Kami Mining Project

Champion Kami Partner Inc.

Wabush, NL

Annex 5: Management Plans

Environmental Impact Statement

July 2025

1155 René-Lévesque Blvd. West, 33rd Floor
Montréal, Québec H3B 3X7 CANADA
T +1 514 316-4858
championiron.com

Kami Mining Project

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Wabush, NL

Annex 5A: Gender Equity, Diversity and Inclusion Plan

Environmental Impact Statement

Document Number: CA00387135261-R-Rev0-Annex5A_ Gender Equity, Diversity and Inclusion Plan

July 2025

1155 René-Lévesque Blvd. West, 33rd Floor
Montréal, Québec H3B 3X7 CANADA
T +1 514 316-4858
championiron.com

Champion Kami Project Inc. (Champion) is committed to fostering an inclusive work environment dedicated to promoting diversity, equality, and inclusive practices within its organization. These values will be integrated into all aspects of the Kami project's operations, from construction through to mine closure.

Champion acknowledges a Benefits agreement which includes a Gender Equity and Diversity Plan was signed between the Government of Newfoundland and Labrador and the Kami mine Limited Partnership in 2014. Champion is determined to fulfill the commitments within the agreement to the best of its abilities.

It is a strong belief for Champion that the Gender Equity and Diversity Plan shall address access to training, employment, and procurement opportunities for women, Indigenous peoples, and other underrepresented groups. This Plan will apply to both Champion and its contractors, and it will be reinforced by corporate policies that promote diversity and inclusivity. To make sure it respects current standards and expectations, an assessment of the 2014 Gender Equity and Diversity plan is currently underway to inform the new and up to date Gender Equity and Diversification plan Champion is developing. Following this assessment, the Workforce and Employment Plan will be updated and issued prior to the construction phase.

Champion remains committed to firmly establish local benefits in employment, training and business opportunities as stated in the 2014 Provincial Benefits agreement. Champion will work in collaboration with industry, various levels of government, educational and training institutions, Indigenous groups, communities and stakeholders to develop strategies aimed at creating local benefits and promoting diversity and inclusion throughout the project. We strongly believe that a collaborative and inclusive approach is required to unlock the full potential of the Labrador Trough and to maximize the benefits of the Kami project. The Labrador West Alliance will play a key role in leveraging the strengths of all involved parties in achieving those objectives.

Both the Benefits Agreement and the Gender Equity and Diversity Plan will provide the opportunity for ongoing collaboration with industry, government, educational and training institutions, Indigenous groups, communities, and stakeholders to formulate strategies directed at local benefits creation and diversity and inclusion during the life of the Project. The Plans will outline the goals and initiatives that will be implemented throughout the Project and the measures that will be implemented to ensure, to the extent possible, that there is fair and equitable access to the benefits associated with the Project.

Champion strives to create value in a sustainable manner in all the communities where it operates. The Kami project is fully aligned with this objective and with our vision to develop a mining project that future generations of Labradorians will want to contribute to.

Dam Safety Plan

Kami Mining Project

Environmental Impact Statement

Wabush, NL

Annex 5B

Dam Safety Plan

CA0038713.5261

AtkinsRealis Document Reference Nº: 700689 3500 40ER 0004 01

2025-05-16

1155 René-Lévesque Blvd. West, 33rd Floor
Montréal, Québec H3B 3X7 CANADA
T +1 514 316-4858
championiron.com

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1. Introduction

1.1 Context

The Kami Iron Ore Project (Kami) consists of developing an open-pit iron ore mine in western Labrador and building associated infrastructure at the Port of Sept-Îles, Québec. The project is expected to produce up to 8.3 million metric tonnes of iron ore concentrate per year that will be transported by existing railway to the Port of Sept-Îles, Québec.

The major infrastructures of the project include the Rose Pit, the Mine Rock Stockpile (MRS), the Overburden (OB) Stockpile, the Tailings Management Facility (TMF), the processing infrastructures and a rail transportation line to connect with Québec North Shore & Labrador Railway.

The project has been developed at a Prefeasibility Study (PFS) level in 2023. Currently, an Environmental Impact Study (EIS) is in preparation. Since the PFS, the design of a few infrastructures has been updated to optimize the project.

1.2 Mandate and Objectives

AtkinsRéalis was mandated to prepare the Kami Project Dam Safety Plan according to the instructions received as part of the EIS Guidelines. The dams included in this Plan are the dams and dikes required for the Rose Pit water management and stockpiles water management (designed by AtkinsRéalis) and the dikes required at the TMF (designed by others).

To meet the EIS Guidelines requirements, this report intends to present dam classifications based on the Canadian Dams Association (CDA), a proposed dam management plan, a preliminary map of potential zones affected by dam breaks and a preliminary assessment of potential credible failure modes of each water and tailings management infrastructure involved in the project.

Some of the Guidelines requirements will be covered by other documents prepared as part of the EIS and the following Table shows a summary of the Guideline requirements with the associated EIS documentation.

Table 1-1 : EIS Guidelines Requirements for Dam Safety Plan

EIS Guidelines – Summary of requirements for Dam Safety Plan	**Sections in this document**	**Other Associated Documentation Prepared by Champion**
a) Rationale and justification for the selected TMF	--	TSD III: Mine Waste Multiple Accounts Analysis Report
b) Dam break inundation and mapping	Discussed in this report, section 4.2 with the presentation of a map identifying potential inundation areas in case of dam breaks.	--
c) Assessment on Projects impact on downstream environment	Discussed in this report, section 3.1, as part of Dam classification	Chapter 18 Accidents and Malfunctions Chapter 19 Effect on the Environment on the Project EIS chapter

EIS Guidelines – Summary of requirements for Dam Safety Plan	Sections in this document	Other Associated Documentation Prepared by Champion
d) Assessment on water quality impacts from regular discharge from the TMF, or leak or failure of tailings dam	Discussed in this report, section 3.1 as part of Dam classification (for dam break)	Site Specific Water Balance and Water Quality Modelling Report (for regular discharge) Chapter 8 Surface Water Chapter 18 Accidents and Malfunctions
e) Determination if tailings are acid generating, details on TMF closure	--	TSD I: Tailings Management Facility Pre-Feasibility Level Design Report
f) Closure plan for dams and associated infrastructures	--	Chapter 2 Project Description
g) Identification of components of the dam safety program including Emergency Preparedness and Response Plan	Discussed in this report, section 4.1 as part of the proposed dam management plan and section 4.4 as part of possible dam failure mode analysis.	Chapter 18 Accidents and Malfunctions Annex 5C: Emergency Response/Contingency Plan
h) Plan for how the communication and the transfer of information between Champion and the stakeholders will be achieved	--	Chapter 18 Accidents and Malfunctions Annex 5C: Emergency Response/Contingency Plan Annex 5G: Kami Engagement and Participation Plan

2. Infrastructures Descriptions

In this section, the characteristics of each infrastructure involved in the Dam Safety Plan are summarized. The following figure presents the general location plan.

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5 860 000 5 857 500 5 855 000 5 852 500

LABRADOR
QUÉBEC

Pike Lake North
Pike Lake South
Long Lake
Elephant Head Lake
Harris Lake
Riordan Lake
Gleeson Lake
Rose Lake
Upper Mid Lake
Mid Lake
Elfie Lake
End Lake
Waldorf River
Mills Lake
Molar Lake
Lac Daviault
Rectangle Lake

Overburden Stockpile
Overburden Stockpile Collection Pond
Pike Lake Dike
Basin #0
Basin #1
Basin #2
Basin #3
Basin #4
Basin #5
Basin #6
Basin #7
Basin #8
Basin #9
Rose Pit
Rose Pit Collection Pond
Mid Lake Dam
Elfie Lake West Dam
End Lake East Dam
MRS North Basin
MRS East Basin
MRS West Basin
Mine Rock Stockpile
North Dike
East Dike
Northwest Dike
West Dike
South Dike
Tailings Management Facility (TMF)

PROJECT SITE

- Proposed Pit, Stockpile and Tailings
- Proposed Dam
- Proposed Basin
- Proposed Ditch
- Proposed Pumping Station

NATURAL ENVIRONMENT

- Road Network
- Québec-Labrador Border
- Natural Watershed Limit
- Watercourse
- Waterbody

Kami — A SUBSIDIARY OF CHAMPION IRON

Kamistiatusset (Kami) Iron Ore Property
Hydrogeology and Water Management

General Location Plan

Source:

Project 700668 Kami Mine Environmental Impact Study
Topographic Data of Canada - CanVec Series,
Government of Canada, 2019

Map:
L01-C04-01infraGeneralLocation-250516

Projection UTM, zone 19, NAD83
Contour interval : 10 m

0 250 500 m
1/20 000

N

May, 2025

AtkinsRéalis

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2.1 Water Management Infrastructures

The Rose Pit Collection Pond (RPCP) was designed for Pit dewatering purposes as well as a part of the overburden and mine rock stockpiles drainage system. The RPCP is created by the construction of two dams at the outlet of Elfie and End Lake. The RPCP West and East Dikes are located respectively west and east of the current Elfie and End Lakes.

To collect seepage and runoff from the Mine Rock Stockpile (MRS), three basins are designed around the perimeter of the MRS, namely North Basin, East Bain and West Basin.

To collect runoff from the Overburden (OB) Stockpile, the OB Stockpile Collection Pond is designed at the southeast corner of the stockpile.

The Mid Lake Diversion Dam, located on the north side of Mid Lake, is designed to keep the latter from spilling into the Rose Pit.

The Pike Lake Dam was designed on the southern portion of Pike Lake to seclude Pike Lake's water further from the Rose Pit. **Table *2-1*** summarizes the main characteristics of each water management infrastructure.

Table 2-1 - Characteristics of Water Management Infrastructures

Infrastructure	Rose Pit Collection Pond (RPCP)		Mine Rock Stockpile (MRS)			Overburden (OB) Stockpile	Other	
	RPCP West Dike	RPCP East Dike	North Basin Dike	East Basin Dike	West Basin Dike	Collection Dike	Mid Lake Dam	Pike Lake Dam
Crest Total Width (m)	21.6	21.6	21.6	21.6	21.6	21.6	31.8 (section without piping) 36.9 (section with piping)	77.3
Approx. Dam Length (m)	580	280	240	440	340	400	400	340
Crest Elevation (m)	627		574	555	599.5	572	584.5	Crest: 574.0 Intermediate platforms: 573 and 570.5
Maximum Height (m)	19.0	12.0	10.0	9.0	4.5	5.0	5.5	6.0
Upstream / Downstream PFS Slopes	4H:1V / 2.5H:1V	4H:1V / 2.5H:1V	3H:1V / 2.5H:1V	3H:1V / 2.5H:1V	3H:1V / 2.5H:1V	3H:1V / 2H:1V	4H:1V / 2.5H:1V	2H:1V / 2H:1V
Spillway Elevation (m)	625.5		572.5	553.5	598	570.5	583	569
Pond Elevation* (m)	625.5		572.5	553.5	598	570.5	583	569***
Capacity at spillway invert* (m^3)	4,296,187		262,177	222,701	50,274	71,068	788,622	TBD
Pond Content	Contact water		Contact water	Contact water	Contact water	Contact water	Natural lake water	Natural lake water

Infrastructure	Rose Pit Collection Pond (RPCP)		Mine Rock Stockpile (MRS)			Overburden (OB) Stockpile	Other	
	RPCP West Dike	RPCP East Dike	North Basin Dike	East Basin Dike	West Basin Dike	Collection Dike	Mid Lake Dam	Pike Lake Dam
Overburden Info and Thicknesses**	Loose to very dense till: 3.5 m to 40.9 m thick.	Very loose to very dense till: 1.8 m to 6.5 m thick.	Dense to very dense silty sand with gravel, cobbles and boulders (till): >19.8 m thick.	Compact to dense silty sand with gravel (till): 18.2 m thick.	Compact to dense silty sand, occasional cobbles (till): 2.4 m thick.	*Info not yet available*	Loose to very dense till: 22.8 m to 52.7 m thick.	Very loose to very dense till: 22.5 m to 44.5 m thick.
Bedrock Depth** (mbgs)	3.6 to 41.5	1.8 to 6.5	*Info not yet available*	*Info not yet available*	*Info not yet available*	*Info not yet available*	23.6 to 52.7	23.4 to 45.8
Dam Material	Mostly rockfill	Mostly rockfill	Rockfill and compacted till	Rockfill and compacted till	Rockfill and compacted till	Compacted till	Mostly rockfill	Mostly rockfill
Dam Waterproofing Method	HDPE Liner	HDPE Liner	HDPE Liner	HDPE Liner	HDPE Liner	HDPE Liner	HDPE Liner	Cement soil bentonite cutoff wall
Foundation Seepage Control	Jet grout curtain (in soil) Grout curtain (in rock)	Jet grout curtain (in soil) Grout curtain (in rock)	-	-	-	-	Jet grout curtain (in soil) Grout curtain (in rock)	Jet grout curtain (in soil) Grout curtain (in rock)
Natural Ground Waterproofing Requirements	No liner		Liner	Liner	Liner	Liner	No liner	No liner

** Based on environmental design flood (EDF) elevation*

*** Information based on available preliminary data*

**** Pond south of the dam will be kept empty; 569 m is the maximum Pike Lake elevation.*

2.2 Tailings Management Facility (TMF)

The Tailings Management Facility (TMF), to be constructed in 9 stages, was designed to store up to 420.4 million tons of tailings for the Kami Mine. The final characteristics of the five segments constituting the TMF, namely North Dike, Northwest Dike, West Dike, East Dike and South Dike, are summarized in **Table *2-2***.

