-Indigenous land users who may avoid areas or harvesting natural resources where dust has been deposited.

15-MMR will prepare air dispersion models to understand potential air emissions (*e.g.*, fugitive dust emissions) from the Project.

GHG emissions can contribute to the alteration of Earth's climate via the greenhouse effect, namely via the increase of Earth's atmospheric temperature. Feedbacks to increases in atmospheric temperature are varied and include, but are not limited to, impacts to ocean temperature and circulation, frequency and intensity of storm events, and changes to habitat conditions for both flora and fauna.

A preliminary estimate of the Project's direct and indirect GHG emissions has been completed in accordance with the Strategic Assessment of Climate Change. Section 5.6 details the results of this estimate.

Proposed Mitigation

Haul roads and infrastructure will be designed to reduce haul distances where practical. In keeping with the Dust Management Plan that will be prepared for the Project, during dry periods, water and/or dust suppressants will be applied to access roads and haul roads as needed to mitigate dust emissions. Watering may be repeated several times a day if required, depending on surface and meteorological conditions. Water used for dust suppression will be sourced from Project contact water (with suitable water chemistry) and not sourced from natural waterbodies.

To alleviate Project contributions to climate change via GHG emissions, fossil fuel use will be lessened where possible by reducing emissions associated with transport. This may include hiring from local communities, acquiring locally sourced materials, shortening vehicle routes, and utilizing haul trucks to their maximum capacity to reduce the number of required loads. Equipment, vehicles, and haul trucks will be maintained in good working order, undergoing regular inspections to ensure optimal efficiency and limit the risk of any refrigerant leaks. All Project equipment will meet applicable provincial and federal GHG emissions standards.

These and other emission reduction mitigation measures will be described in an Air Quality Management Plan to be prepared for the Project. Ongoing air quality monitoring will occur over the life of the Project with comparison made to baseline air quality conditions and applicable regulatory limits, including the Maximum Permissible ground level concentrations (GLCs) listed in Schedule A of the NS Air Quality Regulations. Project vehicles will be required to comply with established speed limits to limit fugitive dust generation from vehicle travel on unpaved roads. Speed limits will be set in accordance with provincial regulations and industry standards. To reduce GHG emissions, idling times and cold starts will be reduced where practical.

Regulatory Review and Best Management Practices

Potential impacts to the atmospheric environment and impacts to climate change will be assessed through the provincial EA process in accordance with the Nova Scotia *Proponent's Guide to Environmental Assessment* (2025).

The Nova Scotia *Air Quality Regulations* under the *Environment Act* outline air quality and emissions limits for personnel and facilities throughout the province. They provide maximum permissible ground level concentrations for a series of contaminants, including TSP, carbon monoxide, hydrogen sulphide, NO_2, ozone, and SO_2. Ongoing air quality monitoring will occur over the life of the Project with comparison made to baseline air quality conditions and applicable regulatory limits, including the Maximum Permissible GLCs listed in Schedule A of the NS Air Quality Regulations.

The Nova Scotia Workplace Health and Safety Regulations describe compliance requirements for all workplaces to which the Occupational Health and Safety Act applies. Regarding air quality, compliance is based on the threshold levels established by the Threshold Limit Values and Biological Indicators published by the ACGIH.

The Nova Scotia Greenhouse Gas Emissions Regulations under the *Environment Act* detail GHG conditions for facilities that emit more than 10,000 metric tonnes of carbon dioxide equivalent per year. The purpose of the Greenhouse Gas Regulations is to reduce the total amount of GHG emitted from all facilities in the province.

The Nova Scotia *Sustainable Development Goals Act* outlines provincial GHG emission targets in comparison to baseline levels detected in 1990 and 2005. It includes the goal of achieving net zero emissions by 2025 by balancing GHG emissions with GHG removals and other offsetting measures.

The *Canadian Environmental Protection Act* includes a number of applicable regulations aimed at reducing GHG emissions. These include the Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations, the Heavy-duty Vehicle and Engine Greenhouse Gas Emission Regulations, the Ozone-depleting Substances and Halocarbon Alternatives Regulations, and the

Halocarbon Regulations. These regulations aim to reduce GHG emissions from a variety of sources which may be present at the PDAs.

5.4.3 Visual Environment

The visual environment may be affected directly and indirectly by Project development activities such as an increase in nighttime light levels and artificial light being introduced in the form of vehicle headlights, as well as lighting in the mill area, roads, and open pits. Potential effects on the visual environment, proposed mitigation measures, and regulatory review mechanisms are summarized in Table 5.4-3, below.

Table 5.4-3 Potential Effects on Visual Environment

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Changes to ambient light conditions	• Place light sources as far from residential receptors as practical. • Reduce artificial light outside daytime hours where practical. • Direct light downwards and internal to the Project site. • Use natural topography to reduce light spill where practical.	• Canada *SARA* and *Migratory Birds Convention Act* • Guidance Notes for the Reduction of Obtrusive Light

Potential Effects Pathways

As the Project is developed, artificial light will be introduced in the form of vehicle headlights, and lighting in the mill area, roads, and open pits. Potential changes to the ambient light environment include increase in nighttime light levels, which may interfere with wildlife and wildlife habitat, as well as affect Indigenous and non-Indigenous land use or enjoyment of the night sky.

To understand potential Project-related impacts on the visual environment, 15-MMR will prepare a light impact assessment to quantify the illuminance at identified sensitive receptors. Luminous flux (artificial light output) from Project-related light sources will be calculated using data provided by manufacturers and in accordance with guidance issued by the ILE. The cumulative effects of all applicable light sources will be compared to pre- and post-curfew illuminance limits recommended by the ILE.

Proposed Mitigation

Detailed lighting design will be completed to provide sufficient lighting to ensure safe working conditions and to mitigate impacts to sensitive receptors in the vicinity of the Project. Lighting will be aimed inward to prevent light trespass beyond the PA. Equipment and vehicles will be restricted to defined work areas and roads, and specified corridors between work areas, no unnecessary lighting will be used, lightning will be shield/angled where feasible or directed close to the work area and lastly, where feasible, motion detection lights will be used to reduce unnecessary light when not required.

Regulatory Review & Best Management Practices

Potential impacts to the visual environment will be assessed through the provincial EA process in accordance with the Nova Scotia *Proponent's Guide to Environmental Assessment* (2025).

Light level limits are not directly regulated through the Nova Scotia or federal regulatory regimes. The ILE Guidance Notes for the Reduction of Obtrusive Light is commonly used as a stand-in for regulatory limits.

The Species at Risk Act outlines conditions by which SAR are protected in Canada. This includes describing the regulatory consequences of adversely affecting either a target species or associated habitat. The Migratory Birds Convention Act highlights key principles related to conservation of migratory birds. While species dependant, disturbance of natural light patterns (*e.g.*, introduction of artificial light) can cause adverse effects to migratory birds especially of concern with SAR.

5.4.4 Geology, Soils, and Sediment

Geology, soils, and sediment may be affected directly and indirectly by Project development from activities such as pit development, construction of infrastructure, and storage of material. Impacts to geology, soils, and sediment may act as an effect pathway to effects on soil, vegetation, and watercourses. Degraded soil, vegetation and water quality may expose humans to contaminants via exposure pathways such as ingestion, dermal contact, and inhalation.

Potential effects on geology, soils, and sediment proposed mitigation measures, and regulatory review mechanisms are summarized in Table 5.4-4, below.

Table 5.4-4 Potential Effects on Geology, Soils, and Sediment

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Material removal and disposal (blasting, grading, drilling)	• Blast Management Plan • Historic Tailings and Waste Rock Management Plan • Limitation of disturbed areas where practical	• *Sulphide Bearing Material Disposal Regulations* • MDMER Schedule 2 Amendment
Changes to water quality via ML/ARD	• Collection and treatment of all runoff from WRSA, developed areas, and mine pits • ML/ARD Management Plan • Project specific Water Management Plan	• *Sulphide Bearing Material Disposal Regulations*
Changes to water quality via sediment release	• Project specific ESCP • Project specific Water Management Plan • Vegetate or cover exposed surfaces • Collection and treatment of all contact water prior to release	• Guide to Developing Erosion and Sediment Control Plans (NSECC, 2025b) • Nova Scotia *Contaminated Sites Regulations* • Nova Scotia Industrial Approval • Nova Scotia Environmental Assessment Registration

Potential Effects Pathways

Project activities will have direct effects to geology, soils, and sediment through removal of material throughout the Project lifespan. Project-related effects could potentially originate from ML/ARD and erosion and sediment releases, which may subsequently impact surface water and groundwater quality.

Proposed Mitigation

To limit disturbance and exposure of potentially contaminated soils, Project infrastructure has been micro-sited to avoid known areas of historic tailings where feasible. Any excavation, transport, and long-term storage of historic tailings within the footprint of Project infrastructure will be conducted in accordance with a Historic Tailings and Waste Rock Management Plan, which will describe best handling measures for any existing waste rock and historic tailings present in those areas.

A Project-specific ESCP will be developed and implemented prior to construction to prevent release of sediment-laden runoff to watercourses and wetlands. Sediment control fences will be installed in areas (*e.g.*, slopes and embankments) where organic materials and till are exposed to potential erosion and siltation. Sediment control fences will be inspected and maintained until disturbed areas have stabilized and revegetation has occurred.

Disturbed areas will be limited to the extent practical and will be monitored to ensure erosion and sediment control measures are maintained/effective and to determine if additional mitigation is required. Overburden and topsoil will be stockpiled during construction and operations and will be used for reclamation. Design of stockpiles will include perimeter ditches to direct water to settling ponds prior to discharge.

A Water Management Plan, to be developed for the Project, will describe mitigation measures related to reducing the impacts of ML/ARD and TSS laden water. These mitigation measures will include installation of collection ditches and settling ponds to treat contact water prior to discharge to the natural environment. All surface water discharges from settling ponds will be sampled as per requirements listed in the IA and MDMER to ensure water quality conforms to applicable regulations and guidelines.

Regulatory Review and Best Management Practices

Potential impacts to geology, soil, and sediment will be assessed through the provincial EA process in accordance with the Nova Scotia *Proponent's Guide to Environmental Assessment* (2025).

The *Sulphide Bearing Material Disposal Regulations* outline conditions for disposal of sulphide bearing material to minimize the effects of potential ML/ARD. The MDMER Schedule 2 Amendment (a federal approval under MDMER) allows for potential disposal of deleterious substances such as waste rock or tailings in an area that is, or is part of, a natural water body frequented by fish.

Management of ML/ARD is provincially regulated through the *Sulphide Bearing Material Disposal Regulations,* while contaminated soil and sediment are provincially regulated via the *Contaminated Sites Regulations.* Additionally, any deposit of mineral waste (*e.g.*, overburden, waste rock, effluent) in waters frequented by fish will require waterbodies to be listed in Schedule 2 of the MDMER in accordance with Section 36 of the *Fisheries Act*.

A Guide to Developing Erosion and Sediment Control Plans was released by NSECC to provide minimum information required for ESCP submissions by proponents. 15-MMR will adhere to the guidance provided while developing the ESCP for the Project.

Contaminated soil and sediment are regulated via the *Nova Scotia Contaminated Sites Regulations*. As required by the regulations, 15-MMR is responsible to take all reasonable measures to prevent, reduce, and remedy adverse effects of the contaminant, remove or dispose of the contaminant in a manner that minimizes adverse effects, and remediate the contaminated site in accordance with the regulations.

5.4.5 Groundwater

The Project has the potential to result in changes to groundwater quality or quantity at each of the three PDAs. Changes to groundwater quantity may be caused by surface hardening and open pit development. Changes to groundwater quality changes may be caused by interaction with blasting materials, interaction with historic tailings and waste rock, acid rock drainage, and seepage of contact water. Potential effects on groundwater, proposed mitigation measures, and regulatory review mechanisms are summarized in Table 5.4-5, below.

Table 5.4-5 Potential Effects on Groundwater

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Changes to groundwater quality	• Install a water treatment management system. • Implement a groundwater monitoring program. • Provide secondary containment for tanks and chemicals and in maintenance areas.	• *Fisheries Act* Authorization • Nova Scotia Environmental Assessment Registration • Nova Scotia Industrial Approval
Changes to groundwater quantity	• Optimize the mine layout to avoid sensitive watersheds and groundwater recharge zones. • Prepare and implement a groundwater Management and Monitoring Plan.	• *Fisheries Act* Authorization • Nova Scotia Environmental Assessment Registration • Nova Scotia Industrial Approval

Potential Effects Pathways

Groundwater modelling will be prepared for the Project to better understand potential impacts to groundwater quality and quantity in the vicinity of the three PDAs. Development of the open pits, including dewatering and blasting, will cause lowering of the water table and may reduce local groundwater elevations and surface water resources (including wetlands) within the zones of influence for potential groundwater changes. Blasting may result in an increase of fracture frequency around the blasting area, therefore potentially increasing immediate hydraulic conductivity. Dewatering and blasting of the various pits will occur throughout operations, with gradual recovery of the water table following the end of extraction for each individual pit.

Surface hardening, which reduces groundwater recharge, predominantly occurs during earthworks such as construction of access roads, buildings, and stockpiles. These activities may compact subsurface soils, limiting the area available for water infiltration with a temporary decline in the water table compared to baseline levels (outside of expected seasonal variations). While earthworks will occur throughout the lifespan of the Project, most will occur during construction.

Incomplete detonation of ammonium nitrate type explosives can result in residual nitrogen compounds being distributed among contact rock (*e.g.*, pit walls, waste rock, and tailings). These residuals may leach into the groundwater system and alter baseline groundwater quality. This potential effect would commence with blasting during construction, and depending on distribution of blasting material, may remain residual throughout the life of the Project.

All three PDAs have documented deposits of historic tailings. Historic tailings have adversely affected the quality of groundwater and surface water in these areas, as shown by the baseline data summarized in Section 3.6.5 above. 15-MMR is committed to remediating disturbed historic tailings located within the three PDAs, which will reverse the impacts of past mining activities and contribute to improved groundwater and surface water quality in the areas to be disturbed by the Project.

Interactions between precipitation and PAG waste rock, if unmitigated, may result in leaching of metals-rich acidic water that may infiltrate shallow aquifers. However, all runoff from PAG waste rock will be contained by collection ditches and contact water will be captured and treated prior to discharge to the environment.

During operations and closure, a water management system will collect seepage from waste rock stockpiles and the TMF. While most seepage will be collected by this infrastructure, a small portion from the TMF is expected to bypass collection infrastructure and therefore interact with groundwater, with potential to affect groundwater quality.

Proposed Mitigation

Baseline monitoring data will be used to help identify potential interactions between Project activities and groundwater resources, including potential changes to groundwater quantity, quality, and discharge to surface water features. Data will also inform hydrogeological modelling, and development of mitigation and monitoring measures. Long-term monitoring will continue throughout the Project lifecycle to verify assessment predictions and support adaptive management.

Project infrastructure will be designed to mitigate effects to groundwater where feasible. Mitigative measures to be implemented to meet applicable guidelines will include the following:

- The mine layout will be optimized to avoid recharge zones such as wetlands where practical.
- PAG waste storage at ground surface will be reduced in favour of storage in the TMF or empty pits where practical.
- All contact water within the PDAs will be collected and treated before discharge.
- Secondary containment will be installed for all fuel and reagent storage within the PDAs.

These and other mitigation measures will be described in a detailed Groundwater Management and Monitoring Plan that will be developed for the Project and implemented through all Project phases. Groundwater quality and quantity monitoring will identify potential impacts of proposed mining operations on surrounding groundwater resources. The results of monitoring will be used to develop adaptive water management practices to mitigate any adverse impacts that may result from the Project.

Regulatory Review and Best Management Practices

Potential impacts to groundwater will be assessed through the provincial EA process in accordance with the Nova Scotia *Proponent's Guide to Environmental Assessment* (2025).

The Fisheries Act prohibits conducting any work, undertaking or activity, other than fishing, that could result in the death of fish and/or HADD of fish habitat. If a project is unable to avoid or mitigate the death of fish or HADD of fish habitat, then an authorization (*e.g.*, FAA) under Subsection 35.(3) of the *Fisheries Act* is required for the Project to proceed. In an FAA application, proponents are required to describe potential effects of a project on fish and fish habitat, measures proposed to avoid and mitigation those effects and provide a plan for offsetting any remaining impacts.

Groundwater quality criteria to be implemented in the Project's compliance monitoring framework will be developed in consultation with NSECC and will be detailed in the Industrial Approval conditions.

5.4.6 Surface Water

The Project has the potential to affect surface water quality or quantity at each of the PDAs. During Project development, surface water quantity effects may be caused by changes such as removing vegetation, altering drainage channels, developing open pits, and installation of buildings/processing areas.

Changes to groundwater levels may also result in effects to surface water quantity, as groundwater directly impacts the baseflow of water within stream systems.

Table 5.4-6 Potential Effects on Surface Water

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Changes to surface water quantity	• Avoidance of direct impacts to watercourses • Develop and implement a Surface Water Management and Monitoring Plan • Direct supplemental surface water flows to waterbodies as needed	• *Fisheries Act* Authorization • Nova Scotia Environmental Assessment Registration • Nova Scotia Industrial Approval
Changes to surface water quality	• Collect and treat all contact water prior to discharge • Develop and implement an Erosion and Sedimentation Control Plan (ESCP) • Develop and implement a Surface Water Management and Monitoring Plan • Develop and implement Blast Management Plan and Blast Designs	• *Fisheries Act* Authorization • MDMER • Nova Scotia Environmental Assessment Registration • Nova Scotia Industrial Approval

Potential Effects Pathways

Areas where land use and land cover have changed may experience increased runoff as hardened surfaces reduce permeability and potentially alter overland flow paths. Fluctuations in natural stream flow may result throughout the PDAs compared to baseline conditions.

As discussed in Section 5.4.5, changes to groundwater levels may result in effects to surface water quantity, as groundwater impacts baseflow of water within stream systems. This could result in a relative increase or decrease depending on changes to the water table and hydraulic gradient across the PDA.

Water management infrastructure such as the TMF (15-Mile Mine only), collection ponds, and open pits will change the typical flow path of water within the respective catchments. Natural flow pathways may be affected as water is diverted away from Project infrastructure, leading to potential increases or decreases in streamflow in receiving watercourses.

Potential effects to surface water quality may result from interaction with blasting materials and exposed bedrock and overburden. Mining activities including detonation of ammonium nitrate type explosives can result in residual nitrogen compounds being distributed among contact water runoff from pit walls, waste rock, and tailings. Additionally, depending on geochemistry of the rock intercepted, certain metals and acids can be released within runoff contact water. Interactions between precipitation and PAG waste rock may result in metals-rich acidic runoff water that can impact surface water quality.

Construction activities have potential to release sediment via surface runoff to nearby watercourses and wetlands. Operations activities including mining, crushing, transporting and stockpiling of low-grade ore and waste rock also have potential to generate particulates that may become sediments if they are transported to nearby watercourses and wetlands.

Proposed Mitigation

Project infrastructure will be designed to mitigate effects to surface water. Mitigative measures to be implemented, as required to meet applicable guidelines, will include the following:

- All contact water within the PDAs will be collected and treated to applicable regulatory standards prior to discharge.
- A Project-specific Surface Water Management and Monitoring Plan will be developed detailing the design and maintenance of water management infrastructure and monitoring of surface water quality and quantity within the receiving environment.
- Secondary containment will be installed for all fuel and reagent storage within the PDAs.
- Runoff collection ditches and settling ponds will be used to collect contact water and run-off, preventing the release of sediment-laden water to the receiving environment.
- Land clearing activities will be timed to avoid heavy runoff periods, with active sediment management (*e.g.*, silt fencing) in appropriate locations.

These and other mitigation measures will be described in a detailed Surface Water Management and Monitoring Plan that will be developed for the Project and will be implemented through all Project phases. The quantity and quality of both effluent and receiving water bodies will be monitored to ensure regulatory compliance, and to inform adaptive water management practices to mitigate any adverse impacts that may result from the Project.

Changes to surface water quality within receiving watercourses will be monitored and compared to Site-specific Water Quality Objectives (SSWQOs) developed for each PDA. SSWQOs are proposed to be developed using a combination of regulatory criteria, background water quality concentrations, and risk-based screening values. Regulatory criteria are to be sourced from guidelines are sourced from the CCME Water Quality Guidelines for Protection of Freshwater Aquatic Life and the Nova Scotia Tier 1 EQS.

Effluent water quality will be monitored and, during operations, compared to criteria sourced from the MDMER. Evaluation against the MDMER criteria will ensure that water quality at discharge points meets federal guidelines and any water with elevated concentrations is treated to appropriate standards prior to discharge.

Regulatory Review and Best Management Practices

Potential impacts to surface water will be assessed through the provincial EA process in accordance with the Nova Scotia *Proponent's Guide to Environmental Assessment* (2025).

The *Fisheries Act* prohibits conducting any work, undertaking or activity, other than fishing, that could result in the death of fish and/or HADD of fish habitat. If a project is unable to avoid or mitigate the death of fish or HADD of fish habitat, then an authorization (*e.g.*, a FAA) under Subsection 35.(3) of the *Fisheries Act* is required for the Project to proceed. In an FAA application, proponents are required to describe the potential effects of a project on fish and fish habitat, measures proposed to avoid and mitigation those effects and provide a plan for offsetting any remaining impacts.

Effluent Monitoring Conditions are detailed in Division 2 of the MDMER. 15-MMR will adhere to all relevant conditions of the MDMER as they relate to monitoring surface water quality and effluent discharge. The Surface Water Management and Monitoring Plan will integrate MDMER guidance.

Surface water quality criteria to be implemented in the Project's compliance monitoring framework will be developed in consultation with NSECC and will be detailed in the Industrial Approval conditions.

5.4.7 Wetlands

Wetlands, as defined under Section 3(bg) of the *Environment Act* (Nova Scotia, 1995b), may be directly and indirectly affected by Project activities such as clearing, grubbing, infilling, and the construction of Project infrastructure. Potential effects on wetlands, proposed mitigation measures, and regulatory review mechanisms are summarized in Table 5.4-7.

Table 5.4-7 Potential Effects on Wetlands

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Direct loss	• Micro-siting of Project infrastructure to avoid wetlands, where feasible.	• Nova Scotia Environmental Assessment Registration • *Nova Scotia Wetland Conservation Policy* (NSECC, 2019) • Provincial Wetland Alteration Approval Process
Changes to habitat quality	• Project-specific erosion and sedimentation control plan (ESCP) • Project-specific wetland monitoring plan • Collection and treatment of all contact water prior to discharge • Dust suppression • Invasive species control	• Nova Scotia Environmental Assessment Registration • Nova Scotia Industrial Approval • *Nova Scotia Wetland Conservation Policy* (NSECC, 2019)
Changes to hydrology	• Supplemental flows directed to receiving waterbodies • Water management infrastructure • All measures mitigating effects on groundwater also address changes to hydrology.	• Nova Scotia Environmental Assessment Registration • Nova Scotia Industrial Approval • *Nova Scotia Wetland Conservation Policy* (NSECC, 2019) • Provincial Wetland Alteration Approval Process

Potential Effects Pathways

Direct and potentially indirect losses of wetlands will occur as the result of Project development, which is expected to occur mostly during the construction phase. Wetlands may be fully or partially lost through activities such as clearing, grubbing, infilling, and the construction of Project infrastructure.

Outside of infrastructure footprints, direct loss of wetland habitat is not anticipated; however, indirect impacts to wetlands may occur due to changes in surface water drainage and groundwater inputs (hydrology). The removal of on-site wetland habitat and the installation of surface water ditches can alter the hydrology of downgradient wetlands. Blasting near wetlands can alter subsurface flows, and groundwater drawdown can reduce groundwater inputs to wetlands, potentially causing drier conditions. Overall, changes to hydrology from the placement of Project infrastructure and operational activities may affect wetland functionality.

In addition, clearing of wetland vegetation, changes in water quality, introduction of invasive flora species, and dust and/or sediment accumulation from construction and operations may produce indirect impacts to the health and integrity (quality) of wetland habitat.

Proposed Mitigation

Alternative locations for Project infrastructure are being considered, when practicable, focusing specifically on avoiding impacts to wetland habitat. As detailed in Section 2.6.2, the current iteration of Project design avoids approximately 42 ha of additional wetland habitat with comparison to the previous Moose River Consolidated Project footprint.

Mitigative measures to ensure the maintenance of unaltered wetland habitat quality include protecting vegetation around wetlands, controlling invasive species during construction, implementing erosion and sedimentation control measures (as detailed within a project-specific ESCP), implementing dust suppression measures, and collecting and treating contact water, as required, to ensure water quality guidelines are met prior to discharge.

The effects of changes to hydrology will be minimized, where feasible, through detailed infrastructure design and the implementation of measures that reduce the potential for unintentional draining or flooding of surrounding wetlands. Water management infrastructure, including hydrological connectivity features (*e.g.*, culverts) will be installed to minimize the hydrological changes to the wetlands throughout the PA during all phases of the Project.

Wetland monitoring will be completed to verify the predicted environmental effects and the effectiveness of the mitigation measures. A wetland monitoring plan will be prepared through the life cycle of the permitting process in consultation with NSECC. The plan will commit to monitoring baseline conditions in all relevant wetlands to establish pre-construction condition and throughout all relevant Project phases. The focus of the plan will be to ensure the long-term protection of remaining wetland habitat post-development.

Regulatory Review & Best Management Practices

In Nova Scotia, wetlands are protected under the *Environment Act* – Activities Designation Regulations (Nova Scotia, 1995a) and are managed in accordance with the *Wetland Conservation Policy* (NSECC, 2019), which provides a framework for their conservation and management. This provincial policy aligns with the objectives of *The Federal Policy on Wetland Conserv*ation (Environment Canada, 1991).

Wetland alteration permitting will be required where avoidance is not feasible, as per the provincial Wetland Alteration Approval process. All wetland losses will require compensation. As part of this process, the protection and long-term viability of connected, unaltered wetland habitat will be considered. Wetland alteration applications will be submitted and permitting will be obtained prior to any Project alterations to wetlands.

Wetland monitoring locations will be established prior to construction and will be monitored throughout the life of the Project, as directed by NSECC.

5.4.8 Terrestrial Habitat and Flora

Project activities, primarily those that involve earth-moving and/or vegetation removal during the construction phase, have the potential to impact terrestrial vegetation communities and flora. These activities could result in the direct loss of terrestrial habitats and individual flora species, or indirectly through habitat alteration and disturbance. Potential effects on vascular plants, lichens, and habitats, proposed mitigation measures, and regulatory review mechanisms are summarized in Table 5.4-8.

Table 5.4-8 Potential Effects on Terrestrial Habitat and Flora

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Direct Loss	• Micro-siting of Project infrastructure to avoid sensitive and rare habitats and species, where feasible. • The Project footprint as been reduced by approximately 38% compared to the previous plan, reducing potential effects to terrestrial habitat and flora. • Transplanting and/or seed collection	• Nova Scotia Environmental Assessment Registration • *At-Risk Lichens – Special Management Practices* (NSNR, 2018) • *An Old-Growth Forest Policy for Nova Scotia* (NSNR, 2022) • *Nova Scotia Wetland Conservation Policy* (NSECC, 2019)
Habitat Alteration and Disturbance	• Dust suppression • Natural buffers • Mine site-specific WMP • Project-specific erosion and sedimentation control plan (ESCP) • Water management infrastructure • All mitigations to protect air quality, surface water and groundwater also serve to mitigate consequential effects on vegetation. • All measures that mitigate effects air quality, surface water and groundwater also address consequential effects on vegetation.	• Nova Scotia Environmental Assessment Registration • Nova Scotia Industrial Approval • *The Silvicultural Guide for the Ecological Matrix* (McGrath et al., 2021) • *An Old-Growth Forest Policy for Nova Scotia* (NSNR, 2022) • *At-Risk Lichens – Special Management Practices* (NSNR, 2018) • *Nova Scotia Wetland Conservation Policy* (NSECC, 2019)

Potential Effects Pathways

The Project has the potential to result in direct loss of vascular plants and lichens, habitat loss at the full or partial forest stand level, and the introduction or spread of invasive species. Habitat may be directly affected through site clearing activities and indirectly through disturbances associated with dust mobilization, alteration of surface and groundwater flows, and habitat fragmentation. These disturbances are expected to occur primarily during the construction phase.

The effects of the Project on vascular plants and lichen may include the complete loss of individuals within the infrastructure footprint during construction and operational activities. Data collected during baseline assessments have been used to identify known, probable, or other species-specific habitat types, SAR locations and habitat, and the likelihood of SAR occurring within a specific area.

Removal of vegetation and habitat loss during the construction and operation of the Project can result in indirect effects through edge effects. The effects include changes in microclimate, increased light availability and changes in vegetation communities. Clearing of habitats could result in the potential of invasive plant species to establish an area. Vascular plants could also be affected by dust deposition onto vegetation. Reduction or adjustments to surface water catchments and groundwater drawdown can have impacts on vegetation communities, notably communities with a high-water table (*i.e.*, wetlands).

Proposed Mitigation

As a part of Project planning, some infrastructure footprints proposed during earlier design stages have been, and may continue to be, adjusted to reduce impacts to sensitive areas. Further targeted studies will help confirm the presence or potential presence of flora SAR within the PDAs, and the potential impacts to these species from Project activities. Final design of the construction and operational footprints will consider the results of these studies to help avoid or otherwise mitigate adverse effects on SAR and their habitat. As outlined in Section 2.6.3, the total footprint of infrastructure considered in the current Project designed has been reduced by approximately 38% with comparison to the previous Moose River Consolidated Project, significantly reducing potential effects to terrestrial habitat and flora.

Project infrastructure will be designed to mitigate effects to terrestrial habitat and flora where practical. Mitigation measures for terrestrial habitats and flora will be outlined in mine-site specific WMPs which will be developed for the Project at the permitting stage. Mitigation measure related outlined in Section 5.4.7 (Wetlands) are also relevant in the protection of flora and habitats. Mitigative measures to be implemented, as required to meet applicable guidelines, will include:

- Implementing a project-specific ESCP.
- Implementing and adhering to dust control measures throughout the Project site.
- Protecting vegetation and creating buffers around wetlands, old growth and other sensitive areas.
- Controlling invasive species during construction.
- Developing transplant or seed collecting procedures, where required, for species of conservation concern (see Section 5.4.11).

15-MMR will transplant priority flora species, where deemed reasonable and appropriate in consultation with regulators and the Mi'kmaq of Nova Scotia, that are located within the direct footprint of the Project infrastructure to nearby areas where suitable habitat is present.

15-MMR is committed to doing progressive reclamation, where feasible, during operations. During the mine closure phase, reclamation will allow for site restoration of a native assemblage of plant communities to contribute to long-term habitat recovery.

Mitigations specific to SAR/SOCI flora species are discussed in Section 5.4.11.

Regulatory Review & Best Management Practices

Several laws and regulations provide protection for vegetation communities and rare flora in Nova Scotia (see Section 5.4.11). Species that are listed as Endangered or Threatened receive individual protection from harm and destruction under SARA and/or ESA, including protection of habitually occupied spaces. For certain rare and sensitive lichen species, special management practices (SMPs) have been established to limit disturbance to individuals and their supporting habitat on Crown land, as outlined in the At-Risk Lichens – Special Management Practices (NSNR, 2018). For example, limitations to the type and extent of land development are prescribed within protected and/or restricted zones around the occurrence of certain rare liches.

The Silvicultural Guide for the Ecological Matrix (McGrath et al., 2021) and An Old-Growth Forest Policy for Nova Scotia (NSNR, 2022) make recommendations on and regulate forestry and forest management practices on Crown land and offer BMPs for forests on private land. The Old-Growth Forest Policy requires no net loss of old-growth forests on Crown land and stipulates development limitations within 100 m of confirmed old-growth stands.

Terrestrial habitat and flora will be addressed through the provincial EA process as per the Guide to Addressing Wildlife and Habitat in an EA Registration Document (NSECC, 2009). Mine site-specific environmental protections (such as the ESCP) will also be reviewed through the regulatory review process, including the provincial EA and federal and/or provincial permitting.

5.4.9 Terrestrial Fauna

Terrestrial fauna (*i.e.*, mammals and herpetofauna), and the habitats upon which they rely, may be altered directly or indirectly by the Project. Project activities associated with the construction phase could result in the direct loss of terrestrial habitats and individual fauna species. Project operations may indirectly affect terrestrial fauna through sensory disturbance. Potential effects on terrestrial fauna, proposed mitigation measures, and regulatory review mechanisms are summarized in Table 5.4-9.

Table 5.4-9 Potential Effects on Terrestrial Fauna

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Habitat loss and fragmentation	• The Project footprint as been reduced by approximately 38% compared to the previous plan, reducing potential effects to terrestrial fauna. • Micro-siting of Project infrastructure to avoid important terrestrial habitats • Natural buffers • Project-specific erosion and sedimentation control plan (ESCP) • Progressive reclamation	• Nova Scotia Environmental Assessment Registration • Nova Scotia Industrial Approval • *Nova Scotia Wetland Conservation Policy* (NSECC, 2019) • *An Old-Growth Forest Policy for Nova Scotia* (NSNR, 2022) • Various provincial SMPs
Sensory disturbance	• Sound, dust, and light suppression • Mine site-specific WMP	• Nova Scotia Environmental Assessment Registration • Nova Scotia Industrial Approval • Various provincial SMPs
Injury and mortality	• Speed limits • Waste management • Deterrents on TMF, pits • Collection and treatment of all contact water prior to discharge • Mine site-specific WMP	• Nova Scotia Environmental Assessment Registration • Various provincial SMPs

Potential Effects Pathways

The Project has the potential to affect wildlife through the loss and fragmentation of habitat from site clearing activities and road development. The loss of habitat for terrestrial fauna can have a variety of species-specific impacts, including the loss of refugia, altered predator-prey interactions, and changes in forage ability. Habitat fragmentation, referring to the division of suitable habitat into smaller, more isolated areas, may change how fauna move and migrate across the landscape.

Increased Project-related traffic volumes may increase the likelihood of wildlife-vehicle incidents. Species such as wood turtle and snapping turtle may be the most at risk because they can be attracted to gravel roads or road shoulders to nest and are less mobile than other terrestrial fauna. Direct and indirect mortality can also occur through decreased habitat quality and ingestion of contaminants. Sensory disturbance can occur through Project-generated noise, light, vibration, and the elevated presence of human activity. Species potentially affected include those protected under SARA and/or the ESA (Section 5.4.11).