Table 2-2 - Characteristics of Tailings Management Infrastructures (WSP, 2024)

Infrastructure	Tailing Management Facility (TMF)				
	North Dike	Northwest Dike	West Dike	East Dike	South Dike
Crest Total Width (m)	20				
Approx. Dam Length (m)	1,573	1,851	1,314	2,052	1,923
Final Crest Elevation (m)	647				
Maximum Height (m)	69.0	85.6	42.0	65.2	34.0
Upstream / Downstream Slopes	Starter dam: 3H:1V / 2H:1V Embankment raises: 2H:1V / 2H:1V				
Spillway Elevation* (m)	639.4				
Final Pond Elevation* (m)	639.4				
Infrastructure Capacity	Tailings: 420.4 Mtons/ Water**: 8,890,993 m³				
Overburden Info and Thicknesses	Topsoil/peat/organics: 0.1 m to 1.4 m thick. Loose to compact silty sand to sand: 0 m to 6.7 m thick. Dense to very dense silty sand to sandy silt (till): 0 m to >14.7m thick.	Topsoil/peat/organics: 0.1 m to 2.2 m thick. Loose to compact silty sand to sand: 0 m to 2.6 m thick. Dense to very dense silty sand to sandy silt (till): 0 m to >20.2 m thick.	Topsoil/peat/organics: 0.05 m to 1.5 m thick. Loose to compact silty sand to sand: 0 m to 3.7 m thick. Dense to very dense silty sand to sandy silt (till): 0 m to 15.8 m (or more) thick.	Topsoil/peat/organics: 0.05 m to 1.5 m thick. Loose to compact silty sand to sand: 0.9 m to 7.4 m thick. Dense to very dense silty sand to sandy silt (till): 0 m to >21.5 m thick.	Topsoil/peat/organics: 0.1 m to 0.9 m thick. Loose to compact silty sand to sand: 0 m to 4.5 m thick. Dense to very dense silty sand to sandy silt (till): 0 m to >19.2 m thick.
Bedrock Depth (mbgs)	0.7 m to beyond 20.8 m (bedrock not encountered)	1 m to beyond 20.4 m (bedrock not encountered)	0.6 m to 18.4 m or maybe more (bedrock not encountered)	1 m to beyond 22.9 m (bedrock not encountered)	3.4 m to beyond 20.3 m (bedrock not encountered)
Dam Construction Material	Starter dam: mostly rockfill Embankment centerline raises: mostly rockfill downstream & mostly coarse tailings upstream				
Dam Waterproofing Method	Starter dam: Geomembrane liner Embankment raises: None				
Foundation Seepage Control	None. Foundation materials in the critical sections include topsoil or peat over loose to compact silty sand (till) founded over dense to very dense silty sand (till), over bedrock.				
Number of Construction Phases	9 (adapted to the tailings filling rate)				
Phased Construction Type	Centerline raise				

** Stage 9 environmental design flood (EDF) elevation*

*** Stage 9 capacity for environmental design flood (EDF)*

3. Dam Classifications

This section presents the proposed dam classifications associated with the water and tailings management infrastructures. These classifications have been established as part of the design basis for the project infrastructures. The design basis will evolve as the project progresses, and dam classifications are subject to changes with future optimization of the project and adaptive management.

3.1 Dam Classifications According to the CDA

The classification criteria used in this technical note are based on the Dam Safety Guidelines of the CDA (2013). The classification of a dam according to the CDA's Dam Safety Guidelines, as shown in Table 3-1, is based on the incremental consequences of failure. To summarize, dams are classified as low, significant, high, very high, or extreme, depending on the estimated loss or damage with respect to five categories:

- Loss of life;
- Environmental damage;
- Damage to infrastructure;
- Economic loss to another party;
- Damage to a site of cultural or historical significance.

Possible economic losses and costs to the owner/operator of the mine are not considered in the classification of the dams. The Global Industry Standard on Tailings Management (GISTM) also provides a consequence classification matrix, similar to that of the CDA, as shown in Appendix A for reference.

Table 3-1 - Dam Classifications (CDA, 2013)

Dam Class	Population at Risk [note 1]	Incremental Losses		
		Loss of Life [note 2]	Environment and Cultural/Historic	Infrastructure and Economics
Low	None	0	Minimal short-term loss No long-term loss	Low economic losses; area contains limited infrastructure or services
Significant	Temporary only	Unspecified	No significant loss or deterioration of fish or wildlife habitat Loss of marginal habitat only Restoration or compensation in kind highly possible	Losses to recreational facilities, seasonal workplaces, and infrequently used transportation routes
High	Permanent	10 or fewer	Significant loss or deterioration of important fish or wildlife habitat Restoration or compensation in kind highly possible	High economic losses affecting infrastructure, public transportation, and commercial facilities
Very high	Permanent	100 or fewer	Significant loss or deterioration of critical fish or wildlife habitat Restoration or compensation in kind possible but impractical	Very high economic losses affecting important infrastructure or services (e.g., highway, industrial facility, storage facilities for dangerous substances)
Extreme	Permanent	More than 100	Major loss of critical fish or wildlife habitat Restoration or compensation in kind impossible	Extreme losses affecting critical infrastructure or services (e.g., hospital, major industrial complex, major storage facilities for dangerous substances)

Note 1. *Definitions for population at risk:*

None – There is no identifiable population at risk, so there is no possibility of loss of life other than through unforeseeable misadventures.

Temporary – People are only temporarily in the dam-breach inundation zone (eg., seasonal cottage use, passing through on transportation routes, participating in recreational activities).

Permanent – The population at risk is ordinarily located in the dam breach inundation zone (eg., as permanent residents); three consequence classes (high, very high, extreme) are proposed to allow for more detailed estimates of potential loss of life (to assist in decision-making if the appropriate analysis is carried out)

Note 2. *Implications for loss of life:*

Unspecified – The appropriate level of safety required at a dam where people are temporarily at risk depends on the number of people, the exposure time, the nature of their activity, and other conditions. A higher class could be appropriate, depending on the requirements. However, the design flood requirement, for example, might not be higher if the temporary population is not likely to be present during the flood season.

For this EIS phase, the dam classification has been defined qualitatively. In the next engineering phases, the dam classification will be validated with a numerical dam break analysis defining the inundation areas, accounting people at risk and environmental loss in more details.

Table 3-2 presents the dam classifications for the water and tailings management infrastructures in this study.

Table 3-2 – List of Infrastructures to be Classified

Infrastructure	Class	Notes
RPCP West Dike	Very high	The risk area is located west of the dike, towards Mid Lake. It is assumed that in the event of a breakage of RPCP West Dike, Mid Lake Dam can overflow as a result. Therefore, the risk area extends to the Rose Pit. The following points are considered: - Presence of 100 or fewer workers; - Unknown significance to loss or deterioration of critical fish or wildlife habitat; - Low economic losses.
RPCP East Dike	Very High	The risk area located downstream of the dike is a low risk area. However, given that the RPCP East Dike is a part of the RPCP system with the RPCP West Dike, issues with the RPCP East Dike could lead to spill at the RPCP West Dike, which is classified as Very High. Consequently, this dike is also classified as Very High.
MRS – North Basin Dike and West Basin Dike	Low	The risk areas are located west and north of the dikes. The following points are considered: - No population at risk; - Unknown significance to loss or deterioration of critical fish or wildlife habitat; - Low economic losses.
MRS – East Basin Dike	Significant	The risk area is located east of the dike, towards a wetland. The following points are considered: - No population at risk; - Assumption of loss of a marginal habitat; - Low economic losses.
Overburden (OB) Stockpile – Basin Dike	Low	The risk area is located east of the dike. The following points are considered: - No population at risk; - Unknown significance to loss or deterioration of critical fish or wildlife habitat; - Low economic losses.
Mid Lake Dam	Very high	In the event of a breakage, the risk area is located north of Mid Lake Dam, towards the Rose Pit, and spillage can flow into the Rose Pit. The following points are considered: - Presence of 100 or fewer workers; - No significant loss or deterioration of critical fish or wildlife habitat; - Low economic losses.
Pike Lake Dam	Very high	In the event of a breakage, the risk area is located south of Pike Lake Dam, towards the Rose Pit, and spillage can flow into the Rose Pit. The following points are considered: - Presence of 100 or fewer workers; - No significant loss or deterioration of critical fish or wildlife habitat; - Low economic losses.

Infrastructure	Class	Notes
		Note that in the event of a breakage, a natural sill at the Pike Lake Dam's location would help hold some water back. The lake's depth is about 2 m at the dam's location.
TMF – North Dike, Northwest Dike, West Dike, East Dike, South Dike	Very high	In the event of a breakage of a peripheral dike, the risk area can be located all around the TMF, including the Process Plant area, natural bodies of water and wetlands. The following points are considered: - Presence of 100 or fewer workers; - Significant loss or deterioration of important fish or wildlife habitat; - Low economic losses.
Note: *Dam classifications could be updated as the project progresses.*		

4. Proposed Dam Management

As recommended by the CDA, a dam management plan is necessary to ensure the safe operation and structural integrity of the dam over its lifecycle. The management of Kami mine's infrastructures will be defined in detail prior to the commissioning of the site. An operational manual including management requirements and roles and responsibilities will be prepared. This section presents a brief overview of the proposed dam management, as part of the EIS phase. When the project reaches subsequent phases, namely the design, construction, operation and closure phases, more details of the dam management plan will be established or updated, as presented in **Table *5-1***.

4.1 Inspections, Maintenance and Monitoring

The following paragraphs give an overview of some actions to be part of the dam management, namely inspections, dam safety reviews, maintenance and monitoring.

The purpose of inspections is to monitor the evolution of the condition of the structures over time, to identify the necessary maintenance work and to collect data regarding the safety of the dams and dikes, in order to ensure the integrity and stability of the structures.

Table 4-1 provides recommendations regarding the different types of inspections required based on CDA.

Table 4-1 – Inspection Requirements

Type of Inspection	Description	Frequency of Inspection
Routine inspections	Routine inspections consist of walking or slowly driving through the site and noting any anomalies. Routine inspections are conducted by Kami Mine staff.	Every day
Detailed inspections	This type of inspection consists of observing the crest and downstream toe of the dams or dikes for the presence of deformations or seepage, as well as checking the drainage channels. Detailed inspections can be conducted by Kami Mine staff or an external consultant.	Every month
Engineering inspections (CDA recommendation)	Engineering inspections are visual assessments of the condition of the dams and dikes and associated structures by an external engineer with experience in dams and tailings facility design.	See **Table 4-2**
Specific inspections	Specific inspections help monitor the evolution of the observations noted during detailed or engineering inspections. It is also required after unusual events such as significant flood or earthquake. This type of inspection is normally conducted by Kami Mine.	As needed, according to the engineering or detailed inspections and after unusual events

The CDA's requirements regarding the frequencies of engineering inspections of dams or dikes are shown on **Table 4-2**.

Table 4-2 – Recommended Frequencies of *Engineering* Inspections (CDA, 2019)

Dam Class	Frequency of Visual Inspections
Extreme	Every year or twice a year depending on the risk
Very high	
High	
Significant	Every year or 2 years depending on the risk
Low	Every 2 years

As most of the dams and dikes on site are in the Very High category, based on CDA recommendations, it is proposed to proceed to an engineering inspection every year for all the dikes and dams.

A dam safety review (DSR) must be carried out at regular intervals, following the recommendations of the CDA (2013) as shown on **Table 4-3**. A DSR shall address the stability of the dams and dikes, the methods of operation, maintenance, inspection and emergency measures, and shall also consider related infrastructures such as emergency spillways, ditches and conduits. The purpose of a DSR is to determine whether the dams and dikes are safe from all points of view and to determine if there are any corrective measures to be taken. Any change in geometry, environmental conditions, use or operations of the dams and dikes will also require a DSR. A DSR will generally be carried out by a firm specializing in geotechnical engineering and the design of tailings dams. Note that a DSR is not required for low-consequence dams; however, the consequences of failure should be reviewed periodically, since they may change with downstream development. If the classification increases, a DSR is required at that time.

Table 4-3 – Recommended Frequency of Dam Safety Reviews (CDA, 2013)

Dam Class	Frequency
Extreme	Every 5 years
Very high	Every 5 years
High	Every 7 years
Significant	Every 10 years
Low	[note 1]

Note 1. *A DSR is not required for low-consequence dams; however, the consequences of failure should be reviewed periodically, since they may change with downstream development.*

Table 4-4 presents the recommended frequency of the DSR for each water or tailings management infrastructure in this study, according to the CDA (2013).

Table 4-4 – Recommended Frequencies of Dam Safety Reviews for Dams and Dikes in this Study (CDA, 2013)

Infrastructure	Dam Class	Frequency
RPCP West Dike	Very high	Every 5 years
RPCP East Dike	Very high	Every 5 years
MRS – North Basin Dike	Low	[note 1]
MRS – East Basin Dike	Significant	Every 10 years
MRS – West Basin Dike	Low	[note 1]

Infrastructure	Dam Class	Frequency
OB Stockpile - Basin Dike	Low	[note 1]
Mid Lake Dam	Very high	Every 5 years
Pike Lake Dam	Very high	Every 5 years
TMF – Peripheral Dikes	Very high	Every 5 years

Note 1. *A DSR is not required for low-consequence dams; however, the consequences of failure should be reviewed periodically, since they may change with downstream development.*

The maintenance must follow a planned calendar but can also be required following any type of inspection listed above. **Table 4-5** provides recommendations for different types of maintenance works potentially required.

Table 4-5 – Maintenance Requirements

Infrastructures	Type of Maintenance	Frequency
Dams, dikes and access roads	Leveling of crest and road surfaces in order to avoid ruts	As needed
Pumps	Preventative maintenance of pumps in order to ensure their adequate performance	Before every spring melt
Ditches	Repairs of damaged ditch walls due to erosion or screes of the walls	On an annual basis based on the annual (engineering) inspection's priorities
	Removal of beaver dams	Every fall season, if needed
General	Removal of vegetations which are preventing proper visual inspections, proper flow in ditches and access to the infrastructures	As needed

Monitoring the water and tailings management infrastructures is essential to ensure their integrity. The monitoring of the different infrastructures must be carried out year-round at different levels of detail by Kami Mine staff and/or by external staff during engineering inspections. **Table 4-6** presents the monitoring requirements for different parameters.

Table 4-6 – Monitoring Requirements

Parameter to Monitor	Description	Frequency of Monitoring
Anomalies	Any anomalies observed on the dams, dikes and ditches	To be monitored during routine, detailed and engineering inspections
Settlement	Settlement of the crest of dams or dikes, causing a decrease in elevation and a loss of freeboard	At least every 2 years
Piezometric levels	Piezometric levels in the foundation and dams or dikes, potentially influencing the stability of the infrastructures	Every month
Extreme climatic or seismic events	Storms, fast snow melts, earthquakes, etc.	If and when an extreme event occurs, a specific inspection is required
Water levels	Water levels in ponds and lakes (Mills & Pike)	Minimum 3 times a week
Groundwater quality	Water sampled in observation wells at different locations on site	Twice a year
Deposition of tailings	Verification of the volume of tailings deposited via a topographical survey, and validation of the available volume for future deposition into the TMF	Every year

4.2 Map of Potential Inundation Areas

The following figure presents a preliminary map of potential flows directions in case of dam breaks. This map shows the lakes affected by each possible dam break, based on the topography and natural flow directions. However, the extent of the zones affected cannot be determined at this point, as no numerical dam break analysis has been performed.

It is recommended to perform a numerical dam break analysis after the completion of the feasibility design phase.

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5 860 000 5 855 000 5 850 000

Walsh River
Knoll Lake
Wabush
Joan Lake
Vern Lake
Flora Lake
Pike Lake North
LABRADOR
500
Long Lake
Elephant Head Lake
Wahnahnish Lake
Overburden Stockpile Collection Pond
Overburden Stockpile
Pike Lake South
Pike Lake Dike
Harris Lake
Riordan Lake
Gleeson Lake
Mid Lake Dam
Rose Lake
Rose Pit
389
Waldorf River
Elfie Lake
End Lake
Mid Lake
Tailings Management Facility (TMF)
Lac Perchard
Elfie Lake West Dam
End Lake East Dam
Upper Mid Lake
Mills Lake
Lower Loon Lake
Mine Rock Stockpile
QUÉBEC
Molar Lake
Upper Loon Lake
Rectangle Lake
Fermont
Lac Daviault
Beardon Lake
Swanson Lake

PROJECT SITE

- Proposed Pumping Station
- Proposed Ditch
- Other Proposed Infrastructure
- Proposed Basin
- Proposed Pit, Stockpile and Tailings
- Waterbody could be affected by Tailings Spill
- Waterbody could be afftected by contat water spill
- Waterbody could be affected by Tailings Spill and contact water spill
- Flow Direction in Case of Dam Break

EXISTING SUB-WATERSHED

- Natural Watershed Limit (with different color indicating the covered area)

NATURAL ENVIRONMENT

- Road Network
- Railway
- Topographic Contour Line (masl)
- Québec-Labrador Border
- Watercourse
- Waterbody

Kami | Unlocking Labrador's Full Potential

Environmental Impact Study of the Kamistiatusset (Kami) Iron Ore Property - Dam Safety Plan

Potential Inundation Areas in Case of Dam Break

Source:
National Hydro Network - NHN - GeoBase Series, Government of Canada, 2016
Topographic Data of Canada - CanVec Series, Government of Canada, 2017
AtkinsRéalis, 2025

Project:
700689
Map:
L01-C01-01-watershed-DamSafetyPlan-250124
Projection UTM, zone 19, NAD83
Contour interval : 10 m

0 0.5 1 km
1/65 000

January, 2025 | AtkinsRéalis | 1-1

V:\Projets\692696_Kami_Mine_Conceptual_Study\GEOMATIQUE\interne\diffusion\produits\APRX\snc692696_produits.aprx

4.3 Failure Modes of Dams and Dikes

When the project evolves to the next phase, formal risk analysis and Failure Modes and Effects studies will be performed. At this stage, the potential failure modes of each infrastructure have been identified based on their current design, without risk ranking. This exercise allows to support Default & Malfunction documentation prepared as part of the EIS and to identify items where special attention must be given in the next engineering phase.

With respect to each infrastructure, the following potential failure modes are considered:

- Foundation instability;
- Structural failure of the dam/dike;
- Internal erosion;
- External erosion (due to runoff);
- External erosion (due to pipe failure);
- Rapid drawdown;
- Sabotage;
- Overtopping.

Furthermore, for Mid Lake Dam, Pike Lake Dam and RPCP West Dike, a pit wall instability reaching the dam or dike is also considered. For RPCP West Dike and RPCP East Dike, a leakage into Rose Pit and inability to maintain RPCP's water level are also considered.

4.3.1 RPCP West Dike

Table 4-7 presents the credible failure modes, their causes and corresponding mitigation measures for the RPCP West Dike.

Table 4-7 – Summary of Credible Failure Modes for RPCP West Dike

Credible Failure Mode	Causes	Control Measures
Foundation instability	▪ Loose foundation soil layers ▪ Seismic event ▪ Blasting	▪ Ensure accurate geotechnical information ▪ Inspection following seismic event ▪ Study blasting effect in design
Structural failure of the dam/dike	▪ Geomembrane failure leading to excess infiltration and eventual collapse	▪ Careful quality control (QAQC) during geomembrane installation ▪ Regular inspections during operation
Internal erosion	▪ Geomembrane failure and filter criteria not respected	▪ Careful quality control (QAQC) during geomembrane and filter installation ▪ Regular inspections during operation
Overtopping	▪ Spillway, and/or pumping if applicable, not functioning as intended	▪ Careful QAQC of the spillway construction ▪ Regular inspections ▪ Regular pump maintenance
External erosion (due to pipe failure)	▪ Equipment run over/caught the pipe, bad joint, fabrication default	▪ Careful quality control (QAQC) during pipeline installation, regular inspections
RPCP leakage into the Rose pit (unable to maintain water level)	▪ Geomembrane failure, leading to excess seepage ▪ Grouting malfunction ▪ Pond foundation more permeable than expected	▪ Careful quality control (QAQC) during geomembrane and grouting installation ▪ Regular inspections during operation
Pit wall instability reaching the dam	▪ Pit wall rock quality worse than expected	▪ Adequate geomechanical characterization ▪ Regular inspections during exploitation

4.3.2 RPCP East Dike

Table 4-8 presents the credible failure modes, their causes and corresponding mitigation measures for the RPCP East Dike.

Table 4-8 – Summary of Credible Failure Modes for RPCP East Dike

Credible Failure Mode	Causes	Control Measures
Foundation instability	▪ Loose foundation soil layers ▪ Seismic event ▪ Blasting	▪ Ensure accurate geotechnical information ▪ Inspection following seismic event ▪ Study blasting effect in design
Structural failure of the dam/dike	▪ Geomembrane failure leading to excess infiltration and eventual collapse	▪ Careful quality control (QAQC) during geomembrane installation ▪ Regular inspections during operation
Internal erosion	▪ Geomembrane failure and filter criteria not respected	▪ Careful quality control (QAQC) during geomembrane and filter installation ▪ Regular inspections during operation
Overtopping	▪ Spillway, and/or pumping if applicable, not functioning as intended	▪ Careful QAQC of the spillway construction ▪ Regular inspections ▪ Regular pump maintenance
RPCP leakage into the Rose pit (unable to maintain water level)	▪ Geomembrane failure, leading to excess seepage ▪ Grouting malfunction ▪ Pond foundation more permeable than expected	▪ Careful quality control (QAQC) during geomembrane and grouting installation ▪ Regular inspections during operation

4.3.3 MRS – North, East and West Basin Dikes

Table 4-9 presents the credible failure modes, their causes and corresponding mitigation measures for the North Basin Dike of the MRS.

Table 4-9 – Summary of Credible Failure Modes for MRS Basins Dikes

Credible Failure Mode	Causes	Control Measures
Internal erosion	▪ Geomembrane failure	▪ Careful quality control (QAQC) during geomembrane installation ▪ Regular inspections during operation
External erosion	▪ Compacted till might be eroded	▪ Install vegetation cover and/or rip rap to protect compacted till ▪ Regular inspections
Overtopping	▪ Spillway, and/or pumping if applicable, not functioning as intended	▪ Careful QAQC of the spillway construction ▪ Regular inspections ▪ Regular pump maintenance
External erosion (due to pipe failure)	▪ Equipment run over/caught the pipe, bad joint, fabrication default	▪ Careful quality control (QAQC) during pipeline installation, regular inspections

4.3.4 OB Stockpile - Basin Dike

Table 4-10 presents the credible failure modes, their causes and corresponding mitigation measures for the Basin Dike of the OB Stockpile.

Table 4-10 – Summary of Credible Failure Modes for the Basin Dike of the OB Stockpile

Credible Failure Mode	Causes	Control Measures
Internal erosion	▪ Geomembrane failure	▪ Careful quality control (QAQC) during geomembrane installation ▪ Regular inspections during operation
External erosion	▪ Compacted till might be eroded	▪ Install vegetation cover and/or rip rap to protect compacted till ▪ Regular inspections
Overtopping	▪ Spillway, and/or pumping if applicable, not functioning as intended	▪ Careful QAQC of the spillway construction ▪ Regular inspections ▪ Regular pump maintenance
External erosion (due to pipe failure)	▪ Equipment run over/caught the pipe, bad joint, fabrication default	▪ Careful quality control (QAQC) during pipeline installation, regular inspections

4.3.5 Mid Lake Dam

Table 4-11 presents the credible failure modes, their causes and corresponding mitigation measures for the Mid Lake Dam.

Table 4-11 – Summary of Credible Failure Modes for the Mid Lake Dam

Credible Failure Mode	Causes	Control Measures
Foundation instability	▪ Loose foundation soil layers ▪ Seismic event ▪ Blasting	▪ Ensure accurate geotechnical information ▪ Inspection following seismic event ▪ Study blasting effect in design
Structural failure of the dam/dike	▪ Geomembrane failure leading to excess infiltration and eventual collapse	▪ Careful quality control (QAQC) during geomembrane installation ▪ Regular inspections during operation
Internal erosion	▪ Geomembrane failure and filter criteria not respected ▪ Sand foundation more permeable than expected ▪ Grouting failure	▪ Careful quality control (QAQC) during geomembrane, filter and grouting installation ▪ Regular inspections during operation ▪ Adequate characterization of sand foundation
Overtopping	▪ Spillway, and/or pumping if applicable, not functioning as intended	▪ Careful QAQC of the spillway construction ▪ Regular inspections ▪ Regular pump maintenance
External erosion (due to pipe failure)	▪ Equipment run over/caught the pipe, bad joint, fabrication default	▪ Careful quality control (QAQC) during pipeline installation, regular inspections
Pit wall instability reaching the dam	▪ Pit wall rock quality worse than expected	▪ Adequate geomechanical characterization ▪ Regular inspections during exploitation

4.3.6 Pike Lake Dam

Table 4-12 presents the credible failure modes, their causes and corresponding mitigation measures for the Pike Lake Dam.

Table 4-12 – Summary of Credible Failure Modes for the Pike Lake Dam

Credible Failure Mode	Causes	Control Measures
Foundation instability	▪ Loose foundation soil layers ▪ Seismic event (blasting)	▪ Ensure accurate geotechnical information ▪ Study blasting effect in design
Internal erosion	▪ Cutoff wall or filter inadequate	▪ Careful quality control (QAQC) during cutoff wall and filter installation
Overtopping	▪ Insufficient culvert installed at Pike Lake (a culvert is to be installed at Pike Lake instead of a spillway)	▪ Ensure adequate culvert design according to the appropriate level of consequence ▪ Regular inspections of the culvert during operations
Pit wall instability reaching the dam	▪ Pit wall rock quality worse than expected	▪ Adequate geomechanical characterization ▪ Regular inspections during exploitation

4.3.7 TMF – Peripheral Dikes

Table 4-13 presents the credible failure modes, their causes and corresponding mitigation measures for East Dike, North Dike, Northwest Dike, South Dike and West Dike of the TMF.

Table 4-13 – Summary of Credible Failure Modes for the TMF Peripheral Dikes

Credible Failure Mode	Causes	Control Measures
Structural failure of the dam/dike	▪ Poor compaction during operations (regarding central filter, rock shell, etc.)	▪ Careful quality control (QAQC) during construction/raises of dams
Internal erosion	▪ Inadequate material granulometry or material selection ▪ Inadequate characterization of foundation material permeability ▪ Inadequate QAQC during construction	▪ Ensure proper design and material selection ▪ Ensure adequate filter material characterization ▪ Careful quality control (QAQC) to ensure proper material usage and compaction ▪ Proper characterization of foundation material ▪ Regular inspections during operation
Overtopping	▪ Spillway, and/or pumping if applicable, not functioning as intended	▪ Careful QAQC of the spillway construction ▪ Regular inspections ▪ Regular pump maintenance
External erosion (due to pipe failure)	▪ Equipment run over/caught the pipe, bad joint, fabrication default	▪ Careful quality control (QAQC) during pipeline installation, regular inspections

5. Discussion

5.1 Evolution of the Dam Safety Plan

Table 5-1 proposes the evolution of the development of this plan, based on recommendations from the CDA (2013 and 2019). The dam safety management plan should be reviewed regularly, and the mine's senior management should be kept informed of the results. The Operation, Maintenance, and Surveillance Manual (OMS Manual) documents the operation, maintenance and surveillance requirements and procedures at the site, and should be updated at any major changes in the site's infrastructures, flow control equipment, operating conditions, regulatory requirements, dam classifications or other critical information. The OMS Manual should also be reviewed, and if necessary updated, at every DSR. A dam classification can change if the dam is raised, if the downstream environment is changed or if there are regulatory changes, and as a result, frequencies of inspections and DSRs can also change accordingly.