Proposed Mitigation

As part of the Project design, infrastructure footprints have been altered to reduce potential effects to known or identified species and their habitats. Micro-siting of infrastructure may continue throughout the design process to further avoid or minimize effects to wildlife. The data collected during ongoing wildlife studies will be used to identify known, probable, or other species-specific habitat types, species locations, and the likelihood of their occurrence within the PDAs. As outlined in Section 2.6.3, the total footprint of infrastructure considered in the current Project designed has been reduced by approximately 38% with comparison to the previous Moose River Consolidated Project, significantly reducing potential effects to terrestrial fauna.

Fencing, speed limits, signage, and maintaining an un-vegetated buffer along roadsides will be implemented, where practicable, to improve visibility and reduce the potential for collisions with wildlife. Wildlife corridors will be maintained, where practicable, to preserve habitat connectivity and facilitate movement between ecosystems.

Dust suppression mechanisms and noise and light reduction will be implemented during construction, operations, and closure of the Project to minimize impacts to terrestrial fauna and their habitat.

Mitigation measures for terrestrial fauna will be considered when drafting an ERP and WMP. These plans will include measures to deter individuals from accessing the TMF and open pits during closure. Wildlife observations will be recorded throughout all phases of the Project, and human food and waste will be securely contained to minimize site attraction. As wetlands provide habitat to several priority fauna species, wetland monitoring will be completed to ensure the integrity of wetland conditions is maintained.

Targeted terrestrial fauna surveys will continue during the 2026 field season within the PDAs. Data collected during these surveys will continue to refine the understanding of species presence, locations, habitat use, and the likelihood of species occurring within a specific area. The information collected will be used to create effective best management strategies to protect, avoid, or minimize impacts to fauna.

15-MMR is committed to doing progressive reclamation, where feasible, during operations. During the mine closure phase, reclamation will contribute to long-term habitat recovery for faunal species.

Mitigations specific to SAR/SOCI fauna species are discussed in Section 5.4.11.

Regulatory Review & Best Management Practices

Several laws and regulations provide protection for terrestrial fauna and their habitats in Nova Scotia. The ESA and SARA prohibit harm to SAR listed as Endangered or Threatened along with their habitually occupied spaces and core/critical habitat. The Wildlife Act provides policies and programs for wildlife to maintain diversity of species at levels of abundance to meet specific management objectives. The Wildlife Act includes a clause for the protection of den/habitation of a furbearer [48(3)] and prohibits harm to the nest of a (bird or) turtle [51(a)].

Provincial SMPs have been established for particular at-risk species and sensitive habitats, including mainland moose (NSNR, 2012a), white-tailed deer wintering areas (NSNR, 2012c), and wood turtles (NSNR, 2012d). The SMPs are built on common objectives of biodiversity protection, such as protecting critical habitat features, maintaining habitat quality, and reducing disturbance to at-risk species. Appropriate best management practices and strategies will be considered and implemented, where feasible, to minimize potential effects to wildlife or any priority habitat.

Terrestrial fauna will be addressed through the provincial EA process as per the Guide to Addressing Wildlife and Habitat in an EA Registration Document (NSECC, 2009). Mine site-specific environmental protections (such as the ESCP) will also be reviewed through the regulatory review process. The best management practices outlined for wetlands (Section 5.4.7) and terrestrial habitats (Section 5.4.8) also apply to the management and protection of terrestrial fauna.

5.4.10 Avifauna

Avifauna habitat may be altered or lost as a result of direct or indirect disturbances from the Project. In addition, there is potential for direct loss of avian species through collisions with vehicles, as well as potential impacts to avian species from degraded air and water quality, and sensory disturbance. Potential effects on avifauna, proposed mitigation measures, and regulatory review are considered equivalent to those described for migratory birds (Table 5.1-2; Section 5.1.3).

Dedicated avifauna surveys will continue through 2026 to confirm the presence or potential presence of avifauna and to assess potential impacts to these species from Project activities. Final construction and operational footprint designs will consider the results of these surveys to avoid or otherwise mitigate adverse effects on avifauna and their habitats.

5.4.11 Species of Conservation Interest (SOCI) and Species at Risk (SAR)

Potential effects of the Project on SAR and SOCI, along with general mitigation measures, are outlined in the relevant sections for each taxonomic group (Sections 5.1.1 to 5.1.3; 5.4.8 to 5.4.10). Specific mitigation measures related to priority species (*i.e.*, SAR and SOCI) are outlined in the following sections.

Potential Effects Pathways

Project activities may pose a higher risk on priority species than non-priority species due to both ecological and socio-cultural factors. Priority species typically have more specific habitat requirements, lower population abundance, and higher vulnerability to disturbance. Furthermore, priority species often hold greater importance in commercial, the Mi'kmaq of Nova Scotia, or recreational contexts.

Proposed Mitigation

Avoidance of SAR and SOCI will be prioritized whenever practicable, particularly during construction planning. Known locations of SAR and SOCI will be clearly identified and, when feasible, buffer zones will be established based on relevant standards and best management practices. Avoidance of SAR and SOCI and the habitats that support them (*e.g.*, wetlands) is being prioritized by minimizing the Project footprint through compact layouts and strategic placement of infrastructure. As outlined in Section 2.6.3, the total footprint of infrastructure considered in the current Project design has been reduced by approximately 38% with comparison to the previous Moose River Consolidated Project, significantly reducing potential effects to SOCI and SAR habitat.

For priority flora that will be directly impacted by Project infrastructure, 15-MMR will transplant individuals, where feasible and appropriate, in consultation with regulators, lichen and plant specialists, and Mi'kmaq of Nova Scotia. For SAR and SOCI located adjacent to, but outside of, Project infrastructure footprints, monitoring will be conducted to assess potential indirect effects from construction and operations. Locations of immobile SAR/SOCI and/or their applicable buffers will be clearly marked, mapped, and communicated to relevant personnel.

A WMP will be developed to outline site-specific mitigation and monitoring measures for priority fauna, specifically moose, turtles, and bats. For SAR and SOCI avifauna, any potential direct and indirect impacts will be addressed through general mitigation and monitoring for all birds, since many have legislated protection under the MBCA (Section 5.1.3). The effectiveness of these mitigation measures will be monitored and described in site-specific WMPs. Standard mitigation measures for the protection of priority terrestrial fauna and avifauna include:

- Ensuring all site personnel are trained on the identification of SAR and SOCI, with observations to be recorded throughout all phases of the Project.
- Implementing buffer zones around aquatic habitats deemed suitable to support turtles, where feasible.
- Scheduling construction activities, outside of sensitive life history periods such as nesting and hibernation, where feasible.
- Installing fencing, speed limits, signage, and maintaining an un-vegetated buffer along roadsides.
- Maintaining wildlife corridors, where practicable, to preserve habitat connectivity and facilitate movement between ecosystems.
- Standard mitigation measures for fish and fish habitat are expected to appropriately mitigate adverse effects on priority fish species. Project activities involving watercourse alterations will be subject to permitting under the federal Fisheries Act and the provincial watercourse alteration process. These permitting processes will address potential effects on priority fish species and outline any required offsetting.

Regulatory Review & Best Management Practices

Several laws and regulations provide protection for SAR and their habitats in NS. Species that are listed as Endangered or Threatened receive individual protection from harm and destruction under SARA and/or ESA (including their habitually occupied spaces). Protection of SAR habitat is granted through the designation of Critical Habitat and/or Core Habitat. Critical Habitat under SARA is designated for federally Endangered and Threatened species and, for most fauna, is enforceable on federal lands (designation of Critical Habitat differs for migratory birds and aquatic species). Whereas Core Habitat under ESA may be designated on public land (and/or private land where it is deemed that insufficient habitat is available on public land) for provincially Endangered and Threatened species. Development restrictions are imposed in areas designated as Core and/or Critical Habitat.

For certain rare and sensitive species, provincial SMPs have been established to limit disturbance to individuals and their supporting habitats. Relevant SMPs for the Project include at-risk lichens (NSNR, 2018), mainland moose (NSNR, 2012a), bald eagle nests (NSNR, 2012b), wood turtles (NSNR, 2012d), and deer overwintering (NSNR, 2012c). Best management practices for SAR are also described in federal and provincial species recovery documents, including recovery strategies and plans, action plans, and management plans, as applicable.

SAR/SOCI will be addressed through the provincial EA process as per the Guide to Addressing Wildlife and Habitat in an EA Registration Document (NSECC, 2009). For all taxa, 15-MMR will engage with the NSDNR biodiversity team and ECCC to identify SAR permit requirements under the ESA/SARA to mitigate potential impacts to SAR and their habitats.

5.5 Potential Impacts Based on Federal Work Designation

The Project is not considered a federal work or undertaking and will not be conducted on federal lands, thus, potential effects based on federal work designation were not assessed.

5.6 Estimate of Greenhouse Gas Emissions

A preliminary estimation of direct and indirect GHG emissions has been completed for the Project. The calculation assumed primary sources of mobile equipment, fixed equipment, and indirect emissions from electricity use. Emissions sources identified for the construction, operation, and closure phases of the Project are listed in Table 5.6-1, below.

Table 5.6-1 GHG Emission Sources

Process/Activities	Sources	GHG	Emissions Category
Heavy Vehicles	• Mobile Combustion – Material Transportation	• CO2 • CH4 • N2O	• Category 1
Propane and Diesel Equipment	• Fix combustion Equipment	• CO2 • CH4 • N2O	• Category 1
Electricity	• Imported Energy	• CO2	• Category 2

5.6.1 Methodology

Net GHG emissions were estimated based on available information for each Project phase, starting with an initial estimate, and will be updated in subsequent regulatory submissions as additional data is obtained. Net GHG emissions have been evaluated in metric tonnes of equivalent CO2 (TCO2eq). The initial GHG emissions estimate was completed in accordance with SACC guidance and the calculation detailed below:

Net GHG emissions= Direct GHG emissions + Acquired energy GHG emissions – CO2 captured and stored –Avoided domestic GHG emissions – Offset credits

The Project's direct emissions include those from mobile combustion in truck hauls, fixed combustion from diesel and propane equipment and indirect emissions from electricity consumption. Emission intensity has been evaluated in metric tonne of equivalent CO2 by metric tonnes of product (gold). Emission intensity calculation is presented according to the SACC requirement below:

Emission Intensity = Net GHG Emissions / Units Produced

5.6.2 Assumptions

The quantification was conducted in compliance with the SACC. The following assumptions were used to estimate the net emissions:

- No CO_2 captured and stored.
- No avoided domestic GHG emissions.
- No offset credits.

The emissions factor of light oil No. 2 was used for diesel due to their similar chemical and physical properties.

The GHG emission factors for the fixed and mobile combustion were selected from Table A6.1-5 and Table A6.1-6 of the National Inventory Report 1990-2023: Greenhouse Gas Sources and Sinks in Canada, Part 2 (ECCC, 2025) whereas the GHG emissions factor for electricity importation was selected from Table A13-4 from the National Inventory Report 1990-2023: Greenhouse Gases Sources and Sinks in Canada, Part 3 (ECCC, 2025). The Global Warming Potential (GWP) are from the fifth report of the Intergovernmental Panel on Climate Change (IPCC) over 100 years.

Table 5.6-2 Global Warming Potential

Global Warming Potential (100 year)	CO2	CH4	N2O
Fifth Assessment Report - IPCC	• 1	• 28	• 265

Fuel and electricity consumption were supplied by the client. Fuel consumption of mobile equipment has been evaluated from annual distances (from client) and average fuel consumption for 100 km for a Class 8 truck.

5.6.3 Results

Over a Project lifespan of 11.4 years, a total of 861 kt CO_2 is estimated to be emitted. Of the three assumed sources, 8% of emissions will be sourced from mobile equipment, 37% will be sourced from fixed equipment, and 55% will be sourced from electricity use. 85% of

electricity use will be in support of the process plant, while the remaining 15% will support general and administrative use throughout the Project.

The Proponent is completing trade-off studies to evaluate the potential for incorporating solar energy during operations.

5.7 Waste and Emissions

5.7.1 Atmospheric Emissions

Direct Emissions and Greenhouse Gases

The majority of air emissions generated by the Project will originate from fugitive dust, with smaller contributions from point sources. Particulate from crushing and conveying operations is expected to be the primary source of dust emissions. Dust generation will be reduced by spraying water or a dust suppressant at conveyor drop points. Additional dust control may be installed if required.

Access and haul road traffic is also anticipated to produce dust within the Project's PDAs. The Project will have water trucks operating to minimize dust generation from Project access and haul roads.

Other sources expected to produce dust include:

- Drilling and blasting.
- Material management, inclusive of loading/offloading, distribution, and compaction of rock for hauling or construction.
- Surface infrastructure installation.
- Wind interacting with the TMF, stockpiles, and exposed surfaces.
- Specific to 15-Mile Mine, expulsion from propane systems at the mill (refinery, heating and elution circuit).

Some of the above will produce GHG emissions (see Section 5.6 for a preliminary quantification of Project GHG emissions). Operational controls will be implemented as required to address compliance with emission levels established for the Project.

Noise

Noise is expected to mainly originate from heavy equipment operations, and specifically at 15-Mile Mine crushing circuit. Milling operations at the 15-Mile Mine are not anticipated to be a large contributor to ambient noise as the grinding operations of the mill will be enclosed.

Blasting within each PDA will generate large noise disturbances periodically, but this will only occur at most once a day and only during daytime hours. Blasts will be engineered to comply with noise regulations.

Other sources which are expected to produce noise include:

- Vehicle traffic, inclusive of back-up alarms on vehicles.
- The use of diesel generators.
- Water management pumps located throughout site.

Operation controls will be implemented to address compliance with recommended noise levels established for the Project.

Light

The major sources of light will be equipment headlights and lighting for 24/h operation – on pathways and roads, outside offices and workspaces, and specific to 15-Mile Mine around the crushing circuit and carbon-in-leach circuit which operate outdoors.

Where feasible, angling of light will be utilized to minimize ambient light escaping the PDAs. As required, mitigation will also be implemented to limit light escaping to off-site receptors. In some cases, it may also be appropriate to install motion sensing lights or other technologies to eliminate light sources when not in use.

5.7.2 Liquid Discharges

15-Mile Mine

Mine Water and Surface Contact Water

Contact water from groundwater leaching, surface water runoff from managed structures and direct precipitation on ponds and the TMF structure will be collected using ditches, sumps and diversion channels. All runoff and wastes collected within these drainage structures will be directed to a system of settling ponds prior to discharge into the TMF, allowing for further settlement and dilution of tailings water.

Pit operation will require dewatering to reduce the total volume of contaminated contact water diverted, treated and discharged. Mine water, including both direct precipitation and groundwater inflows into the pit, will potentially contain:

- Suspended solids from general mining and earth-moving activities, containing naturally occurring metals and other elements (i.e., sulphide, calcium and manganese).
- Ammonia residual from ammonia-based explosives.

All contact water within the PDA will be collected and treated to applicable water quality standards prior to discharge to the receiving environment. The majority of site runoff (contact water other than mine water) is not anticipated to pose a water quality concern, although it may contain naturally elevated levels of some metals such as aluminium and arsenic. The runoff from ore, waste rock, TMF, and overburden stockpiles may contain suspended solids, as well as some level of dissolved metals. Preliminary geochemistry results suggest elevated concentrations of elements such as sulphate, manganese and calcium and low concentrations of other metals such as arsenic, copper, lead, nickel, zinc, selenium, mercury, chromium, and iron.

Contact water will be used as the primary freshwater supply to the process plant and any excess water will be discharged to the environment after treatment. The Project is currently reviewing implementation of two final discharge locations, one in Seloam Brook and the other at Anti Dam Flowage. Where monitoring results exceed guideline values or approved discharge limits, a review of site activities will be undertaken to identify the source of exceedance and remedial measures will be implemented.

Further works are required to design an integrated water management system for treating mine contact water to meet guidelines prior to discharge to the receiving environment. The current scope assumes active treatment for water pumped from the TMF, and a settling pond prior to each final discharge location for settling. At a minimum, active treatment for TMF process water will include ferric sulphate, lime, and hydrogen peroxide addition in a mixing vessel for precipitation of arsenic. Treatment infrastructure will be updated pending detailed works to ensure effluent consistently meets quality requirements.

Domestic Sewage

Domestic sewage will be minimal for the Project as there are no accommodations onsite. Waste will be generated from washroom facilities in the administrative and mine office buildings. Sewage will be collected into septic tanks and treated via filter pods. The solids from the tanks will be collected periodically via a truck and shipped for off-site disposal at an approved facility.

Old Austen Mine

The Old Austen Mine does not include a TMF and therefore the contact water will undergo treatment and include attenuation and sedimentation within ponds prior to discharge to the receiving environment. Similar to 15-Mile Mine, contact water generated within the site via runoff, leaching processes, and pit dewatering will be collected from managed runoff areas via a series of sumps and diversion structures and then directed into sedimentation ponds before discharge into the environment.

Contaminants contained within the Old Austen Mine contact water are assumed to be similar to those at 15-Mile Mine, due to the sites sharing similar underlying geology and the pits sharing the same mining techniques. All surface water discharges from sedimentation ponds to the natural environment will be sampled as per requirements listed in industrial operating approvals and MDMER to ensure water quality conforms to applicable guidelines. Where monitoring results exceed guideline values or approved discharge limits, a review of site activities will be undertaken to identify the source of exceedance and remedial measures will be implemented.

15-MMR is currently reviewing implementation of two final discharge locations, one in the Killag River and the other in the Tent Lake watershed. Further works are required to design an integrated water management for treating mine effluent to meet guidelines prior to discharge to the receiving environment. The current proposal assumes Tent Lake would receive water from the organic till and topsoil piles, the only infrastructure within that watershed. All other collected water would be discharged to the Killag River.

See above Section 5.7.2 for information regarding domestic sewage for the Old Austen Mine.

Old Mitchell Mine

The Old Mitchell Mine does not include a TMF and therefore contact water will undergo treatment and include attenuation and sedimentation within ponds prior to discharge to the receiving environment. Contact water generated within the Old Mitchell Mine will be collected from managed runoff areas via a series of sumps and diversion structures and then directed into sedimentation ponds before discharge into the environment.

Contaminants contained within contact water are assumed to be similar to those at 15-Mile Mine, due to the sites sharing similar underlying geology and the pits sharing the same mining techniques. The Old Mitchell Mine does not include a processing plant or TMF. Therefore, management practices will be centred around collection and settlement of precipitates within the contact water.

Settlement ponds and silt traps will be designed to retain and prevent discharge of contaminants of concern (heavy metals and nutrients). All surface water discharges from sedimentation ponds to the natural environment will be sampled as per requirements listed

in industrial operating approvals and MDMER. Where monitoring results exceed guideline values or approved discharge limits, a review of site activities will be undertaken to identify the source of exceedance and remedial measures will be implemented.

15-MMR is currently reviewing implementation of two final discharge locations, one in Cargill Lake and the other to a northwestern watercourse whose catchment area is impacted by the pit. The current proposal assumes the latter watercourse would receive a volume of water to offset losses to its catchment with the remaining water discharged to Cargill Lake. Further works are required to design an integrated water management system for treating mine effluent to meet guidelines prior to discharge to the receiving environment.

See above Section 5.7.2 for information regarding domestic sewage for the Old Mitchell Mine.

5.7.3 Solid Waste

Domestic waste produced by the Project during construction, operations and closure is anticipated to include food waste, glass, plastic, paper, clothing, and boxboard.

Bins to support recycling of items generated from domestic use including paper and plastic/glass (as applicable in Nova Scotia) will be used. These will enter their own waste stream of recyclables.

Non-recyclable and industrial waste will be disposed in industrial waste bins. These bins will receive any material that cannot be reasonably salvaged or recycled, and which do not require special disposal. Some notable items which are expected to be produced include scrap metal, scrap wood, foam, non-recyclable packaging materials, expired or non-conforming PPE and equipment; and mixed waste that is not feasible to separate.

Items requiring special disposal will be flagged across site and report to specific waste streams which abide by appropriate reporting, storage, transport and disposal guidelines. Special management wastes are expected to include:

- Contaminated soils in the event of spills.
- Vehicle and equipment maintenance wastes and products stained by maintenance waste (inclusive oils, lubricants, petroleum products and other products which require special disposal).
- Reagent wastes or spills (provided they are safe to store and do not require immediate action or disposal per the relevant Safety Data Sheets (SDS).

Special wastes such as those listed above will be stored indoors to provide secondary containment until they can be disposed of off-site in a manner that meets all appropriate transportation and disposal guidelines.

5.8 Accidents and Malfunctions

Accidents and malfunctions refer to events that are not part of any planned activity or normal operation of the Project. Even with the implementation of best management practices and preventative measures, accidents and malfunctions still have the potential to occur and create adverse effects to the environment and worker health and safety. Many accidents and malfunctions are preventable, and their consequences are limited by applying a precautionary approach during planning and design, developing thorough emergency response procedures, and ensuring mitigation measures are incorporated into standard operating procedures. By identifying likely worst-case accidents and malfunctions and assessing their effects should they occur, 15-MMR can develop preventative and responsive procedures to eliminate, reduce, or control adverse effects caused by accidents and malfunctions.

A detailed assessment of potential effects resulting from accidents and malfunctions will be included in subsequent regulatory submissions, along with proposed mitigation measures and emergency response procedures. 15-MMR is committed to adhering to relevant standard mitigation measures issued by IAAC (2026) as listed in Table 5.8-1, below.

Table 5.8-1 IAAC Standard Mitigation Measures for Accidents and Malfunctions

Project Activity	Mitigation
Infrastructure Design and Engineering	Design Project infrastructure to meet applicable codes and standards that address seismic activity, permafrost conditions, wildfires, landslides, slope stability, marine geological hazards, and extreme weather events. This includes, as appropriate: • Tailings management facility containment structures designed in alignment with best practices, such as the Canadian Dam Association's Dam Safety Guidelines and the Mining Association of Canada's Guide to the Management of Tailings Facilities; • Water management structures designed to accommodate, at a minimum, a 1-in-100-year flood event, based on historical climate data and projected future changes in extreme rainfall over the lifespan of the structures.

Project Activity	Mitigation
Accident and malfunction response planning	Implement the following mitigation measures to prevent accidents and malfunctions that may result in adverse federal effects, as appropriate: • Establish fire and spill prevention plans; • Restrict vehicle and equipment refueling and servicing to designated locations; • Use secondary containment systems for the storage of hazardous materials; • Provide training to Project employees on accident and malfunction prevention and response.
Accident and malfunction response planning	Develop and maintain an accidents and malfunctions response plan including: • A description of potential accidents and malfunctions that may cause adverse federal effects during any phase of the Project, including both worst-case and more likely alternate scenarios; • Measures for each scenario aligned with ECCC's National Wildlife Emergency Response Framework; • Clearly defined roles and responsibilities for the Proponent, relevant authorities and other parties involved in response efforts.

Accident and malfunction response planning	In the event of an accident or malfunction:
	• Notify relevant emergency response authorities;
	• Inform Indigenous groups as soon as feasible, and IAAC within 24 hours, while providing:
	  • the date, time, and location of the accident or malfunction;
	  • a summary of the accident or malfunction;
	  • the substance and quantities released;
	  • the relevant authorities notified and involved in the response;
	• Submit a report to IAAC within 60 days, describing:
	  • the incident and its adverse federal effects;
	  • measures taken to mitigate the adverse federal effects;
	  • feedback from Indigenous groups and relevant authorities;
	  • residual effects and any additional mitigation or monitoring measures;
	  • steps taken to prevent recurrence.

Accident and malfunction response planning	Develop a communication plan in consultation with Indigenous groups for accidents and malfunctions, and including: • The geographic areas where Indigenous groups would like to receive notifications; • The types and thresholds of incidents that would trigger notification; • The information to be included in notifications to support community preparedness and response; • The method and frequency of notifications, including opportunities for Indigenous group involvement in response efforts.

5.9 Cumulative Effects

Past, existing, or proposed industrial projects within the territorial boundaries of the Eskikewa'kik are identified and described in Table 5.9-1, below. The traditional Mi'kmaw district of Eskikewa'kik, which means "skin dressing territory" or "skin dressers place" in English, spans from Halifax County across to Guysborough County.

The region is known for historic gold mining as well as historic and current forestry operations that occur on Crown land near the PDAs, as are evident from aerial photos. The spatial boundaries of the 15-Mile PDA and the historic installation and current and historic

operation of NSPI hydroelectric infrastructure (East River Sheet Harbour Hydro System) also overlap. No additional spatial overlap was identified between the PDAs and the other developments listed below.

At this stage, the potential for cumulative effects is essentially based on whether or not the PDAs overlap spatially with the listed projects. Cumulative effects will be considered in subsequent regulatory submissions.

Table 5.9-1 Projects Considered for Cumulative Effects Assessment

Project	Location	Timeline	Potential for Cumulative Effects
East River Sheet Harbour Hydro System: NSPI	East River, Sheet Harbour Secondary Watershed	1923 to present	• 15-Mile PDA is bounded upstream and downstream by NSPI dams • Primary environmental effect of this system is fish passage limitations, and alteration of natural flow
Regional Forestry Operations – Northern Timber Nova Scotia Corp.	Across Nova Scotia	Currently operating	• All three PDAs contain a diversity of habitat types and landscape features but have experienced a considerable amount of disturbance and habitat fragmentation as a result of current and historic timber harvesting practices
Aureus East and West Gold Properties (formerly Dufferin Gold Mine)	Port Dufferin	Historic operations dating to late 1800s	• Site is currently under care and maintenance with no immediate plan for re-opening
Sheet Harbour Chipping Facility and Shiploading Terminal: Great Northern Timber	Sheet Harbour, Halifax County	Currently operating	• Facility is located approximately 26 km south of the 15-Mile PDA; not likely to overlap with the Project as no marine transportation planned.
Port of Sheet Harbour: Port of Sheet Harbour Agency (POSHA) – A QSL Company	Sheet Harbour, Halifax County	Currently operating	• Facility is located approximately 26 km south of the 15-Mile PDA; not likely to overlap with the Project as no marine transportation planned.
Sheet Harbour Quarry: Dexter Construction Company Limited	Mushaboom, Halifax County	2019 to present	• Quarry is located approximately 30 km south of the 15-Mile PDA; not anticipated to overlap with Project effects.
Touquoy Gold Project: AMNS	Moose River, Halifax County	Operated 2017-2023 Currently in reclamation Industrial Approval issued in 2026 for low- to medium-grade ore processing	• Mine is currently in reclamation with plans to process low- to medium-grade stockpiles from 2026 to Q1 2028; mine is not anticipated to overlap with Project timeline..
Mosher Limestone: Mosher Lake Limestone Co.	Upper Musquodoboit, Halifax County	1945 to present	• Facility is located approximately 35 km west of the 15-Mile PDA; not anticipated to overlap with Project effects.
Tangier Gold Mine: Aurelius Minerals Inc.	Tangier, Halifax County	Historic mining operations dating to the 1860s	• Site is currently under care and maintenance with no immediate plan for re-opening; not anticipated to overlap with Project effects.
Murchyville Gypsum Mine	Murchyville, Halifax County	1997 to present Currently in care and maintenance	• Mine is located 35 km east of the Old Austen Mine PDA and is currently in care and maintenance; not anticipated to overlap with Project effects.
Loch Katrine Quarry: Dexter Construction Company Ltd.	Loch Katrine, Guysborough County	1965 to present	• Quarry is located 55 km northeast of the 15-Mile PDA; not anticipated to overlap with Project effects.
Cooks Brook Sand and Gravel Pit: Gallant Aggregates Limited	Cooks Brook, Halifax County	2004 to present	• Pit is located 63 km west of the 15-Mile PDA; not anticipated to overlap with Project effects.

Project	Location	Timeline	Potential for Cumulative Effects
Antrim Gypsum Project; CertainTeed Canada Inc.	Lake Egmont, Halifax County	Construction planned for 2026	• Proposed mine is located 49 km west of the Old Austen Mine PDA; not anticipated to overlap with Project effects.
Scotia Mine: Scotia Mine Limited	Cooks Brook, Halifax County	Original operations date back to 1970s. Currently in care and maintenance	• Permit applications for restart of the mine submitted and approval granted in 2026 • Mine is located 49 km west of the Old Austen Mine PDA; not anticipated to overlap with Project effects.
Goldboro Gold Project: Signal Gold Inc.	Goldboro, Guysborough County	Construction planned for late 2026	• Site is located approximately 28 km southeast of the Old Mitchell Mine PDA; not anticipated to overlap with Project effects.
National Gypsum Quarry: Gold Bond Canada Ltd.	East Milford, Halifax County	1954 to present, in operation Expansion approved in 2015	• Quarry is located 53 km east of the Old Austen Mine PDA; not anticipated to overlap with Project effects.
Lantz Quarry Expansion: 2514869 Nova Scotia Limited	Lantz, Halifax County	2007 to present	• Quarry is located 60 km east of the Old Austen Mine PDA; not anticipated to overlap with Project effects.
Goffs Quarry Expansion: Scotian Materials Limited	Goffs, Halifax County	2017 to present	• Quarry is located 70 km east of the Old Austen Mine PDA; not anticipated to overlap with Project effects.
Chedabucto Aggregates Quarry: Chedabucto Aggregates Limited	Halfway Cove, Guysborough County	2004 to present	• Quarry is located 49 km east of the Old Mitchell Mine PDA; not anticipated to overlap with Project effects.
Porcupine Mountain Quarry: Martin Marietta Materials Canada Limited	Porcupine Mountain, Guysborough County	1950 to present	• Quarry is located 61 km northeast of the Old Mitchell Mine PDA; not anticipated to overlap with Project effects
Lazy Head Aggregate Project; Morien Resources Corp.	Lazy Head, Guysborough County	Permit applications planned for 2026 Proposed project life of approximately 90 years	• Proposed quarry is located 61 km northeast of the Old Mitchell Mine PDA; not anticipated to overlap with Project effects.
Black Point Quarry: Black Point Aggregates Inc.	Chedabucto Bay, Guysborough County	EA approval issued in 2016 Proposed project life of approximately 70 years	• Proposed quarry is located 64 km northeast of the Old Mitchell Mine PDA; not anticipated to overlap with Project effects.
Canso Spaceport Facility: Maritime Launch Services Ltd.	Canso, Guysborough County	Construction commenced in 2023	• Proposed spaceport is located 60 km east of the Old Mitchell Mine PDA; not anticipated to overlap with Project effects.

6 Closing

15-MMR proposes to construct and operate the 15-Mile Processing Hub Project as an open-pit mining development in Nova Scotia. The Project design emphasizes the re-use of existing facilities and infrastructure, reducing the need for new construction, minimizing hauling distances, and aligning with industry best practices in sustainable development. 15-MMR will take on the responsibility of reclaiming historic tailings, contaminated soil and historic waste rock within the Project's disturbed areas, which will remove a source of ongoing environmental contamination and improve receiving water quality.

The Project is anticipated to generate meaningful socio-economic benefits, including employment opportunities in rural and Indigenous communities, local business development, increased government revenues, and contributions to community investment initiatives.

This IPD outlines the preliminary design of the Project and reflects substantial updates informed by feedback from communities, regulators, and the Mi'kmaq. The IPD will support early engagement with local and First Nations communities and serve as a planning tool for the forthcoming regulatory review process.

7 References

Agriculture and Agri-Food Canada. 1972. Soils of Nova Scotia. Retrieved: https://sis.agr.gc.ca/cansis/publications/surveys/ns/nss/index.html

Atlantic Canada Conservation Data Centre (ACCDC). 2025a. Data Report 8776: Halifax County, NS.

Atlantic Canada Conservation Data Centre (ACCDC). 2025b. Data Report 8775: Halifax County, NS

Atlantic Canada Conservation Data Centre (ACCDC). 2025c. Data Report 8777: Guysborough County, NS.

Atlantic Gold (various authors). 2018. Moose River Consolidated Project, Nova Scotia Canada. NI 43-101 Technical Report on Moose River Consolidated Phase 1 and Phase 2 Expansion. Prepared for Atlantic Gold Corporation. 467 pp.

Atlantic Mining NS Inc (AMNS). 2021. Beaver Dam Mine Project Environmental Impact Statement.

Atlantic Mining NS Inc. (AMNS). 2021a. Fifteen Mile Stream Gold Project Environmental Impact Statement.

Atlantic Mining NS Inc. (AMNS). 2021b. Beaver Dam Mine Project Environmental Impact Statement.

Álvaro Fernández-Llamazares, María Garteizgogeascoa, Niladri Basu, Eduardo Sonnewend Brondizio, Mar Cabeza, Joan Martínez-Alier, Pamela McElwee, Victoria Reyes-García, A State-of-the-Art Review of Indigenous Peoples and Environmental Pollution, Integrated Environmental Assessment and Management, Volume 16, Issue 3, 1 May 2020, Pages 324–341, https://doi.org/10.1002/ieam.4239

Beaver Dam Community Wellness Study – An Examination of Socio-Economic and Human Health Conditions through the Lens of Environmental Impacts. Millbrook First Nation, Consultation Department, December 2021.

Bird Studies Canada. 2024. Breeding Birds of the Maritime Provinces. Retrieved: Maritimes Breeding Bird Atlas - Atlas des oiseaux nicheurs des Maritimes

Canada. 1994. Migratory Birds Convention Act, 1994, S.C. 1994, c. 22. Retrieved: https://laws-lois.justice.gc.ca/PDF/M-7.01.pdf

Canada. 2002. Species at Risk Act. S.C. 2002, c. 29.

Canadian Council of Ministers of the Environment (CCME). 1999. Water Quality Guidelines for the Protection of Aquatic Life (Dissolved Oxygen).

Canadian Environmental Assessment Act (CEAA). 2012. Retired: Canadian Environmental Assessment Act, 2012

Carney, M. 2025. Mandate letter. Retrieved: https://www.pm.gc.ca/en/mandate-letters/2025/05/21/mandate-letter

CIRNAC. 2016. General Briefing Note on Canada's Self-government and Comprehensive Land Claims Policies and the Status of Negotiations. Retrieved: https://www.rcaanc-cirnac.gc.ca/eng/1373385502190/1542727338550

CIRNAC. 2024b. Treaties, Agreements and Negotiations. Retrieved: https://www.rcaanc cirnac.gc.ca/eng/1605796533652/1605796625692#sec3

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). 2025. Mi'kmaq - Nova Scotia - Canada Framework Agreement. Retrieved: Mi'kmaq - Nova Scotia - Canada Framework Agreement

Environment Canada. 1991. The Federal Policy on Wetland Conservation. Environment Canada. https://www.canada.ca/en/environment-climate-change/services/wildlife-habitat/federal-policy-on-wetland-conservation-implementation-guide-for-federal-land-managers.html

Environment and Climate Change Canada (ECCC). Guidelines to Avoid Harm to Migratory Birds. Environment and Climate Change Canada. Retrieved: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html

ECCC. 2007. Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds.

ECCC. 2020. Recovery Strategy for the Wood Turtle (Glyptemys insculpta) in Canada. Species at Risk Act Recovery Strategy Series. Environment and Climate Change Canada, Ottawa. vi + 52 pp.

ECCC. 2025. National Inventory Report : Greenhouse Gas Sources and Sinks in Canada. https://publications.gc.ca/site/eng/9.506002/publication.html

Environment Canada. 1991. The Federal Policy on Wetland Conservation. Retrieved: The Federal Policy on Wetland Conservation - Canada.ca

Fisheries and Oceans Canada (DFO). 2018. Measures to avoid causing harm to fish and fish habitat. Retrieved: https://www.hiawathafirstnation.com/wp-content/uploads/2014/10/Measures-to-Avoid-Causing-Harm-to-Fish-and-Fish-Habitat.pdf

GHD. 2017. Beaver Dam Mine Project Environmental Impact Statement. Prepared on behalf of Atlantic Gold Corporation.

GHD. 2018. Field Activities Report Beaver Dam Mine Project – November 8, 2018. Prepared for Atlantic Gold Corporation.

GHD. 2024. 15- Mile Gold Project, Noise Impact Assessment Report. Prepared for Atlantic Mining NS Corp.

Golder. 2019. Cochrane Hill Gold Project Hydrogeological Investigation. Prepared for Atlantic Gold Corporation.

Government of Canada. 2025. Indigenous Language Families: Algonquian Languages. Retrieved: https://www150.statcan.gc.ca/n1/en/pub/41-20-0002/412000022025002-eng.pdf?st=gCNs8YPy

Government of Nova Scotia. 2025a. Tourism Nova Scotia Fixed Roof Accommodations: Room Nights Sold by Region and Year [Data Set]. Nova Scotia Open Data Portal. Retrieved: https://data.novascotia.ca/Business-and-Industry/Tourism-Nova-Scotia-Fixed-Roof-Accommodations-Room/vn9y-pcrf

Government of Nova Scotia. 2025b. Traffic volumes - provincial highway system [Data set]. Retrieved: Nova Scotia Open Data Portal. https://data.novascotia.ca/datasets/8524-ec3n

Government of Nova Scotia. 2025c. Waste Facility Hours and Rates. https://www.halifax.ca/home-property/garbage-recycling-green-cart/waste-facility-hours-rates#otterlake

Government of Nova Scotia - Natural Resources. 2025. Nova Scotia Updates Critical Minerals Strategy. Retrieved: https://news.novascotia.ca/en/2025/05/14/nova-scotia-updates-critical-minerals-strategy

Halifax Regional Municipality (HRM). 2025. District 2: About the District. Retrieved: https://www.halifax.ca/city-hall/districts-councillors/district-2/about-district

Health Canada. (2025, December). *Guidelines for Canadian Drinking Water Quality*. Government of Canada.

HRM. 2023a. Land Use By-Law, Musquodoboit Valley/Dutch Settlement. Retrieved: https://cdn.halifax.ca/sites/default/files/documents/business/planning-development/applications/musquodoboitvalley_dutchsettlement-lub-eff-23sep01-case24526-toclinked.pdf.

HRM. 2023b. Land Use By-Law, Eastern Shore (East). Retrieved: https://cdn.halifax.ca/sites/default/files/documents/about-the-city/regional-community-planning/easternshoreeast-lub-eff-23oct13-case2023-002-toclinked.pdf

Knight Piesold Consulting. 2020. Cochrane Hill Project – 2019 Geotechnical Site Investigation. Prepared for Atlantic Mining NS Corporation.

KPMG. 2025a. Regional Economic Impact Analysis of the 15-Mile Consolidated Project.

KPMG. 2025b. Economic Impact Assessment of the 15-Mile Consolidated Project.

Kwilmu'kw Maw-klusuaqn Negotiating Office (KMKNO). 2024. We Are Seeking Consensus. Retrieved: https://mikmaqrights.com/

Lorax Environmental. 2018. Beaver Dam Project- ML/ARD Assessment Report. Prepared for Atlantic Gold Corporation.

Lorax. 2019. Cochrane Hill Project: Geochemical Source Term Predictions. Prepared for Atlantic Gold.

Lorax Environmental. 2019. Cochrane Hill Project – ML/ARD Assessment Report. Prepared for Atlantic Gold Corporation.

Lorax Environmental. 2023. Fifteen Mile Stream Project – ML/ARD Assessment Report for the Expanded (Four Pit) Mine Plan. Prepared for Atlantic Mining NS Corporation. 237 pp.

McCallum Environmental Ltd. (MEL). 2021. Beaver Dam Project: Fish and Fish Habitat Baseline Report.

MEL. 2021. Fifteen Mile Stream Gold Project Environmental Impact Statement. Prepared on behalf of Atlantic Mining NS Inc.

MEL 2023. Cochrane Hill Gold Project: Vegetation Community and Flora Baseline Report.

MEL. 2024. 15-Mile Gold Project Biophysical Baseline Report: Fish and Fish Habitat.

McGrath, T., Pulsifer, M., Seymore, R., Doucette, L., Forbes, G., McIntyre, R., Milton, R., Cogan, L., Retallack, M., & Crewe, T. (2021, July). Nova Scotia silvicultural guide for the ecological matrix. Nova Scotia Natural Resources. https://novascotia.ca/ecological-forestry/docs/silvicultural-guide.pdf

Municipality of the District of St. Mary's. 2022. Municipal Land Use By-Law. Retrieved: https://www.saint-marys.ca/policies-bylaws/2012-lub-district-of-st-marys-2022-10-18/file.html

Natural Resources Canada. 2025. Gold facts. Retrieved: https://natural-resources.canada.ca/minerals-mining/mining-data-statistics-analysis/minerals-metals-facts/gold-facts

Nova Scotia. (1995a). Activities designations regulations, N.S. Reg. 47/1995. https://novascotia.ca/JUST/REGULATIONS/regs/envactiv.htm

Nova Scotia. (1995b). Environment Act, S.N.S. 1994-95, c. 1. https://www.canlii.org/en/ns/laws/stat/sns-1994-95-c-1/latest/sns-1994-95-c-1.pdf

Nova Scotia. 1998. Endangered Species Act. S.N.S. 1998, c. 11.

Nova Scotia Environment and Climate Change (NSECC). 2009. Guide to addressing wildlife species and habitat in an EA registration document. Retrieved: https://novascotia.ca/nse/ea/docs/EA.Guide-AddressingWildSpecies.pdf

Nova Scotia Environment and Climate Change (NSECC). 2017. Beaver Dam Mine Project – Environmental Assessment. Atlantic Gold Corporation. Retrieved. https://novascotia.ca/nse/ea/beaver-dam-mine-project.asp

NSECC. 2019. Nova Scotia wetland conservation policy. Nova Scotia Environment and Climate Change. https://novascotia.ca/nse/wetland/docs/Nova.Scotia.Wetland.Conservation.Policy.pdf

Nova Scotia Environment and Climate Change (NSECC). 2019. Nova Scotia Wetlands Conservation Policy. Retrieved: https://novascotia.ca/nse/wetland/docs/nova.scotia.wetland.cons

Nova Scotia Environment and Climate Change (NSECC). 2023. Guideline for Environmental Noise Measurement and Assessment.

Nova Scotia Department of Environment and Labour. 1999. Pit and quarry guidelines. Government of Nova Scotia.

Nova Scotia Department of Natural Resources and Renewables (NSDNR). 2012a. Endangered mainland moose special management practices. https://novascotia.ca/natr/wildlife/habitats/terrestrial/pdf/SMP_Mainland_Moose.pdf

NSDNR. 2012b. Special Management Practices for Bald Eagle Nests. Nova Scotia Natural Resources.

NSDNR. 2012c. Special management practices for white-tailed deer wintering areas. https://novascotia.ca/natr/wildlife/habitats/terrestrial/pdf/SMP_White-tailed_Deer.pdf

NSDNR. 2012d. Vulnerable wood turtle (Glyptemys insculpta) special management practices. https://novascotia.ca/natr/wildlife/habitats/terrestrial/pdf/SMP_Wood_Turtles.pdf

NSDNR. 2018. At-risk lichens – Special management practices. Nova Scotia Natural Resources. https://novascotia.ca/natr/wildlife/habitats/terrestrial/pdf/SMP_BFL_At-Risk-Lichens.pdf

NSDNR. 2021. Recovery Plan for the Moose (Alces alces Americana) in Mainland Nova Scotia. Nova Scotia Endangered Species Act Recovery Plan Series. 96pp.

NSDNR. 2022. An old-growth forest policy for Nova Scotia. Nova Scotia Natural Resources. https://novascotia.ca/ecological-forestry/docs/old-growth-forest-policy.pdf

NSDNR. 2021. Recovery Plan for the Moose (Alces alces Americana) in Mainland Nova Scotia. Nova Scotia Endangered Species Act Recovery Plan Series. 96pp.Nova Scotia Health Authority (NS Health). 2025. Facilities, Locations and Clinics. Retrieved: https://www.nshealth.ca/locations-and-facilities/map

Nova Scotia Office of L'nu Affairs (NSOLA). 2011. Consultation. Retrieved: https://novascotia.ca/abor/office/what-we-do/consultation/

Nova Scotia Power Inc (NSPI). 2009. East River Sheet Harbour Hydro System: Relicensing Report. Environmental Services, v. 2.

Nova Scotia Environment and Climate Change (NSECC). 2025a. New Phased Approach to Industrial Approval Process to Support Responsible, Faster Metal Mining Projects. Retrieved: https://news.novascotia.ca/en/2025/06/13/new-phased-approach-industrial-approval-process-support-responsible-faster-metal

NSECC. 2025b. Guide to Developing Erosion and Sediment Control Plans.

Nova Scotia Department of Natural Resources. Various Dates. Groundwater Geochemistry Maps. Retrieved: https://novascotia.ca/natr/meb/water-resources/groundwater-chemistry-atlas.asp

Office of the Commissioner of Official Languages. 2022. Nova Scotia recognizes Mi'kmaw as the province's original language. https://www.clo-ocol.gc.ca/en/nova-scotia-recognizes-mikmaw-provinces-original-language

Sheet Harbour Chamber of Commerce. 2019. Sheet Harbour. Retrieved: https://web.archive.org/web/20150801025608/http://sheetharbourchamber.com/sheet-harbour/

Sheet Harbour Chamber of Commerce. 2019a. Sheet Harbour. Retrieved: https://web.archive.org/web/20150801025608/http://sheetharbourchamber.com/sheet-harbour/

Stantec. 2019a. Limited Phase II Environmental Site Assessment- Fifteen Mile Stream. Prepared for Atlantic Mining NS Corporation. 67 pp.

Stantec. 2019b. Phase 1 – Environmental Site Assessment (Beaver Dam). Prepared for Atlantic Gold Corporation. 80 pp.

Stantec. 2024. Additional Phase II Environmental Site Assessment Activities, 15Mile Gold Project, Trafalgar, NS. Prepared for 15-Mile Minerals and Renewables. 813 pp.

Stantec. 2025a. Results of Sampling for Characterization of Impacts from Historical Tailings and Waste Rock – Beaver Dam Satellite Mine. Prepared for 15-Mile Minerals and Renewables. 123 pp.

Stantec. 2025b. Characterization of Impacts from Historical Tailings and Waste Rock—Cochrane Hill Satellite Mine. Prepared for 15-Mile Minerals and Renewables. 169 pp.

Statistics Canada. 2023b. Census Profile, 2021 Census of Population. Profile table, Census Profile, 2021 Census of Population - Halifax, Regional municipality (RGM) [Census subdivision], Nova Scotia; Nova Scotia [Province]; St. Mary's, Municipal district (MD) [Census subdivision], Nova Scotia

St-Mary’s River Association (SMRA). 2024. Cochrane Hill Gold Mine Information. Retrieved: https://www.stmarysriverassociation.com/cochrane-hill-gold-mine.html

The Hub. 2025. Ontario and Quebec are poorer than Louisiana and 42 other states: Report. Retrieved: https://thehub.ca/2025/11/12/ontario-and-quebec-are-poorer-than-louisiana-and-42-other-states/

Tourism Nova Scotia. 2025. Sheet Harbour. Retrieved: https://novascotia.com/explore-by-region/eastern-shore/sheet-harbour/

Wood. 2019. Ambient Light Baseline and Predictive Modeling.

World Health Organization (WHO). 2026. Global Plan of Action for the Health of Indigenous Peoples. Retrieved: https://www.who.int/initiatives/global-plan-of-action-for-health-of-indigenous-peoples.

Appendices

Appendix A

Previous Government Departments, Agency and Regulator Engagement and Key Issues

15-Mile Mine

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formerly Fifteen Mile Stream Gold Project) – Federal Government, Agencies & Regulatory Groups					
Fisheries and Oceans Canada (DFO)	**Fish & Fish Habitat**	Inclusion of harmful alteration, disruption, or destruction (HADD) area estimates	X		The 15-Mile Mine has been redesigned to minimize footprint, reduce environmental impacts wherever feasible, and further optimize its design. This includes reducing the PDA by 23% and the number of watercourses disturbed by 35%. 15-MMR is working to develop new HADD area estimates which will be provided in the regulatory submission and discussed with DFO before submission.
DFO	**Fish & Fish Habitat**	Detail surrounding the Fish & Fish Habitat Offsetting Plan	X		15-MMR is working with third-party consultants to develop a detailed Fish & Fish Habitat Offsetting Plan to be submitted with future regulatory submissions. This will include detailed offsetting projects that will be discussed with DFO prior to submission.
DFO	**Fish & Fish Habitat**	Adequacy of fish and fish habitat baseline program	X		15-MMR retained a third-party consultant to review fish and fish habitat data and complete a gap analysis. A comprehensive fish and fish habitat field survey program was completed between 2024 and 2026 to address identified data gaps.
DFO	**Surface Water**	Describe how the flow reductions in East Brook will impact fish and fish habitat in East Brook, East Lake, and downstream of East Lake	X		15-MMR has redesigned the Project to omit infrastructure from the East Lake watershed. This redesign is anticipated to significantly reduce or eliminate potential flow reduction issues.
DFO	**Surface Water**	Include Nova Scotia Power Inc. (NSPI) raw data into water modelling	X		The Project's surface water models will incorporate NSPI raw data, which will be carried through to the Fish and Fish Habitat Effects Assessment.
Environment and Climate Change Canada (ECCC)	**Document Accessibility**	Proponent to include a glossary defining technical words, acronyms, and abbreviations		X	15-MMR has acknowledged this comment and will provide a technical glossary in regulatory submissions moving forward.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formerly Fifteen Mile Stream Gold Project) – Federal Government, Agencies & Regulatory Groups					
ECCC	**Engagement**	Proponent to include engagement log with Nova Scotia Power Inc. (NSPI)		X	15-MMR has acknowledged this comment and will provide a summary of engagement with NSPI to date. It should be noted, 15-MMR is working closely with NSPI on the 15-Mile Mine project and important milestones are being shared and communicated in a timely manner.
ECCC	**Surface Water**	Uncertainty around the Seloam Brook Realignment design	X		15-MMR has completely redesigned the Seloam Brook Realignment, focusing on fish passage and a more natural channel. This redesign will be discussed with DFO and Mi'kmaq communities to allow integration of feedback in advance of upcoming regulatory submissions.
ECCC	**Tailings Management Facility (TMF)**	Level of detail provided for the TMF design, including use of an unlined tailings facility	X		In 2025, 15-MMR completed a Multiple Accounts Analysis (MAA) that resulted in the optimization of the location and design of the TMF. Engineering has progressed to the pre-feasibility stage, leveraging knowledge from the St Barbara Touquoy Mine operation. Detailed engineering design work is currently underway with a third-party consultant reviewing each phase to ensure quality assurance and stakeholder confidence. This includes an Engineer-of-Record (a third-party professional engineer who takes legal and professional responsibility for the dam design, construction and performance as defined by MAC and GISTM guidelines) being identified for the life of the dam and ITRB reviewing dam performance annually. Preliminary groundwater and surface water modelling was completed to support the design. Detailed groundwater and surface water modelling is ongoing to confirm the design meets all regulatory standards and guidelines that protect water quality. The TMF will also be designed and managed in adherence to Canadian Dam Association (CDA) guidelines.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formerly Fifteen Mile Stream Gold Project) – Federal Government, Agencies & Regulatory Groups					
Health Canada (HC)	**Traffic**	Uncertainty around Trucking Routes	X		15-MMR remains committed to the safety of both its employees and surrounding communities. As part of the ongoing haul route study, 15-MMR is evaluating multiple ore transportation options, with the objective of avoiding Beaver Lake IR 17 in the preferred route selection. 15-MMR plans to transport ore on a 16-hour daily schedule, avoiding nighttime operations to minimize noise and light disturbance. 15-MMR would like to collaborate with Mi'kmaq communities to mitigate Project-related traffic concerns.
Impact Assessment Agency of Canada (IAAC)	**Groundwater**	Concerns about hydraulic conductivity and impacts to water quality	X		15-MMR will conduct additional hydraulic conductivity testing, building on previous work, to verify groundwater pathways, if necessary. Optimization of the Mine design has further minimized groundwater impacts by reducing surface stockpiles, decreasing the PDA, and backfilling PAG material for subaqueous storage. Updated groundwater modelling is ongoing.
Natural Resources Canda (NRCan)	**Acid Rock Drainage (ARD)**	Clarify if a liner system is planned for the potentially acid generating (PAG) waste rock	X		15-MMR has done significant work around optimizing the mine plan and material balance. Each site now has a relaxed mining rate to reduce extraction rates while also reducing stockpiles at surface. The Project redesign now includes immediate placement of PAG into the TMF, and backfilling of PAG into exhausted pits to be stored subaqueously – which is industry standard and promoted by MEND (Mine Environment Neutral Drainage) and by Nova Scotia Environment and Climate Change (NSECC) in recently released guidelines.
DFO **IAAC**	**Fish & Fish Habitat**	Seloam Brook Realignment design, focusing on fish passage	X		15-MMR has redesigned the Seloam Brook Realignment, focusing on fish passage. This redesign will be discussed with DFO for feedback.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formerly Fifteen Mile Stream Gold Project) – Federal Government, Agencies & Regulatory Groups					
ECCC IAAC NRCan	**Historic Tailings**	Disposal and treatment of Historic Tailings	X		Disposal of historic tailings will occur for the Project. Remediation for mercury-impacted soils will include excavation, transport and storage within a clay cell constructed within the 15-Mile TMF. Any soils disturbed by infrastructure exceeding site-specific soil quality guidelines will be remediated. Delineation will be completed as works on the historic tailings management plan progresses Details regarding disposal of historic tailings, waste rock and contaminated soils will continue to be developed as the Project is further progressed. 15-MMR will work with a third-party consultant to ensure safe and efficient disposal of historic tailings, waste rock and contaminated soils.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formerly Fifteen Mile Stream Gold Project) – Provincial Government, Agencies & Regulatory Groups					
Nova Scotia Environment and Climate Change (NSECC)	**Atmospheric Environment**	Collection of adequate atmospheric baseline data	X		15-MMR has completed baseline air quality monitoring for the Project and the results will be incorporated into the air quality modelling assessments to be conducted for each site.
NSECC	**Birds and Bats**	Lack of targeted surveys for bird and bats within and around the Project Development Area (PDA)	X		15-MMR has completed an environmental baseline gap analysis for the 15-Mile Mine Project. A 2025 breeding birds survey, nightjar survey and fall migration survey have been completed, along with a spring migration survey at each site in 2026. Bat acoustic surveys, along with maternity roosting surveys, have been completed for each mine site. Surveys focus on areas in which bats are likely to mate or raise pups.
NSECC	**Wetland**	Uncertainty with the WESP-AC approach	X		15-MMR retained a third-party consultant to update the Project's WESP-AC data to align with the current WESP-AC 3.4 methodology. The updated data will be included in the Project's regulatory submission for evaluation.
NSECC	**Wildlife**	Insufficient survey methodology provided for terrestrial baseline programs	X		15-MMR has acknowledged this comment and will provide in regulatory submissions moving forward.

Old Austen Mine

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Federal Government, Agencies & Regulatory Groups					
DFO	**Fish and Fish Habitat**	Potential impacts to downstream fish habitat in WC-23 (tributary to Cope Brook) and from the proposed Haul Road	X		The Old Austen Mine has been redesigned to minimize footprint, reduce environmental impacts wherever feasible, and further optimize its design. This includes reducing the PDA by 45% and fully removing the Cope Brook watershed from the PDA.
DFO	**Fish and Fish Habitat**	Inadequate information in the Environmental Effects Assessment	X		15-MMR retained a third-party consultant to review fish and fish habitat data and complete a gap analysis. A comprehensive fish and fish habitat field survey program was completed summer of 2024, 2025 and upcoming 2026 to address identified data gaps. Concerns with inadequate information relating to pathway of effects to fish and fish habitat, thermal data and effects on fish and fish habitat will be more thorough and 15-MMR targets to have adequate information available to make informed decisions.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Federal Government, Agencies & Regulatory Groups					
DFO	**Fish and Fish Habitat**	Inadequate fish and fish habitat baseline and offsetting projects	X		15-MMR retained a third-party consultant to review fish and fish habitat data and complete a gap analysis. A comprehensive fish and fish habitat field survey program was completed between 2024 and 2026 to address identified data gaps. 15-MMR is committed to implementing an Offsetting Plan (which will be required to meet the requirements of a *Fisheries Act* Authorization) to compensate for fish and fish habitat impacts. 15-MMR remains open to working collaboratively with the Mi'kmaq and DFO to identify fish offsetting projects that can be incorporated into the Offsetting Plan.
ECCC	**Avifauna**	Survey limits of the baseline program	X		The Old Austen Mine has been redesigned to minimize footprint, reduce environmental impacts wherever feasible, and further optimize its design. This includes reducing the PDA by 45%. Additional avifauna surveys were conducted across the PDAs between 2025 and 2026 to address baseline data gaps and support a comprehensive dataset for regulatory submission.
ECCC	**Surface Water**	Absence of water treatment	X		15-MMR has re-designed the Project to include water treatment and will further refine water treatment during detailed water modelling and the permitting process. 15-MMR has conducted metallurgical test work to reduce the cyanide and reagents required for processing, with a further benefit of reducing the byproducts of cyanide destruction inclusive copper and ammonia. Test work and plant design has included pre-treatment of arsenic immediately after cyanide destruction to reduce dissolved arsenic in effluent. 15-MMR is committed to maintaining a robust monitoring program to confirm water quality.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Federal Government, Agencies & Regulatory Groups					
Health Canada (HC)	**Atmospheric Environment**	Evaluation of impacts during all project phases	X		15-MMR retained a third-party consultant to provide air emission estimates for all identified potential air pollutants following the updated Schedule A: Ambient Air Quality Standards issued by Nova Scotia, effective of June 1st, 2026. Air emissions estimates will be completed for all Project phases.
HC	**Atmospheric Environment**	Impacts to Traditional Land Use due to noise	X		15-MMR redesigned the layout to reduce the PDA by 45% in an effort to address this concern. 15-MMR has proposed mitigations to adhere to during all phases of the Project, including reduce haul distances, placement of berms, maintenance of equipment and vehicles as well as a Blast Management Plan.15-MMR is open to discussing site access with the communities throughout all phases of the Project, where safe and feasible.
IAAC	**Surface Water**	Concerns about hydraulic conductivity and impacts to water quality	X		15-MMR will conduct additional hydraulic conductivity testing, building on previous work, to verify groundwater pathways between the Killag River and the pit, if necessary. Optimization of the Mine design has further minimized groundwater impacts by reducing surface stockpiles, decreasing the PDA, and backfilling PAG material for subaqueous storage. This redesign also eliminates the need for surface water withdrawal as a significantly lower volume of water is required to operate. The optimized pit boundary is approximately 110 m from the Killag River, an increase of approximately 50 m in comparison to previous project designs. The interpolated bedrock surface at the northern edge of the pit is approximately 5 m higher than at the river shoreline, demonstrating no overburden connectivity. Updated groundwater modelling is ongoing and will evaluate potential seepage between the Austen Pit and the Killag River, if any.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Federal Government, Agencies & Regulatory Groups					
NRCan	**Historic Tailings**	Due to the high reactivity of historical gold mine tailings in Nova Scotia all historical tailings, waste rock, and till impacted by previous mining activities should be stored in a lined cell within the potentially acid generating waste rock stockpile footprint	X		Disposal of historic tailings will occur for the Project. Remediation for mercury impacted soils will include excavation, transport and storage within a clay cell constructed within the 15-Mile TMF. Any soils disturbed by infrastructure exceeding site-specific soil quality guidelines will be remediated. Delineation will be completed as the historic tailings management plan progresses Details regarding disposal of historic tailings, waste rock and contaminated soils will continue to be developed as the Project is further progressed. 15-MMR will work with a third-party consultant to ensure safe and efficient disposal of historic tailings, waste rock and contaminated soils.
NRCan	**Metal Leaching**	The conceptual model for metal leaching needs to be refined		X	The conceptual model for metal leaching is being further evaluated by a third-party consultant. Updates and additional information will be provided following completion of this work. A Metal Leaching and Acid Rock Drainage (ML/ARD) Management Plan will be developed for the Project.
NRCan	**Metal Leaching**	Method for storing potential acid generating (PAG) waste rock	X		PAG waste rock generated will be stored on surface temporarily and placed back into the exhausted Austen Pit. Based on geochemical analyses indicating the potential for acid rock drainage, it is assumed that a clay or geomembrane liner will be required to collect and manage contact water from the PAG stockpile until the material can be backfilled into the empty pit. This aligns with industry standard and is promoted by MEND (Mine Environment Neutral Drainage) and by Nova Scotia Environment and Climate Change (NSECC) in recently released guidelines.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Federal Government, Agencies & Regulatory Groups					
NRCan	**Soil Management**	Further explanation is required regarding how soils with high arsenic concentrations that are less than the estimated upper limit of background will be managed on-site.	X		Details regarding disposal of contaminated soils will continue to be developed as the Project is further progressed. 15-MMR will work with a third-party consultant to ensure safe and efficient disposal of historic tailings, waste rock and contaminated soils.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Provincial Government, Agencies & Regulatory Groups					
Nova Scotia Department of Natural Resources and Renewables (NSDNRR)	**Wildlife**	Potential impacts on mainland moose population	X		The Project has been redesigned to minimize footprint, reduce environmental impacts wherever feasible, and further optimize its design. This includes micro-siting of infrastructure in areas to avoid moose patches Additionally, 15-MMR has minimized habitat fragmentation by prioritizing the upgrade of existing roads, which avoids the disturbance associated with constructing new roads. 15-MMR staff will be provided wildlife awareness training to personnel to reduce interactions between site personnel and wildlife. A Wildlife Management Plan (WMP) will be developed and approved before construction begins.
NSECC	**Construction Material**	Source material to construct Haul Road	X		The project has been redesigned and no longer includes a haul road to Touquoy.
NSECC	**Historic Tailings**	Disposal and treatment of Historic Tailings	X		Disposal of historic tailings will occur for the Project. Remediation for mercury impacted soils will include excavation, transport and storage within a clay cell constructed within the 15-Mile TMF. Any soils disturbed by infrastructure exceeding site-specific soil quality guidelines will be remediated. Delineation will be detailed as works on the historic tailings management plan progresses Details regarding disposal of historic tailings, waste rock and contaminated soils will continue to be developed as the Project is further progressed. 15-MMR will work with a third-party consultant to ensure safe and efficient disposal of historic tailings, waste rock and contaminated soils.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Provincial Government, Agencies & Regulatory Groups					
NSECC	**Reclamation**	Design for the potentially acid generating (PAG) stockpile cover		X	The Project has been redesigned to eliminate the need for a long-term PAG stockpile and associated cover. Based on geochemical analyses indicating the potential for acid rock drainage, it is assumed that a clay or geomembrane liner will be required to collect and manage contact water from the PAG stockpile until the material can be backfilled into the empty pit. PAG material will instead be managed temporarily and then backfilled into the exhausted Austen Pit for long-term subaqueous storage, reducing the potential for metal leaching and aligning with industry standards.
NSECC	**Surface Water**	Uncertainty over water treatment and thermal impacts to the receiving environment	X		15-MMR has revised the Project design to incorporate water treatment where necessary and is conducting further studies on thermal impacts to the receiving environment, including evaluating chilling options for effluent if needed. 15-MMR has optimized the layout such that surface water withdrawal is no longer required for the Old Austen Mine site.
NSECC	**Wetland**	Avoidance of wetlands should be completed where possible		X	The Old Austen Mine has been redesigned to minimize footprint, reduce environmental impacts wherever feasible, and further optimize its design. This includes reducing the PDA by 45% and reducing the number of wetlands impacted by 61%.

Appendix B

Previous Mi'kmaq Engagement and Key Issues

15-Mile Processing Hub Project

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Areas of Interest and Concerns	Comment	
15 Mile Mine – KMK					
Kwilmu'kw Maw-klusuaqn (KMK)	**Traffic**	Trucking routes		X	15-MMR remains committed to the safety of both its employees and surrounding communities. As part of the ongoing haul route study, 15-MMR is evaluating multiple ore transportation options, with a clear objective of avoiding Beaver Lake IR 17 in the preferred route selection. 15-MMR would like to collaborate with Mi'kmaq communities to mitigate Project-related traffic concerns.
15 Mile Mine - Sipekne'katik First Nation					
Sipekne'katik First Nation	**Data Sharing**	Recommend sharing baseline data before regulatory submission for communities to review and ask questions		X	15-MMR is open to collaborating through sharing relevant data with Mi'kmaq communities. To date GIS, baseline groundwater and surface water data, and archaeology reports have been provided. 15-MMR will continue to provide relevant data, where possible and as requested, as new data becomes available.