Table 5-1 – Evolution of the Dam Management Plan (CDA, 2013)

Next Project Phases	Elements to Develop
Feasibility Engineering Design	▪ Validate the dam classifications, with input from regulatory authorities. o Perform dam breach analysis and inundation mapping to support dam classifications. o Assess the population at risk (including loss of life). o Estimate the economic, environmental and cultural losses. ▪ Validate the frequencies of surveillance, inspections and DSRs. ▪ ▪ Perform a risk analysis and FMEA
Detailed Engineering Design	▪ Identify an Engineer of Record ▪ Identify an independent technical review board ▪ Develop dam operations constraints. ▪ Develop detailed practices and procedures of dam management. ▪ Develop water management requirements and operation levels. ▪ Develop a detailed emergency management plan, including the following components: o Dam-specific emergency response plans (ERP); o A flood action plan; o Response procedures for security threats; o An emergency preparedness plan (EPP); o Municipal, community, or regional emergency plans; o A maintenance, testing, and training program.
Construction	▪ Draft the OMS Manual, including roles and responsibilities, training needs, schedule of required actions, detailed inspection and monitoring requirements, maps and typical sections of the dams.
Operation	▪ Keep an operations log or record of actions to ensure compliance with proper dam management procedures. ▪ Update the OMS Manual as required at any major changes. ▪ Update the emergency management plan annually or as deemed practical.
Closure	▪ Update the OMS Manual considering the end of operation. ▪ Update Dam classification considering end of operation. ▪ Adapt the roles and responsibilities. ▪ Update the emergency management plan considering end of operation.

5.2 Conclusion

This report presented the consequence category of each dam and dike according to the CDA, a preliminary dam management plan based on regulatory requirements and industry standards, which included a preliminary map of potential zones affected in the event of dam breaks, as well as potential credible failure modes and associated mitigation measures for the dams and dikes involved in this project.

All findings in this report are preliminary, a detailed dam break inundation numerical modelling and mapping should be carried out during the feasibility engineering phase. Similarly, a more detailed Failure Mode and Effects Analysis (FMEA) including the determination of the risk level of all the potential failure modes will be assessed once the feasibility level engineering is completed. The proposed dam management plan is conceptual and will be detailed before the commissioning of the project as part of an operational manual of the site (OMS Manual). In addition to the information presented in this document, the operational manual will identify the persons responsible, the training needs, the detailed schedules of required actions for each dam and dike, as well as maps and typical cross-sections with identification of elements to monitor.

6. References

AtkinsRéalis (2025), EA Water Management Infrastructure Update Report, report no. 700689 3400 40ER 0001_PB, January 2025

Canadian Dam Association (CDA). 2013. Dams Safety Guidelines.

Canadian Dam Association (CDA). 2019. Application of Dams Safety Guidelines to Mining Dams.

Global Tailings Review. 2020. Global Industry Standard on Tailings Management (GISTM).

AtkinsRéalis (2023) Rose Pit Water Management Infrastructures Design Criteria – Kami Mine. 692696-8000-40EC-0001.

AtkinsRéalis (2024) Kami Mine Hydrogeological and Water Balance Study – Rose Pit Water Management Infrastructure Design.Report no. 692696-8000-40ER-0001_02, April 2024.

WSP Canada Inc. 2024. Kami Iron Ore Project Tailings Management Facility Pre-Feasibility Level Design. Reference No. 22538752-03-Rev1.

Appendix A: Consequence Classification Matrix According to the GISTM

Appendix A: Consequence Classification Matrix According to the GISTM (2020)

GISTM Dam Failure Consequence Classification	Incremental Losses				
	Potential Population at Risk	Potential Loss of Life	Environment	Health, Social and Cultural	Infrastructure and Economics
Low	None	None expected	Minimal short-term loss or deterioration of habitat or rare and endangered species.	Minimal effects and disruption of business and livelihoods. No measurable effect on human health. No disruption of heritage, recreation, community or cultural assets.	Low economic losses: area contains limited infrastructure or services. <US$1M.
Significant	1 – 10	Unspecified	No significant loss or deterioration of habitat. Potential contamination of livestock/fauna water supply with no health effects. Process water low potential toxicity. Tailings not potentially acid generating and have low neutral leaching potential. Restoration possible within 1 to 5 years.	Significant disruption of business, service or social dislocation. Low likelihood of loss of regional heritage, recreation, community, or cultural assets. Low likelihood of health effects.	Losses to recreational facilities, seasonal workplaces, and infrequently used transportation routes. <US$10M.
High	10 – 100	Possible (1–10)	Significant loss or deterioration of critical habitat or rare and endangered species. Potential contamination of livestock/fauna water supply with no health effects. Process water moderately toxic. Low potential for acid rock drainage or metal leaching effects of released tailings. Potential area of impact 10 km^2 – 20 km^2. Restoration possible but difficult and could take > 5 years.	500-1,000 people affected by disruption of business, services or social dislocation. Disruption of regional heritage, recreation, community or cultural assets. Potential for short term human health effects.	High economic losses affecting infrastructure, public transportation, and commercial facilities, or employment. Moderate relocation/compensation to communities. <US$100M.
Very high	100 – 1000	Likely (10 – 100)	Major loss or deterioration of critical habitat or rare and endangered species. Process water highly toxic. High potential for acid rock drainage or metal leaching effects from released tailings. Potential area of impact > 20 km^2. Restoration or compensation possible but very difficult and requires a long time (5 years to 20 years).	1,000 people affected by disruption of business, services or social dislocation for more than one year. Significant loss of national heritage, community or cultural assets. Potential for significant long-term human health effects.	Very high economic losses affecting important infrastructure or services (e.g., highway, industrial facility, storage facilities, for dangerous substances), or employment. High relocation/compensation to communities. < US$1B.
Extreme	> 1000	Many (> 100)	Catastrophic loss of critical habitat or rare and endangered species. Process water highly toxic. Very high potential for acid rock drainage or metal leaching effects from released tailings. Potential area of impact > 20 km^2. Restoration or compensation in kind impossible or requires a very long time (> 20 years).	5,000 people affected by disruption of business, services or social dislocation for years. Significant national heritage or community facilities or cultural assets destroyed. Potential for severe and/or long- term human health effects.	Extreme economic losses affecting critical infrastructure or services, (e.g., hospital, major industrial complex, major storage facilities for dangerous substances) or employment. Very high relocation/compensation to communities and very high social readjustment costs. >US$1B

Source: Global Tailings Review (2020)


Kami
Kamistiatusset
Mining
Project

Kami Mining Project

Champion Kami Partner Inc.

Wabush, NL

Annex 5C Emergency Response Plan

Environmental Impact Statement

Document Number: CA00387135261-R-Rev0-Annex 5C_Emergency Response Plan

July 2025

1155 René-Lévesque Blvd. West, 33rd Floor
Montréal, Québec H3B 3X7 CANADA
T +1 514 316-4858
championiron.com

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1. Introduction

The Emergency Response Plan (ERP) has been developed by Champion Kami Partner Inc. (Champion) for the Kamistiatusset (Kami) Iron Ore Mine Project (the Project), an iron ore mine in the Province of Newfoundland and Labrador (NL). While the Kami Iron Mine Partnership holds ownership of the Project, Champion (Champion Kami Partner Inc.) retains operatorship of the Project and will oversee the potential development and future operations of the Project.

The Project is located entirely in Labrador, approximately seven kilometres (km) southwest from the Town of Wabush, 10 km southwest from the town of Labrador City, and five km northeast of Ville de Fermont, Quebec. The Project will involve the construction, operation and eventual closure of an open pit iron ore mine and supporting infrastructure.

The ERP outlines the clear procedures to be followed by Project personnel, including Champion employees, contractors, sub-contractors, regulators and visitors during emergency situations while undergoing Project construction, operations and site closure activities. Champion mainly focuses on prevention rather than reactive response; however, a well-planned emergency response is essential. Effective planning can shorten the time needed to take crucial actions during an emergency, thereby reducing its overall impact to people and the environment.

The ERP is a dynamic document that may require updates to address unforeseen emergency scenarios or improvements identified through evaluations of emergency simulations or regulatory updates. Such revisions will be undertaken throughout the Project duration to ensure alignment with evolving circumstances, fostering open communication across all levels and facilitating continuous enhancement.

During the Project, the health and safety and emergency response teams at Champion will continuously offer direction and supervision to ensure that all Project activities adhere to best mining practices and superior safety approaches to minimise the occurrences of emergencies to as low as reasonably possible.

Champion is dedicated to engaging with key stakeholders and the public on the ERP to ensure that expectations and regulations are being met.

1.1 Purpose of the Emergency Response Plan

This ERP is designed to provide a structured and effective approach to managing various emergency situations, ensuring the safety of employees, contractors and sub-contractors, visitors, and assets while minimizing operational disruptions.

The ERP aims to offer guidance and direction for initiating and coordinating an emergency response, including outlining procedures for maintaining, exercising, and reporting on emergency preparedness and response activities.

By following the guidance outlined in this plan, all Project personnel will be better prepared to respond quickly and effectively to emergencies, reducing potential harm and ensuring a swift recovery. Regular training, drills, and updates to this plan will help maintain readiness and improve response efforts.

This document serves as a vital resource for all employees and stakeholders, reinforcing Champion's commitment to safety, preparedness, and resilience.

1.2 Scope of the Plan

The scope of the ERP covers all injuries, accidents and malfunctions, or other emergencies at the Kami mine site, including but not limited to the Tailings Management Facility (TMF), overburden and mine rock stockpiles. It also identifies training requirements for Project personnel, and requirements for internal and external communication, plan testing evaluation and revision as well as incident reporting. The plan applies to all components of the Project; it addresses all phases of the Project including construction, operation and closure, as well as post-closure.

The plan applies to all employees of Champion; furthermore, all contractors and sub-contractors will be required to adhere to the plan. This version of the ERP contains some general information which will be updated with specific details prior to construction and as the Project progresses.

1.3 Relationship to other Plans

The following other plans which are provided as Annexes to the EIS, are being prepared in support of this Project to describe the procedures, equipment and responsibilities that are in place to ensure the potential adverse effects are responded to appropriately during all phases of the Project:

- Annex 5A: Benefits Agreement and Gender Equity and Inclusion Plan
- Annex 5B: Dam Safety Plan
- Annex 5D: Environmental Protection Plan (EPP) (Annotated Table of Contents, with full EPP available prior to commencement of construction)
- Annex 5E: Environmental Effects Monitoring Program
- Annex 5F: Erosion and Sediment Control Plan
- Annex 5G: Kami Engagement Plan
- Annex 5H: Waste Management Plan

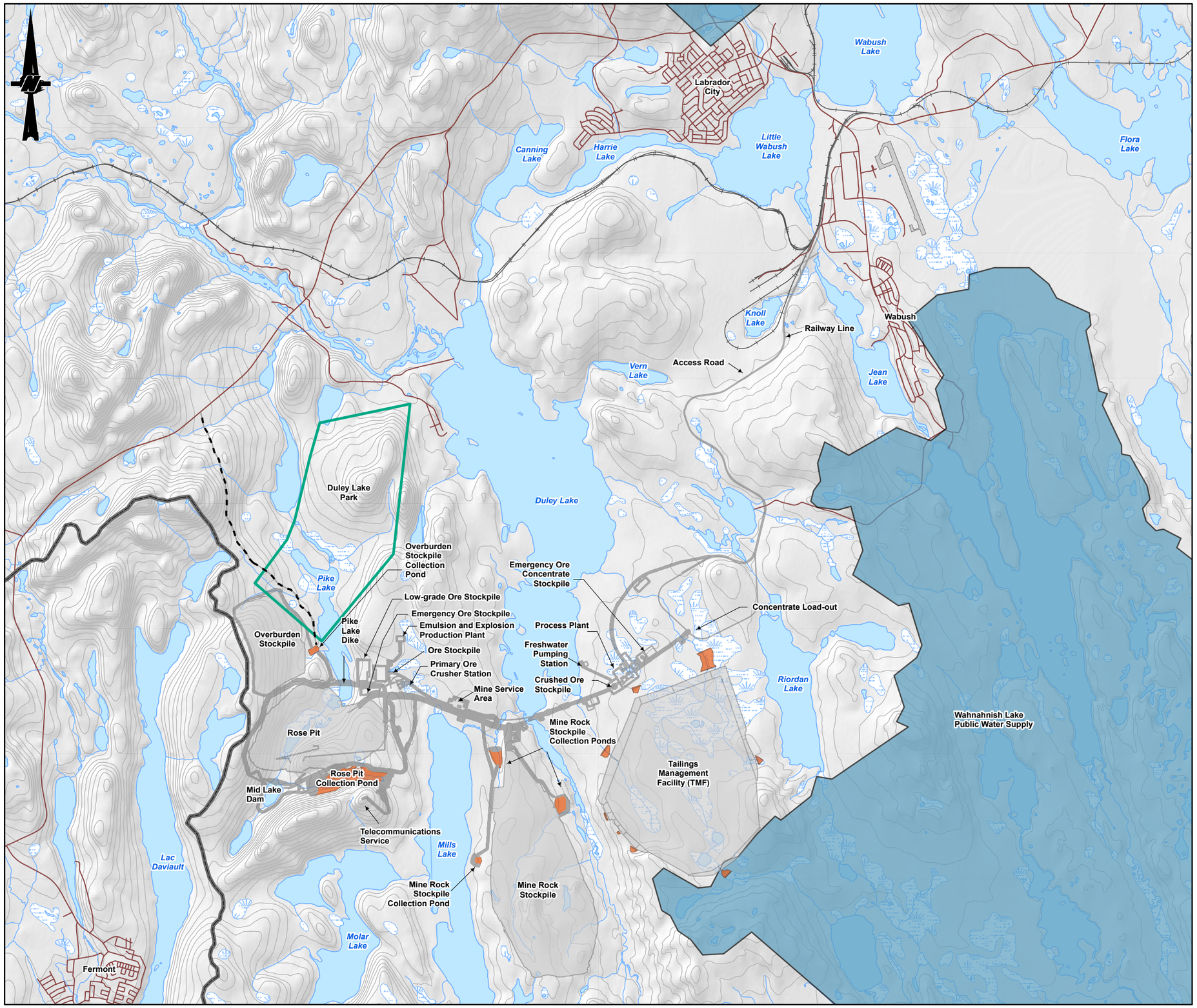
All plans prepared for this project will be implemented by Champion. The plans will be updated periodically, where appropriate.