15-Mile Mine

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Areas of Interest and Concerns	Comment	
15 Mile Mine (formally Fifteen Mile Stream Gold Project) – KMK					
KMK	**Air Quality**	Monitoring dust and particle emissions during construction and operations	X		The redesigned layout of the 15-Mile Mine includes fewer stockpiles, eliminating the potentially acid generating waste rock stockpile by moving material directly into the tailings management facility or empty pit, and removes the medium- and low-grade stockpiles. A Dust Management Plan will be developed and submitted for regulatory approval. The plan will outline measures for monitoring, controlling, and mitigating dust emissions during all phases of the Project. The process plant and crushing circuit are being reused from Touquoy Mine which includes dust control such as mechanical covers on conveyors, drop points and screen decks.
KMK	**Air Quality**	ROM storage pad and air dispersion modelling to account for potential emissions	X		15-MMR confirms that the ROM (Run-of-Mine) storage pad will not be enclosed. An air dispersion model will be completed for the Project. 15-MMR will be regulated to meet air receptors standards at the Project boundary before regulatory approval is provided. A Dust Management Plan will be developed and submitted for regulatory approval. The plan will outline measures for monitoring, controlling, and mitigating dust emissions during all phases of the Project.
KMK	**Archaeology**	Conservation of Mi'kmaq artifacts	X		15-MMR engaged a third-party consultant to conduct archaeological screening and reconnaissance for the PDA. No pre-contact Mi'kmaq artifacts were found. During construction or operations, if archaeological deposits are encountered procedures and protocols developed by the Mi'kmaq of Nova Scotia and the Nova Scotia Museum will be implemented.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Areas of Interest and Concerns	Comment	
15 Mile Mine (formally Fifteen Mile Stream Gold Project) – KMK					
KMK	**Birds and Bats**	Lack of targeted surveys for bird and bats within and around the Project Development Area (PDA)	X		15-MMR completed an environmental baseline gap analysis for the 15-Mile Mine Project. A 2025 breeding birds survey, nightjar survey and fall migration survey have been completed, along with a spring migration survey at each site in 2026. Bat acoustic surveys, along with maternity roosting surveys, have been completed for each mine site. Surveys focus on areas in which bats are likely to mate or raise pups.
KMK	**Blue-Felt Lichen**	Adverse Project impacts on Blue-Felt Lichen and success of relocation	X		15-MMR has redesigned the Project to avoid disturbance to lichen to the extent practical at each location. During construction, 15-MMR will be micro-siting infrastructure to avoid lichen where possible. Where avoidance is not possible, such as lichen growing within pits limits, lichen will undergo translocation. Translocation of lichen has been successful in other Atlantic provinces.
KMK	**Climate Change**	Climate change consideration in modelling	X		The Project's surface water and groundwater models will account for expected changes in precipitation and temperature due to climate change. A future climate scenario will be developed using national climate projection data to adjust historical climate records. These adjustments reflect projected changes in rainfall and temperature patterns and are applied to create a future climate dataset. This dataset will then be used to support water balance calculations, predict future water quality, assess the environment's ability to absorb changes in water quality, and evaluate potential effects on ecological flows.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Areas of Interest and Concerns	Comment	
15 Mile Mine (formally Fifteen Mile Stream Gold Project) – KMK					
KMK	**Country Foods Study**	Country Foods Study		X	While operating as AMNS, 15-MMR engaged the 15-Mile Mine Technical Advisory Group (TAG) to introduce a proposed Baseline Country Food Study, sharing a high-level concept and seeking input and expressions of interest from TAG members, including participating Mi'kmaq communities. Feedback received from KMK recommended developing a survey to gauge how the Mi'kmaq may be using the land near the Fifteen Mile Stream Project. While the TAG is no longer active, 15-MMR remains open to advancing these discussions.
KMK	**Engagement**	Request ongoing engagement with the Mi'kmaq of Nova Scotia		X	15-MMR is committed to ongoing Mi'kmaq engagement for the life of the Project. Other aspects of Mi'kmaq engagement will continue as per the 15-MMR Mi'kmaq Engagement Strategy with focus on concerns identified and additional concerns/areas of interest that may arise as the Project develops.
KMK	**Fish**	Adverse impacts to fish and fish habitat, loss of habitat and migration of Indigenous fish species	X		15-MMR retained a third-party consultant to review fish and fish habitat data and complete a gap analysis. A comprehensive fish and fish habitat field survey program was completed summer of 2024, 2025 and upcoming 2026 to address identified data gaps. 15-MMR is committed to implementing an Offsetting Plan (which will be required to meet the requirements of a *Fisheries Act Authorization*) to compensate for fish and fish habitat impacts. 15-MMR remains open to working collaboratively with the Mi'kmaq and DFO to identify fish offsetting projects that can be incorporated into the Offsetting Plan.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Areas of Interest and Concerns	Comment	
15 Mile Mine (formally Fifteen Mile Stream Gold Project) – KMK					
KMK	**Habitat**	Habitat loss from Project development, including forest, wetlands, flora and fauna	X		Optimization of the 15-Mile Mine design has focused on minimizing impacts on habitat. Valued components are being assessed, and mitigation and monitoring plans will be established for priority species, including fish, vascular flora and lichens, terrestrial fauna and birds. 15-MMR will prepare a Wetland Compensation Plan to offset wetland losses. 15-MMR will prepare a Fish Offsetting Plan to address any fish habitat loss as a result of Project development.
KMK	**Historic Tailings**	Disposal of Historic Tailings	X		Disposal of historic tailings will occur for the Project. Remediation for mercury impacted soils will include excavation, transport and storage within a clay cell constructed within the 15-Mile Tailings Management Facility. Any soils disturbed by infrastructure exceeding site-specific soils guidelines inclusive contaminated soils will be remediated. Delineation will be detailed as works on the historic tailings management plan progresses Details regarding disposal of historic tailings, waste rock and contaminated soils will continue to be developed as the Project is further progressed. 15-MMR will work with third party consultant to ensure safe and efficient disposal of historic tailings, waste rock and contaminated soils.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Areas of Interest and Concerns	Comment	
15 Mile Mine (formally Fifteen Mile Stream Gold Project) – KMK					
KMK	**Noise**	Potential adverse impacts of all cumulative noise on wildlife, particularly harvested species and SAR	X		Noise modelling will be completed at each site to determine if adverse impacts are expected. In addition, some mitigations to noise will include: - Where able, trees and other vegetation will be left in place to reduce nuisance noise - Berms will be constructed around the perimeters of the open pits - A Blast Management Plan will be developed and submitted for regulatory approval. Blasting will occur during permitted hours. Communities within a specified radius will be notified in advance of blasting.
KMK	**Noise & Light**	Elevated noise and light levels impacting hunting practices near the Project	X		A Mi'kmaq Ecological Knowledge Study has been completed for the 15-Mile Mine. Measures to reduce noise and light can be implemented during all phases of the Project to minimize impact.
KMK	**Reclamation**	Reclamation Planning and timing for renewed access to the site after active mining is completed	X		The sites have been redesigned with reclamation in mind. Simplified layouts, source term controls and reduced infrastructure improve reclamation timelines and scope. For example, backfilling vacant open pits accelerates final landforms by decades compared to previous designs of flooding. Designs have been optimized from experience with Touquoy reclamation to support detailed timelines and progressive reclamation. Details will be further developed during permitting and throughout the life of mine through engagement with the Mi'kmaq. 15-MMR is planning to complete progressive reclamation during operations where practical, including backfilling potentially acid generating during operations at 15-Mile.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Areas of Interest and Concerns	Comment	
15 Mile Mine (formally Fifteen Mile Stream Gold Project) – KMK					
KMK	**Seloam Brook Realignment**	Seloam Brook Realignment design, focusing on fish passage and dust impact on fish	X		15-MMR has redesigned the Seloam Brook Realignment, focusing on fish passage. This redesign will be discussed with KMK, NCNS, and other relevant Mi'kmaq organizations, and DFO for feedback. A Dust Management Plan will be developed for the Project. The plan will outline measures for monitoring, controlling, and mitigating dust emissions during all phases of the Project. 15-MMR has retained a third-party consultant to complete an Ecological Risk Assessment to investigate potential effects of dust on fish and fish habitat.
KMK	**Socio-Economic**	Labour force required for construction and operation phases of the Project, including local verses outside labour required	X		15-MMR has updated the labour force numbers for the 15-Mile Processing Hub Project, including local jobs based in Nova Scotia, as well as jobs across Canada.
KMK	**Surface Water**	Flow reductions in East Lake and East Brook waterbodies	X		15-MMR has redesigned the Project to omit infrastructure from the East Lake Watershed. This redesign should significantly reduce or eliminate potential flow reduction issues.
KNK	**Surface Water**	Surface water information provided relating to the Touquoy Mine	X		15-Mile has redesigned the 15-Mile project and will undertake a complete update of the surface water modelling to reflect the current project layout, which no longer includes the Touquoy Mine. The updated modelling results will include mixing zone analysis and water treatment at discharge.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Areas of Interest and Concerns	Comment	
15 Mile Mine (formally Fifteen Mile Stream Gold Project) – KMK					
KMK	**Tailings Management Facility**	Accidents and Malfunctions in relation to the tailings management facility	X		In 2025, 15-MMR completed a new Multiple Accounts Analysis that has optimized the location of the tailings management facility. Detailed engineering design work is currently underway with a third-party consultant. A Dam Breach Study will be completed before permits are obtained. 15-Mile's tailings management facility will be supported by third party professionals to ensure adherence to performance objectives, regulatory guidelines and best practices. This includes an Engineer-of-Record (a third-party engineer licensed professional engineer who takes legal and professional responsibility for the dam design, construction and performance as defined by Mining Association of Canada (MAC) and Global Industry Standard on Tailings Management (GISTM) guidelines) being identified for the life of the dam and independent tailings review board (ITRB) reviewing dam performance annually. St Barbara has had success constructing, operating and monitoring a tailings management facility within Nova Scotia.
KMK	**Traditional Land Use**	Loss of habitat and access to mine sites to undertake traditional practices, such as hunting, harvesting, fishing	X		15-MMR is open to discussing site access with the Mi'kmaq of Nova Scotia throughout all phases of the Project, where safe and feasible.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Areas of Interest and Concerns	Comment	
15 Mile Mine (formally Fifteen Mile Stream Gold Project) – KMK					
KMK	**Water Quality**	Absence of water treatment	X		15-MMR has re-designed the Project to include water treatment and will further refine water treatment during detailed water modelling and the permitting process. 15-MMR will take an impacts-based approach to water quality. This approach will model the impacts to fish populations and based on if these impacts are predicted to be harmful to fish, propose and implement mitigation. 15-MMR has conducted metallurgical test work to reduce the cyanide and reagents required for processing, with a further benefit of reducing the byproducts of cyanide destruction inclusive copper and ammonia. Test work and plant design has included pre-treatment of arsenic immediately after cyanide destruction to reduce dissolved arsenic in effluent. 15-MMR is committed to maintaining a robust water quality monitoring program to confirm water quality.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Issues and Concerns	Comment	
15 Mile Mine (formally Fifteen Mile Stream Gold Project) – Native Council of Nova Scotia					
Native Council of Nova Scotia (NCNS)	**Cumulative Effects**	Cumulative loss of habitat, fauna and flora will result in depreciation of access to natural life	X		15-MMR has re-designed the Project to minimize its footprint, reduce environmental impacts wherever feasible, and continues to optimize its design. By consolidating the three mine sites and re-designing them as a single, integrated project, 15-MMR has optimized and balanced operational activities across all locations. This unified approach enables a comprehensive assessment of cumulative effects, considering the interactions and combined impacts of the three sites as components of one coordinate Project.
NCNS	**Fish**	Fish and fish habitat assessment, inconsistency with reports and lack of certain data	X		15-MMR retained a third-party consultant to review fish and fish habitat data and complete a gap analysis. A comprehensive fish and fish habitat field survey program was completed summer of 2024, 2025 and upcoming 2026 to address identified data gaps.
NCNS	**Surface Water**	Groundwater modelling, including how it feeds the surface water model and predictions	X		15-MMR has undertaken significant work to re-evaluate the groundwater model, which will include additional information such as potential contaminate plume and mass loadings. 15-MMR will develop Plain Language Summaries (PLS) to better describe groundwater and surface water modelling.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Issues and Concerns	Comment	
15 Mile Mine (formally Fifteen Mile Stream Gold Project) – Pictou Landing First Nation					
Pictou Landing First Nation	**Historic Tailings**	Disposal and treatment of Historic Tailings	X		Disposal of historic tailings will occur for the Project. Remediation for mercury impacted soils will include excavation, transport and storage within a clay cell constructed within the 15-Mile Tailings Management Facility. Any soils disturbed by infrastructure exceeding site-specific soils guidelines inclusive contaminated soils will be remediated. Delineation will be detailed as works on the historic tailings management plan progresses Details regarding disposal of historic tailings, waste rock and contaminated soils will continue to be developed as the Project is further progressed. 15-MMR will work with third party consultant to ensure safe and efficient disposal of historic tailings, waste rock and contaminated soils.

Old Austen Mine

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – KMK					
KMK	**Acid Rock Drainage (ARD)**	Timing and on-set of acid rock drainage	X		Potentially acid generated waste rock will be temporarily stored on surface and placed back into the exhausted Austen Pit, to reduce how long it remains exposed on surface and exposure to oxidation. The open pit will be flooded with water to support long term geo chemical stability. In addition, more geochemical test work has been completed to improve the knowledge of the deposit and inform mitigation measures. Water modelling will be updated during permitting as more information becomes available, and additional measures will be added if needed to manage acid rock drainage risks. The reduced open pit size has also reduced the amount of waste rock and potentially acid generating material.
KMK	**Cumulative Effects**	Cumulative effects of the multiple mine projects	X		15-MMR has re-designed the Project to minimize its footprint, reduce environmental impacts wherever feasible, and continues to optimize its design. Notably, the Old Austen Mine PDA has been reduced by about 45%. By consolidating the three mine sites and re-designing them as a single, integrated project, 15-MMR has optimized and balanced operational activities across all locations. This unified approach enables a comprehensive assessment of cumulative effects, considering the interactions and combined impacts of the three sites as components of one.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – KMK					
KMK	**Waste Rock**	Testing of material used for rock construction	X		15-MMR is committed to only using non-acid generating (NAG) material for construction purposes. A Metal Leaching and Acid Rock Drainage (ML/ARD) Management Plan will be developed for the Project. Additional geochemical test work has been completed to expand knowledge of the deposit.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Millbrook First Nation					
Millbrook First Nation	**Accidents/Malfunctions**	Concerns relating to contingency planning for accidents and malfunctions	X		Hazards will be identified and assessed based on risk with mitigation measures and contingency planning in place. A Project Emergency Response Plan will be developed and submitted for regulatory approval. 15-MMR would like to collaborate with Millbrook First Nation to develop an Emergency Response Plan to be followed in the event of an accident or malfunction. Reduced risk with simplified quarry style project with less infrastructure and smaller stockpiles to eliminate potential for risks. 15-MMR will apply industry leading standards.
Millbrook First Nation	**Crown Land Usage**	The Project will contribute to a long-term loss of Crown lands	X		15-MMR has re-designed the Old Austen Mine layout to reduce the PDA by 45%, creating a substantially smaller footprint on crown lands. 15-MMR is open to discussing site access with Millbrook First Nation throughout all phases of the Project, where safe and feasible.
Millbrook First Nation	**Engagement**	Effort has been put into trying to satisfy project conditions, rather than trying to satisfy the concerns of Millbrook band members		X	15-MMR has received the feedback of Millbrook and that of other Mi'kmaq communities and have listened and heard that feedback. The concerns brought forward have been carefully considered and significant changes have been made to the Project in a sincere effort to address those concerns The Project redesign has focused on reducing the PDA by 45%, creating a substantially smaller footprint. 15-MMR remains open to engage with Millbrook First Nation to continue to address Project concerns.
Millbrook First Nation	**Cultural Awareness**	Employees and contractors should receive cultural awareness training		X	15-MMR employees and contractors will receive cultural awareness training. 15-MMR has reached out to the Mi'kmaq to provide options for training programs/ providers.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Millbrook First Nation					
Millbrook First Nation	**Emergency Response**	Safety concerns relating to emergency response		X	A Project Emergency Response Plan will be developed and submitted for regulatory approval. 15-MMR would like to collaborate with Millbrook First Nation to include their input to address concerns regarding emergency response.
Millbrook First Nation	**First Nations Health**	Emotional impacts of the project on the population, specifically concerning resentment that will be felt if the project is approved	X		15-MMR remains open to maintaining ongoing communication with local communities, establishing forums for input and sharing concerns. 15-MMR remains open to discussions regarding support for community well-being programs with Millbrook First Nation. The project has been redesigned to reduce impacts and avoid sensitive water sheds and minimize impacts on water courses. It also no longer includes a haul road to Touquoy and a reduced trucking.
Millbrook First Nation	**First Nations Health**	Community proximity to pollution source	X		15-MMR has redesigned the Old Austen Mine with a smaller open pit design and layout to reduce the PDA by 45%, creating a substantially smaller footprint. The project also now avoids sensitive watersheds for the community. It is recognized that there is historical contamination in the PDA from legacy tailings. As part of operations, these historical tailings will be remediated, improving the existing environmental conditions and reducing the risk of ongoing pollution. 15-MMR would like to collaborate with Millbrook First Nation to develop contingency plans in the case of an accident or malfunction.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Millbrook First Nation					
Millbrook First Nation	**Mi'kmaq Health**	Mine construction will result in loss of space. If members are no longer able to access certain areas that they historically have been able to use at their leisure, they will not be able to stay physically active which may impact mental health as well	X		15-MMR has redesigned the Old Austen Mine layout to reduce the PDA by 45%, creating a substantially smaller footprint and removal of the previously proposed haul road. 15-MMR is open to discussing site access with Millbrook First Nation throughout all phases of the Project, where safe and feasible.
Millbrook First Nation	**Mi'kmaq Health & Terrestrial Fauna**	Concern that noise and activity may disrupt the quietude of the area, affect wildlife behaviour	X		Noise modelling will be conducted for the Project, and noise suppression measures will be applied where appropriate. Where possible, vegetative buffers will be maintained to act as natural noise barriers. A Blast Management Plan will be developed, with blasting occurring during daytime hours. Nearby communities will be provided notification in advance of blasting. 15-MMR staff will be provided wildlife awareness training to reduce interactions between site personnel and wildlife. A Wildlife Management Plan (WMP) will be developed and submitted for regulatory approval prior to the start of construction. The project re-design incorporates a reduced open pit, together with a lower proposed mining and haulage rate. These modifications materially decrease the overall scale and intensity of operations, resulting in a reduction in the quantity of mobile equipment required during operations. 15-MMR remains open to engage with Millbrook First Nation to continue to address concerns regarding the Project.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Millbrook First Nation					
Millbrook First Nation	**Food Access**	Food insecurity and rising food costs	X		15-MMR acknowledges community concerns around food insecurity and rising food costs. 15-MMR has attempted to significantly reduce its impact on country foods and traditional land use through project disturbance area reduction, reduced open pit size and elimination of the Beaver Dam Haul Road. 15-MMR remains open to discussions with Millbrook First Nation to explore potential options to provide support.
Millbrook First Nation	**Harvesting Areas**	Reduced access to foraging grounds, with other available foraging grounds not allowing for spontaneity due to further proximity from residences	X		15-MMR has redesigned the Old Austen Mine layout to reduce the PDA by 45%, creating a substantially smaller footprint. 15-MMR is open to collaborating with Millbrook First Nation to explore ways to provide access to foraging grounds during seasonal harvest periods, where it is safe and practical to do so.
Millbrook First Nation	**Harvesting Areas**	Company has not provided any evidence that the bounty of resources in areas near the mine will continue to be fruitful in the presence of the sensory impacts (noise, light, traffic, seismic, etc.)	X		15-MMR is committed to environmental modelling. This includes. Noise Modelling, a Light Impact Assessment, and Traffic Study. 15-MMR is also committed to ongoing monitoring throughout all Phases of the Project.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Millbrook First Nation					
Millbrook First Nation	**Hauling**	Haul Road options that do not travel along Highway 224	X		15-MMR remains committed to the safety of both its employees and surrounding communities. As part of the ongoing haul route study, 15-MMR is evaluating multiple ore transportation options, with effort being made to avoid Beaver Lake IR 17. 15-MMR has revised the mine plan to reduce the number of B-train ore haul trucks to approximately one-third of previous estimates. 15-MMR would like to collaborate with Mi'kmaq communities to address and help mitigate any traffic-related concerns.
Millbrook First Nation	**Human Health**	Concerns regarding reduced air and water quality	X		15-MMR is committed to protecting human health and the environment. A Human Health Risk Assessment will be completed for each of the three mine sites. This assessment will include both water and air quality. Monitoring will be ongoing throughout all phases of the Project.
Millbrook First Nation	**Land Access**	Haul Road and potential impact on Traditional Land Use	X		Millbrook First Nation raised concerns about the potential disturbance to Crown Lands along the proposed haul road route and how it could interfere with Traditional Land Use. 15-MMR has now removed the haul road from the Project and will no longer construct, upgrade, or use this route for transporting ore.
Millbrook First Nation	**Life-of-Mine**	5-year project life being extended through pit expansion applications	X		The pit has been optimized based on environmental and economic factors. Pits modeled with higher mined volumes did not provide economic advantages and had increased environmental and impacts.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Millbrook First Nation					
Millbrook First Nation	**Mine Location**	Proximity of community to the mine site	X		15-MMR has undertaken significant redesign efforts for the Old Austen Mine to minimize environmental impacts and respond to community concerns. As part of this work, the number of watersheds affected by the open pit and associated infrastructure has been reduced from seven to four, including the removal of the Cope Brook Watershed from the PDA. Cope Brook flows directly to Beaver Lake IR 17, and this adjustment reflects 15-MMR's commitment to addressing Millbrook's concerns regarding water quality. Additionally, the Project has been further optimized to eliminate 23 million tonnes of surface waste rock, which is expected to reduce potential impacts on water quality.
Millbrook First Nation	**Reclamation**	Reclamation at the Beaver Dam Mine Site, particularly the Beaver Dam Haul Road	X		The Project has been redesigned to remove the Beaver Dam Haul Road to Touquoy Mine. This aligns with Millbrook First Nation concerns about the construction and the overall footprint of the mine PDA, which has since been reduced by 45%. This significantly reduces the amount of time required to reclaim the mine site. 15-MMR is planning to complete active reclamation during operations where possible. Reclamation and processing timelines have been developed to be realistic while maintaining efficiency in completing reclamation works. Details will be further developed throughout the life of mine through engagement with the Mi'kmaq.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Millbrook First Nation					
Millbrook First Nation	**Traditional Land Use**	Loss of Traditional Land Use	X		15-MMR redesigned the Old Austen Mine layout to reduce the PDA by 45% in an effort to address this concern. The Old Austen Mine PDA is designed to maintain access to the Killag River from the west side for fishing purposes. 15-MMR is open to discussing site access with the community (Millbrook First Nation) throughout all phases of the Project, where safe and feasible.
Millbrook First Nation	**Traffic**	Safety concerns relating to traffic	X		15-MMR is committed to the safety of both its employees and surrounding communities. As part of the ongoing haul route study, 15-MMR is evaluating multiple ore transportation options, with particular effort being made to avoid Beaver Lake IR 17. 15-MMR has revised the mine plan to reduce the number of B-train ore haul trucks to approximately one-third of previous estimates. 15-MMR would like to work collaboratively with Millbrook First Nation to address and help mitigate any traffic-related concerns.
Millbrook First Nation	**Water Quality**	Preserving/improving the water quality in the project area - both in-home and externally	X		15-MMR will be reviewing water quality and will provide more information once water models are finalized. 15-MMR has distanced infrastructure from Beaver Lake IR 17, including the avoidance of the Cope Brook watershed, which should mitigate direct impacts on homes in this community. Impacts to water quality surrounding the site will be managed based on monitoring results with applicable mitigation as required.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
Old Austen Mine (formerly Beaver Dam Mine Project) – Native Council of Nova Scotia					
Native Council of Nova Scotia (NCNS)	**EIS Writing**	Credentials of the writing in parts of the EIS	X		15-MMR is working with a third-party consultant to develop the regulatory outline, with each chapter assigned to the qualified technical expert responsible for that Valued Component. All documentation will be prepared using project-specific data and analysis and will undergo internal review and quality control to ensure accuracy, consistency, and relevance to this project.
NCNS	**Hydraulic Conductivity Data**	Gaps in the subsurface data, resulting in poor geologic/hydrogeologic control outside of the moose river formation	X		15-MMR is working with a third-party consultant to complete a gap analysis and will identify whether further field work is needed, such as additional drilling, hydrogeological testing, and geotechnical investigations, to develop a comprehensive dataset.
NCNS	**Surface Water**	Decrease in overland flow and baseflow into Mud Lake	X		Impacts on Mud Lake have been heavily reduced by consolidating infrastructure to the eastern side of the PDA. Impacts on Mud Lake will be reviewed during water modelling and further mitigations will be implemented if required.
NCNS	**Water Quality**	Reduction in baseflow in both Cameron Flowage and Mud Lake affecting surface water body substrate environments for cold-water aquatic species	X		15-MMR will be reviewing water quality and will provide more information once water models are finalized. 15-MMR has removed all infrastructure from Mud Lake catchment areas and through this expects to have mitigated impacts to Mud Lake. Three of the four catchment areas impacted by infrastructure flow to Cameron Flowage. 15-MMR is working to mitigate flow losses to Cameron Flowage and will assess thermal impacts to the watershed.

Old Mitchell Mine

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Issues and Concerns	Comment	
Old Mitchell Mine (formerly Cochrane Hill Gold Project) – Native Council of Nova Scotia					
NCNS	**Cumulative Effects**	Cumulative effects of the multiple mine projects	X		15-MMR has re-designed the Project to minimize its footprint, reduce environmental impacts wherever feasible, and continues to optimize its design. By consolidating the three mine sites and re-designing them as a single, integrated project, 15-MMR has optimized and balanced operational activities across all locations. This unified approach enables a comprehensive assessment of cumulative effects, considering the interactions and combined impacts of the three sites as components of one coordinated Project.
NCNS	**General Environmental**	Environmental impacts, including potential impact to wetlands	X		15-MMR has reduced the open pit by 14 million tonnes and scaled back the size of the overall PDA, resulting in a smaller infrastructure footprint. The revised design eliminates the need for a tailings management facility and a process plant, and significantly reduces environmental effects, including a 55% reduction in the wetland disturbance footprint.
NCNS	**Old Growth Forest**	Impacts to old growth forest	X		The redesign of the Old Mitchell Mine layout focused on avoiding impacts to sensitive environmental receptors, including identified Old Growth Forest within the PDA. 15-MMR is planning to conduct an Old Growth Forest field program early Spring of 2026. Where practical, the Old Mitchell Mine layout will be adjusted to avoid Old Growth Forest.
NCNS	**Reagent Usage**	Processing reagents and effects on human health and environment	X		The Old Mitchell Mine has been redesigned to function as a quarry style mine site. Therefore, ore will no longer be processed at this location and processing reagents will not be required. Also, as a result of this change, a tailings management facility is no longer required.

Mi'kmaq Organization/Community	Topic	Key Issues	Engagement Feedback		Actions / Comments
			Issues and Concerns	Comment	
Old Mitchell Mine (formerly Cochrane Hill Gold Project) – Native Council of Nova Scotia					
NCNS	**Surface Water**	Volume of water withdrawal from Archibald Lake and potential impacts on surface water	X		15-MMR has re-designed the Old Mitchell Mine such that a surface water withdrawal is no longer required, and the PDA no longer includes Archibald Lake for water withdrawal or discharge.
NCNS	**Tailings Management Facility**	Consider options for the construction or placement of a dry tailings holding area and one for an aqueous Tailing Management Facility		X	Dry stack tailings was considered within the multiple accounts analysis but was deemed unfeasible due to climate and costs.
Old Mitchell Mine Mine (formerly Cochrane Hill Gold Project) – KMK					
KMK	**Surface Water**	Concerns with proximity to St. Mary's River	X		15-MMR has redesigned the Old Mitchell Mine to avoid direct interaction with the St. Mary's watershed. Both the project area and open pit size have been reduced to further increase the buffer.

Appendix C

Previous Stakeholder Engagement and Key Issues

15-Mile Processing Hub Project

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Processing Hub Project – Opportunity Session Feedback					
Opportunity Session Attendees	**Project Changes**	Project re-design has gold left in the ground		X	15-MMR has redesigned the project and completed pit optimizations at the Old Austen Mine and Old Mitchell Mine sites. These optimizations intentionally leave a portion of the resource unmined and were identified as the preferred approach based on environmental, social, and financial considerations.
Port Dufferin Opportunity Session Attendee	**Land Access**	Access to lime doser on Killag River	X		15-MMR acknowledges the importance of the NSSA lime dosing project to the Killag River and is committed to working with Nova Scotia Salmon Association (NSSA), owner of the lime doser, to develop an access agreement.
Port Dufferin Opportunity Session Attendee	**Traffic Management**	Impact to highways and road traffic	X		15-MMR remains committed to the safety of both its employees and surrounding communities. As part of the ongoing haul route study, 15-MMR is evaluating multiple ore transportation options, with a clear objective of avoiding IR-17 in the preferred route selection. 15-MMR would like to collaborate with communities to mitigate Project-related traffic concerns.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Processing Hub Project – Pictou County Chamber After Hour Social					
After Hour Social Attendees	**Communication**	Continued communication and information sharing with communities		X	15-MMR is committed to building stronger communities and strives to establish meaningful relationships, investing time and energy to ensure communities are enriched by being our neighbors. We are pleased to deepen our connections with the communities where we operate. 15-MMR is committed to ongoing engagement with adjacent communities, partners, interested and affected parties and the Mi'kmaq of Nova Scotia for the life of the Project. Engagement is guided by our Community Engagement Strategy and includes levels of engagement with suitable methods to engage, including newsletters, website updates, community office hours, small group presentations, among other methods. 15-MMR maintains a community relations email address (communityrelations@stbarbara.ca) and phone line (1-902-391-4653) and welcomes outreach from community members and organizations seeking meetings or information updates.
After Hour Social Attendees	**Community Infrastructure**	An influx of employees could result in a higher demand for suitable housing in communities near the Project areas		X	15-MMR acknowledges that the Project may create additional demand for housing in communities near the Project areas. Opportunity Sessions were held in November 2025 in the communities of Stellarton, Port Dufferin and Country Harbour to gauge employment interest from locals residing in the area. 15-MMR is committed to hiring and training local residents where possible, consistent with practices successfully implemented at the Touquoy Mine.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Processing Hub Project – Community Groups					
Antigonish Rivers Association	**Economic Impacts**	Economic activity will be short lived		X	The Project will produce high economic activity during construction and operation, however there will be other long-term benefits of the project which may persist past the life of mine. This may include: - Economic stimulus from the project can be re-investing into other works supporting further growth; - Potential for renewable energy projects post operations; - Reclamation work and long-term monitoring; - Provide reclamation to historic tailings, contaminated soil and historic waste rock within the Project's disturbed areas; - Operations will train the local labour force in specialized skills increasing productivity specifically in rural communities; - Growth of local businesses; - Increased experience and expertise in industrial regulation and management for local workforce, and regulatory agencies.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Processing Hub Project – General Public Feedback					
General Public	**Mine Disturbance**	Mine Planning and Material Handling, focusing on Potentially Acid Generating (PAG) waste rock storage on surface, tonnage estimates and material balance	X		15-MMR has done significant work around optimizing the mine plan and material balance. Each site now has a relaxed mining rate to reduce extraction rates while also reducing stockpiles at surface. The Project redesign now includes immediate placement of potentially acid generating waste rock into the tailings management facility and backfilling exhausted pits to be stored subaqueously – which is industry standard and promoted by MEND (Mine Environment Neutral Drainage) and by Nova Scotia Environment and Climate Change (NSECC) in recently released guidelines.
General Public	**Project Offsetting**	Inadequate offsetting projects	X		15-MMR is actively seeking offsetting opportunities and is working with third-party consultants to identify projects. 15-MMR is committed to implementing an Offsetting Plan (which will be required to meet the requirements of a *Fisheries Act Authorization*) to compensate for fish and fish habitat impacts. 15-MMR remains open to working collaboratively with communities, stakeholders, Mi'kmaq of Nova Scotia and DFO to identify fish offsetting projects that can be incorporated into the Offsetting Plan.
General Public	**Water Quality**	Absence of water treatment	X		15-MMR has re-designed the Project to include water treatment and will further refine water treatment during detailed water modelling and the permitting process. 15-MMR will take an impacts-based approach to water quality. This approach will model the impacts to fish populations and based on if these impacts are predicted to be harmful to fish, propose and implement mitigation. 15-MMR has conducted metallurgical test work to reduce the cyanide and reagents required for processing, with a further benefit of reducing the byproducts of cyanide destruction inclusive copper and ammonia. Test work and plant design has included pre-treatment of arsenic immediately after cyanide destruction to reduce dissolved arsenic in effluent. 15-MMR is committed to maintaining a robust water quality monitoring program to confirm water quality.

15-Mile Mine

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – Community and Environmental Groups					
15-Mile Community Liaison Committee (CLC)	**Communications**	Use of acronyms in communications		X	15-MMR is committed to developing Plain Language Summaries of complex mining topics and documents upon request to support understanding of complex topics. 15-MMR endeavours to reduce the number of acronyms used in external communications to improve clarity and public understanding.
15-Mile CLC	**Economic Impact**	Expected economic impacts of the consolidated project		X	An Economic impact report summary has been shared with the 15-Mile Mine Community Liaison Committee. This information was also included in materials presented at recent Opportunities Information Sessions held in November 2025 in communities near the Project areas. 15-MMR will continue to share economic impact information with local communities, recognizing that rural communities are eager to understand the potential economic benefits and opportunities associated with the Project.
15-Mile CLC	**Equipment**	Re-purposing equipment from the Touquoy Mine to reduce footprint	X		Where possible, equipment from the Touquoy mine will be re-used at the15-Mile Mine. Re-use of equipment is contingent upon meeting operational specifications for the 15-Mile Mine and being in reasonable condition for transport and future use. Equipment that cannot be re-used will be managed on a case-by-case basis.
15-Mile CLC	**Project Timelines**	Project timeline delays	X		15MMR acknowledges and appreciates CLC members time and feedback on the Project to date. Updates to the projects have served to improve Project design and reduce environmental and community impact. Project timelines are heavily influenced by regulatory and corporate factors, as well as the inherent complexities of the Project.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – Community and Environmental Groups					
15-Mile CLC	**Reclamation Plans**	Use of the Beaver Dam and/or Cochrane Hill pits as closed-loop pumped hydro power facilities after reclamation		X	15MMR acknowledges the Community Liaison Committee's interest in reusing the Austen Pit and Mitchell Pit for possible closed loop hydro power facilities in reclamation. 15-MMR will explore this option during the permitting process and the development of the site reclamation plan. Reclamation plans are subject to approval by regulatory authorities. Reclamation progress will be communicated through Community Liaison Committee updates and other methods of updates based on feedback received from the adjacent communities.
15-Mile CLC	**Traffic Management**	Potential impacts to the community of Sheet Harbour from ore hauling traffic	X		15-MMR remains committed to the safety of both its employees and surrounding communities. As part of the ongoing haul route study, 15-MMR is evaluating multiple ore transportation options, with a clear objective of avoiding IR-17 in the preferred route selection. 15-MMR would like to review potential haul routes with communities once more information is received.
15-Mile CLC	**Traffic Management**	Potential impacts of Haul operations on ATV (All-Terrain Vehicle) trails	X		Impacts to ATV trails are expected to be limited to those within the Project Development Area or at areas where ATV trails cross or travel by roads utilized for hauling. 15-MMR is evaluating multiple ore transportation options which will determine whether routes will impact popular ATV trails. Mitigations may be suggested where appropriate.
15-Mile CLC	**Traffic Management**	Liscomb River Road as a haul route		X	15-MMR is evaluating multiple ore transportation options as part of an on-going haul route study. The Liscomb River Road is included in the haul route study. 15-MMR would like to review potential haul routes with communities once more information is received.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – Community and Environmental Groups					
15-Mile CLC	**Water Management**	Potential impacts to adjacent Nova Scotia Power hydro-dam		X	15-MMR is committed to working with Nova Scotia Power Inc. during all phases of the Project to ensure there are no adverse impacts on the hydro-dam.
Sheet Harbour Snowmobile and ATV Club	**Trail Access**	Access to existing ATV trails	X		Impacts to ATV trails are expected to be limited to those within the Project Development Area or at areas where ATV trails cross or travel by roads utilized for hauling. 15-MMR is evaluating multiple ore transportation options which will determine whether routes will impact popular ATV trails. Mitigations may be suggested where appropriate. 15-MMR is committed to establishing a by-pass road around the 15-Mile Mine to maintain access to connecting ATV trails.
Atlantic Salmon Federation	**Climate Change**	Climate models provided rely on historic norms not accounting for climate change	X		The Project's surface water and groundwater models will account for expected changes in precipitation and temperature due to climate change. A future climate scenario will be developed using national climate projection data to adjust historical climate records. These adjustments reflect projected changes in rainfall and temperature patterns and are applied to create a future climate dataset. This dataset will then be used to support water balance calculations, predict future water quality, assess the environment's ability to absorb changes in water quality, and evaluate potential effects on ecological flows.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – Community and Environmental Groups					
Atlantic Salmon Federation	**Cumulative Effects**	The 15-Mile Mine development should consider other proposed developments in this region, including the Beaver Dam and Cochrane Hill mines	X		15-MMR has re-designed the Project to minimize its footprint, reduce environmental impacts wherever feasible, and continues to optimize its design. By consolidating the three mine sites and re-designing them as a single, integrated project, 15-MMR has optimized and balanced operational activities across all locations. This unified approach enables a comprehensive assessment of cumulative effects, considering the interactions and combined impacts of the three sites as components of one coordinate Project.
Atlantic Salmon Federation	**Surface Water**	Timing of water withdrawals	X		An industrial water withdrawal permit for the Project is proposed only at the 15-Mile Mine location, from Seloam Lake. The risk of water depletion is expected to be minimal. Flow downstream of this withdrawal is already managed by a Nova Scotia Power Inc. controlled dam at the south side of Seloam Lake. 15-MMR will consider the variance in flow within its water modelling and water management strategies and as applicable may include provisions for mitigation impacts in extreme flow conditions.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – Community and Environmental Groups					
Atlantic Salmon Federation	**Tailings Management Facility**	The tailings management facility will remain in place for a long period of time and may exceed the life of adjacent Nova Scotia Power Inc. (NSPI) dams	X		The tailings management facility will be supported by third party professionals to ensure adherence to performance objectives, regulatory guidelines and best practices. This includes an Engineer-of-Record (a third-party engineer licensed professional engineer who takes legal and professional responsibility for the dam design, construction and performance as defined by Mining Association of Canada and Global Industry Standard on Tailings Management guidelines) being identified for the life of the dam and independent tailings review board (ITRB) reviewing dam performance annually. Tailings management facilities are designed for long term storage of waste material from mining to mitigate environmental impacts. Long term source terms, water modelling and potential long-term impacts will be included in the regulatory submission for the Project. Potential changes to NSPI's dam management may be considered in closure design, although it is not expected to impact dam operations.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – Community and Environmental Groups					
Atlantic Salmon Federation	**Tailings Management Facility**	Tailings management facility water released to the environment during operation is high in contaminants and warmer than natural inputs	X		The tailings management facility will be supported by third party professionals to ensure adherence to performance objectives, regulatory guidelines and best practices. This includes an Engineer-of-Record (a third-party engineer licensed professional engineer who takes legal and professional responsibility for the dam design, construction and performance as defined by Mining Association of Canada and Global Industry Standard on Tailings Management guidelines) being identified for the life of the dam and independent tailings review board (ITRB) reviewing dam performance annually. Tailings management facilities are designed for long term storage of waste material from mining to mitigate environmental impacts. 15-MMR will model potential water quality impacts occurring from water discharge from the tailings management facility as part of the regulatory submission. 15-MMR has redesigned the project to include water treatment and will further refine water treatment during the permitting process. Treatment will be implemented to meet regulatory guidelines. 15-MMR is committed to maintaining a robust water quality monitoring program during all phases of the Project to confirm water quality.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – Community and Environmental Groups					
Atlantic Salmon Federation	**Water Quality**	Treatment of discharged waters to "normal" water quality standards instead of background levels	X		15-MMR has re-designed the Project to include water treatment and will further refine water treatment during detailed water modelling and the permitting process. 15-MMR will take an impacts-based approach to water quality. This approach will model the impacts to fish populations and based on if these impacts are predicted to be harmful to fish, propose and implement mitigation. 15-MMR has conducted metallurgical test work to reduce the cyanide and reagents required for processing, with a further benefit of reducing the byproducts of cyanide destruction inclusive copper and ammonia. Test work and plant design has included pre-treatment of arsenic immediately after cyanide destruction to reduce dissolved arsenic in effluent. 15-MMR is committed to maintaining a robust water quality monitoring program to confirm water quality. 15-MMR will model potential water quality impacts occurring from water discharge from the tailings management facility as part of the regulatory submission. 15-MMR has redesigned the Project to mitigate flow losses where possible and will assess thermal impacts to watersheds as part of the regulatory submission.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – Open House					
15-Mile Open House	**Community**	Continuing community support previously afforded by operations at Touquoy mine		X	15-MMR continues to work with local communities and provide support to local organizations through initiatives such as donations, bursaries and Community Partnership Agreements while developing the 15-Mile Processing Hub Project. To date, 17 Community Partnership Agreements have been signed by 15-MMR.
15-Mile Open House	**Cumulative Effects**	Cumulative effects of separate mining projects	X		15-MMR has re-designed the Project to minimize its footprint, reduce environmental impacts wherever feasible, and continues to optimize its design. By consolidating the three mine sites and re-designing them as a single, integrated project, 15-MMR has optimized and balanced operational activities across all locations. This unified approach enables a comprehensive assessment of cumulative effects, considering the interactions and combined impacts of the three sites as components of one coordinate Project.
15-Mile Open House	**Economic Impacts**	Information regarding royalties and economic impacts of the Project		X	15-MMR has completed a socio-economic study for the 15-Mile Processing Hub Project, including local jobs to Nova Scotia, local area spend and contributions to Nova Scotia's Gross Domestic Product. Results from this study have been shared in Opportunities Information Sessions in November 2025 and during Community Liaison Committee meetings. Additionally, results are shared in presentations and communication materials.
15-Mile Open House	**Employment**	Jobs will not be local and will be filled by out-of-province workers		X	15-MMR is committed to building stronger communities and supporting the retention of a local labour force. Opportunity Sessions were held in November 2025 in the communities of Stellarton, Port Dufferin and Country Harbour to gauge employment interest from locals residing in the area. 15-MMR is committed to hiring and training local residents where possible, consistent with practices successfully implemented at the Touquoy Mine.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – Open House					
15-Mile Open House	**Environment**	Damage to the environment	X		15-MMR is committed to responsible environmental management and to reducing the environmental impacts of the Project. The Project has been redesigned to minimize footprint, reduce environmental impacts wherever feasible, and further optimize its design. Based on the current design, 15-MMR has reduced the total disturbed footprint area by approximately 38%, including a 42 hectares reduction in wetlands disturbed, 50% reduction in the number of wetlands disturbed and 78% reduction in Lichen disturbed.
15-Mile Open House	**Final Land Use**	Use of the land post mining		X	Final land use will be further refined as the Project progresses based on further works and community feedback. Currently, 15-MMR proposes reclaiming the projects near to the original landform with the introduction of pit lakes and soiled and seeded stockpiles. 15-MMR is exploring progressive closure options such reuse for renewable energy, contingent on regulatory approval, engagement with local communities and the Mi'kmaq of Nova Scotia.
15-Mile Open House	**Fish**	Ability for community members to continue to fish in the area.	X		Optimization of the 15-Mile Mine design has focused on minimizing impacts on habitat. Valued components are being assessed, and mitigation and monitoring plans will be established for priority species, including fish. 15-MMR is open to discussing site access with the communities throughout all phases of the Project, where safe and feasible.
15-Mile Open House	**Land Use**	Recreational land use, specifically concerning ATV trails and canoeing routes	X		While access to the Project Description Area will not be permitted during operations due to safety concerns, 15-MMR is committed to establishing a by-pass road around the 15-Mile Mine to maintain access to the surrounding area for recreational activities. The by-pass road will also provide access to Seloam Lake for recreational and fishing activities.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – Open House					
15-Mile Open House	**Project Ownership**	St Barbara is an Australian based company that will take most of the profits, why is the project not owned by a Nova Scotian company.	X		The majority of site staff, including senior site management, will be based in Nova Scotia. Having employees located within the province will support the local economy, as their taxes and spending will remain within Nova Scotia. The Project also supports local businesses, as local suppliers, contractors, and consultants will be utilized whenever possible. The Reclamation Bond for the Project will also be held with the province of Nova Scotia.
15-Mile Open House	**Project Timeline**	Project should have already started by now based on previous information		X	Updates to the projects have served to improve Project design and reduce environmental and community impact. Project timelines are heavily influenced by regulatory and corporate factors, as well as the inherent complexities of the Project. 15-MMR endeavours to provide estimated Project timelines that are subject to change.
15-Mile Open House	**Surface Water**	Low flow in the area during dry season, and the considerations to manage low flow operations	X		15-MMR has redesigned the 15-Mile Project and will update of the surface water modelling. This will include low flow conditions recorded in historical data. Further review during the permitting process will determine whether mitigation is necessary during low flow conditions. 15-MMR is committed to working with Nova Scotia Power Inc (NSPI), as the Seloam Lake dam heavily affects the flow within Seloam Brook.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – Open House					
15-Mile Open House	**Tailings Management Facility**	Tailings management facility Seepage and the size of the Dam	X		In 2025, 15-MMR completed a new Multiple Accounts Analysis that has optimized the location of the tailings management facility. Detailed engineering design work is currently underway with a third-party consulting group reviewing each phase for quality assurance and stakeholder confidence. A Dam Breach Study will be completed before permits are obtained and 15-MMR will continue to prioritize the safety of personnel, the environment, and the community. 15-MMR will model seepage impacts of the tailings management facility during the permitting process and may propose additional mitigations should impacts exceed acceptable limits. Water storage in the facility will be limited based on operational requirement for process water to mitigate risks. Construction of the Dam will be overseen by an Engineer-of-Record, a qualified third party engineer knowledgeable in tailings management facilities.
15-Mile Open House	**Tailings Management Facility**	Reclamation process and timelines	X		Reclamation and processing timelines have been developed to be realistic while maintaining efficiency in completing reclamation works. 15-MMR is planning to complete active reclamation during operations where possible, including backfilling potentially acid generating material during operations at 15-Mile. Reclamation progress will be communicated through Community Liaison Committee (CLC) updates and other methods of updates based on feedback received from the adjacent communities.
15-Mile Open House	**Traffic Management**	Upgrades required to have roads support hauling vehicles	X		15-MMR is evaluating multiple ore transportation options as part of an on-going haul route study. The study will include a review of upgrades required to utilize roads for hauling.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – Open House					
15-Mile Open House	**Traffic Management**	Volume of road traffic, including large vehicles (B-Trains)	X		15-MMR remains firmly committed to the safety of both its employees and surrounding communities. As part of the ongoing haul route study, 15-MMR is evaluating multiple ore transportation options and completing a traffic study. Timelines for the Old Austen Mine and the Old Mitchell Mine operations have been revised to reduce large vehicle traffic volumes.
15-Mile Open House	**Water Quality**	Arsenic or arsenopyrite in the water and/or groundwater	X		Arsenic is a naturally occurring element in Nova Scotia and is present at varying levels in surface water and groundwater as a result of the province's geology. Dissolved arsenic in surface water is treatable through precipitation by ferric sulphate, reducing arsenic's mobility and allowing arsenic to be captured through settling. This will be employed at site discharges as required to meet regulatory requirements. 15-MMR will update of the groundwater model for the site. The modelling results will determine whether mitigations are required to meet regulatory requirements.
15-Mile Open House	**Water Quality**	Project seepage to the surrounding environment	X		Project seepage will be managed through a risk-based approach. Modelling will predict whether seepage impacts will occur and based on these potential impacts, mitigation will be proposed to reduce risks to acceptable levels. During operations, mitigation will be implemented as necessary and monitoring completed to determine whether controls are effective, with additional mitigations being introduced as required.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – General Public Feedback					
General Public	**Accidents/Malfunctions**	Contingency planning for accidents and malfunctions	X		Hazards will be identified and assessed based on risk with mitigations and contingency planning in place. Future detailed planning and implementation of the Project will further address potential accidents and malfunctions.
General Public	**Accommodations**	Accommodations		X	There will be no accommodation camps at any of the three mine sites. It is expected that employees will find accommodations in communities surrounding the Project.
General Public	**Archaeology**	Disturbance of historical / archaeological resources	X		15-MMR engaged a third-party consultant to conduct archaeological screening and reconnaissance for the Project Development Area. Findings have been documented. During construction or operations, if archaeological deposits are encountered procedures and protocols developed by the Mi'kmaq of Nova Scotia and the Nova Scotia Museum will be implemented.
General Public	**Employment**	Interest in jobs		X	15-MMR will continue to share job opportunities through the St Barbara Gold website, recruitment websites (such as LiveHire) and through engagement with local communities. Many job postings do not require residents to have previous mining experience. 15-MMR maintains an email list of community members interested in receiving employment opportunity updates and provides additional details as opportunities become available.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – General Public Feedback					
General Public	**Reagent Usage**	Concern using cyanide for processing		X	15-MMR acknowledges public concern regarding the use of cyanide for processing purposes and is committed to its strict transport, management, handling and monitoring in accordance with applicable regulatory requirements and industry best practices. Risk mitigation measures will be implemented to minimize potential environmental and human health impacts. Cyanide use will only occur at the 15-Mile Mine. 15-MMR has completed test work to reduce the quantity of cyanide required for the 15-Mile Mine processing operations. 15-MMR is open to sharing information regarding cyanide use with interested community members and organizations.
General Public	**Seloam Brook**	Seloam Brook Realignment design, focusing on fish passage and dust impact on fish	X		15-MMR has redesigned the Seloam Brook Realignment, focusing on fish passage. This redesign will be discussed with KMK, NCNS, and other relevant Mi'kmaq organizations, and DFO for feedback. A Dust Management Plan will be developed for the Project. The plan will outline measures for monitoring, controlling, and mitigating dust emissions during all phases of the Project. 15-MMR has retained a third-party consultant to complete an Ecological Risk Assessment to investigate potential effects of dust on fish and fish habitat.
General Public	**Surface Water**	Downstream habitat & hydrological effects	X		15-MMR is committed to responsible environmental management and to reducing the environmental impacts of the Project where practical. The Project has been redesigned to reduce the number of watersheds impacted, including the removal of infrastructure from the East Lake watershed. Potential impacts to downstream habitat and hydrological effects will be determined through modelling.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – General Public Feedback					
General Public	**Surface Water**	Fresh water used for processing	X		Total surface water usage for the Project has been reduced, as surface water withdrawal permit are no longer required at the Old Austen Mine or the Old Mitchell Mine. The 15-Mile Mine requires a surface water withdrawal permit, which is limited to sensitive applications. Where possible, process water will be recycled for reuse to minimize freshwater withdrawal volumes.
General Public	**Tailings Management Facility**	Level of detail provided for the tailings management facility design, including use of an unlined tailings facility		X	In 2025, 15-MMR completed a Multiple Accounts Analysis that resulted in the optimization of the location and design of the tailings management facility. Engineering has progressed to Pre-Feasibility, leveraging the knowledge from the St Barbara Touquoy operation. Detailed engineering design work is currently underway with a third-party consultant reviewing each phase to ensure quality assurance and stakeholder confidence. This includes an Engineer-of-Record (a third-party engineer licensed professional engineer who takes legal and professional responsibility for the dam design, construction and performance as defined by Mining Association of Canada (MAC) and Global Industry Standard on Tailings Management (GISTM) guidelines) being identified for the life of the dam and independent tailings review board (ITRB) reviewing dam performance annually. Preliminary groundwater and surface water modelling was completed to support the design. Detailed groundwater and surface water modelling is ongoing to confirm the design meets all regulatory standards and guidelines that protect water quality. The tailings management facility will also be designed and managed in adherence to the Canadian Dam Association (CDA).

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – General Public Feedback					
General Public	**Tailings Management Facility**	Potential spills from the tailings management facility	X		Tailings management facilities are engineered structures that are regulated to comply with practices from Canadian Dam Association and Mining Association of Canada guidelines and require sign-off by third party engineer to meet these standards. These guidelines also provide direction on risk prevention and mitigation measures to minimize the potential for accidents or spills. In the unlikely event of a spill, impacts will be managed through site spill procedures and Emergency Response Plans specific to the tailings management facility that will be designed and implemented prior to operation.
General Public	**Terrestrial Environment**	Potential impacts to Rare Species such as Lichen	X		15-MMR has redesigned the Project to avoid disturbance to lichen to the extent practical at each location. During construction,15-MMR will be micro siting infrastructure to avoid lichen where possible. Where avoidance is not possible, such as lichen growing within pits limits, lichen will undergo translocation. Translocation of lichen has been successful in other Atlantic provinces.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
15-Mile Mine (formally Fifteen Mile Stream Gold Project) – General Public Feedback					
General Public	**Water Quality**	Absence of water treatment	X		15-MMR has re-designed the Project to include water treatment and will further refine water treatment during detailed water modelling and the permitting process. 15-MMR will take an impacts-based approach to water quality. This approach will model the impacts to fish populations and based on if these impacts are predicted to be harmful to fish, propose and implement mitigation. 15-MMR has conducted metallurgical test work to reduce the cyanide and reagents required for processing, with a further benefit of reducing the byproducts of cyanide destruction inclusive copper and ammonia. Test work and plant design has included pre-treatment of arsenic immediately after cyanide destruction to reduce dissolved arsenic in effluent. 15-MMR is committed to maintaining a robust water quality monitoring program to confirm water quality.
General Public	**Wildlife**	Potential impacts on mainland moose population	X		The Project has been redesigned to minimize footprint, reduce environmental impacts wherever feasible, and further optimize its design. This includes micro-siting of infrastructure in areas to avoid moose patches Additionally, 15-MMR has minimized habitat fragmentation by prioritizing the upgrade of existing roads, which avoids the disturbance associated with constructing new roads. 15MMR staff will be provided wildlife awareness training to personnel to reduce interactions between site personnel and wildlife. A Wildlife Management Plan (WMP) will be developed and approved before construction begins.
General Public	**Wildlife**	Potential wildlife impacts	X		As above, many of the mitigations proposed for mainland Moose will also assist in reducing impacts to other wildlife.

Old Austen Mine

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Community and Environmental Groups					
Beaver Dam Community Liaison Committee (CLC)	**Communication**	Communication strategies to connect with community members with limited internet access.		X	15-MMR is committed to building stronger communities and strives to establish meaningful relationships, investing time and energy to ensure communities are enriched by being our neighbours. We are pleased to deepen our connections with the communities where we operate. 15-MMR acknowledges that community members have varying levels of internet access, and that some may lack the skills to use online platforms or prefer not to. To support effective outreach, 15-MMR is committed to ongoing engagement with adjacent communities, partners, interested and affected parties and the Mi'kmaq of Nova Scotia for the life of the Project. Engagement is guided by our Community Engagement Strategy and includes a range of engagement with suitable methods to engage, including newsletters, website updates, community office hours, small group presentations, among other methods. 15-MMR operates three community offices, located in Sheet Harbour, Stellarton, and Guysborough. Community members are welcome to visit these offices during scheduled open days to raise concerns or ask questions 15-MMR maintains a community relations email address (communityrelations@stbarbara.ca) and phone line (1-902-391-4653) and welcomes outreach from community members and organizations seeking meetings or information updates.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Community and Environmental Groups					
Beaver Dam CLC	**Fire Safety**	Fire protection and location of fire tower for site response	X		The Project will be equipped with on-site firefighting systems and facility-wide fire detection equipment. A trained Emergency Response Team will be in place at each site and will take part in regular emergency drills. Prior to construction, 15-MMR will coordinate with local firefighting services to establish clear roles and responsibilities in the event that external assistance is required.
Antigonish League of People for Climate Action	**Wildlife**	Potential impacts on the mainland moose population	X		The Project has been redesigned to minimize footprint, reduce environmental impacts wherever feasible, and further optimize its design. This includes micro-siting of infrastructure in areas to avoid moose patches Additionally, 15-MMR has minimized habitat fragmentation by prioritizing the upgrade of existing roads, which avoids the disturbance associated with constructing new roads. 15MMR staff will be provided wildlife awareness training to personnel to reduce interactions between site personnel and wildlife. A Wildlife Management Plan (WMP) will be developed and approved before construction begins.
Nova Scotia Salmon Association	**Surface Water**	Opportunity to investigate Tent Lake area for additional water sampling as part of the surface water program		X	15-MMR has redesigned the Project and as part of the redesign, additional water quality monitoring stations were added to the baseline program. Tent Lake was added to the water quality and fish sampling program in 2025 to support the expanded baseline data collection in the PDA.
Nova Scotia Salmon Association	**Surface Water**	Development of a water balance that accounts for changes to water inflow and quality during all phases of the Project		X	15-MMR will update predictive water modelling for the Project, including a water balance for the Old Austen Mine. The modelling results will evaluate water inflow and water quality characteristics. Additionally, the water modelling will consider all phases of the Project, as well as near term closure and long-term closure for further scrutiny of operational impacts.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – Community and Environmental Groups					
Nova Scotia Salmon Association	**Surface Water**	Drawdown caused by pit construction, loss of catchment, losses during pit refill	X		As above, 15-MMR will update the predictive water modelling for the Proejct. The modelling results will evaluate potential drawdown caused by pit construction, loss of catchment, losses during pit refill, among other parameters. The optimized Austen pit boundary is approximately 110 m from Killag River, an increase of approximately 50 m in comparison to previous project designs to reduce the risk of drawdown.
Nova Scotia Salmon Association	**Waste Stockpiles**	Assess the possible use of lime to treat effluent from stockpiles before release		X	15-MMR will evaluate the use of lime to treat effluent as part of the regulatory submission.
St. Mary's River Association	**St. Mary's River**	The mine may threaten work done by St. Mary's River Associations to restore the river systems with lime dosers	X		15-MMR is open to working with local community organizations on the continued operation of the lime dosers.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – General Public					
General Public	**Acid Rock Drainage**	Method of potentially acid generating (PAG) waste rock storage	X		PAG waste rock will be stored on surface temporarily and placed back into the exhausted Austen Pit at the end of operations to reduce how long it remains exposed on surface. Water modelling will be updated during permitting as more information becomes available, and additional measures will be added if needed to manage acid rock drainage risks. The reduced open pit size has also reduced the amount of waste rock and potentially acid generating material.
General Public	**Groundwater**	Concerns about hydraulic conductivity and impacts to water quality	X		15-MMR will conduct additional hydraulic conductivity testing, building on previous work, to verify groundwater pathways between the Killag River and the Austen Pit, if necessary. Optimization of the Old Austen Mine design has further minimized groundwater impacts by reducing surface stockpiles and backfilling PAG material for subaqueous storage. This redesign also eliminates the need for surface water withdrawal as a significantly lower volume of water is required to operate. The optimized pit boundary is approximately 110 m from Killag River, an increase of approximately 50 m in comparison to previous project designs. The interpolated bedrock surface at the northern edge of the pit is approximately 5 m higher than at the river shoreline, demonstrating no overburden connectivity. Updated groundwater modelling is ongoing and will evaluate potential seepage between the open Austen Pit and the Killag River, if any.
General Public	**Habitat**	Haul Road construction impacts on habitat	X		15-MMR has redesigned and optimized the Old Austen Mine. The haul road is no longer included in the Project, and as a result, there will be no impacts to habitat in this area.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – General Public					
General Public	**Hauling**	Haul Road options that do not travel along Highway 224	X		15-MMR remains committed to the safety of both its employees and surrounding communities. As part of the ongoing haul route study, 15-MMR is evaluating multiple ore transportation options, with a clear objective of avoiding IR-17 in the preferred route selection. 15-MMR would like to collaborate with communities to mitigate Project-related traffic concerns.
General Public	**Land Use**	Access to camps, hunting and fishing locations	X		While access to the PDA will not be permitted during operations due to safety concerns, 15-MMR has included provisions to maintain access to the surrounding area for recreational activities. The Old Austen Mine PDA is designed to maintain access to the Killag River from the West side for fishing purposes. 15-MMR is committed to clear and open communication during the Project and maintains a community relations email address and phone line for community members and organizations to contact with concerns and questions
General Public	**Metal Leaching**	Metals leaching from waste rock pile, including arsenic, and acid rock drainage	X		15-MMR has revised the Project design to incorporate water treatment. Optimization of the Old Austen Mine design has further minimized metal leaching by reducing surface stockpiles and backfilling potentially acid generating material for subaqueous storage. Runoff from non-potentially acid generating (NPAG) and PAG waste rock will be monitored during all phases of the Project to determine if adaptive management should be applied.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – General Public					
General Public	**Reagent Use**	Cyanide use for processing	X		15-MMR acknowledges public concern regarding the use of cyanide for processing purposes and is committed to its strict transport, management, handling and monitoring in accordance with applicable regulatory requirements and industry best practices. Risk mitigation measures will be implemented to minimize potential environmental and human health impacts. 15-MMR has conducted metallurgical test work to reduce the cyanide requirement for processing below industry standards and other reagents used in operation, with a further benefit of reducing the byproducts of cyanide destruction inclusive copper and ammonia. Test work and plant design has included pre-treatment of arsenic immediately after cyanide destruction to reduce dissolved arsenic in effluent. The use of cyanide is limited to the 15-Mile Mine. 15-MMR is committed to maintaining a robust water quality monitoring program to confirm water quality. 15-MMR is open to sharing information regarding cyanide use with interested local community members and organizations.
General Public	**Species at Risk**	Species at risk in Project area	X		15-MMR has re-designed the Project to minimize its footprint, reduce environmental impacts wherever feasible, and continues to optimize its design. Species of conservation interest and species at risk are being assessed as part of the permitting process. Mitigation and monitoring plans will be developed for priority species, including fish, vascular flora and lichens, terrestrial fauna and birds.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – General Public					
General Public	**Surface Water**	Flow reduction to the Killag River and inadequate offsetting projects	X		15-MMR retained a third-party consultant to review fish and fish habitat data and complete a gap analysis. A comprehensive fish and fish habitat field survey program was completed summer of 2024, 2025 and upcoming 2026 to address identified data gaps. 15-MMR is committed to implementing an Offsetting Plan (which will be required to meet the requirements of an FAA) to compensate for fish and fish habitat impacts. 15-MMR remains open to working collaboratively with the Mi'kmaq and DFO to identify fish offsetting projects that can be incorporated into the Offsetting Plan. 15-MMR has redesigned the Old Austen Mine project to minimize flow impacts to the Killag River and continues to work with a third-party consultant to further reduce these effects. 15-MMR is actively seeking offsetting opportunities and remains open to collaborating with the community, community organizations and stakeholders to identify and develop meaningful projects.
General Public	**Water Quality**	Water treatment and thermal impacts to the receiving environment	X		15-MMR has revised the project design to incorporate water treatment where necessary. 15-MMR is working to mitigate flow losses to Cameron Flowage and will assess thermal impacts to the system. The layout has been optimized and a surface water withdrawal permit is no longer required.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Austen Mine (formerly Beaver Dam Mine Project) – General Public					
General Public	**Wetlands**	Wetlands impacted and future compensation	X		Optimization of the Old Austen Mine design has further minimized impacts to wetlands and reduced wetland disturbance by 61%. Where possible, impacts to wetlands have been avoided. 15-MMR will prepare a Wetland Compensation Plan to offset for any wetland losses.

Old Mitchell Mine

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Mitchell Mine (formerly Cochrane Hill Gold Project) – Community and Environmental Groups					
Antigonish Rivers Association	**St. Mary's River**	Potential impacts to the St. Mary's River system and specifically the Salmon population within.	X		15-MMR has reduced the size of the Mitchell Pit, eliminating more than 14 million tonnes of waste material previously proposed for long-term storage, which now does not impact Highway 7 and the direct watershed to the St Mary's River. The project design now removes the process plant and tailings management facility, to ensure that none of its infrastructure is in watersheds which flow directly to the St. Mary's River. 15-MMR will take an impacts-based approach to water quality across all three sites. It will model the impacts it will have on fish populations and based on if these impacts are predicted to be harmful to fish, propose and implement mitigation. Onsite water quality monitoring will ensure that 15-MMR can confirm if it is having impacts on watersheds and as appropriate take actions to mitigate these impacts.
Cochrane Hill CLC	**Contractor Management**	Contractor selection process and how to apply for consideration.		X	15-MMR maintains a list of local contractors that have expressed interest in working on the 15-Mile Processing Hub Project. Upon commencement of works, 15-MMR will review the contractor list and engage contractors as appropriate.
Cochrane Hill CLC	**Employment**	Employment opportunities		X	15-MMR will continue to share job opportunities through the St Barbara website, recruitment websites (such as LiveHire) and through engagement with local communities. Many job postings do not require residents to have previous experience. 15-MMR maintains an email list of community members interested in receiving employment opportunity updates and provides additional details as opportunities become available.
Cochrane Hill CLC	**Final Land Use**	Land ownership at end of mine life	X		Land ownership at the end of the mine life may vary depending upon closure case and will be determined as closure works are refined.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Mitchell Mine (formerly Cochrane Hill Gold Project) – Community and Environmental Groups					
Cochrane Hill CLC	**Final Land Use**	Opportunities to augment tourism activities through a view station of the active mine or other interpretative activities.		X	15MMR acknowledges the request to incorporate tourism activities into the Old Mitchell Mine closure plan and will explore options during the permitting process and the development of the site reclamation plan. Reclamation plans are subject to approval by regulatory authorities.
Cochrane Hill CLC	**Light Pollution**	Amount of light that will be emitted by the mine	X		Light modelling will be performed for the Project to evaluate the potential impacts on receptors around the mines. Mitigations will be implemented as required based on the findings of the light modelling results.
Cochrane Hill CLC	**Mine Disturbance**	Safety risks posed by flying rocks	X		The area surrounding the pit will be evacuated during blasts in accordance with blasting guidelines. Blasts will be performed by qualified third party professionals with effective controls being implemented to make sure rock trajectories do not exceed the control area. A Blast Management Plan will be developed, with blasting occurring during daytime hours. Nearby communities will be provided notification in advance of blasting.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Mitchell Mine (formerly Cochrane Hill Gold Project) – Community and Environmental Groups					
Cochrane Hill CLC	**Noise Pollution**	Impacts of noise emitted by the mine	X		Noise modelling will be completed at each site to determine if adverse impacts are expected. In addition, some mitigations to noise will include: - Where able, trees and other vegetation will be left in place to reduce nuisance noise - Berms will be constructed around the perimeters of the open pits A Blast Management Plan will be developed and submitted for regulatory approval. Blasting will occur during permitted hours. Communities within a specified radius will be notified in advance of blasting.
Cochrane Hill CLC	**Traffic Management**	Management strategies for speed of vehicles accessing the mine	X		15-MMR remains firmly committed to the safety of both its employees and surrounding communities. As part of the ongoing haul route study, 15-MMR is evaluating multiple ore transportation options and completing a traffic study. 15-MMR is committed to outfitting each haul truck used in the Project with vehicle tracking devices to moderate speed and track location. 15-MMR would like to review potential haul routes with communities once more information is received.
Cochrane Hill CLC	**Traffic Management**	Re-routing Nova Scotia Trunk Highway 7 (Marine Drive)	X		The optimized pit design for the Old Mitchell Mine eliminates the need to re-route the highway.

Stakeholder	Topic	Key Issues	Engagement Type		Actions
			Issues and Concerns	Comment	
Old Mitchell Mine (formerly Cochrane Hill Gold Project) – General Public Feedback					
General Public	**Discharge Location**	Archibald Lake as a discharge location	X		The Project redesign eliminates the use of Archibald Lake as a discharge location. Archibald Lake was designated a provincial wilderness area in 2023. The redesign of the project also eliminates the need for surface water withdrawal, as much less water is required to operate. The Project is using an impacts-based approach to determine optimal discharge locations, reviewing flow losses from infrastructure and placing discharge to offset flow losses while ensuring limited water quality and fish impacts through modelling.
General Public	**Environment**	Environmental impacts	X		15-MMR is committed to responsible environmental management and to reducing the environmental impacts of the Project. The Project has been redesigned to minimize footprint, reduce environmental impacts wherever feasible, and further optimize its design. Based on the current Old Mitchell Mine design, 15-MMR has reduced the disturbance area by approximately 55%, including a 41% reduction in wetlands disturbed and has completely avoided impacts to blue felt lichen and boreal felt lichen.
General Public	**Water Quality**	Water quality relating to the tailings management facility	X		The Old Mitchell Mine project has been redesigned and will no longer require a process plant and tailings management facility. Old Mitchell Mine has been redesigned to reduce the number of watersheds that will be impacted from infrastructure and mining activities.