1.4 Project Overview

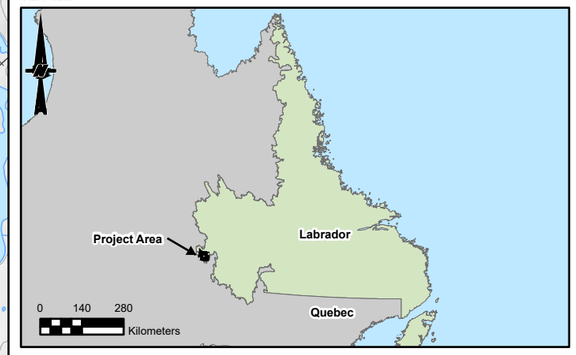
The proposed Project would include an open pit mine and surface infrastructure to support the extraction of iron ore from the Kami deposit and the production of high purity iron ore concentrate. The Project includes construction, operation, and closure of the following components:

- An open pit (referred to as the Rose Pit).
- Ore processing infrastructure, including conveyors and transfer stations, stockpiles, the process plant and load-out facilities.
- Waste management infrastructure, including an overburden stockpile, mine rock stockpile and TMF.
- Water management infrastructure that will collect, convey, store, treat and discharge contact and non-contact water, including dams, dikes and collection ponds.
- Supporting infrastructure, including site roads, workforce accommodations, a mine service area, freshwater pumping stations, fuel storage, an emulsion and explosion production plant and explosive storage, a crushing plant, transmission lines for local site distribution and telecommunication services.
- Transportation corridors, including access roads and a railway corridor that includes a spur line to connect the mine site to the Québec North Shore & Labrador (QNS&L) Railway.

A map of the site layout is provided in Figure 1-1. All mining and processing operations will take place within Newfoundland and Labrador provincial boundaries. All Project components will be constructed, operated and closed in accordance with governing federal, provincial and municipal regulations, as well as industry regulations and standards. The Project is aiming to enhance the long-term viability of Champion and the local economy of the Labrador West area with sustainable employment through the creation of approximately 600 positions during construction and 400 during Project operations, as well as numerous indirect jobs, throughout the estimated 40-year Project life span.



KEY MAP



SCALE 1:20,000,000

Legend

PROJECT DATA

- Proposed Project Infrastructure
- Proposed Sediment Pond
- Potential Access Road

BASEMAP INFORMATION

- Road
- Railway
- Watercourse
- Contour
- Duley Lake Park
- Bog/Wetland
- Waterbody
- Labrador/Quebec Boundary
- Public Water Supply

0 1,000 2,000 4,000

1:71,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. IMAGERY CREDITS:
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

PROJECT LOCATION AND SITE LAYOUT

CONSULTANT

Kami

YYYY-MM-DD	2025-02-27
DESIGNED	----
PREPARED	GM
REVIEWED	AF
APPROVED	--

PROJECT NO.	CONTROL	REV.	FIGURE
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2. Emergency Response Preparedness

A major aspect of reducing impacts of emergencies and having an effective response to emergencies is adequate prevention, planning and preparation for such scenarios. These aspects are covered in the following sections.

2.1 Roles and Responsibilities

This section describes the roles and responsibilities of Champion personnel and external agencies as they relate to planning, preparedness and response to emergency situations. Some of the roles in the ERP are assigned to Champion personnel based on their designation; during an emergency, however, other personnel may make up the initial emergency response team depending on several factors, including the time of the emergency. Further, depending on workforce availability or the level of the emergency, multiple roles may be assigned to individual workers. Project personnel, who have previously undergone adequate trainings, will be assigned dedicated emergency response tasks during every shift. In the event of emergencies, emergency personnel should be able to verbally state their responsibilities.

2.1.1 Internal Responders

The following subsections describe the roles and responsibilities of Champion personnel, contractors and sub-contractors working on-site, both in terms of accident prevention and response actions during and following an emergency situation.

2.1.1.1 Discoverer (Employee, Contractor or Sub-contractor)

Prevention

- Know the occupational health and safety (OHS), and environmental risks associated with your work environment.
- Know your designated assembly point.
- Participate in the Emergency Response training and drill programs.
- Know who to report to in the event of an evacuation

Response

- If possible, and without compromising your own safety, intervene within your knowledge and according to the situation, in an attempt to control it.
- Notify your supervisor and/or the security officer using the quickest available means:
  - Radio channel: TBD
  - Landline: TBD
- Provide the following information:
  - Your name
  - The location and description of the emergency situation
  - Any other requested information
  - Never hang up first
- Follow the security officer's instructions.
- Remain available on-site and wait for instructions from your supervisor.
- In case of evacuation: proceed to your designated assembly point according to the type of event.

2.1.1.2 Emergency Responder/Supervisor

Prevention

- Be familiar with the emergency response procedures.
- Stay informed about employees who are absent for the day.
- Know your designated assembly point.
- Participate in the Emergency Response training and exercise program.

Response

- Notify the security manager as soon as you are informed of an emergency situation.
- Assess the situation.
- Depending on the circumstances, begin the response and make yourself available to the Incident Commander and the Emergency Response Coordinator.
- Ensure the Emergency Response Plan is applied according to the situation.
- Proceed to the assembly point and make sure all your employees are present there. Inform the security manager.
- If an employee is missing, try to contact them via radio. If unable to reach them, immediately notify the security manager.
- Ensure your equipment is safe and, if necessary, shut down safely.
- Carry out all requests from the Emergency Measures Coordinator.

2.1.1.3 Security Officer

Prevention

- Be familiar with emergency response procedures and communication chains during an emergency.
- Keep an up-to-date copy of the Emergency Response Plan (ERP) readily available, including an updated contact list of all internal and external resources required during an emergency.
- Participate in training programs and emergency drills.

Response

- Use radio communication to inform all personnel on site as quickly as possible that an emergency situation is in progress and broadcast basic safety instructions.
- Immediately relay all relevant information to the Emergency Response Manager or other responders (e.g., arrival of the fire department on site, etc.).
- Assist the Emergency Response Manager by making phone calls as requested.
- Receive and direct external resources upon their arrival (e.g., firefighters, ambulance services).
- Record the departure time and destination of any evacuated personnel in the event of an evacuation.
- Maintain a log of communications and field activities.
- Control site access.
- Complete the emergency call data collection form and submit it to the Emergency Response Coordinator.

Post-Response

- Participate in the post-incident review (after-action report).

2.1.1.4 Emergency Response Manager

The Emergency Response Manager plays the role of the Incident Commander during emergencies and have the following responsibilities:

Prevention

- Design, update, and ensure proper implementation of the ERP.
- Ensure alignment between the ERP and Champion Iron's Crisis and Communication Management Plan.
- Ensure that corrective measures identified post-incident are incorporated into ERP updates.
- Follow up on actions stemming from post-incident reviews (postmortem).
- Ensure that the training programs are up to date.
- Participate in the planning and organization of tailored training sessions.
- Ensure the validity of service agreements with external responders required during emergencies.
- Ensure that emergency responders receive adequate and regular training.
- Oversee the implementation of periodic emergency response drills.
- Ensure the periodic update and proper functioning of all emergency response equipment and inventory.
- Provide technical support to the Emergency Measures Coordinator.

Response

- Provide technical support to the Emergency Measures Coordinator.
- Coordinate site-wide communication and emergency notifications
- Monitor the effectiveness of the response and adjust tactics as conditions change.
- Liaise with Emergency Response Team Coordinator and provide regular updates to senior management, stakeholders, and regulatory bodies as required.
- Lead the post-incident debrief, investigation, and implementation of corrective actions.

2.1.1.5 Emergency Measures Coordinator

The Emergency Measures Coordinators act as managers within the organization. The designated coordinators rotate duties according to a predetermined on-site schedule. Their responsibilities include:

- Participating in the review of the ERP.
- Ensuring all personnel involved give sufficient attention to all aspects of the ERP.
- Ensuring compliance with current health, safety, and environmental regulations and standards.

Prevention

- Ensure follow-up on corrective actions resulting from the post-incident review.
- Participate in the training and drill program.
- Be familiar with the ERP response procedures.

Response

- Inform the General Manager or the on-duty Manager about the situation.
- Trigger the implementation of the ERP when the situation requires it.
- Plan and coordinate the emergency response effort.
- Assess the situation and propose response strategies to the field response team.
- Decide whether high-risk operations or work should remain suspended following the emergency declaration by the Security Officer.
- Ensure that all intervention measures comply with applicable health, safety, and environmental laws, regulations, and standards.

- Ensure mobilization of facilities, equipment, and personnel required for the response.
- Provide the field response team with precise information regarding their tasks.
- Communicate with external responders and additional resources required based on the response strategy (equipment and personnel).
- Act as the liaison with public authorities (Towns of Wabush and Labrador City and public safety services).
- Declare the end of the emergency and the resumption of normal operations. In the case of a major emergency, declare the end of emergency measures in consultation with the relevant external authorities (e.g., fire department).

Post Response

- Prepare a post-incident review and any supporting reports to document the intervention.
- Submit the review to the person responsible for emergency measures.
- At the end of the intervention, ensure that all used equipment and materials are replaced or restored.

2.1.1.6 Emergency Response Team Coordinator

Prevention

- Become familiar with the emergency procedures outlined in the ERP.
- Know the location of equipment related to fire protection, firefighting, and rescue; perform or ensure the maintenance of such equipment.
- Perform or ensure the follow-up of weekly, monthly, and annual inspections of equipment related to fire protection, firefighting, and rescue.
- Report any anomalies regarding the implementation of the ERP (e.g., inadequate intervention equipment, etc.) to the ERP Manager.
- Understand how to operate the equipment related to the task.
- Prepare emergency response plans.
- Upon request from the ERP Manager, prepare a periodic exercise program taking into account the various risks, and ensure the implementation of evacuation and emergency response drills.
- Support, assist, and/or advise workers and front-line managers on fire prevention to minimize fire risks.
- Participate in fire prevention activities.
- Take part in the training and exercise program.

Response

- Intervene safely in order to minimize losses during a fire, a medical emergency involving a worker, or an incident involving hazardous materials.
- Lead the emergency response team and ensure the safety of its members.
- Communicate relevant information to the security supervisor as well as the ERP Coordinator.
- Determine whether external assistance is required.
- Make oneself available to the Fire Chief of Wabush or Labrador City or their deputy when municipal firefighters are called to the scene.

Post Response

- Participate in the post-incident review (post-mortem) and implement the necessary corrective actions.
- Provide the necessary support to the person in charge of the investigation.

2.1.1.7 Emergency Response Team

Prevention

- Become familiar with the emergency procedures of the ERP.
- Know the location of the emergency response equipment and ensure it is in good condition.
- Maintain and inspect fire and rescue response equipment.
- Inform the emergency response coordinator of any issues concerning the response equipment.
- Understand how to operate equipment related to the task.
- Participate in the training and exercise program.

Response

- Intervene safely to minimize losses during a fire, a rescue, or an event involving hazardous materials.
- Respond according to established protocols.
- Ensure the use of required personal protective equipment.
- Ensure the deployment of the necessary equipment.
- Establish safety perimeters.
- Act according to the directives of the emergency response coordinator.
- Provide emergency care according to first responder protocols, if applicable.
- Remain available to assist medical personnel when called upon.
- Remain available to accompany the injured person during a medical evacuation, if necessary.

2.1.1.8 First Aiders

Prevention

- Familiarize yourself with the emergency response procedures specific to your area.
- Participate in the Emergency Response training and exercise program.
- Keep your first aid training up to date.

Response

- Assist any worker whose health or safety is at risk, without compromising your own safety.
- Provide first aid within your level of training.
- Determine if external assistance is required.

2.1.1.9 Medical Personnel

Prevention

- Understand the medical emergency response procedures.
- Assist the Health and Safety Advisor in evaluating health hazards to employees.
- Provide advice on how to adequately protect health.
- Establish response protocols based on the contaminants used on site and potential events.
- Participate in the emergency response training and exercise program.
- Keep training up to date.

Response

- Provide and coordinate first aid and assist first responders.
- Ensure that the care provided by first aiders is adequate and take charge of the response in a major situation.
- Assess the situation to evaluate risks to workers.
- Determine if external assistance is required.
- Ensure communication with ambulance and hospital services.

2.1.1.10 Environmental Compliance Coordinator

Prevention

- Be familiar with the emergency response procedures outlined in the ERP.
- Know the government environmental stakeholders.
- Assess worst-case environmental scenarios and plan mitigation measures.
- Conduct on-site spot inspections and propose necessary measures to the ERP manager to ensure compliance with current standards and proper implementation of the ERP when required.
- Understand the regulations concerning the environmental aspects identified for the site.
- Support, assist, and advise employees in understanding and applying legal and environmental requirements.
- Participate in the training and exercise program.
- Ensure compliance with the Environmental Emergency Regulations.

Response

- In all cases of spills or irregular discharges, go to the scene of the event to gather information related to the emergency situation in order to assess the damage or potential risk of damage affecting or likely to affect the quality of water, air, or soil, and inform the Emergency Measures Coordinator and the Environmental Compliance Manager.
- Recommend measures to mitigate environmental damage, restore the site, and dispose of contaminated materials generated by the incident.
- Inform responders of environmental hazards related to the intervention.

Post Response

- Complete the required forms in the event of a spill, irregular discharge, or fire involving a hazardous substance.
- Ensure that the waste and contaminated materials generated by the incident are stored and disposed of in accordance with regulations.
- Coordinate site restoration work following an incident.

2.1.1.11 Environmental Compliance Technician

Prevention

- Be familiar with the ERP procedures.
- Know the relevant government stakeholders in environmental matters.
- Conduct daily rounds to inspect lakes, streams, and critical environmental monitoring points.
- Update critical monitoring points and document required interventions, including tracking progress on follow-up work, if applicable.
- Understand environmental regulations relevant to the identified environmental aspects of the site.
- Support coordinators and other employees in understanding and applying legal and environmental requirements.
- Participate in the ERP training and emergency exercise program.

Response

- In all cases of spills or irregular discharges, go to the scene of the event to gather information related to the emergency situation in order to assess the damage or potential risk of damage affecting or potentially affecting the quality of water, air, or soil, and inform the Emergency Measures Coordinator, the Environmental Compliance Coordinator, and the Environmental Compliance Manager.
- Conduct the legally required sampling of the spill or irregular discharge.
- Inform the responders of any environmental hazards associated with the intervention. If necessary, contact the Security Supervisor to ensure the response team has access to the required equipment.
- Provide technical assistance to the intervention team.
- Recommend measures to mitigate environmental damage and for the site remediation and disposal of contaminated materials resulting from the incident.
- Assess quantities and complete the required forms in the event of a spill or irregular discharge into the environment.

Post Response

- Ensure that the waste and contaminated materials generated by the incident are stored and disposed of in accordance with regulations.

2.1.1.12 Health and Safety Advisor

Prevention

- Participate in the appropriate selection of protective equipment.
- Inform users of the periodic maintenance requirements for protective clothing and equipment.
- Monitor and prevent signs of stress due to cold or heat exposure and fatigue among emergency response team members during drills.
- Assess risks and hazardous conditions in anticipation of or during simulations.
- Participate in the preparation and implementation of the ERP.
- Be familiar with regulations regarding health and safety aspects.
- Know the intervention procedures, routes, etc.
- Participate in the training and exercise program.

Response

- Review the incident information, assess the situation, and provide the necessary health and safety support to the response team.
- Assist the response team in closing roads and relocating external resources.
- Ensure that the incident measures used comply with applicable health and safety laws, regulations, and standards.
- Advise management on health and safety matters.
- Support incident leaders by authorizing the resumption of traffic in various areas of the mine site.
- Work closely with external health and safety representatives throughout the incident and ensure follow-up at the end of the incident.
- Monitor signs of stress, such as exposure to cold, heat stress, and fatigue among response team members.
- Ensure that a safety perimeter is in place and respected.
- Coordinate the safe access of external responders to the site.

Post Response

- Support the person responsible for the investigation and accident analysis.

2.1.1.13 Radiation Safety Officer

Prevention

- Be familiar with the emergency procedures of the ERP.
- Ensure radiation protection measures are implemented according to applicable laws and regulations.
- Identify risks related to radioactive materials used or stored on site.
- Ensure the availability, maintenance, and proper use of radiation detection and protection equipment.
- Inform and train employees on risks related to radiation and proper safety practices.
- Participate in the development of incident protocols for incidents involving radioactive substances.
- Collaborate with health, safety, and emergency response personnel during emergency situations.
- Ensure regulatory compliance concerning the use, handling, and storage of radioactive materials.
- Maintain up-to-date documentation and records as required by regulatory authorities.
- Participate in training programs and emergency drills.
- Support the coordination of external resources and authorities in the event of a radiation-related emergency.

Response

- Take radiation level readings.
- Inform responders of the hazards associated with the incident.
- In the event of an accident involving radioactive sources, notify the appropriate regulatory agencies and ensure that all required forms are completed.
- Participate in coordination meetings with external responders during a major incident.

2.1.1.14 Tailings Engineer of Record (EoR)

Prevention

- Work to ensure the proper functioning of the tailings storage facility and carry out necessary inspections to ensure the safety of the structures.
- Assist in updating supporting documents, such as flood maps, in accordance with the expansion of the tailings facility.
- Be familiar with the ERP procedures.
- Ensure that ERP procedures are well known and understood by workers at the tailings site.
- Ensure that there is always a qualified person available to respond to an emergency situation.

Response

- Assist responders in decision-making by answering any questions raised.
- Recommend necessary interventions and corrective measures based on the evolution of the situation.

2.1.1.15 Tailings Compliance Superintendent/Supervisor

Prevention

- Be familiar with regulations regarding dikes and dams.
- Ensure regular monitoring of water levels in basins to maintain water retention capacity equivalent to the estimated design flood volume for the site.
- Ensure the monitoring of the integrity of water retention dikes (weekly routine inspections, specific inspections following observed anomalies, monthly detailed inspections, annual statutory inspections).
- Ensure that instrumentation readings used to assess structure performance are taken during monthly detailed and annual inspections.
- Ensure that specific inspections are carried out following unusual events such as major spring flooding, exceptionally heavy rainfall, or an earthquake.

- Implement a maintenance and periodic verification program for water management equipment and infrastructure to ensure their proper operation.
- Ensure the execution of spot inspections on site.
- Participate in the training and exercise program.
- Be familiar with the ERP intervention procedures.

Response

- In all cases of a dike failure or breach, go to the site of the incident to gather information related to the emergency situation in order to assess the damage and potential risks, and inform the designated engineer, the emergency measures coordinator, and the general manager or shift manager.
- Gather recommendations from the Engineer of Record and take them into account when making recommendations to the emergency measures coordinator.
- Recommend the actions to be taken during the incident, which must include the establishment of a safety perimeter to be implemented as quickly as possible.
- Inform responders of the risks and hazards related to safety during the intervention.

Post Response

- Provide guidance to the Emergency Measures Coordinator regarding the measures to be implemented once the incident is finished.

2.1.1.16 Control Room (Concentrator) Operator

The Concentrator Control Room Operator must be notified as soon as a potentially urgent situation occurs.

Prevention

- Be familiar with the ERP procedures.
- Participate in the training and drill program.

Response

- In the event of an emergency call, be prepared to shut down the pumping of one or more tailings lines or the entire concentrator, as applicable.
- Be ready to stop the conveyors in the event of a fire affecting a conveyor.
- Follow the instructions of the Security Superintendent/Security Supervisor.

2.1.1.17 Railway Dispatch

Prevention

- Be familiar with the emergency response procedures related to the railway.
- Monitor train schedules and rail traffic to prevent conflicts or unsafe routing.
- Ensure all train operators are informed of site-specific hazards and emergency protocols.
- Verify that all rail equipment entering the site is inspected and meets safety standards.
- Maintain clear communication with on-site operations and external railway companies.
- Conduct routine checks to ensure rail lines are clear of obstructions and properly maintained.
- Document and report any near misses, safety concerns, or unusual activity.
- Participate in regular safety meetings and ERP drills related to rail transport.

Response

- In the event of an impact on the railway, take the necessary actions to ensure the safety of the railway operations.
- Immediately halt rail traffic in the event of an emergency affecting the rail corridor.
- Notify site Emergency Response Team and relevant railway authorities of the incident.

- Provide location-specific information about train positions and movements to aid emergency responders.
- Coordinate safe routing or removal of rail cars or locomotives from danger zones.
- Support isolation of hazardous rail cargo if involved in the incident (e.g. chemical spills, or fire).
- Maintain open communication with emergency services, site operations, and rail crews during the response.
- Document all actions taken during the incident and assist in post-incident reviews or investigations.

2.1.1.18 Environmental Compliance Manager

Prevention

- Be familiar with the emergency response procedures in the ERP.
- Assist the ERP manager with prevention responsibilities related to the ERP as requested.
- Ensure that the ERP meets environmental requirements and, when necessary, forward a copy to the relevant government agencies (Digital Government and Service NL, Environment and Climate Change Canada, etc.).
- Ensure the implementation of mechanisms for monitoring and communicating the site's environmental performance.
- Be familiar with environmental regulations related to the activities carried out on site and the risks of emergency situations identified in the ERP.
- Know the government stakeholders in environmental matters.
- Participate in the training and exercise program.
- Identify and properly manage environmental risks and implement improvement opportunities and proactive measures.
- Communicate any potential environmental risks to the mine site management and the corporate office.

Response

- Assist the Emergency Measures Coordinator and the General Manager/ Shift Manager in their response responsibilities regarding the ERP, as requested.
- When required (e.g., in the event of a spill or irregular discharge), promptly contact the relevant government authorities to inform them of the incident, as stipulated by provincial and federal laws and regulations (or designate a representative to do so).
- If necessary, go to the Emergency Command Center (ECC) and meet with government authorities on-site.
- Provide technical assistance to the Environmental Compliance Coordinator as needed.
- Participate (or designate a representative to participate) in coordination meetings with external responders (firefighters, municipal authorities, government representatives, etc.) during a major incident.
- When government representatives arrive on-site, greet and accompany them to inform them of the situation (or designate a representative to do so).

Post Response

- Complete the required incident reports and forward them to the relevant government authorities.
- Communicate any information received from the authorities regarding the event to the mine site management and the corporate office.

2.1.1.19 Tailings Compliance Manager

Prevention

- Define objectives, ensure the allocation of the facility's resources, and evaluate the effectiveness of the ERP.
- Plan budgets to ensure that the necessary resources are available (purchase and maintenance of equipment, staff training, drills, etc.).
- Provide the required personnel and allocate the time needed to safely carry out activities.
- Ensure that the necessary emergency response tools are available.
- Ensure that responders receive adequate training related to their duties.
- Ensure that annual drills are conducted.
- Be familiar with the emergency response procedures outlined in the ERP.

Post Response

- Provide administrative support to responders during an emergency situation.
- Authorize the necessary budgets to ensure the proper conduct of the incident.
- Oversee the continuity of operations within the sector.
- Support the person responsible for the investigation and accident analysis.

2.1.1.20 General Manager/Shift Manager

Prevention

- Ensure the availability of budgets, equipment, and necessary emergency response tools (purchase and maintenance of equipment, staff training, drills, etc.).
- Provide sufficient personnel and allocate the time required for the safe execution of activities.
- Ensure that appropriate persons are designated to handle emergency situations.
- Ensure that responders receive proper training relevant to their tasks.
- Validate the definition of objectives and the effectiveness of the ERP and ensure proper resource allocation across the facility.
- Ensure the protection of workers, visitors, and public health and safety, as well as environmental protection.
- Participate in the development and implementation of the communication strategy under the direction of the Communication leaders.

Response

- Activate the ERP when the situation requires it.
- Evaluate, jointly with the Emergency Measures Coordinator, whether the event needs to be escalated to a strategic level.
- Notify the Corporate Crisis Team (CCT) Coordinator when the alert level requires it. Collaborate in the strategic management of the crisis.
- Establish the composition of the Local Crisis Team (LCT), define the meeting frequency and agenda, lead LCT meetings, and mediate decisions when necessary.
- Provide administrative support to responders.
- Attend (or designate a representative to attend) coordination meetings with external responders (firefighters, municipal authorities, government representatives, etc.) during a major incident.
- Authorize necessary budgets to ensure effective response operations.
- Participate in Emergency Communication procedures which includes the following:
  - Record received information when required.
  - Gather necessary information from various responders.
  - Receive information requests from employees, the public, and the media.
  - Participate in communications with employees, the public, and the media when required.
  - Share gathered information with the Head of Public and Government Affairs and the CCT Coordinator.

Post-Response

- Review the post-incident summary and investigation report and ensure implementation of preventive and corrective measures.

2.1.1.21 Local Crisis Team (LCT)

The Local Crisis Team includes all directors and superintendents.

Prevention

- Define objectives, ensure appropriate resource allocation across the facility, and evaluate the effectiveness of the ERP.
- Allocate budgets to ensure necessary resources are available (equipment purchase and maintenance, staff training, drills, etc.).
- Provide personnel and schedule the time required for the safe execution of activities.
- Ensure that the necessary emergency response tools are available.
- Ensure that responders receive adequate training for their tasks.
- Ensure that annual emergency drills are carried out.
- Be familiar with the ERP response procedures.

Response

- Provide administrative support to responders during an emergency:
  - Resource acquisition/mobilization
  - Communication and coordination with field responders
  - Health and safety of field responders
  - Site security
- Participate in coordination meetings with the CCT.
- Attend (or designate a representative to attend) coordination meetings with external responders (firefighters, municipal authorities, government representatives, etc.) during a major incident.
- Authorize the necessary budgets to support effective emergency response.
- Ensure continuity of operations in unaffected areas.
- In collaboration with and at the request of the Head of Public and Government Affairs and the CCT Coordinator, relay messages, information, and statements to employees.
- Support affected employees and their families.