Appendix D

15-Mile Processing Hub Project - Engagement Logbook

Engagement with Government Departments, Agencies and Regulators Engagement Log - 15-Mile Processing Hub Project

Government Departments, Agencies & Regulators	[1] Representatives	Engagement Details
Federal		
Impact Assessment Agency of Canada (IAAC)	Mike Atkinson (Director, Atlantic Region) Cheryl Bejamin (Team Lead) Jill Adams (Head, Newfoundland and Labrador Satellite Office) Maija Gailis (Permitting Coordination Analyst) Joanna Tombs (Senior Consultation Analyst) Marc Ledger (Team Lead) Trevor Ford (Project Manager) Emily Gregus (Policy Analyst) Andrew Mallam (Senior Consultation Analyst Deborah Durigon (Impact Assessment Advisor) Samantha Zabudsky (Environmental Assessment Officer) Micheline Savard (Project Manager) Jefferey Balsdon (Project Manager) Shauna O'Brien (Associate Director, Atlantic Regional Office)	May 27, 2026 – Meeting with IAAC to discuss next steps for the 15 Mile Processing Hub Project, including the upcoming Initial Project Description submission, engagement and permitting plan. May 13, 2026 – IAAC site visit to the Old Mitchell Mine Site with DFO, GHD, and St Barbara. Used this time to focus discussion on Fish and Fish Habitat and Surface Water. May 6, 2026 – St Barbara had a phone call with IAAC to discuss the timeline of feedback for the Initial Project Description as well as First Nations Engagement. April 16, 2026 – IAAC along with other regulators provided feedback and comments to consider for the Final IPD submission. April 14, 2026 – IAAC confirmed that they are finalizing feedback on the draft IPD, which will be provided to St Barbara shortly. They also shared a Project mailbox for all correspondence. March 30, 2026 – St Barbara shared the presentation from the meeting on March 26. March 26, 2026 – IAAC held a meeting with St Barbara as well as ISC, CIRNAC, DNR, HC, DFO, ECCC and TC, for SB to present the Project and receive feedback. March 6, 2026 - St Barbara emailed IAAC to advise that the Draft Initial Project Description (IPD) would be sent the following week and our timeline to share the Draft IPD with the Mi'kmaq of Nova Scotia. IAAC confirmed interest in receiving the Draft IPD for review. February 4, 2026 – St Barbara met with IAAC virtually to discuss the evolving federal assessment process and permitting coordination. January 21, 2026 – St Barbara met with IAAC in person to discuss the changes to and updates regarding the Project, as well as next steps forward.
Oceans and Fisheries Canada (DFO)	Donald Humphrey (Acting Director, Ecosystems Management) Mike Wambolt (Manager Fish and Fish Habitat Protection Program) Colleen Smith (Senior Fisheries Protection Biologist) Matthew Beyer (Regulatory Review Biologist) Rachel Clark (Biologist) Sean Wilson (Senior Biologist – Fish & Fish	May 28, 2026 – St Barbara forwarded a draft of the Old Austen Mine Fish and Fish Habitat Baseline Report for DFO to provide comments and feedback that can be incorporated into the final report. May 22, 2026 – DFO emailed St Barbara and GHD to meet in person at their office to continue discussions on the 15-Mile Processing Hub Project. Agenda includes updates on the upcoming Initial Project Description submission, provide a Fish and Fish Habitat Offsetting update along with a presentation from DFO on the St. Mary's River Ecologically Significant Area Overview. Meeting is scheduled for June 11, 2026. May 14, 2026 – DFO site visit to the Old Austen Mine with GHD and St Barbara. Used this time to focus discussion on Fish and Fish Habitat and Surface Water. May 13, 2026 – DFO site visit to Old Mitchell Mine with IAAC, GHD, and St Barbara. Used this time to focus discussion on Fish and Fish Habitat and Surface Water.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Government Departments, Agencies & Regulators	[1] Representatives	Engagement Details
	Habitat Protection Program) Aimee Gromack (Biologist) Jennifer Macdonald (Species at Risk Biologist)	March 26, 2026 – IAAC held a meeting with St Barbara as well as ISC, CIRNAC, DNR, HC, DFO, ECCC and TC, for SB to present the Project and receive feedback. March 6, 2026 – DFO shared meeting minutes from February 19, 2026, meeting with St Barbara. February 23, 2026 - St Barbara emailed DFO the presentation provided in the update meeting. Plan to reconnect in the near term to discuss next steps. February 19, 2026 – St Barbara met with DFO in person at their office to provide updates on the 15-Mile Processing Hub Project, including discussions on engagement, fish and fish habitat baseline data, and future review.
House of Commons of Canada	Honourable Sean Fraser (MP, Minister of Justice and Attorney general of Canada) Alana Hirtle (Member of Parliament (Cumberland—Colchester)) Kody Blois (Parliamentary Secretary to the Prime Minster) Galen Richardson (Minister responsible for Canada-U.S. Trade, Intergovernmental Affairs and One Canadian Economy) Richard Vermette (Executive Director, Environmental Assessment with ECCC Susan Higdon (Executive Assistant to Minister Fraser)	March 5, 2026 – St Barbara met with the Honourable Sean Fraser to discuss the updated 15-Mile Processing Hub Project. February 24 – 27, 2026 – St Barbara met with Kody Blois, Alana Hirtle, Galen Richardson and Richard Vermette to discuss the updated 15-Mile Processing Hub Project. January 23, 2025 – St Barbara met with Susan Higdon, to discuss the 15-Mile Processing Hub Project. The meeting provided background to his office and led to a future meeting being booked with the Minister directly.
Indigenous Services Canada (ISC)	Imene Khaldi (Health Impact Assessment Officer) Nicole Cerpnjak (Health Impact Assessment Coordinator) Nora Kielland (Senior Analyst) Jennifer Burley (Senior Environmental Specialist)	March 26, 2026 – IAAC held a meeting with St Barbara as well as ISC, CIRNAC, DNR, HC, DFO, ECCC and TC, for SB to present the Project and receive feedback.
Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)	James Neary (Manager and Advisor, Strategic Policy and Partnerships) Dr. Michael Rowan (Economic Policy Officer)	March 26, 2026 – IAAC held a meeting with St Barbara as well as ISC, CIRNAC, DNR, HC, DFO, ECCC and TC, for SB to present the Project and receive feedback.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Government Departments, Agencies & Regulators	[1] Representatives	Engagement Details
Department of Natural Resources Canada (NRCan)	Michael Parsons (Research Scientist) Peter Unger (Team Leader, Impact Assessment Division)	March 27, 2026 – St Barbara responded to comments from NRCan from the March 26, 2026, meeting. March 26, 2026 – IAAC held a meeting with St Barbara as well as ISC, CIRNAC, DNR, HC, DFO, ECCC and TC, for SB to present the Project and receive feedback. March 16, 2026 – NRCan provided questions in advance of the upcoming meeting organized by IAAC to include in the presentation.
Environment and Climate Change Canada (ECCC)	Michael Hingston (Head, Environmental Assessment)	March 26, 2026 – IAAC held a meeting with St Barbara as well as ISC, CIRNAC, DNR, HC, DFO, ECCC and TC, for SB to present the Project and receive feedback.
Health Canada (HC)	Lachlan Maclean (Environmental Specialist) Jérémie Allain (Impact Assessment Specialist)	March 26, 2026 – IAAC held a meeting with St Barbara as well as ISC, CIRNAC, DNR, HC, DFO, ECCC and TC, for SB to present the Project and receive feedback.
Transport Canada (TC)	Jason Flanagan (Senior Environmental Advisor, Environmental Programs and Indigenous Relations) Melissa Ginn (Regional Environmental Advisor) Christopher Allaby (Environmental Assessment Officer and Advisor)	March 26, 2026 – IAAC held a meeting with St Barbara as well as ISC, CIRNAC, DNR, HC, DFO, ECCC and TC, for SB to present the Project and receive feedback.
Provincial		
Nova Scotia Environment and Climent Change (NSECC)	Honourable Tim Houston (Premier of Nova Scotia, MLA for Pictou East) Paula Franicis (Business Relationship Manager) Sean Bedell (Acting Manager, Environmental Assessment Branch) Malcolm MacNeil (District Manager, LIFT Branch of ICE) Paul Keats (Director, LIFT Branch of ICE) Jeremy Higgins (Environmental Assessment Officer) Meghan Rafferty (Environment Inspector) Bridget Tutty (Environmental Assessment Manager) Lynn Bower (Executive Director of Policy and	May 15, 2026 – NSECC provided comments and feedback regarding the Initial Project Description to St Barbara. St Barbara is working through the comments and will provide responses to NSECC. May 6, 2026 – St Barbara attended an information session on the newly implemented Air Quality Regulations which are set to come into effect June 1, 2026. This session provided an opportunity to ask questions about the new Air Quality Regulations and discuss how the changes may impact the upcoming Project. April 10, 2026 – NSECC (members of EA Branch and LIFT group) organized a meeting with St Barbara, inviting other provincial regulators to attend including NSDNRR and OLA to present the Project and receive feedback. March 12, 2026 – St Barbara shared the draft Initial Project Description via email to NSECC and offered to meet and discuss the draft with them. December 15, 2025 – St Barbara met with NSECC (members of EA Branch and LIFT group) to provide an update on the 15-Mile Processing Hub Project, focusing on company updates and optimizations made to reduce environmental effects. November 13, 2025 - St Barbara met with Premier to discuss the changes to the 15-Mile Processing Hub Project.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Government Departments, Agencies & Regulators	[1] Representatives	Engagement Details
	Environmental Assessments) Christine Hynes (Mining Engineer, Compliance and Enforcement) Meghan Rafferty (Environment Assessment Officer) Kenny MacAulay (A/ District Manager) Matt P Seaboyer (Director, Air Quality & Resource Management) Codey Barnett (Environmental Regulatory Analyst) Dr. Christina Wells (Air Quality Protection Advisor)	
Nova Scotia Department of Natural Resources and Renewables (NSDNRR)	Mick O'Neill (Industry Liaison Geologist) Janice Zinck (Executive Director, Geoscience and Mines) Tim Bourque (Director, Mineral Management) Sean d'Apollonia (Mining Engineer)	April 10, 2026 – NSDNRR participated in meeting organized by NSECC with St Barbara to present the Project and receive feedback. March 24, 2026 – St Barbara met with NSDNRR to discuss the draft Initial Project Description that was shared. March 11, 2026 – St Barbara shared the draft Initial Project Description with NSDNRR via email and offered to meet to discuss the draft with them. January 13, 2026 – St Barbara met with NSDNRR to discuss permitting and assessment pathways for the 15-Mile Processing Hub Project. January 13, 2026 – Virtual discussion between St Barbara and NSDNRR about permitting for the 15-Mile Processing Hub Project. November 20, 2025 – Attended the Opportunity Sessions hosted by St Barbara, at which Project related employment and economic opportunities were presented. November 17, 2025 – St Barbara shared Project economics with NSDNRR via email. July 29, 2025 - St Barbara met with NSDNRR in person to discuss updates to the 15-Mile Processing Hub Project.
Nova Scotia Legislative Assembly	Honourable Kent Smith (MLA Eastern Shore, Minister of Fisheries and Aquaculture) Honourable Greg Morrow (MLA Guysborough-Tracadie) Marco MacLeod (MLA Pictou West)	November 13, 2025 – St Barbara met with Nova Scotia Finance Minister John Lohr to discuss the 15-Mile Processing Hub Project and the socio-economic benefits of the Project. November 5, 2025 – St Barbara met with MLA Greg Morrow to discuss updated 15-Mile Processing Hub Project. September 11, 2025 – St Barbara met with the NDP Party Leader to discuss the potential for mining and renewable projects in Nova Scotia.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Government Departments, Agencies & Regulators	[1] Representatives	Engagement Details
	Honourable John Lohr (Minister of Finance, MLA Kings North) Honourable Claudia Chender (MLA Dartmouth South, NDP Party Leader)	
Invest Nova Scotia	Chandra Pottle (Vice President, Investment Attraction) Heather Hennigar (Director, Investment Attraction) David Hachey (Business Development Advisor)	November 20, 2025 – Attended the Opportunity Sessions hosted by St Barbara, at which Project related employment and economic opportunities were presented. November 14, 2025 – Meeting was held between Invest Nova Scotia and the St Barbara to present updates to the 15-Mile Processing Hub Project and provide the opportunity to answer questions.
Municipal		
Halifax Regional Municipality (HRM)	Andy Filmore (HRM Mayor) Cathy Deagle-Gammon (Councillor for District 1) David Hensbee (Councillor for District 2)	May 15, 2026 – HRM and St Barbara completed a tour of the Touquoy Mine Site. The 15-Mile Processing Hub Project was discussed along with future plans and operations at Touquoy.
Town of Stellarton	Darren Stroud (Mayor of the Town of Stellarton) Mark Fortune (Councillor (Ward 1)) Sandra Eis (Deputy Mayor (Ward 1)) Garry Pentz (Councillor))	January 12, 2026 – St Barbara attended the Town of Stellarton's monthly meeting to present updates to the15-Mile Processing Hub Project and provide the opportunity to answer questions.
Town of New Glasgow	Nancy Dicks (Mayor of New Glasgow)	March 10, 2026 – St Barbara is in discussion with the Town of New Glasgow for potential opportunities for sponsorship for a new library November 20, 2025 – Attended the Opportunity Sessions hosted by St Barbara, at which Project related employment and economic opportunities were presented.
Town of Westville	Lennie White (Mayor of Westville)	May 8, 2026 – St Barbara met with the Mayor Lennie White to provide an overview of the company, its operations and plans moving forward. Community initiatives were also discussed and how St Barbara may be able to provide financial support for upcoming events.
Municipality of the District of St. Mary's (MDSM)	Lesley McFarlane (Chief Administrating Officer) Karen Ruller (Director of Economic Development) Emma Tibbo (Councillor District #1) James Fuller (Warden, District #5) Beulah Malloy (Deputy Warder – District #3)	May 26, 2026 – St Barbara met with the CAO of MDSM at the municipal office in Sherbrooke to discuss the Project. January 2, 2026 – Shared presentation slides presented at the Opportunity Session in Country Harbour. There was also a follow-up regarding a potential meeting between members of MDSM and St Barbara. November 27, 2025 – Attended the Opportunity Sessions hosted by St Barbara, at which Project related employment and economic opportunities were presented.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Government Departments, Agencies & Regulators	[1] Representatives	Engagement Details
		August 25, 2025 - St Barbara provided support to MDMS which included a free movie night under the stars for “Liscomb Come Home Days". August 25, 2025 - During the summer 2025 drought, St Barbara provided support to MDSM by supplying a pallet of drinking water to residents whose wells had run dry.
Municipality of the District of Guysborough (MODG)	Shawn Andrew (Deputy CAO) Paul Long (Warden) Hudson MacLeod (Councillor) Mary Desmond (Councillor) Neil Decoff (Councillor) Fin Armsworthy (Councillor) Susan Cashin (Councillor) Janey Peitzsche (Councillor)	November 27, 2025 – St Barbara held a community Opportunities Information Session in Country Harbour to discuss potential opportunities associated with the 15-Mile Processing Hub Project as well as Project changes. October 1, 2025 - St Barbara presented to MODG. The presentation highlighted who St Barbara is and where the potential mine sites are located, described the new 15-Mile Processing Hub Project, and presented opportunities for the community.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Mi'kmaq of Nova Scotia Engagement Log - 15-Mile Processing Hub Project

Mi'kmaq Organization/Community	[1] Representatives	Details of Engagement	Identified Concerns
Kwilmu'kw Maw-klusuaqn (KMK)	Patrick Butler (Senior Mi'kmaq Energy & Mines Advisor) Tracy Menge (benefits Officer) Shawn Taylor (Consultant Projects Support Officer) Nathan Sack (Executive Director)	May 21, 2026 – St Barbara sent an email to KMK to provide the Managing Director and CEO's upcoming schedule to assist with scheduling a meeting with the Maw-lukutijik Saqmaq (ANSMC) to discuss the draft royalty agreement. KMK replied to St Barbara to schedule a meeting to discuss the draft royalty agreement. The meeting is scheduled for June 3, 2026. May 5, 2026 – St Barbara met with KMK to discuss the next steps with the draft royalty agreement. There was also discussion of KMK's new online Lukwaqn (work) portal. St Barbara has registered for an account to directly upload job postings and opportunities to the portal for KMK members to view and submit applications. May 4, 2026 – St Barbara shared the draft royalty agreement with KMK for their review and consideration to add as an agenda item for a Maw-lukutijik Saqmaq (ANSMC) meeting. KMK confirmed receipt of the agreement and will provide to leadership for discussion. April 23, 2026 – St Barbara provided a draft Initial Project Description to KMK via email for their review. St Barbara offered capacity funding to facilitate the review and acknowledged the importance of ongoing engagement and continued feedback on this project. KMK acknowledged the draft IPD was received. While feedback has not been received to date, engagement is ongoing, and feedback is welcomed at any time for consideration into future submissions. April 20, 2026 – An in-person meeting was held as an introduction between KMK's new Executive Director and St Barbara's CEO and team members. Discussion included St Barbara's current and future projects, as well as previous and potential future benefits agreements. March 1-4, 2026 – St Barbara sponsored attendance at Prospectors & Developers Association of Canada (PDAC) event in Toronto. February 9, 2026 – St Barbara shared information on Saint Mary's University (SMU) research project that St Barbara collaborated on over the last five years. Received a response from KMK and ensured they would be in touch if there were additional questions. January 22, 2026 – St Barbara shared job posting and how to toapply. KMK confirmed job postings will be shared. December 17, 2025 – Emailed Project Information Package outlining updates made to the 15-Mile Processing Hub Project. KMK requested a copy of the covering letters sent to the Mi'kmaq communities, which was provided the following day. December 3, 2025 – Shared slides from presentation St Barbara provided during the meeting. December 3, 2025 – St Barbara held a virtual meeting with KMK. Discussion included revisions to the 15-Mile Processing Hub Project, Touquoy reclamation and potential restart, as well as Exploration projects planned for 2026. KMK inquired about the permitting pathway, thresholds and timelines, as well as possible trucking routes. Additionally, KMK recommended St Barbara increase presence in community in 2026.	KMK asked about the possible trucking routes. KMK recommended St Barbara increase presence within Mi'kmaq communities. Any future concerns identified will be acknowledged and discussed in an open and collaborative manner.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Mi'kmaq Organization/Community	[1] Representatives	Details of Engagement	Identified Concerns
		November 17 – 18, 2025 – St Barbara and KMK confirmed a date for meeting to discuss Project changes. November 16, 2025 – St Barbara extended an email invitation to upcoming Opportunity Sessions hosted by the St Barbara in Port Dufferin, New Glasgow and Country Harbour. No response has been received. October 14, 2025 - St Barbara sent a follow-up email, requesting a meeting to discuss Project changes. October 1, 2025 - St Barbara extended email invitation to upcoming Opportunity Sessions hosted by St Barbara in Port Dufferin, New Glasgow and Country Harbour. No response has been received to date. September 17, 2025 – St Barbara received a phone call from KMK. Discussion included an update on engagement activities and the recent announcement, outlining an investigation into reopening the Touquoy mine site. KMK to follow up with St Barbara with potential meeting dates in October. September 15, 2025 – St Barbara sent an email update to provide a general update on Mi'kmaq engagement. September 15, 2025 - St Barbara left voicemail to provide a general update on Mi'kmaq engagement with regards to the 15-Mile Processing Hub Project. September 4, 2025 – St Barbara left voicemail to provide a general update on Mi'kmaq engagement with regards to the 15-Mile Processing Hub Project. June 16, 2025 – St Barbara sent email referencing previous Information Requests received from KMK and St Barbara's intention to respond to them. A meeting was requested to discuss the best method to prioritize and respond to the Information Requests. No response received. June 10, 2025 – St Barbara provided an update outlining the new 15-Mile Processing Hub Project and extended an invitation to meet to discuss further. No response received. May 6, 2025 – St Barbara extends invite to KMK to tour the 15-Mile Mine site. No response received.	

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Mi'kmaq Organization/Community	[1] Representatives	Details of Engagement	Identified Concerns
Millbrook First Nation	Carolanne Corbin (Executive Assistant & Special Projects) Chief Robert Gloade (Chief of Millbrook First Nation) Kaitlyn Denny (Administrative Assistant to Chief & Council) Gerald D. Gloade (Associate Executive Director) Colin Bernard (Councillor) Anissa Blackmore (Councillor) Carley Gloade (Councillor) Peter Gloade (Councillor) Alex Cope (Councillor) Ward Markie (Councillor) Lisa Marshall (Councillor) Ethan Phillips (Councillor) Margaret Phillips (Councillor) Dana Sylliboy (Councillor) Natasha Bernard (Councillor) Reed Knockwood (Councillor)	May 14th, 2026 – St Barbara emailed Millbrook First Nation regarding setting up a meeting in June with St Barbara CEO to discuss the draft of the Initial Project Description (IPD). The email also offered to share baseline data the company has collected from the Old Austen Mine site to be used in the traditional food quality study Millbrook is undertaking. No response has been received to date. April 23, 2026 – St Barbara provided a draft Initial Project Description to Millbrook First Nation via email for their review. St Barbara offered capacity funding to facilitate the review and acknowledged the importance of ongoing engagement and continued feedback on this project. No response has been received to date. April 16, 2026 – St Barbara sent a follow-up letter via email to thank Millbrook Chief and Council for their time, offering a site tour of the Touquoy Mine and extending the offer to further discuss the Old Austen Mine. Millbrook responded and asked if there was additional information that could be shared about the Project. April 14, 2026 – St Barbara CEO and team members met with Millbrook First Nation Chief and Council as an introductory meeting. Chief and Council provided a letter to St Barbara expressing continued opposition to the Beaver Dam Mine Project. February 23, 2026 – St Barbara CEO Andrew Strelein emailed Chief Robert Gloade with Millbrook Executive Assistant copied, to provide a letter and extend an offer to meet during his upcoming trip to Nova Scotia. St Barbara CEO received a response, and a meeting is scheduled with Millbrook Chief and Council. November 5, 2025 - 15-Mile Processing Hub Project Information Package was delivered to Chief Robert Gloade's office on behalf of CEO, Andrew Strelein. The package provided Project update information and a cover letter, extending an invitation for an in-person meeting during CEO's next visit to Nova Scotia. No response has been received to date. August 29, 2025 – St Barbara shared an email with letter attachment from CEO Andrew Strelein to Chief Robert Gloade with Millbrook Executive Assistant. Millbrook Executive Assistant confirmed Chief Gloade received letter. No response has been received to date. August 8, 2025 – St Barbara CEO Andrew Strelein St Barbara Chief Robert Gloade, extending an invitation to meet in person. No response has been received to date.	Expressed continued concern for the Beaver Dam Mine Project. Any future concerns identified will be acknowledged and discussed in an open and collaborative manner.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Mi'kmaq Organization/Community	[1] Representatives	Details of Engagement	Identified Concerns
Sipekne'katik First Nation	Chief Michelle Glasgow (Chief of Sipekne'katik First Nation) Ron Knockwood (Consultation, Economic Development, Employment, Justice & Policing) Rufus Copage (Councillor) Dr. Roger Lewis (Director of Consultion) Marine Courtois (Senior Marine Biologist and Environmental Lead) Maya Chouinard (Junior Environmentalist)	May 11, 2026 – St Barbara met with Sipekne'katik First Nation to discuss changes in leadership as well as changes to the Project, including the Initial Project Description. April 25, 2026 – St Barbara provided a draft Initial Project Description to Sipekne'katik First Nation via email for their review. St Barbara offered capacity funding to facilitate the review and acknowledged the importance of ongoing engagement and continued feedback on this project. Sipekne'katik First Nation acknowledged receipt of the draft IPD. While feedback has not been received to date, engagement is ongoing, and feedback is welcomed at any time for consideration into future submissions. February 18, 2026 – Tour of Touquoy Mine to show Reclamation Progress and discuss potential restart of operations. Discussed plan to share draft 15-Mile Processing Hub IPD for review and comment. Project site visits in the Spring and continuing engagement between the St Barbara and Sipekne'katik First Nation. December 17, 2025 – St Barbara emailed a Project Information Package to Sipekne'katik Consultation Team. St Barbara invited Chief Michelle Glasgow to meet with St Barbara's CEO. No response has been received to date. December 16, 2025 – St Barbara delivered a Project Information Package on the 15-Mile Processing Hub Project to Chief Michelle Glasgow's office. The package provided Project updates and extended an invitation for an in-person meeting during CEO's next visit to Nova Scotia. No response has been received to date. November 26, 2025 – St Barbara emails to thank Consultation team for their time and extend an invitation for a Touquoy Mine tour to align with 15-Mile Processing Hub Project SGI protocol. November 25, 2025 - Meeting held to discuss St Barbara's current application with Sipekne'katik's SGI Protocol. Discussion included recent changes made to the Project as a result of feedback received from Mi'kmaq communities and organizations, regulators and the public. There was also discussion of SGI protocol phases and requirements going forward. An invitation to tour the Touquoy Mine was also extended. October 28, 2025 – Email from St Barbara to Sipekne'katik SGI Protocol team, requesting a meeting to discuss Project updates. Reply received October 31, 2025, with meeting scheduled for November 25, 2025.	Feedback received emphasized the importance of continued transparency and clear communication. Expressed the importance of ensuring that communication and responsiveness continue through all phases of the Project. Any future concerns identified will be acknowledged and discussed in an open and collaborative manner.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Mi'kmaq Organization/Community	[1] Representatives	Details of Engagement	Identified Concerns
Paq'ntkek Mi'kmaw Nation	Chief Juliana Julian (Chief of Paq'ntkek Mi'kmaw Nation) Krista Thompson (Chief Administrative Officer)	April 23, 2026 – St Barbara provided a draft Initial Project Description to Paq'ntkek Mi'kmaw Nation via email for their review. St Barbara offered capacity funding to facilitate the review and acknowledged the importance of ongoing engagement and continued feedback on this project. No response has been received to date. December 17, 2025 – St Barbara emailed the Project Information Package to Paq'ntkek Band Administration Office. St Barbara invited Chief Juliana Julian to meet with the CEO. No response has been received to date. December 10, 2025 – St Barbara delivered a Project Information Package on the 15-Mile Processing Hub Project to Chief Juliana Julian's office. The package provided Project updates and extended an invitation for an in-person meeting during CEO's next visit to Nova Scotia. No response has been received to date.	No concerns identified. Any future concerns identified will be acknowledged and discussed in an open and collaborative manner.
Pictou Landing First Nation	Chief Tamara Young (Chief of Pictou Landing First Nation) Barry Francis (Director of Lands and Economic Development) Heather Mills (Director of Community Development) Katie Paul (Councillor) Daniel Matthews (Chief Administrative Officer (CAO)) Sheila Francis (Director of Education)	April 23, 2026 – St Barbara provided a draft Initial Project Description to Pictou Landing First Nation via email for their review. St Barbara offered capacity funding to facilitate the review and acknowledged the importance of ongoing engagement and continued feedback on this project. No response has been received to date. January 22, 2026 – St Barbara shared job postings and how to apply. No response has been received. December 17, 2025 – St Barbara emailed a Project Information Package to Pictou Landing staff. St Barbara invited Chief Tamara Young to meet with St Barbara's CEO. No response has been received. December 11, 2025 – St Barbara delivered a Project Information Package on the 15-Mile Processing Hub Project to Chief Tamara Young's office. The package provided Project updates and extended an invitation for an in-person meeting during CEO's next visit to Nova Scotia. No response has been received to date. November 16, 2025 – St Barbara extended invitation to upcoming Opportunity Sessions hosted in Port Dufferin, New Glasgow and Country Harbour. No response has been received. October 16, 2025 – St Barbara extended invitation to Stellarton After Hours Event being hosted at the Stellarton St Barbara community office. No response has been received. August 14, 2025 – St Barbara provided a tour of the Touquoy Mine to two Pictou First Nations members. Provided an updated on the 15-Mile Processing Hub Project. April 29, 2025 - St Barbara extended invitation for Pictou Landing First Nation members to participate in an upcoming baseline Moose Monitoring Program. No response has been received. April 11, 2025 – St Barbara emailed follow-up actions from April 4 meeting and extended an invitation to tour the Touquoy Mine and 15-Mile Processing Hub Project. Tour was scheduled. April 4, 2025 – Meeting in person to discuss the Project, extended invitation to participate in baseline programs and discussed the possibility of scholarship support for post-secondary students.	No concerns identified. Any future concerns identified will be acknowledged and discussed in an open and collaborative manner.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Mi'kmaq Organization/Community	[1] Representatives	Details of Engagement	Identified Concerns
Maritime Aboriginal Aquatic Resource Secretariat (MAARS) / Maritime Aboriginal Peoples Council (MAPC)	Christina Davis (Habitat Impact Advisor) Vanessa Mitchell (Executive Director)	May 28, 2026 – A meeting was held to discuss upcoming open houses for NCNS community members to provide information on St Barbara's upcoming Exploration programs. The Project IPD was also discussed. February 19, 2026 – St Barbara met in person with two representatives from MAPC/MAARS. Discussion included upcoming 15-Mile Processing Hub IPD for review, Touquoy restart permitting pathway, plan to respond to Project questions sent by MAPC/MAARS, field work participation, potential open houses and possible confidentiality agreement. February 9, 2026 – St Barbara acknowledged receiving questions and will discuss in upcoming meeting on February 19, 2026. February 6, 2026 - MAPC/MAARS provided the St Barbara with a list of Project questions, via email, from the previous project iterations along with new questions for response. February 4, 2026 - St Barbara confirmed a meeting for February 19, 2026, and extended an invitation to participate in both a second round of baseline Moose Monitoring and upcoming Old Growth Forest Survey. MAPC/MAARS responded that due to conflicting schedules participation in baseline programs is not possible at this time. February 3, 2026 – MAPC/MAARS reached out to St Barbara, via email, to schedule a Project update meeting. January 29, 2026 – MAPC/MAARS declined invitation to participate in the baseline Moose Monitoring Program as resources were unavailable due to weather and schedules. January 7, 2026 – St Barbara extended invitation, via email, for MAARS/MAPC members to participate in an upcoming baseline Moose Monitoring Program. December 12, 2025 – Year-end meeting to discuss November 26, 2025, open house feedback. Discussion also included upcoming activities for 2026, including potential baseline program participation, exploration drilling program and potential open house for NCNS community members in Zone 1. October 30, 2025 – St Barbara attended in person meeting with MAPC/MAARS to discuss upcoming open house event for NCNS community members, to be held in Sheet Harbour on November 26, 2025. October 24, 2025 - Tour of Touquoy Mine provided for six members of the NCNS, NCNS APTEC division and partner organizations (MAARS/MAPC). Discussion included employment opportunities that could be expected with the Project, mine site environmental protections and water management practices. October 7, 2025 - Introductory meeting with NCNS Netukulimkewe'l Commission. Follow-up meeting with MAARS to discuss the Project and to discuss an upcoming site visit at the Touquoy Mine. September 9, 2025 - Introductory meeting to introduce St Barbara and discuss current and future projects. St Barbara CEO and MAARS Executive Director, with one other MAARS member and three St Barbara staff, in attendance.	MAARS/MAPC shared a list of questions from previous project submissions as well as new questions. St Barbara is developing a response to this document. Any future concerns identified will be acknowledged and discussed in an open and collaborative manner.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Mi'kmaq Organization/Community	[1] Representatives	Details of Engagement	Identified Concerns
Native Council of Nova Scotia (NCNS)	Chief Lorraine Augustine (Chief of NCNS) Brandy Bernard (Policy Admin) Jonathan Lowe (Netukulimkewe'l Commisioner/Prefect) Tracey Johnson (APTEC Partnership Development Officer) Clayton Daury (APTEC Promotions) Vanessa Mitchell (Executive Director at MAARS & MAPC Projects) Christina Davis (Habitat Impact Advisor)	April 27, 2026 – St Barbara reached out to NCNS regarding Mi'kmaq translation services for the Initial Project Description Plain Language Summary. St Barbara and NCNS are coordinating on this matter. April 23, 2026 – St Barbara provided a draft Initial Project Description to NCNS and MAPC / MAARS via email for their review. St Barbara offered capacity funding to facilitate the review and acknowledged the importance of ongoing engagement and continued feedback on this project. NCNS acknowledged the draft IPD was received. While feedback has not been received to date, engagement is ongoing, and feedback is welcomed at any time for consideration into future submissions. April 15, 2026 – An introductory meeting was held between St Barbara CEO and team members, and Chief Lorraine Augustine along with other members of NCNS and MAPC to discuss the Project. March 24, 2026 – St Barbara met with NCNS's Aboriginal Peoples Training & Employment Commission (APTEC) to discuss potential opportunities to support initiatives important to them. February 5, 2026 – A virtual introductory meeting was scheduled between Chief Augustine and St Barbara CEO. Due to unforeseen circumstances NCNS requested the meeting be rescheduled. January 28, 2026 – NCNS acknowledged receipt of St Barbara job opportunities and will have them posted. January 22, 2026 - St Barbara shared job postings and how to apply, via email. November 26, 2025 - An Open House event was held for NCNS community members, with a representative from MAARS also in attendance. Approximately 18 attendees from the community were present. The meeting included a presentation, after which poster boards were available for viewing and personal conversations took place. St Barbara extended invitation for NCNS members to participate in an upcoming baseline Surface Water and Groundwater field programs November 6, 2025 - Emailed the Project Information Package prepared to provide Project updates made to the 15-Mile Processing Hub Project to representatives from NCNS. Extended an offer for Chief Lorraine Augustine to meet with St Barbara CEO. Response received and meeting was scheduled. November 5, 2025 – Project Information Package was delivered to Chief Lorraine Augustine's office on behalf of St Barbara CEO. The package provided Project updates and extended an invitation for an in-person meeting during his next visit to Nova Scotia. October 24, 2025 - Tour of Touquoy Mine provided for six members of the NCNS, NCNS APTEC division and partner organizations (MAARS/MAPC)). Discussion included employment opportunities that could be expected with the Project, mine site environmental protections and water management practices. October 7, 2025 - Introductory meeting with NCNS Netukulimkewe'l Commissioner. Follow-up meeting with MAARS to discuss the Project and to discuss an upcoming site visit at the Touquoy Mine.	MAARS/MAPC (under NCNS) shared a list of questions from previous project submissions as well as new questions. St Barbara is developing a response to this document. Any future concerns identified will be acknowledged and discussed in an open and collaborative manner.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Mi'kmaq Organization/Community	[1] Representatives	Details of Engagement	Identified Concerns
Office of L'nu Affairs (OLA)	Honorable Leah Martin (Minister of Office L'un Affairs) Kendra Gorveatt (Consultation Advisor at OLA) Beata Dera (Director of Consultation at OLA) Joanne Munro (Deputy Minister of OLA) Owen Everts-Lind (Director of Rights Reconciliation) Amber Grosse (Special Advisor)	April 15, 2026 –St Barbara team, including the CEO met with Nova Scotia Minister of Office of L'nu Affairs and team to discuss the 15-Mile Processing Hub Project, the socio-economic benefits of the Project and Mi'kmaq engagement. April 10, 2026 – OLA participated in meeting organized by NSECC with St Barbara to present the Project and receive feedback. The IPD and 15-Mile Processing Hub Project updates were discussed. April 8, 2026 – St Barbara met with the OLA to discuss potential ways St Barbara could provide support for Mi'kmaw-specific program funding. February 17, 2026 – Meeting to provide St Barbara introductions, update on Project, Mi'kmaq engagement and Benefits Agreements. January 20, 2026 – St Barbara provided the 15-Mile Mine MEKS and provided an update on the Old Mitchell Mine MEKS. January 20, 2026 – OLA acknowledged letter and engagement update and requested the final 15-Mile MEKS. January 7, 2026 – St Barbara reached out to OLA, via email, to provide introductions and a letter summarizing recent Project changes and highlighting engagement efforts for 2025. July 4, 2025 – Consultant for St Barbara had a phone meeting with OLA to provide update on St Barbara and the 15-Mile Processing Hub Project, and to provide an update on engagement.	No concerns identified.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Stakeholder Engagement Log - 15-Mile Processing Hub Project