2.1.1.22 Corporate Crisis Team (CCT)

The Corporate Crisis Team at Champion Kami Partner Inc. is composed of senior-level managers. Depending on the nature of the event and the risks faced by the company, the Corporate Crisis Team Coordinator & Chief Executive Officer convenes the necessary members to manage the event.

Prevention

- Be aware of the risks associated with site activities.
- Understand one's role in relation to Champion Iron's Crisis Management & Communication Plan.
- Support the LCT.

Response

- Coordinate personnel and equipment resources.
- Assess and analyze the situation to establish action priorities.
- Share strategic information, especially with the designated spokesperson.
- Guide decisions to preserve Champion Iron's reputation and image.
- Coordinate with partners and governmental authorities.
- Maintain communication with local external responders.
- Determine the necessary actions to ensure operational continuity.

Post-Response

- Establish the process for returning to normal operations.

2.1.2 External Responders

2.1.2.1 Towns of Labrador City and Wabush

Prior to the onset of construction and operation a mutual aid agreement will be proposed with both towns of Labrador City and Wabush to support emergency response services at the Kami Project site. These services include

- Fire rescue
- Hazardous Materials (Hazmat)
- Vehicle extrication
- Water rescue
- Technical rescue (confined space, high angle)

The role of this category of external responders is to coordinate with Champion on emergencies involving conflagration, hazardous material exposure, or dangerous rescue events where required.

2.1.2.2 Royal Newfoundland Constabulary (RNC)

The RNC is the provincial police force for parts of Newfoundland and Labrador, responsible for providing police services in the following areas:

- St. Johns Metropolitan area
- Corner Brook
- Labrador West

Champion will coordinate with RNC on security incident emergencies including bomb threats or potential violent attacks by disgruntled members of the public.

2.1.2.3 Labrador West Health Center (LWHC)

The LWHC is the regional hospital for Labrador West and is located in Labrador City. It provides acute, primary, long term and emergency health services to the local population. It is part of NL Health Services – Central Zone (formerly part of Labrador Grenfell Health). The direction to LWHC from the current laydown area is shown in Figure 2-1.

Champion will coordinate with LWHC on emergencies bordering on health of personnel, contractors and visitors (exposure to hazardous materials, burns from fire and explosions, occupational injury, vehicle collision, fatality) if injuries are deemed to require further treatment or rehabilitation beyond the capabilities of the onsite first aid responders. Champion's commitment to health and safety is outlined in its Corporate Policy on Health and Safety (Champion Iron May 2025), which outlines the approach to Health and Safety practices, roles and responsibilities, and continuous improvement aimed at maintaining a safe and healthy work environment that is free from injuries and fatalities.

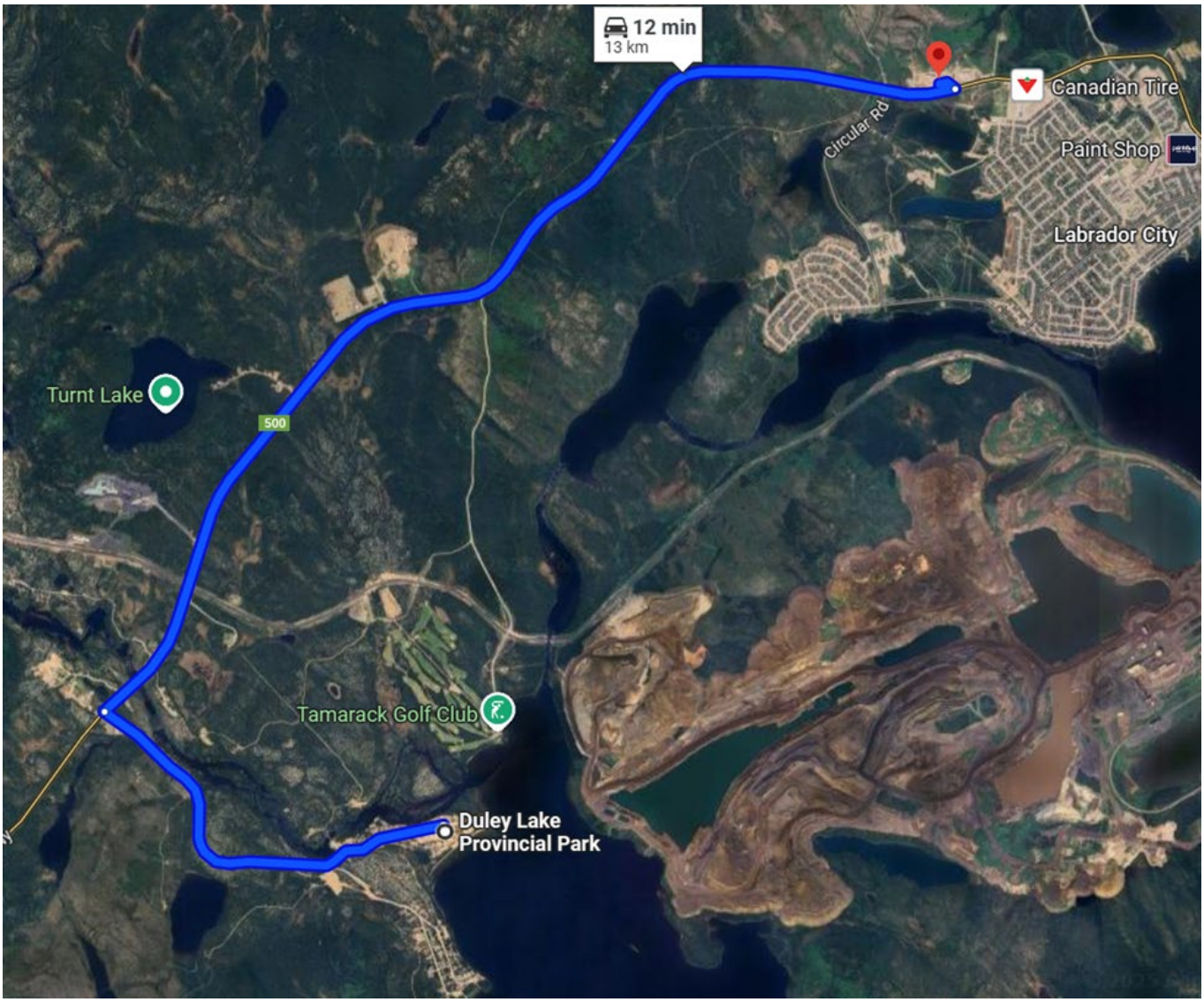


Figure 2-1: Directions to Labrador West Health Center

2.1.2.4 Specialized Environmental Contractors

These are companies that specialize in responding to environmental emergencies (e.g., accidental spills). Their personnel have received basic training in deploying spill response equipment and restoring contaminated sites. Their emergency response service is available 24 hours a day and specialized personnel and equipment can be mobilized as required. Champion will enter into agreement with contractors for potential major spillage control incidents and offsite remediation of contaminated soils.

2.2 Communications

Champion's emergency communication strategy is designed to ensure timely, clear, and coordinated dissemination of information during any emergency. It includes internal notifications, external alerts, and public or community communications when necessary. The goal is to protect health, safety, and the environment while minimizing disruption of operations and maintaining regulatory compliance.

2.2.1 Emergency Communication and Notification Systems

Communication and notification systems which can be used or activated under emergency scenarios include the following:

- Telephone systems, cell phone and internet-based communication applications.
  - All required contact numbers are included in the ERP
  - Cell phone service should be available throughout the project for most users
- Two-way radio systems
  - Radio communication will be conducted on Channel 1. If additional channels are required for communication, the channel that will be used shall be decided on and documented by all required parties.
  - Two-way radios will be in all company vehicles and equipment
  - If necessary, subcontractors will be provided with two-way radios
  - Communication will be tested on a regular basis.
  - Pending location, other forms of communication may be required (i.e. satellite phone, InReach).
- Emergency Response Technologies/Tools: This involves the use of software (such as Everbridge and AlertMedia) to notify Champion Management and staff, contractors and sub-contractors during emergencies
- Emergency Alarms
- Fire Alarms

2.2.2 Internal Communications

In the event of an emergency, communication between onsite personnel including Champion staff, contractors, sub-contractors and visitors, comprise the following:

- Initial Alerts: Initiated by site personnel via radios, satellite phones, horn blasts, or alarms.
- Chain of Command Notification: Follow Incident Notification Flowchart (Appendix A).
- Communication Tools:
  - Two-way radios and satellite phones
  - Mobile phones with backup power
  - Incident logbooks and digital reporting systems
  - Pre-established emergency contact lists

2.2.2.1 On-Site Worker Communications

- Daily Toolbox: Include emergency protocols, evacuation procedures, and muster locations.
- Posted Emergency Contacts & Maps: At all worksites, trailers, and muster areas.
- ERP Drills: Regularly conducted to reinforce procedures and build familiarity with communication protocols.

2.2.3 External Communications

In the event of an emergency, communication between Champion and external responders, members of the public and relevant stakeholders include:

- Emergency Services: 911, police, fire, medical, or specialized teams (e.g., hazardous materials, search and rescue).
- Regulatory Agencies: Notification to relevant provincial bodies, such as the NL OHS Division, Department of Environment and Climate Change, Department of Natural Resources, or Transport Canada.
- Local Stakeholders: Communication to Indigenous communities, municipal authorities, or private landowners potentially impacted.
- Media and Public: All communication with media or the public will be coordinated through Kami's Management and Corporate Affairs.

2.3 Training

2.3.1 Champion Personnel

Champion personnel will be trained on the ERP through a structured and comprehensive program designed to ensure familiarity with site-specific hazards, response roles, and emergency procedures. All personnel will receive ERP training as part of their initial site orientation, with refresher sessions provided annually or when significant updates are made to the plan. Training includes classroom instruction, practical exercises, and participation in simulated emergency drills that reflect realistic scenarios, such as fires, medical emergencies, or hazardous material spills. Special emphasis is placed on the responsibilities of designated Emergency Response Team Coordinators, first aid responders, and members of the Emergency Response Team. The training program is thoroughly documented, including attendance records and competency evaluations, to ensure all personnel are prepared to respond effectively, confidently, and in coordination with others during any emergency situation.

2.3.2 Contractors and External Agencies

Contractors and external agencies working on or responding to the site will be provided with targeted emergency response training to ensure alignment with the site's ERP and safe integration into emergency procedures. All contractors must complete a site-specific orientation prior to beginning work, which includes an overview of potential hazards, emergency alarms, muster points, evacuation routes, and communication protocols. Depending on the nature and duration of the work, additional training or drills may be required for contractors involved in high-risk activities or critical response roles. External agencies such as fire, medical, or environmental response teams will be engaged through joint planning sessions, site tours, and periodic participation in emergency drills to promote familiarity with the site layout, hazards, and response expectations. Training for both contractors and external responders is documented, and refresher sessions are conducted as necessary to ensure continued readiness and effective coordination during real emergencies.

2.4 Plan Testing, Evaluation and Revision

2.4.1 ERP Testing

Simulations are prioritized based on the likelihood of the event occurring. The exercise program is designed to ensure that employees are familiar with emergency response procedures, the hazards associated with key risk events, where to locate response equipment, how to use it, and the steps to follow to get help in an emergency. This also helps maintain the skills required for effective emergency response.

Simulations may be conducted as tabletop exercises or as field response drills.

These exercises allow the management team to evaluate the emergency response capacity of various stakeholders and to assess the effectiveness of the ERP, while identifying training needs or additional exercises.

Table 2-1 provides a non-exhaustive list of exercises that are to be conducted across the site.

Table 2-1: Emergency Simulations and Frequency of Implementation

Exercise	Frequency	Frequency
Evacuation	All employees	Annual
Simulation of an accidental spill or irregular discharge	Emergency Response Team	Annual
Simulation of a structure failure	Annual	Annual
Fire emergency simulation	Emergency Response Team (fire prevention)	5 years
Medical emergency simulation	Emergency Response Team (first aid, medical personnel)	5 years
Vehicle or heavy equipment accident simulation	Emergency Response Team	5 years
Major power outage simulation	Emergency Response Team	5 years
Laboratory simulation	Emergency Response Team	2 years
Tailings Storage Facility incident simulation	Annual	1 year
Full simulation – major structure failure + crisis management	All employees	3 years

ERP will be tested at least once per year, with particular focus on high-risk and probable emergency scenarios. The results of these tests will be evaluated to identify any gaps or opportunities for improvement in the ERP and will be updated accordingly.

2.4.2 Evaluation and Revision

The ERP for Kami is reviewed and updated on a semi-annual basis, or more frequently if a significant incident, operational change, or regulatory update occurs.

This process ensures that the plan remains current, effective, and aligned with best practices.

Lessons learned from drills, actual incidents, and post-incident reviews are systematically analyzed and incorporated into the updated ERP to strengthen preparedness and response strategies.

All staff are trained on ERP revisions through toolbox talks, refresher sessions, and scenario-based exercises to reinforce familiarity and practical application of changes. When updates may affect external stakeholders—such as nearby communities, Indigenous groups, or regulatory bodies—engagement sessions are held to communicate changes, gather feedback, and ensure alignment with regional emergency protocols.

This continuous improvement approach ensures the ERP evolves with the project and maintains a high standard of safety and resilience.