Organization/Community/Stakeholder	Details of Engagement
Cochrane Hill Community Liaison Committee (CLC)	February 25, 2026 – St Barbara met with former CLC members in person to discuss and gauge interest in the development of a new Community Liaison Committee for the 15-Mile Processing Hub Project, focussed in the area of the Old Mitchell Mine. The former CLC members expressed interest in learning about the new Project. February 9, 2026 – St Barbara extended an invitation to former Cochrane Hill CLC members to discuss development of a new Community Liaison Committee.
Fifteen Mile Stream CLC (referred to as 15-Mile CLC)	May 27, 2026 – St Barbara met with the 15-Mile CLC to discuss the Initial Project Description (IPD). Feedback was received and questions about the IPD were answered in the meeting. April 21, 2026 - A dinner was held between 15-Mile CLC members and St Barbara's CEO to engage on Project and company updates. March 25, 2026 – St Barbara extended an invite to the 15-Mile CLC to have dinner with the CEO. Members expressed interest and dinner is scheduled for April 21, 2026. January 22, 2026 – St Barbara shared job postings and how to apply. January 21, 2026 – St Barbara had a meeting with the 15-Mile CLC to continue discussion on Project updates. The CLC members had no concerns with project updates discussed during the meeting. November 19, 2026 – Members of the 15-Mile CLC attended the Port Dufferin Opportunities Session to learn more about the Project. October 15, 2025 – Members of the 15-Mile CLC were provided a tour of the Touquoy Mine site to view the scope of the mine site, and current reclamation and closure activities. September 17, 2025 – St Barbara held a routine meeting with the 15-Mile CLC to discuss Project changes. The CLC members had no concerns with Project updates discussed during the meeting and indicated they were satisfied with the significant reduction in footprint for the Project. April 17, 2025 – St Barbara shared initial Project updates and some high-level optimizations completed. St Barbara explained Project revisions were still underway and more information would follow. No concerns were noted with Project.
Touquoy/Beaver Dam CLC	April 18, 2026 – A lunch was held between CLC members and St Barbara's CEO to discuss the Touquoy project as well as company updates, including the 15-Mile Processing Hub Project. March 25, 2026 – St Barbara extended an invite to the Touquoy/Beaver Dam CLC to have dinner with the CEO. Members expressed interest and dinner is scheduled for April 18, 2026. January 22, 2026 – St Barbara shared job postings and how to apply. November 15, 2025 – A routine meeting was held between St Barbara and the CLC. The design changes made to the 15-Mile Processing Hub Project were discussed.
Property Owner in proximity to the Project	April 22, 2026 - A nearby property owner visited the St Barbara's office in Sheet Harbour. Discussion focused on the Old Austen Mine, with St Barbara providing Project updates. February 4, 2026 – A nearby property owner visited the St Barbara's office in Sheet Harbour. St Barbara provided them with Project updates and promised to keep them informed on the Project changes.
Nova Scotia Works	March 25, 2026 – St Barbara participated in a Job Fair hosted by Nova Scotia Works in Antigonish. Used this opportunity to discuss future employment, opportunities with St Barbara and relationship building. February 18, 2026 – St Barbara registered for the Antigonish/Guysborough County Spring Job Fair to be held on March 25, 2026. The Job Fair will provide an opportunity for St Barbara to showcase career opportunities for both the proposed Touquoy restart and the 15-Mile Processing Hub Project.
Construction Association of Nova Scotia (CANS)	June 19, 2025 – St Barbara was a major sponsor for the CANS golf tournament, with a tent setup at one of the golf holes to engage with participants, providing information about the Project and the associated opportunities.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Organization/Community/Stakeholder	Details of Engagement
Nova Scotia Community College (NSCC)	February 16, 2026 – St Barbara and NSCC met to discuss potential high school scholarships to NSCC.
Saint Francis Xavier University (STFX)	February 13, 2026 – St Barbara met with STFX representatives to learn about their current research and discussed potential partnership opportunities, including research projects for offsetting, supporting summer student research projects and supporting their co-op program. January 16, 2026 – St Barbara contacted STFX to discuss potential alignment with local initiatives. STFX responded positively and proposed meeting in person or via Teams to receive Project updates. November 4, 2025 – St Barbara attended the Pictou County Nova Scotia Engagement Days: Economic Prosperity Roundtable cohosted by Dalhousie, STFX and Nova Scotia Community College to discuss challenges and short comings in the industry, and where a partnership with academia could help bridge that gap. Initial contact was established with the STFX representative during this meeting. October 31, 2025 – St Barbara was the major event sponsor for a student-led conference, with three St Barbara representatives attending the conference. One representative served as a judge for student presentations while the other two representatives staffed a booth at the career fair, speaking with attendees about the 15-Mile Processing Hub Project and associated opportunities.
Dalhousie University (DAL)	March 26, 2026 – St Barbara was awarded the Top Co-op Employer for 2025 in the Energy and Resource Sector by Dalhousie University. November 22, 2025 – St Barbara was a silver sponsor for the Go Eng Girl event at Dalhousie University (DAL), which is an outreach event designed to encourage girls in junior high to explore engineering through hands-on activities, campus experiences, and interaction with students and professionals in the field. St Barbara had representatives present at a booth where students could ask questions about St Barbara, learn more about mining in Nova Scotia and career paths in engineering. October 20, 2025 – St Barbara attended DAL's Co-op & Career Connections: Employer Panel & Networking Event to speak to students about co-op work-terms and full-time positions. St Barbara representatives provided an overview of the company's work and the types of expertise required, as well as anticipated needs for future projects. January 5, 2025 – St Barbara retained a co-op student from the Engineering program to provide support for the Project and has continued to retain a student each co-op term since to build on that relationship.
Saint Mary's University (SMU)	April 17, 2026 – St Barbara presented to the SMU Engineering Program and has committed to providing 24 scholarships over the next four-years for students pursuing the new Mining Engineering Program.
Nova Scotia Salmon Association (NSSA)	February 9, 2026 – St Barbara sent an email to the NSSA confirming its willingness to provide snow plowing support, when available, to assist with facility access during winter conditions. In the absence of a response from NSSA, St Barbara retained support to plow the road to ensure access to the facility. February 4, 2026 – A member of the NSSA visited the St Barbara's office in Sheet Harbour, where St Barbara provided Project updates. November 19, 2026 – Members of NSSA attended the Port Dufferin Opportunities Information Session to learn more about the Project.
Habitat for Humanity Nova Scotia (HFHNS)	April 10, 2026 – St Barbara met with the CEO of HFHNS to discuss options on how St Barbara could provide support and what potential opportunities are available or upcoming with the organization.
Ageing Well Nova Scotia	April 9, 2026 – St Barbara met with the Regional Coordinator of Ageing Well Nova Scotia to discuss the NetZero Community Center Projects, specifically with respect to upcoming expansion into

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Organization/Community/Stakeholder	Details of Engagement
	African American communities in Nova Scotia. Discussed how St Barbara could provide support and what potential opportunities are available or upcoming with the organization.
Pictou County River Association	March 7, 2026 – St Barbara attended the Pictou County River Association Annual General Meeting (AGM) to discuss options on how St Barbara could provide support and what potential opportunities are available or upcoming with the organization.
Gerald Hardy Memorial Society	May 23, 2026 – St Barbara sponsored and attended the annual community fundraiser for the Marine Drive Food Resource Association, which currently falls under the Gerald Hardy Memorial Society. March 23, 2026 – St Barbara provided funding for Easter baskets to support additional food needs for 75 families in the Sheet Harbour and surrounding area.
St. Mary's District Food Bank	November 15, 2026 – St Barbara sponsored "Feast for a Cause' which donates to the St. Mary's District Food Bank to support local food security.
Highland District Soccer Association (HDSA)	February 12, 2026 - St Barbara provided support to HDSA for their weekly Family Fun Night in Stellarton, allowing continued operation for the remainder of their season. Support was accepted and there were discussions regarding providing HDSA support for other programs as well.
Men of the Deeps	March 11, 2026 – St Barabra confirmed they will support Men of the Deeps as the presenting Golden Sponsor for their Eastern Canada Diamond Sunset tour to kick-off Spring of 2026. February 10, 2026 – St Barbara is in early discussion with the Men of the Deeps, looking to help support their upcoming tour in Fall 2026.
Atlantic Hockey Group 2016 Storm Team	February 3, 2026 – St Barbara was in contact with a hockey team in the Westville area seeking support for their spring hockey league. St Barbara is sponsoring this year's spring season and working towards longer term funding arrangements.
St. Mary's Horse and Farm Club	March 17, 2026 – St Barbara confirmed they will support the St. Mary's Horse and Farm Club to sponsor a new field for the equestrian facility. March 15, 2026 - St Barbara met with the St. Mary's Horse and Farm Club to discuss sponsorship opportunities.
Sherbrooke Opportunities Society (SHOPS)	June 1, 2026 – St Barbara met with SHOPS to further discuss funding for the organization since changes to funding. March 12, 2026 - St Barbara met with the Sherbrooke Opportunities Society to discuss funding their organization.
Guysborough Amateur Athletic Association	August 27, 2025 – St Barbara met with the Guysborough Amateur Athletic Association's president to discuss and develop a multi-year funding arrangement to provide support to their organization.
Broadhorns ATV Club	May 5, 2026 – St Barbara met with the Club to confirm funding and support for their upcoming Canada Day celebrations. June 28, 2025 – St Barbara attended the Kidney Foundation ATV Awareness Ride with Broadhorns ATV Club members. St Barbara provided financial support for the rally.
Country Harbour Gun Club	May 16, 2026 - St Barbara attended the monthly community breakfast at the Country Harbour Gun Club to discuss the Project. April 18, 2026 - St Barbara attended the monthly community breakfast at the Country Harbour Gun Club to discuss the Project. August 1, 2025 – St Barbara provided support to the Country Harbour Gun Club by sponsoring the upcoming "Come Home Days" and to learn about the Project. St Barbara provided funding to support the event.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Organization/Community/Stakeholder	Details of Engagement
Old Austen Mine Royalty co-owner, Community Member Pictou County	January 8, 2026 – Old Austen Mine Royalty co-owner visited the Stellarton Office to discuss Project updates and feedback St Barbara received from recent Opportunities Information Sessions.
Community of Sheet Harbour	January 22, 2026 – St Barbara shared job postings and how to apply. November 19, 2025 – St Barbara held a community Opportunities Information Session in Port Dufferin to discuss potential opportunities associated with the 15-Mile Processing Hub Project, as well as Project changes.
Halifax Chamber of Commerce	May 25, 2026 – St Barbara to attended and sponsored the State of the Province Luncheon in Halifax, discussing the 15-Mile Processing Hub Project. May 20, 2026 – St Barbara attended the State of the Municipality Luncheon, discussing the 15-Mile Processing Hub Project.
Antigonish Chamber of Commerce	May 14, 2026 – St Barbara attended the annual Antigonish Chamber Dinner and discussed the 15-Mile Processing Hub Project with attendees. June 6, 2025 – St Barbara was a major sponsor of the Antigonish Chamber of Commerce Golf Tournament held on June 6, 2025, at the Antigonish Golf Club. Team members spoke to other attendees about the Project status.
Sheet Harbour and Area Chamber of Commerce and Civic Affairs	May 23, 2026 – St Barbara attended the Eastern Shore East Community Advisory Committee. The Community Advisory Committee of the Chamber held a working session with community members on identifying priority areas to focus on over the last few years. St Barbara interacted with several members of the committee regarding community initiatives and future plans. May 6, 2026 – St Barbara attended the Chambers General meeting. St Barbara gave a presentation to the meeting regarding the 15 Mile Processing Hub Project. November 30, 2025 – St Barbara opened and decorated their office for the Christmas on Main Street celebrations in Sheet Harbour, connecting with members of the community and partaking in festive activities together.
Community of Guysborough County	November 27, 2025 – St Barbara held a community Opportunities Information Session in Country Harbour to discuss potential opportunities associated with the 15-Mile Processing Hub Project as well as Project changes.
Community of New Glasgow	November 20, 2025 – St Barbara held a community Opportunities Information Session in New Glasow to discuss potential opportunities associated with the 15-Mile Processing Hub Project as well as Project changes.
Pictou County Chamber of Commerce (PCCC)	May 14, 2026 – St Barbara attended the Chamber social and discussed the Project with attendees. February 3, 2026 – St Barbara attended an AI in the Workplace conference, hosted by the PCCC. St Barbara discussed the Project with business community members in attendance. October 22, 2025 – St Barbara was a major sponsor of the PCCC's Award Gala through their Community Partnership Agreement. St Barbara representatives attended the Gala. October 16, 2025 – St Barbara co-hosted an "After Hours" event with the PCCC at St Barbara's Stellarton office. The event was attended by over 25 members of the PCCC and discussion included St Barbara company information, the 15-Mile Processing Hub Project and the opportunities associated with the Project.
Mining Society of Nova Scotia (MSNS)	June 11 & 12, 2025 – St Barbara attended the MSNS Annual Conference at Oak Island Resort. St Barbara served as a Gold Sponsor and spoke to stakeholders, industry partners, regulators, and prospective contractors and employees about changes to the Project and associated opportunities. A St Barbara representative provided a presentation to conference attendees, outlining changes made to the Project.
Nova Scotia Power Inc. (NSPI)	February 23, 2026 – St Barbara met with NSPI via teams to discuss Project updates and information requirements for the Project. February 17, 2026 – NSPI reached out via email to plan a meeting regarding a progress update on the 15-Mile Processing Hub Project.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Organization/Community/Stakeholder	Details of Engagement
	September 22, 2025 – St Barbara contacted NSPI to begin discussions surrounding powerlines near the Old Austen Mine, specifically to gather information for the 15-Mile Processing Hub Project pre-feasibility study. A response was received and communication was ongoing on that topic.
Mining Association of Nova Scotia (MANS)	April 16, 2026 - St Barbara attended the MANS AGM and Reception. St Barbara was awarded the Presidents Award for achievements in 2025. October 17, 2025 – St Barbara attended a secondary meeting coordinated by MANS with NSECC and stakeholders to further discuss the ambient air quality standards changes and provide feedback. September 4, 2025 – MANS held a meeting between stakeholders, including St Barbara and NSECC, to discuss updates made to ambient air quality standards. St Barbara attended and was asked to provide comments and feedback on the updated standards.
Mineral Resource Forum	November 12 to 13, 2025 – St Barbara sponsored the Mineral Resource Forum, which brings together industry professionals, government representatives, and community members to discuss mineral development and resource management.
Mushaboom Community Centre **Goshen Community Recreation Centre** **Ecum Secum Community Centre**	Financial support was provided for several local community events, including children's Christmas parties, a seniors' dinner, Come Home Week activities, a volunteer firefighter appreciation dinner, and an outdoor movie night.
Marine Drive Academy **Musquodoboit Rural High School** **St. Mary's Education Centre/Academy** **Guysborough Academy/Chedabucto Education Centre** **Northumberland Regional High School** **North Nova Education Centre**	Bursaries were provided to local schools in 2025 and 2026 as part of St Barbara's community initiatives.
Pictou County Food Bank East **Pictou County Chamber of Commerce** **Karma Closet- Northumberland Regional High School** **Sheet Harbour and Area Heritage Society** **Sheet Harbour Lion's Club** **Sheet Harbour Rockets Association** **Sheet Harbour Marina Association** **Sheet Harbour Ground Search and Rescue** **Sheet Harbour ATV and Snowmobile Club** **Sheet Harbour and Area Chamber of Commerce and Civic Affairs** **Gerald Hardy Memorial Society** **Guysborough and Area Food Bank Society** **Country Harbour Broadhorns ATV Club** **Guysborough Amateur Athletic Association** **Goldenville Heritage Society**	Community Partnership Agreements have been signed with local community organizations.

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Organization/Community/Stakeholder	Details of Engagement
Historic Sherbrooke Village Development Society	
Helping Hands (Square Roots)	
Royal Canadian Legion Branch 147 (Upper Musquodoboit)	
Tide Volleyball Club	

[1] Participation varied by engagement; not all representatives listed attended or were involved in each activity.

Appendix E

Previous Moose River Consolidated Project Information

Fifteen Mile Stream Gold Project

Engagement with Stakeholders, Government Agencies and Regulators

The previous Moose River Consolidated Project included three separate mine developments – the Fifteen Mile Stream Gold Project, Cochrane Hill Gold Project, and Beaver Dam Mine Project. The Moose River Consolidated Project has been significantly redesigned and is now termed the 15-Mile Processing Hub Project, comprised of the 15-Mile Mine, the Old Austen Mine, and the Old Mitchell Mine. For the purpose of this appendix, historical information is presented using previous Project terminology as it would have been presented to stakeholders, government agencies, and the Mi'kmaq of Nova Scotia at the time of engagement.

15-MMR has maintained stakeholder engagement in relation to the Fifteen Mile Stream Gold Project since 2018 through various communication channels. While the frequency of engagement has varied in alignment with the project's development phases, efforts have remained ongoing and responsive to project needs. The following include the main forms of communication between 15-MMR and community and regulatory stakeholders:

- Emails to distribute project information, including planning and project details, field permitting requests, invitations to meet and data sharing.
- A dedicated Community Liaison Committee (CLC) established for the project, meeting quarterly to share updates, address concerns, provide inputs and provide a forum for questions and discussion. This group provides a means of information sharing between communities and the company on a scheduled basis.
- Website updates, including project information and updates, CLC meeting minutes, and contact information.
- A dedicated community relations email for community members seeking project updates and other inquiries.
- A community phone line for residents to call and ask questions, request project updates, and employment opportunity information.
- Community Offices open to the public as a space to ask questions about the project and stay up to date.
- Presentations and meetings with individuals, local community groups and organizations, describing exploration and mine development activities.
- Open Houses to share information about the Fifteen Mile Stream Gold Project in person, with environmental experts available to respond to questions. During the Open Houses, surveys were distributed to gather community input on key areas of interest, major concerns, and potential impacts of the project.
- Mailout and email newsletters to share updates about the project.
- Media and press releases to promote accurate information about the project.
- Plain Language Summaries (PLS) were developed for the Project's Valued Components (VCs) to present technical information in a more accessible and easily understood format.
- A summary of the initial Fifteen Mile Stream Gold Project Environmental Impact Statement (EIS) was developed and distributed for public review.

In May 2018, 15-MMR – then operating as Atlantic Mining NS (AMNS) submitted an EIS for the Fifteen Mile Stream Gold Project as a standalone project under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). The EIS generated numerous Information Requests (IRs) from the Mi'kmaq of Nova Scotia, regulatory agencies, and stakeholders, including Nova Scotia Environment and Climate Change (NSECC), the Impact Assessment Agency of Canada (IAAC, formerly the Canadian Environmental Assessment Agency (CEAA)), and the Department of Fisheries and Oceans (DFO). AMNS chose to withdraw from the federal review process, formally terminating the environmental assessment in August 2023, to take time to re-design the project.

15-MMR has since refined the 15-Mile Mine Project design in response to various feedback received during the previous review, incorporating changes that were financially and technically viable. The company focus was to reduce environmental impacts as much as feasible, which still designing an economically viable project. The company worked with various environmental consultants on the redesign, addressing concerns previously raised by the Mi'kmaq of Nova Scotia, as well as a variety of stakeholders – both community and regulatory.

Beaver Dam Mine Project

Engagement with Stakeholders, Government Agencies and Regulators

15-MMR has maintained stakeholder engagement in relation to the Beaver Dam Mine Project (previous project name) since 2016 through various communication channels. Engagement with stakeholders, government agencies and regulators continued until September 2023, when the federal review process was formally terminated, as explained above. The following include the main forms of communication between 15-MMR and community and regulatory stakeholders between 2016 and 2023:

- Emails to distribute project information, including planning and project details, field permitting requests, invitations to meet and data sharing.

- A dedicated CLC, meeting quarterly to share updates, address concerns, provide inputs and provide a forum for questions and discussion. This group provides a means of information sharing between communities and the company on a scheduled basis.
- Website updates, including project information and updates, CLC meeting minutes, and contact information.
- A dedicated community relation email for community members seeking project updates and other inquiries.
- A community phone line for residents to call and ask questions, request project updates, and employment opportunity information.
- Community Offices open to the public as a space to ask questions about the project and stay up to date.
- Presentations and meetings with individuals, local community groups and organizations, describing exploration and mine development activities.
- Open Houses to share information about the Beaver Dam Mine Project in person, with environmental experts available to respond to questions. During the Open Houses, surveys were distributed to gather community input on key areas of interest, major concerns, and potential impacts of the project.
- Mailout and email newsletters to share updates about the project.
- Media and press releases to promote accurate information about the project.
- Plain Language Summaries (PLS) were developed for the Project's Valued Components (VCs) to present technical information in a more accessible and easily understood format, including Atmospheric, Groundwater, Surface Water and Human Health.
- A summary of the Initial Project Description was developed and distributed for public review.
- A summary of the initial Beaver Dam Mine Project EIS was developed and distributed for public review.
- A summary of the initial Beaver Dam Mine Project EIS was developed and distributed for public review to include Round 2 Information Requests.

15-MMR (then operating as AMNS) submitted a stand-alone EIS for the Beaver Dam Mine Project under CEAA 2012 in March 2017. Following feedback from IAAC, the EIS was revised and resubmitted in June 2017. Following review, the EIS generated numerous IRs, which were addressed, and a revised EIS with supporting information was submitted in February 2019.

A second round of IRs was issued in spring 2019. These were reviewed and responded to, with a further EIS submission made in May 2021. Following feedback from IAAC, this submission was further revised and resubmitted in October 2021. In February 2022, a third round of IRs was received, along with a technical review letter from DFO and comments from Millbrook First Nation.

15-MMR chose to withdraw from the federal review process, formally terminating the environmental assessment in September 2023, to focus on addressing key concerns and revising the project design to better respond to the feedback received. 15-MMR has made significant changes to the Old Austen Mine Project, focusing on reducing environmental impacts and preserving land use for the Mi'kmaq of Nova Scotia.

Cochrane Hill Gold Project

Engagement with Stakeholders, Government Agencies and Regulators

The Cochrane Hill Gold Project (previous project name) commenced the federal environmental assessment process under CEAA 2012 but an EIS was not submitted. Engagement efforts in relation to this project began in 2018 through various communication channels and continued periodically. In September 2023, the federal environmental assessment was formally terminated, as explained above. The following include the main forms of communication between 15-MMR and community and regulatory stakeholders in relation to the Cochrane Hill Gold Project between 2018 and 2023:

- Emails to distribute project information, including planning and project details, field permitting requests, invitations to meet and data sharing.
- A dedicated CLC, meeting quarterly to share updates, address concerns, provide inputs and provide a forum for questions and discussion. This group provided a means of information sharing between communities and the company on a scheduled basis. This group became inactive in 2023 after the environmental assessment was formally terminated.
- Website updates, including project information and updates, CLC meeting minutes, and contact information.
- A dedicated community relation email for community members seeking project updates and other inquiries.
- A community phone line for residents to call and ask questions, request project updates, and employment opportunity information.
- Community Offices open to the public as a space to ask questions about the project and stay up to date.
- Presentations and meetings with individuals, local community groups and organizations, describing exploration and mine development activities.
- Mailout and email newsletters to share updates about the project.

- Media and press releases to promote accurate information about the project.
- A summary of the Initial Project Description was developed and distributed for public review.

An Initial Project Description for the Cochrane Hill Gold Project was submitted in 2018 under CEAA 2012, during which initial feedback was gathered through public comment and the CLC group. At the time, some stakeholders and non-government organizations raised concerns regarding the Cochrane Hill Gold Project.

In response to concerns raised in relation to the project, 15-MMR (then operating as AMNS) chose to formally withdraw from the federal review process to review the project layout, work with experts to optimize the design, and address public concerns. 15-MMR has made significant changes to the Old Mitchell Mine Project, focusing on reducing environmental impacts.

Fifteen Mile Stream Gold Project

Engagement with the Mi'kmaq of Nova Scotia

The Mi'kmaq of Nova Scotia engagement for the Fifteen Mile Stream Gold Project (previous project name) began in 2018. The following include the main forms of communication between 15-MMR and the Mi'kmaq:

- MEKS (Mi'kmaq Ecological Knowledge Study) completed in November of 2024 by Membertou Geomatics Solutions.
- Website updates, including project information and updates, CLC meeting minutes, and contact information.
- A dedicated community relation email for community members seeking project updates and other inquiries.
- A community phone line for residents to call and ask questions, request project updates, and employment opportunity information.
- Community Offices open to the public as a space to ask questions about the project and stay up to date.
- Mailout and email newsletters to share updates about the project.
- Media and press releases to promote accurate information about the project.
- Formal Technical Advisory Group (TAG) established for the Fifteen Mile Stream Gold Project.

The TAG group was officially dissolved in 2023 when the Fifteen Mile Stream Gold Project chose to withdraw from the federal review process, formally terminating the environmental assessment in September 2023.

In May 2018, 15MMR (then operating as AMNS) submitted an EIS for the Fifteen Mile Stream Gold Project as a stand-alone project under CEAA 2012. The EIS generated IRs from the Mi'kmaq of Nova Scotia. KMK (Kwilmu'kw Maw-klusuaqn) appointed CBCL Engineering & Environmental Design Services to review the EIS report as part of their submission on behalf of the Fifteen Mile Stream Gold Project. CBCL's review assessed each Valued Component (VC), providing a list of gaps identified and recommendations that aligned with each of the VCs. Comments were received from Native Council of Nova Scotia (NCNS) after review of the project. AMNS chose to withdraw from the federal review process, formally terminating the environmental assessment in September 2023, to focus on addressing key concerns and revising the project design to better respond to the feedback received. 15-MMR has made significant changes to the 15-Mile Mine Project, focusing on reducing environmental impacts.

Beaver Dam Mine Project

Engagement with the Mi'kmaq of Nova Scotia

The Mi'kmaq of Nova Scotia engagement for the Beaver Dam Mine Project (previous project name) began in 2016 but has been limited since April of 2022. The following include the main forms of communication between 15-MMR and the Mi'kmaq:

- MEKS (Mi'kmaq Ecological Knowledge Study) completed in November of 2016 by Mainland Mi'kmaq Development Inc.
- Meetings with Mi'kmaq communities and organizations to discuss project updates and changes.
- A dedicated community relations email for community members seeking project updates and other inquiries.
- A community phone line for residents to call and ask questions, request Project updates, and employment opportunity information.
- Community Offices open to the public as a space to ask questions about the project and stay up to date.
- Mailout and email newsletters to share updates about the project.
- Media and press releases to promote accurate information about the project.

In March 2017, 15-MMR (then operating as AMNS) submitted an EIS for the initial Beaver Dam Mine Project as a stand-alone project under CEAA 2012. The initial submission was revised and resubmitted in June 2017. Following review, the EIS generated numerous IRs, which were addressed, and a revised EIS with supporting information was submitted in February 2019.

A second round of IRs was issued in spring 2019, along with comments from Millbrook First Nations and NCNS. The IRs were reviewed and responded to, with a further EIS submission made in May 2021. This submission was revised and resubmitted in October 2021. A Beaver Dam Community Wellness Study was released December 2021, focusing on the socio-economic and human health conditions that relate to the potential environmental impacts the Beaver Dam Mine Project would have on the community of Millbrook First Nation. This report focused on concerns identified by community members related to the Beaver Dam Mine Project and its potential impacts on the Mi'kmaq people, and documented concerns expressed by members of the Millbrook First Nation community. In February 2022, a third round of IRs was received, along with comments from Millbrook First Nation.

15-MMR chose to withdraw from the federal review process, formally terminating the environmental assessment in September 2023, to focus on addressing key concerns and revising the project design to better respond to the feedback received. 15-MMR has made significant changes to the Old Austen Mine Project, focusing on reducing environmental impacts and preserving land use for the Mi'kmaq of Nova Scotia.

Cochrane Hill Gold Project

Engagement with Mi'kmaq of Nova Scotia

The Cochrane Hill Gold Project (previous project name) commenced the federal environmental assessment process under CEAA 2012 but an EIS was not submitted. Engagement efforts in relation to this project began in 2018 through various communication channels and continued periodically. In September 2023, the federal environmental assessment was formally terminated, as explained above. The following include the main forms of communication between 15-MMR and the Mi'kmaq of Nova Scotia in relation to the Cochrane Hill Gold Project between 2018 and 2023:

- MEKS (Mi'kmaq Ecological Knowledge Study) completed in April 2019 by Mi'kma'ki All Points Services Inc.
- A dedicated community relation email for community members seeking project updates and other inquiries.
- A community phone line for residents to call and ask questions, request Project updates, and employment opportunity information.
- Community Offices open to the public as a space to ask questions about the project and stay up to date.
- Mailout and email newsletters to share updates about the project.
- Media and press releases to promote accurate information about the project.

An Initial Project Description for Cochrane Hill Gold Project was submitted in 2018 under CEAA 2012, during which initial feedback was gathered through public comment and open house sessions. At the time, the NCNS submitted a letter identifying concerns with the project.

In response to concerns raised in relation to the project, 15-MMR (then operating as AMNS) chose to formally withdraw from the federal review process to review the project layout, work with experts to optimize the design, and address public concerns. 15-MMR has made significant changes to the Old Mitchell Mine Project, focusing on reducing environmental impacts.

Appendix F

Information Package 15-Mile Processing Hub Update

St Barbara Limited

15-Mile Consolidated Gold Project

Project Update October 2025

St Barbara Limited is an Australian-based gold mining, development, and exploration company with projects in Nova Scotia, Canada, and Papua New Guinea. The company has been active in Nova Scotia since acquiring its Atlantic Operations in 2019. In July 2023, St Barbara welcomed new leadership when its current Managing Director and Chief Executive Officer, Andrew Strelein, stepped into the role, marking the beginning of a new era. With renewed leadership from the Board through to management, St Barbara is moving forward with a clear strategy that reflects a modern and responsible approach to mining. The company is committed to doing business differently, grounded in partnership, accountability, and long-term sustainability.

St. Barbara's Nova Scotia Projects

Mining at the Touquoy open pit started in 2017 and reached full production in 2018. In 2019, St Barbara Ltd. purchased Atlantic Mining NS Inc. (AMNS), which included the Touquoy Mine, three future projects (15-Mile, Beaver Dam, and Cochrane Hill), and exploration rights across Nova Scotia. Mining at Touquoy has now ended, and since September 2023 the site has been in care and maintenance, with nearly $20 million spent, of the committed $80 million bond, to date in clean-up and restoration.

St Barbara is also working on developing the 15-Mile Consolidated Gold Project (the Project) which is a proposed gold mine in Nova Scotia. In 2024, after receiving feedback from the Mi'kmaq of Nova Scotia and stakeholders, the company began incorporating this input at each of the three sites and later that year decided to move forward with a 15-Mile Consolidated Gold Project. The project combines three mining sites: 15-Mile Mine will act as the main site with a processing plant, and a tailings management facility, Beaver Dam and Cochrane Hill sites will act as quarry Satellite Mines where ore will be mined and hauled to 15-Mile Mine for processing. The Project is expected to operate for about 11.2 years. Each year, the processing plant will handle about 3 million tonnes of ore and produce about 106,000 ounces of gold.

All three mine sites are located on previously impacted land from historic mining, leaving behind historic contaminated waste rock and tailings. As part of this Project, St Barbara is committed to responsibly managing and cleaning up historic tailings disturbed within the Project area which has been successfully performed at the Touquoy site. The company also has nearly a decade of environmental studies to guide its plans, helping ensure the Project is designed with a strong understanding of local land, water, and wildlife. We invite members of the Mi'kmaq community to take part in field work at any of our sites, with more details provided below.

Mi'kmaq Areas of Interest and Concerns

St Barbara has made Mi'kmaq areas of interest and concerns a key part of planning the Project. St Barbara is committed to meaningful collaboration to incorporate Mi'kmaq knowledge and feedback into Project design. Project redesign has been made based on Mi'kmaq input, such as removing the Beaver Dam Haul Road, moving infrastructure away from sensitive areas, and adding setbacks from important waterbodies like the Killag River. St Barbara has made it a priority to listen to the Mi'kmaq of Nova Scotia and respond and integrate comments and concerns about the Project across all three sites. The following are some of the comments, issues and concerns shared by the Mi'kmaq of Nova Scotia regarding:

15-Mile Mine

- Lack of baseline data and information on certain terrestrial fauna (e.g., bats and moose) and avifauna
- The Seloam Brook realignment design with respect to potential impacts to fish habitat and dust
- Lack of water treatment
- Changes in water quality around the East Lake Watershed

Beaver Dam Satellite Mine

- Project size and area limiting access to and use of Traditional Lands (such as limitations on gathering food, hunting, trapping and fishing)
- Changes in water quality and potential health effects
- Food insecurity and rising food costs
- Increased ambient noise levels from traffic (construction and operations)
- Hydraulic conductivity between the pit and the Killag River

Cochrane Hill Satellite Mine

- Cumulative effects resulting from multiple mine projects
- Changes in water quality relating to the tailings management facility

- Environmental impacts relating to old growth forest and wetland function

St Barbara has taken the comments and concerns seriously and has made project changes to incorporate them as outlined below.

15-Mile Consolidated Gold Project Redesign

St Barbara has advanced environmental and project planning work for the 15-Mile Consolidated Gold Project, including completing a baseline gap analysis, a 2025 breeding bird and Nightjar survey, and ongoing studies such as bat acoustic and maternity roosting surveys, with additional migration surveys planned. All three sites – 15-Mile, Beaver Dam, and Cochrane Hill – have undergone a comprehensive gap analysis to identify deficiencies in the environmental baseline. St Barbara is actively addressing these gaps, with environmental studies ongoing and additional studies planned. We have heard your concerns regarding cumulative effects and are committed to understanding all potential project interactions. Potential cumulative effects will be assessed for the consolidated project including the development of appropriate mitigation measures.

Through design improvements, the 15-Mile Consolidated Gold Project has reduced the area of wetlands impacted by 29% (42 hectares), decreased watercourses impacted by 35%, decreased impacts to boreal and blue felt lichen by 78%, and lowered the overall project footprint by 36% (376 hectares).

One of the biggest improvements in the new Project design is how we plan to handle PAG (potentially acid generating) waste rock. Instead of creating a large stockpile at the 15-Mile Mine, the redesign removes the need for a PAG stockpile, storing PAG directly in the tailings management facility or an empty pit. At the Satellite Mines, PAG rock will be stored near the pits and then backfilled into the empty pits in reclamation and closure. Storing PAG waste rock underwater in the empty pit or tailings management facility limits oxygen, which prevents acid and metals from forming and leaking into the environment. This method of storage aligns with global best practices, eliminates surface stockpiles in closure, reduces dust and erosion as well as creates a more stable final landscape in reclamation.

15-Mile Mine

The 15-Mile Mine layout has been updated to include water treatment, remove infrastructure from the East Lake Watershed to address flow reduction issues and environmental impacts, and redesign the Seloam Brook realignment to improve fish passage. St Barbara would like to review this redesign with the Mi'kmaq of Nova Scotia in detail before submission. In addition, a comprehensive Dust Management Plan will be developed for submission with regulatory submission, outlining measures to monitor, control, and mitigate dust emissions through construction, operation, and closure.

Beaver Dam Satellite Mine

Millbrook First Nation raised concerns about how the Beaver Dam project could affect Traditional Land Use, including disturbance to Crown Lands and the ability to hunt, fish, and gather. In response, St Barbara has made significant changes, including removing the proposed haul road, reducing the Beaver Dam Project Development Area by 45% (392 hectares), and removing 23 million tonnes of waste rock from surface that was planned to remain on surface in closure. This redesign has also removed the Cope Brook Watershed from the Project Development Area to help protect Millbrook First Nation IR 17 water quality. St Barbara is currently evaluating advanced water treatment options, including a more sophisticated treatment plant designed to support the health of the Killag River. These options may incorporate chillers to ensure discharge occurs at an optimal temperature for aquatic life. The design also allows continued access to the east side of the Killag River for fishing. Beyond these changes, St Barbara is committed to working with the Mi'kmaq of Nova Scotia to develop a seasonal harvesting schedule for food and medicinal plants during construction, operations, and closure, if desired.

Noise modelling will be conducted for the Beaver Dam project and noise suppression measures implement where needed, maintaining vegetative buffers as natural noise barriers where possible. Mi'kmaq communities will be given advance notice of potentially noisy activities. St Barbara is working with consultants to complete a gap analysis and will determine whether further field work regarding hydraulic conductivity between the pit and the Killag River, such as additional drilling, hydrogeological testing, or geotechnical investigations, is required to ensure a comprehensive dataset.

Cochrane Hill Satellite Mine

The company has redesigned the Cochrane Hill layout to significantly reduce its footprint and environmental impacts, with the Project Development Area decreased by about 44% and the overall disturbance by 56%. The redesign removes the need for a tailings management facility and process plant, reducing the number of watersheds affected and the overall impacts on surface and groundwater. The Cochrane Hill layout has been adjusted to avoid sensitive environmental features, including identified areas of old growth forest. A comprehensive old growth forest field program will be completed as part of environmental baseline, and results will be incorporated into regulatory submission, with further adjustments made where practicable to avoid these areas.

Environmental Planning

While the Project involves developing an open pit gold mine, we remain committed to minimizing environmental impacts and protecting local ecosystems through careful planning, extensive studies, and responsible management practices through all phases of the Project, including construction, operation, closure and reclamation. St Barbara has an extensive data base of environmental baseline information for the 15-Mile Consolidated Gold Project including the following:

- Quarterly Surface and Groundwater Baseline Monitoring

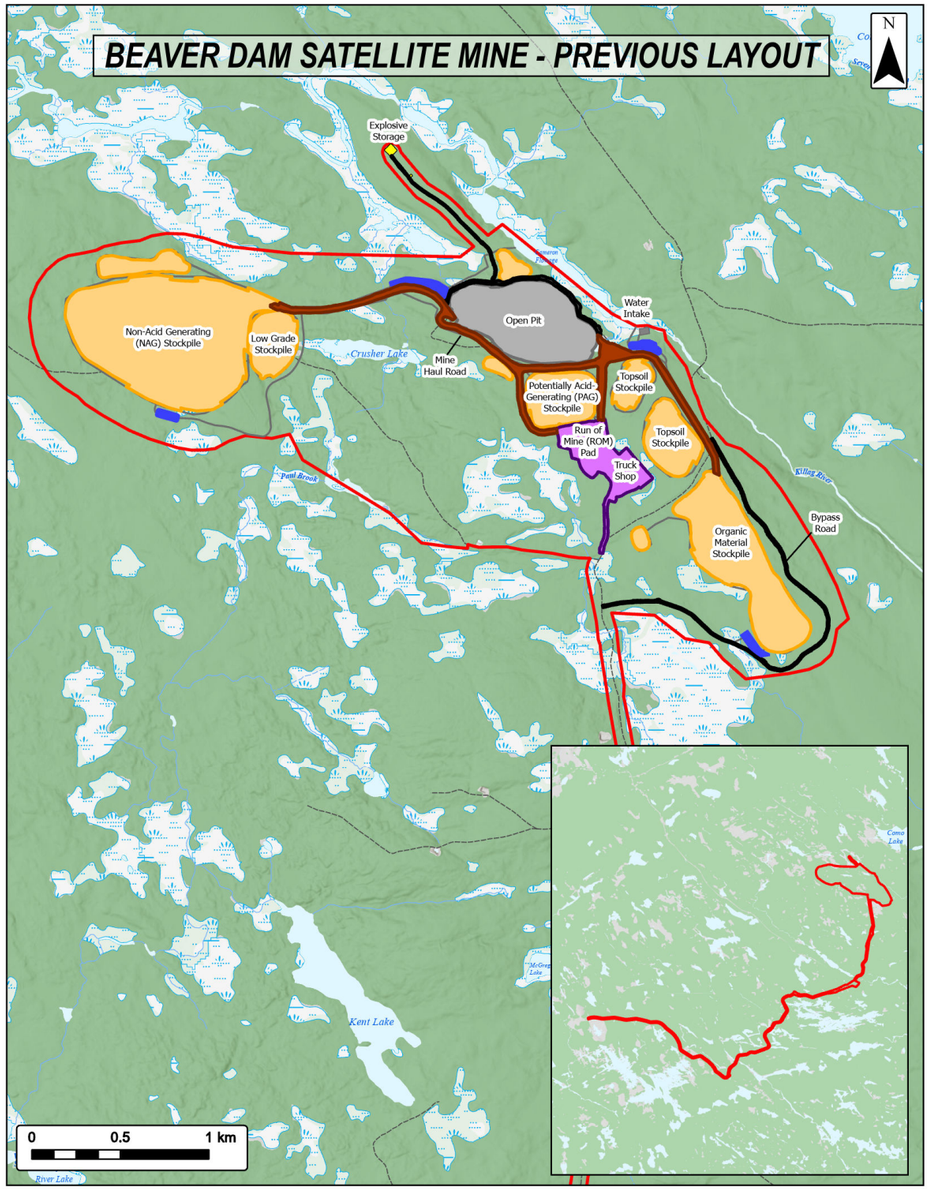
- Extensive Fish & Fish Habitat Baseline, including thermal surveys, Benthic and Periphyton Samplings, Fish Tissue and Sediment Sampling
- Baseline Air and Noise Monitoring Program
- Terrestrial Habitat and Flora Baseline Monitoring including Old Growth Forest, SAR (Species at Risk) and Botany Surveys
- Terrestrial Fauna Baseline Monitoring including Wood Turtle, Mainland Moose and Bat Acoustics and Maternity Roosting Surveys
- Avifauna Baseline Monitoring including Spring and Fall Migration, Breeding Bird and Nightjar Surveys
- Historic Tailings and Waste Rock Baseline Surveys

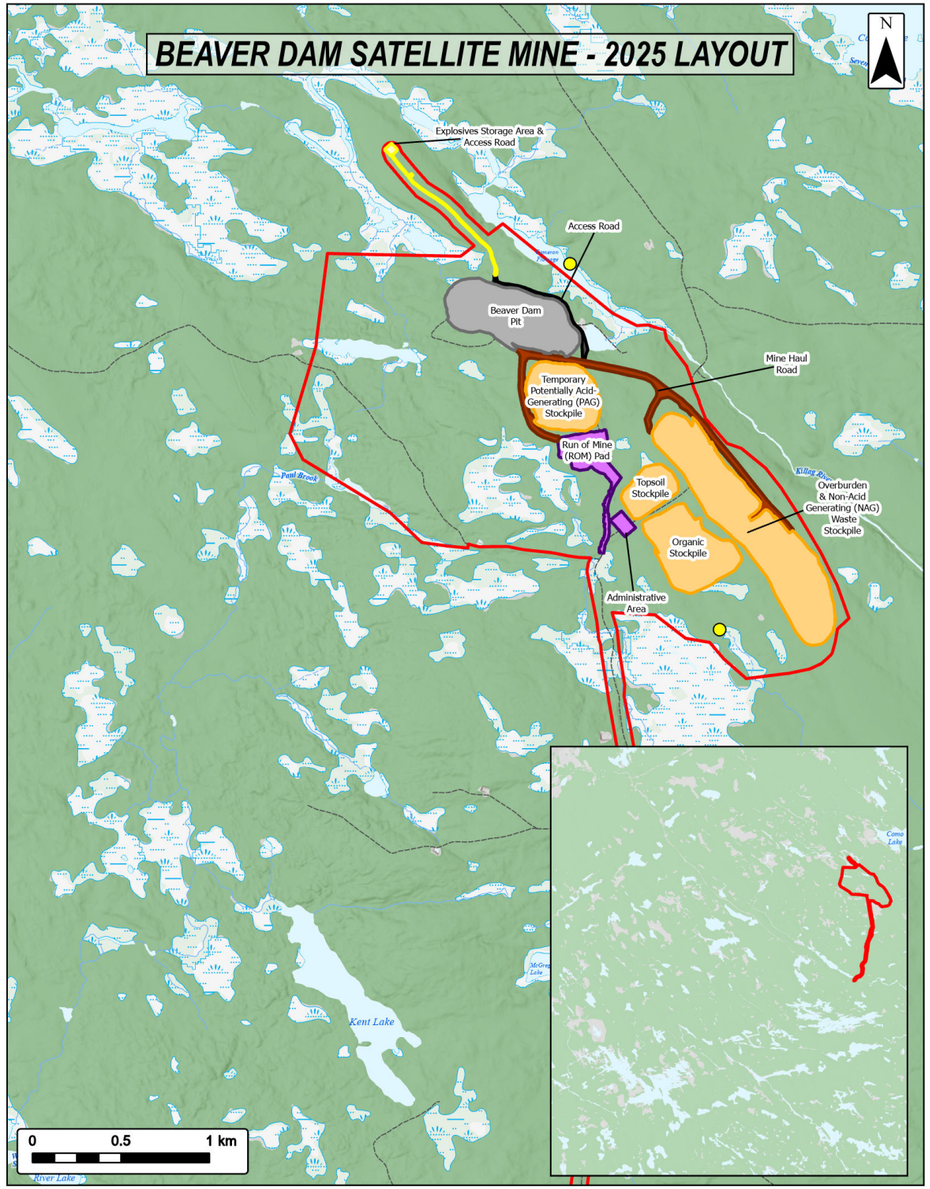
If interested, St Barbara would be pleased to share baseline environmental and technical data with the Mi'kmaq of Nova Scotia through a collaborative data-sharing process. This approach would allow the Mi'kmaq to access and review information about the local land, water, and ecosystems, supporting informed discussions and meaningful participation in Project planning. We also want to invite members of the Mi'kmaq community to participate in field work at any of our sites, to provide traditional and environmental knowledge and guidance to our field staff, relating to ecosystems, sensitive areas and traditional practice areas, where comfortable doing so. St Barbara would be pleased to discuss providing funding to support the review of existing environmental studies and participation and co-design for future studies.

St Barbara acknowledges that we have not been successful in addressing all concerns raised by the Mi'kmaq of Nova Scotia, specifically food insecurity and complete relocation of the Beaver Dam Satellite Mine from Traditional Land. We acknowledge this openly and with respect. Our team remains committed to working with the Mi'kmaq of Nova Scotia in good faith to better understand these outstanding issues and to explore solutions together. As we move forward, we hope to continue building trust and ensuring that your perspectives and values play a meaningful role in shaping the Project. Our team remains open and available to discuss any concerns in detail should you wish to connect with us.

St Barbara appreciates your time reviewing this document. We value your input and appreciate any feedback you may wish to share with us regarding the Project and or St Barbara. We would be happy to meet in person or video call at any time, and we want to ensure you that we continue to consider your perspectives as we move forward.

BEAVER DAM SATELLITE MINE





22%

22% reduction in watercourses disturbed

44%

44% reduction in disturbed footprint

63%

63% reduction in wetlands disturbed

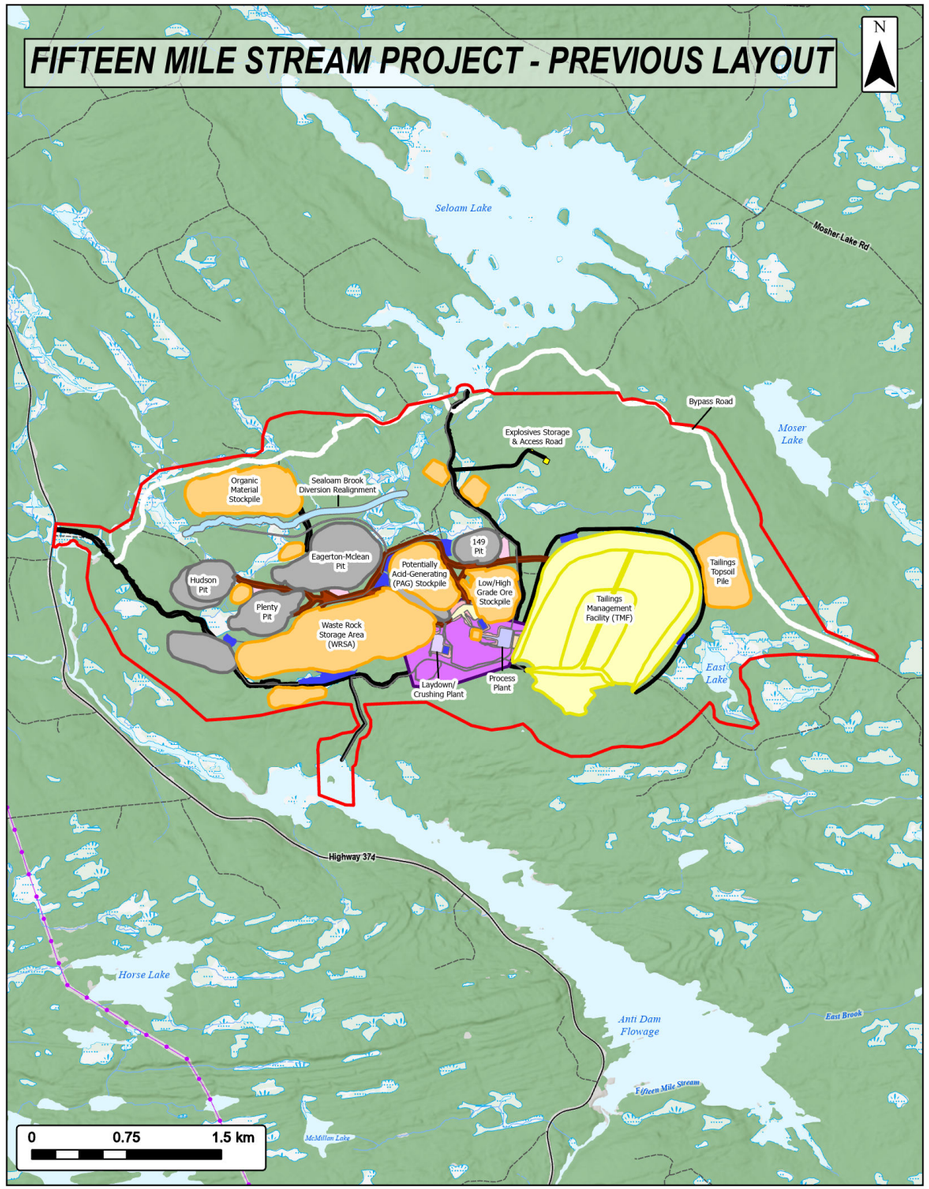
Complete avoidance of Boreal and Blue Felt Lichen

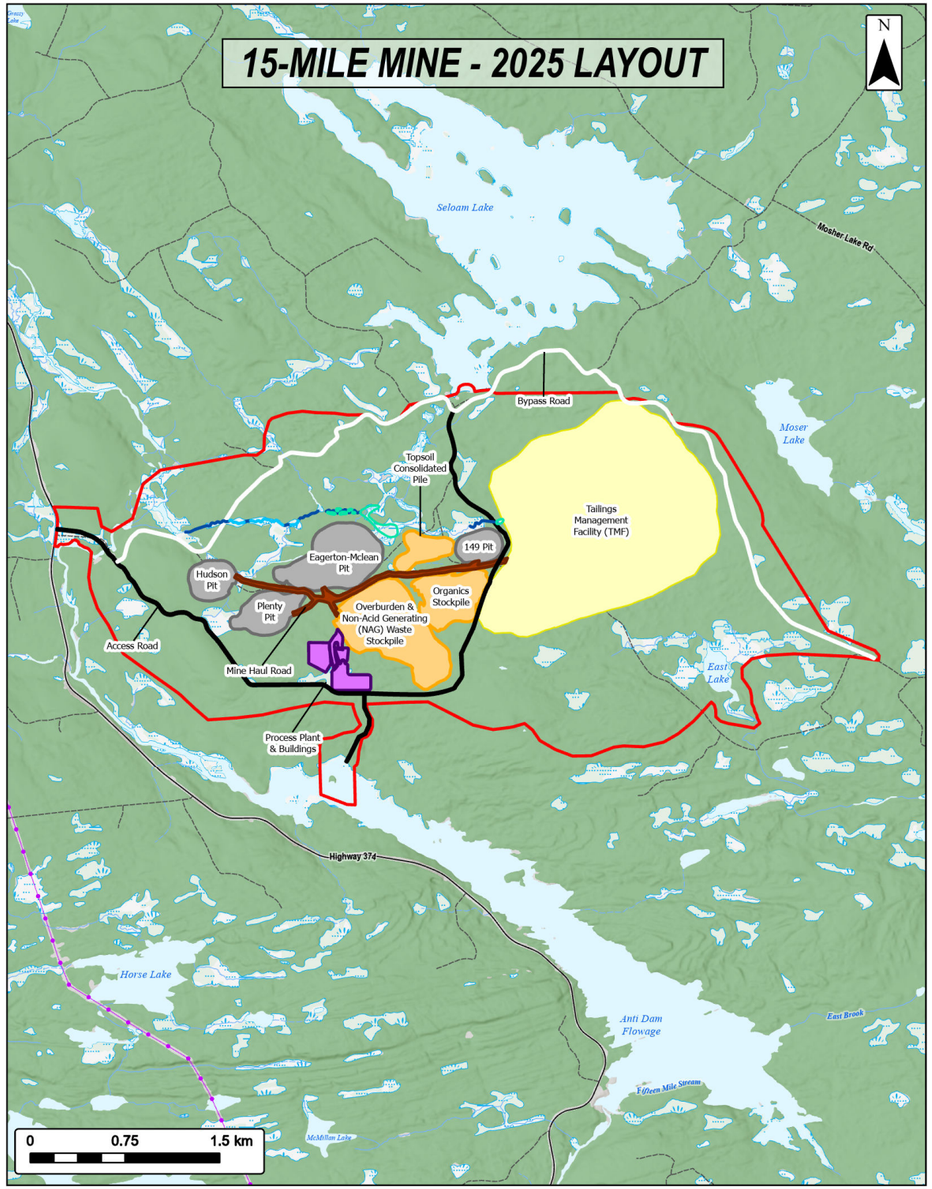
Removed Cope Brook Watershed from Project Development Area

Increased pit setback from Killag River

St Barbara

15-MILE MINE





38%

38% reduction in watercourses disturbed

19%

19% reduction in disturbed footprint

14%

14% reduction in wetlands disturbed

60%

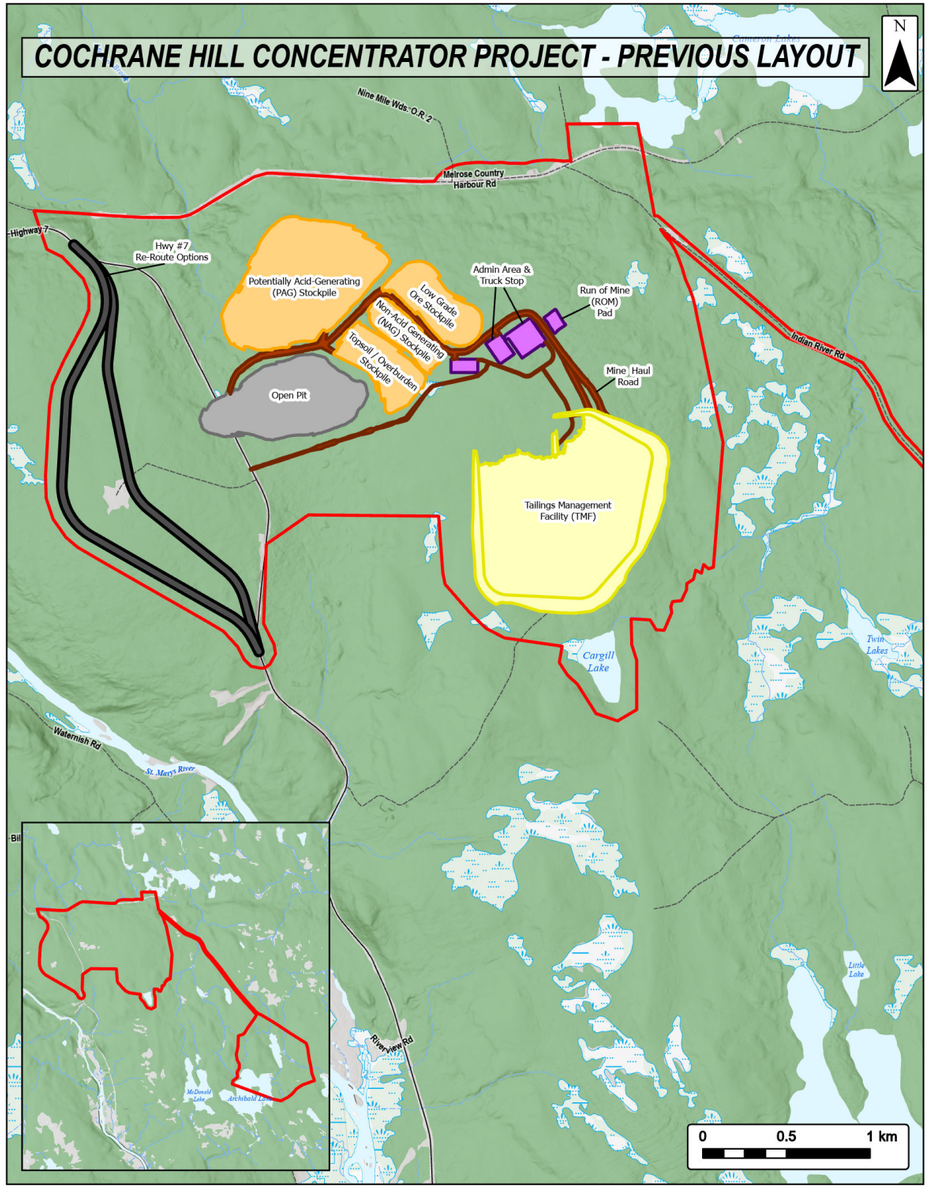
60% reduction in Boreal & Blue Felt lichen disturbed

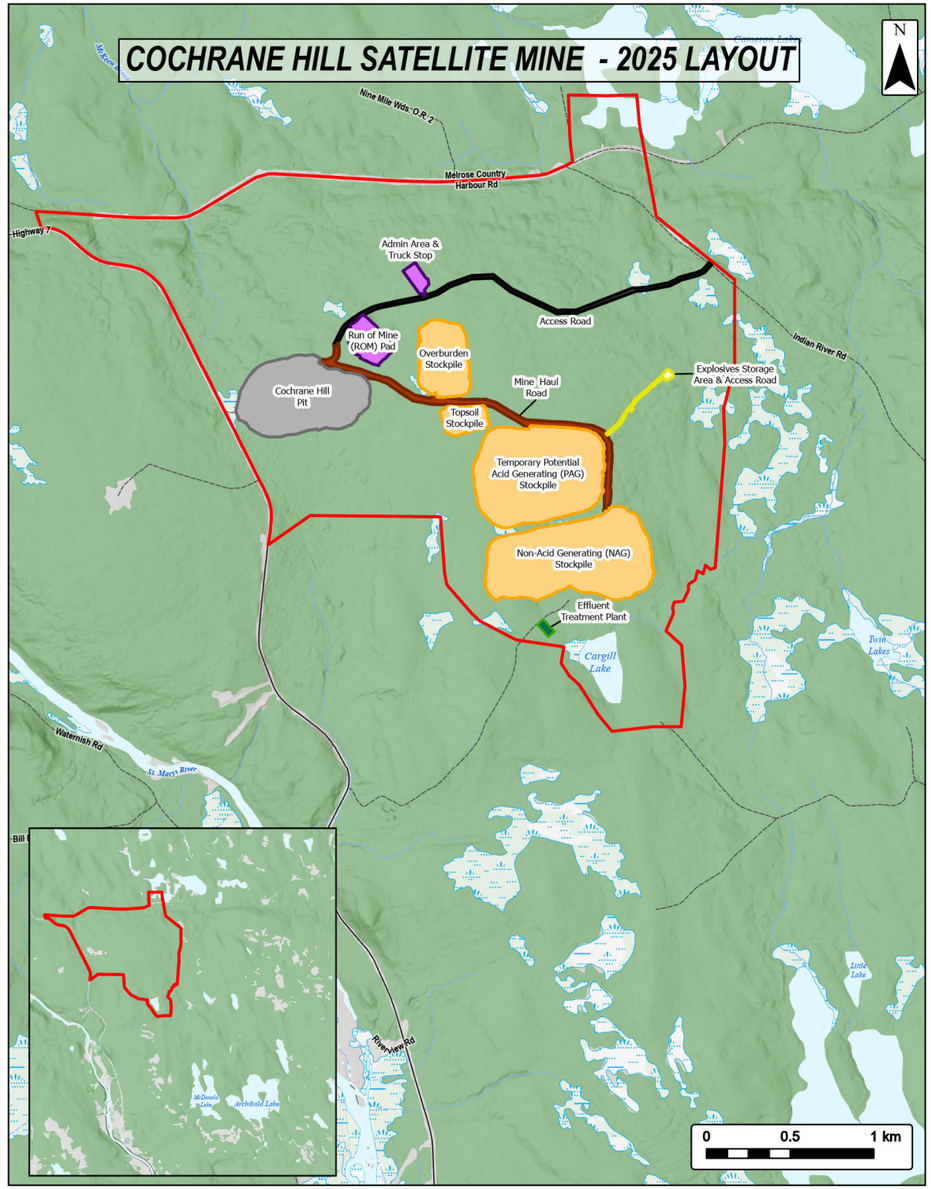
Redesigned TMF to improve water management

Infrastructure relocated to avoid East Lake Watershed

St Barbara

COCHRANE HILL SATELLITE MINE





38%

38% reduction in watercourses disturbed

56%

56% reduction in disturbed footprint

45%

45% reduction in wetlands disturbed

Complete avoidance of Boreal & Blue Felt Lichen

Removal of Tailings Management Faculty

Pit has been optimized to avoid Highway #7, eliminating the need for re-routing

St Barbara

Appendix G

Moose River Consolidated Project vs 15-Mile Processing Hub

FIFTEEN MILE STREAM GOLD PROJECT - MOOSE RIVER CONSOLIDATED PROJECT (PREVIOUS)

N

Seloam Lake

Mosher Lake Rd

Bypass Road

Explosives Storage & Access Road

Moser Lake

Organic Material Stockpile

Sealoam Brook Diversion Realignment

Project Development Area

Eagerton-Mclean Pit

149 Pit

Hudson Pit

Potentially Acid-Generating (PAG) Stockpile

Low/High Grade Ore Stockpile

Tailings Topsoil Pile

Plenty Pit

Tailings Management Facility (TMF)

Waste Rock Storage Area (WRSA)

Laydown/ Crushing Plant

Process Plant

East Lake

Highway 374

Horse Lake

Anti Dam Flowage

East Brook

Fifteen Mile Stream

McMillan Lake

0 0.75 1.5 km

15-MILE MINE - IPD (2026)

N

Seloam Lake

Mosher Lake Rd

Bypass Road

Moser Lake

Tailings Management Facility (TMF)

Project Development Area

Topsoil Stockpile

149 Pit

Egerton-MacLean Pit

Hudson Pit

Overburden Stockpile

Plenty Pit

Overburden & Non-Acid Generating (NAG) Waste Stockpile

Access Road

Process Plant & Buildings

Explosives Storage & Access Road

East Lake

Water Treatment Access Road

Highway 374

Horse Lake

Anti Dam Flowage

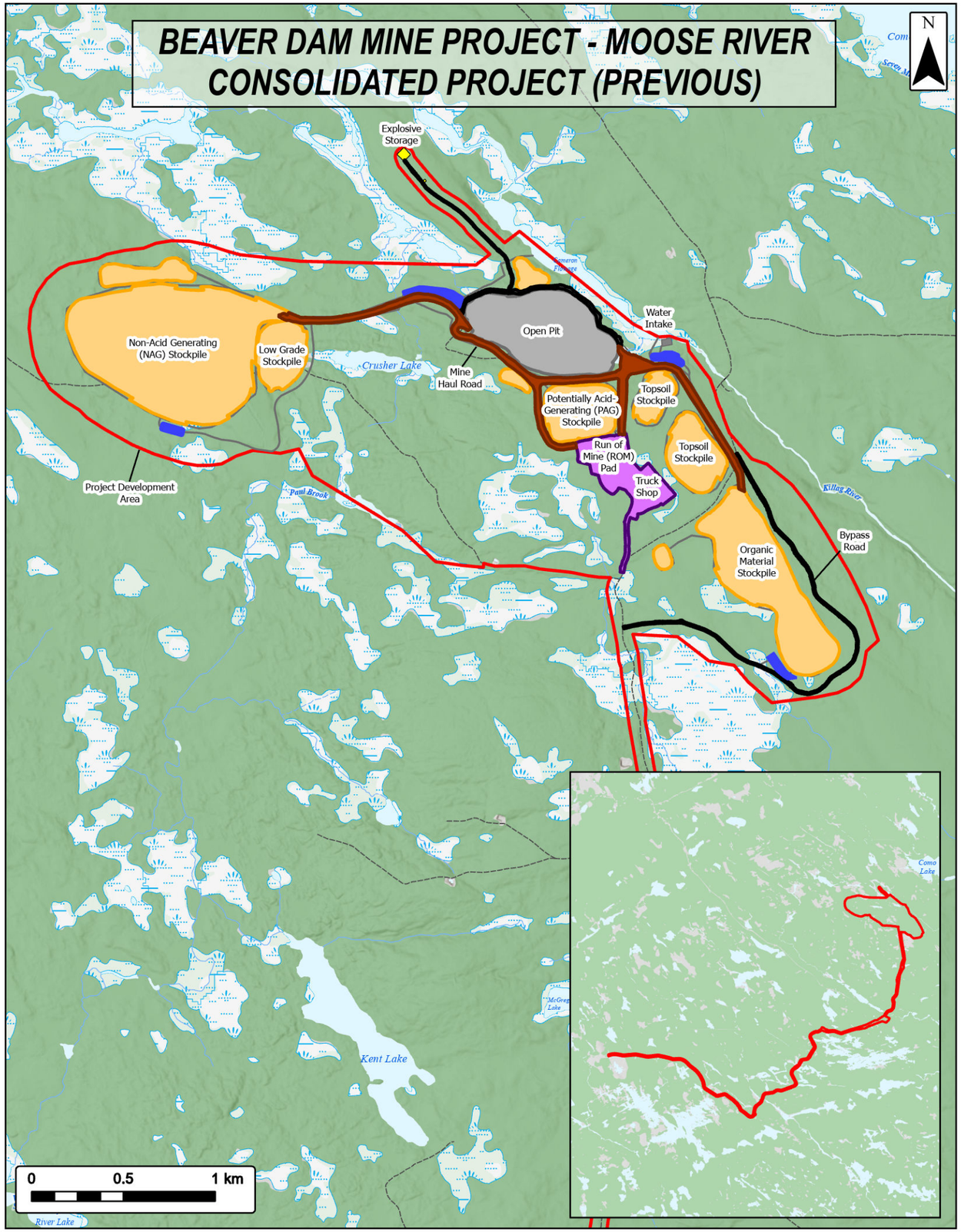
East Brook

Fifteen Mile Stream

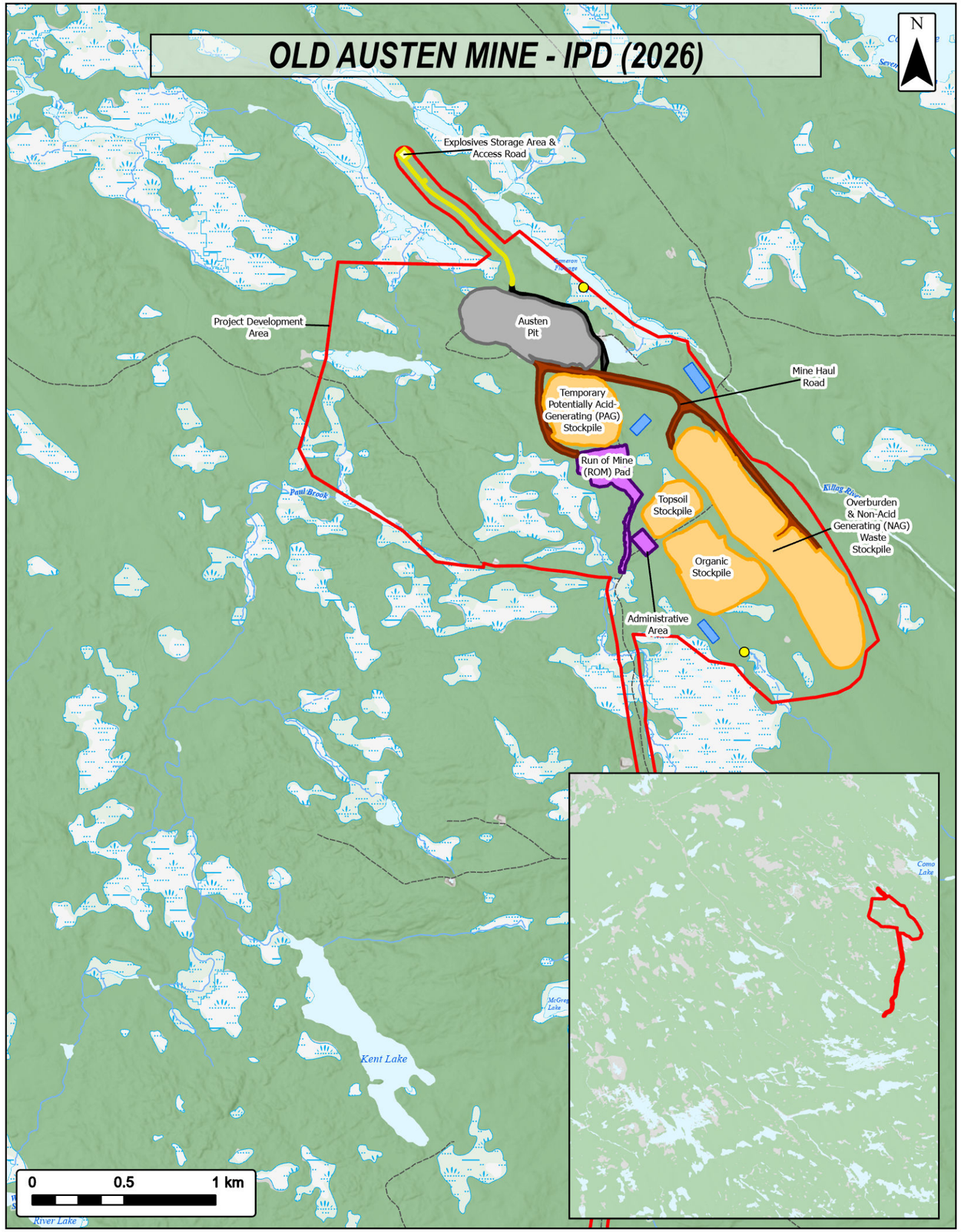
McMillan Lake

0 0.75 1.5 km

BEAVER DAM MINE PROJECT - MOOSE RIVER CONSOLIDATED PROJECT (PREVIOUS)



OLD AUSTEN MINE - IPD (2026)



COCHRANE HILL GOLD PROJECT - MOOSE RIVER CONSOLIDATED PROJECT (PREVIOUS)

N

McEwen Brook
Cameron Lakes
Nine Mile Wds. O.R. 2
Melrose Country Harbour Rd
Highway 7
Hwy #7 Re-Route Options
Potentially Acid-Generating (PAG) Stockpile
Low Grade Ore Stockpile
Non-Acid Generating (NAG) Stockpile
Topsoil / Overburden Stockpile
Admin Area & Truck Stop
Run of Mine (ROM) Pad
Mine Haul Road
Cochrane Hill Pit
Tailings Management Facility (TMF)
Indian River Rd
Project Development Area
Cargill Lake
Twin Lakes
Waternish Rd
St. Marys River
Little Lake
Riverview Rd
McDonald Lake
Archibald Lake

0 0.5 1 km

OLD MITCHELL MINE - IPD (2026)

N

McEwen Brook
Cameron Lakes
Nine Mile Wds. O.R. 2
Melrose Country Harbour Rd
Highway 7
Admin Area & Truck Stop
Access Road
Run of Mine (ROM) Pad
Overburden Stockpile
Mitchell Pit
Mine Haul Road
Topsoil Stockpile
Explosives Storage Area & Access Road
Indian River Rd
Temporary Potential Acid Generating (PAG) Stockpile
Project Development Area
Non-Acid Generating (NAG) Stockpile
Effluent Treatment Plant
Cargill Lake
Twin Lakes
Waternish Rd
St. Marys River
Little Lake
Riverview Rd
McDonald Lake
Archibald Lake

0 0.5 1 km