2.4.3 Audit

Audits of the ERP will be conducted regularly to ensure its effectiveness, compliance with regulatory requirements, and alignment with best practices in emergency preparedness. These audits involve a systematic review of all ERP components, including hazard identification, response procedures, communication protocols, training records, equipment readiness, and documentation of drills and incidents. Both internal safety personnel and, where applicable, third-party auditors will participate in the process to provide objective assessments and identify areas for improvement. Findings from the audits will be documented in detailed reports, with corrective actions tracked and implemented within defined timelines. The ERP will then be updated to reflect audit outcomes, changes in site operations, or new regulatory requirements.

2.5 Muster Point

Muster points will be situated at designated locations with careful consideration to safety, accessibility, and practicality. The factors influencing selection of locations will include:

- Safe distance from hazards
- Easy access from all work areas
- Visibility
- Areas away from high traffic or operational zones
- Able to accommodate the maximum numbers of people expected on site at once with room for accountability checks
- Ideally located where two-way radios or cell phones have signal, or near a PA system speaker
- Proximity to Emergency Services or Incident command

The Duley Lake Sandpit (WGS 84 UTM 19N E633 974, N5 862 116 Lat/Long dec N52 53'34'' W67 00'30'') serves as the current primary emergency meeting point/muster station and is located 10 km from the central activity area Figure 2-2).

Muster points will be established prior to construction activity and updated as the Project progresses.

2.6 Records

Accurate and up-to-date records are essential to the effective management and continuous improvement of the ERP at the site. Records include training logs, emergency drills and exercise reports, equipment inspection and maintenance logs, incident and near-miss reports, audit findings, and documentation of ERP reviews and updates. These records are securely stored—either digitally or in designated physical files—in accordance with company policy and applicable Newfoundland and Labrador regulatory requirements. All emergency response-related records are retained for a minimum of five years, or longer if specified by legislation, contractual obligations, or internal policy. They must be readily accessible for internal reviews, regulatory inspections, and incident investigations.

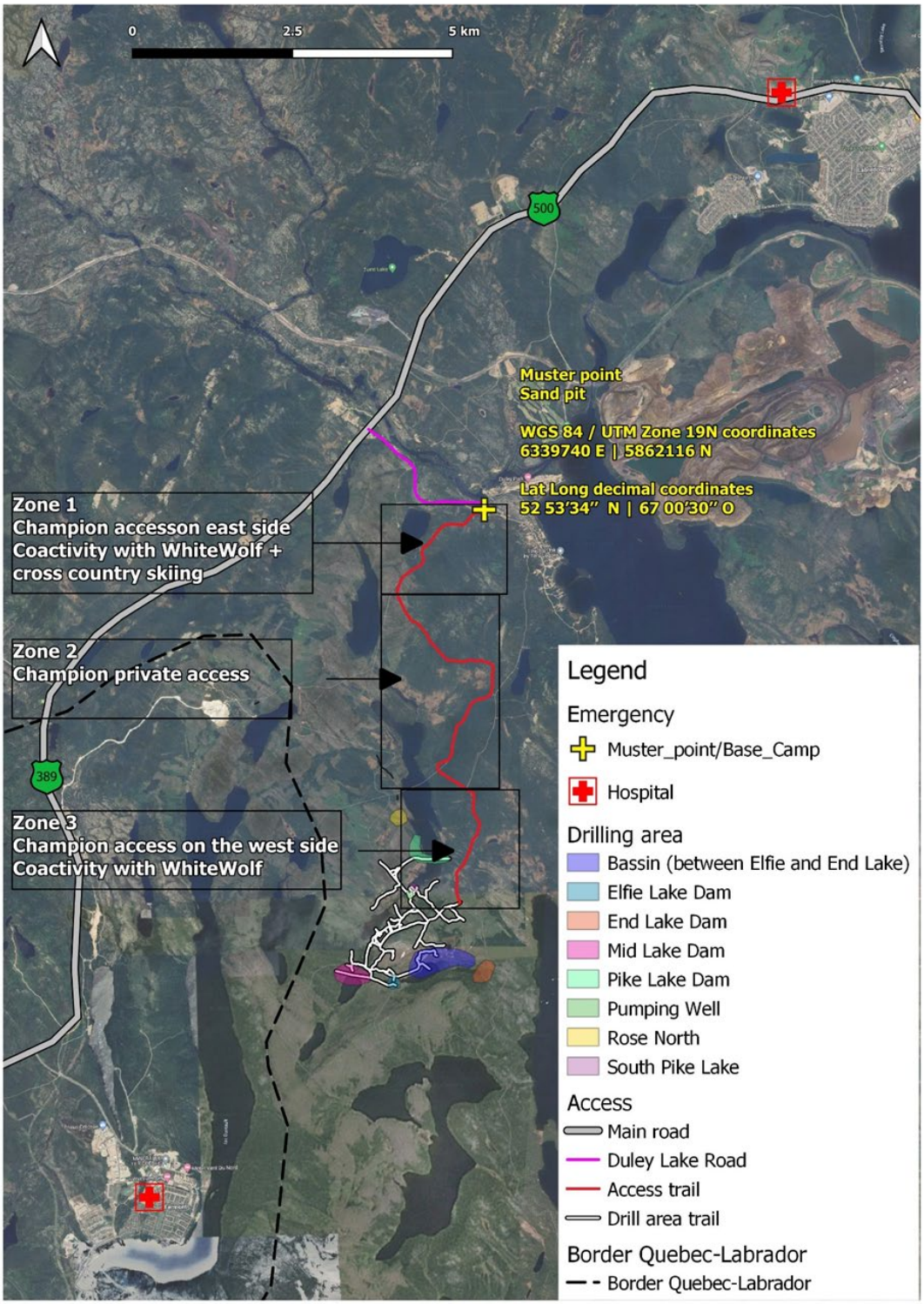


Figure 2-2: Site Map showing location of Primary Muster Point

3. Emergency Resources

3.1 Contact List

Contact lists for the relevant Champion personnel and external agencies involved in emergency response are provided in Table 3-1 and Table 3-2 below. The Champion Emergency Contact List information will be completed prior to construction.

Table 3-1: Champion Emergency Contact List

Name	Title	Phone	Email	On-Call 24/7

Table 3-2: External Agencies Emergency Contact List

Contact/Agency	Purpose/Scenario	Phone Number	24/7?	Notes
911 Emergency Services	All life-threatening emergencies (Police, Fire, EMS)	911	☑	Use when immediate risk to life/safety
Royal Newfoundland Constabulary – Local Detachment	Security threats, trespassing, public disturbance	709-944-7602	☑	Non-emergency line
Labrador City Volunteer Fire Department	Fires, explosions, hazardous rescue	709-944-7832	☑	Non-emergency line
Hospital - Labrador West Health Centre	Medical transport, serious injury	709-285-8100	☑	
NL Dept. of Environment & Climate Change	Environmental spills, air/water contamination	(709) 729-2565	☒	Weekday hours, spill line after hours
Canadian Coast Guard Spill Report Line – NL	Oil, chemical, hazardous material spills	1-800-563-9089	☑	Report within regulatory timeframes
Occupational Health & Safety Division (NL)	Occupational injury, incident investigation	709-729-4444	☑	For serious incidents or fatalities
Workplace NL	Worker injuries, claims support	1-800-563-5471	☒	Mon–Fri, claim follow-up
Transport Canada – Rail Safety	Train derailment or hazardous rail cargo incident	1-613-998-2985	☑	Contact in case of train accident
Wabush Forestry & Wildlife District Office	Wildlife emergencies or protected species	709-282-6881	☑	Report wildlife impact or deaths
Canadian Red Cross	Natural disaster support (flood, forest fire)	1-800-418-1111	☑	Community support, shelters, supplies
NL Hydro Control Centre	Energy supply coordination during outage/failure	709-737-1400	☑	If infrastructure linked to NL Hydro
Local Municipal Office(s)	Drinking water system issues, evacuation coordination	Town of Labrador City: 709-944-2621 Town of Wabush: 709-282-5696	☒	Varies by community
Indigenous Governments/Communities	Impacts to land, water, wildlife, cultural sites	TBD	☒	Identify specific contacts as required
QNS&L Railway	Train Derailment	418-968-7603		

3.2 Control Center

The Control Center will be a designated location set up by the Emergency Measures Coordinator in consultation with the Emergency Response Manager and the rest of the Emergency Response Team for coordination, central communication and decision making. It is very crucial for managing communications and optimal resource allocation to ensure safety of site personnel and the public. The Control Center may be mobile or fixed depending on the phase of the Project.

Prior to start of construction, the ERP will be updated to include a description of the control center onsite.

3.3 Emergency Equipment and Equipment Locations

Emergency equipment will be strategically placed throughout the site to ensure rapid access and effective response during any incident. Equipment includes fire extinguishers, first aid kits, automated external defibrillators (AEDs), spill response kits, self-contained breathing apparatus (SCBAs), eye wash stations, and emergency showers, depending on the specific hazards of each area. Locations will be clearly marked with standardized signage and listed in site maps/site emergency diagrams displayed at strategic locations within the site. High-risk zones, such as fueling stations, maintenance shops, electrical rooms, and processing areas, will be prioritized for enhanced equipment placement. All emergency equipment will be inspected regularly according to a documented maintenance schedule, with inspection records maintained for compliance and audit purposes. Personnel will receive training on the location and proper use of emergency equipment as part of their site orientation and ongoing safety programs, ensuring preparedness across all shifts and operational areas.

Prior to start of construction, the ERP will be updated to include a detailed emergency equipment inventory and site map indicating the location of emergency equipment onsite.

3.4 Emergency First Aid Services

Emergency first aid services are a vital component of the operation's overall emergency response framework, ensuring prompt medical attention in the event of injury or health-related incidents. Champion will provide adequate emergency first aid facilities, equipment and trained personnel based on a site-specific evaluation and regulatory requirements of the provincial Occupational Health and Safety First Aid Regulations.

A designated first aid room will be provided onsite equipped with essential medical supplies, stretchers, oxygen, and an AED. Trained and certified first aid responders will be available on every shift and will be responsible for providing immediate care, stabilizing injured individuals, and coordinating transport to higher-level medical facilities when necessary. High-risk areas will also have accessible first aid kits and eye wash stations. All first aid incidents are to be documented, and records will be reviewed regularly to identify trends and improve safety practices. Coordination with local emergency medical services ensures rapid escalation and transport when off-site care is required, supporting a comprehensive and responsive approach to worker health and safety.

3.5 Mutual Aid Agreement

Mutual aid agreements will be established to enhance the site's emergency response capabilities by ensuring access to additional resources, personnel, and expertise during major incidents or complex emergencies. These formal agreements will be in place with nearby industrial operations, municipal fire departments, emergency medical services, and regional response agencies. They will outline the terms of cooperation, including roles, responsibilities, communication protocols, and resource sharing such as specialized equipment, trained responders, or medical evacuation services. Mutual aid partners will be included in periodic joint training exercises and drills to ensure interoperability and coordinated response. These agreements will be reviewed annually and updated as needed to reflect changes in operational scope.

4. Emergency Response Procedures

4.1 Identification of Potential Emergencies

The identification of potential emergencies is a critical component of the ERP for the operation, ensuring proactive preparedness and risk mitigation. An assessment of potential accidents and malfunctions associated with the Kami Mining Project was performed and is documented in Chapter 18, Accidents and Malfunctions of the EIS (Champion, 2025). The purpose of the assessment is to identify unplanned events that may occur throughout the life of the project and evaluate their potential likelihood and consequence(s) on the environment and public safety. Based on the initial hazard scenario screening process and the more detailed consideration of three identified bounding scenarios, it is anticipated that potential risks associated with accidents and malfunctions could largely be addressed through engineering design, and compliance with industry best practices that reduce risks associated with hazard scenarios to a tolerable level.

Chapter 19, Effects of the Environment on the Project, of the EIS (Champion, 2025) also presents environmental hazards from the effects of climate and environmental conditions that may pose risks to the construction, operations and closure of the facility.

The hazard identification process is reviewed regularly and updated as operations evolve, with input from frontline workers, safety personnel, and subject matter experts to maintain a high standard of emergency preparedness. If additional hazards are identified in the future, the ERP will be updated accordingly to capture response procedures to the potential emergency scenarios to ensure adequate safety of Project personnel and the environment.

4.2 General Response Procedures

4.2.1 Procedure

The general response procedure will be activated for emergencies in which the severity of the incident is unknown and will involve the following steps:

- On identification of an emergency, the witness/observer will call the Security office to report the incident using either the two-way radio system or mobile phone.
- Security will identify and contact the designated Incident Commander (Emergency Response Manager) or designate.
- Depending on the severity of the emergency, the Incident Commander will preliminarily assess the severity of the emergency (including determining if evacuation is needed) and activate the emergency response team led by the designated response team coordinator.
- Emergency Response Team will assess the situation, coordinate resources and activate specific emergency response measures. The Emergency Response Team Coordinator will determine if external emergency services are required and coordinate with the Incident Commander who will contact the relevant external agencies if required.
- All onsite personnel should proceed to the nearest muster point if required (Section 4.2.2). Roll calls will be conducted by the Emergency Team Coordinator or designate.
- Incident Commander and/or Emergency Response Team Coordinator will liaise with external agencies (if required) and provide any site information assistance as needed.
- External communication with media and the public, if required, will be coordinated by Kami's Management and Corporate Affairs (members of the CCT).
- Incident Commander will communicate All Clear to personnel once the emergency has been controlled based on consultation with the Emergency Response Team Coordinator and external agencies (if required).
- The Safety Representative will initiate incident/accident investigation, assisted by the Environmental Representative, Incident Commander, Site Superintendent and other personnel deemed to be required.
- Incident Commander will prepare a post-incident review, including documentation of actions taken during the emergency, identification of lessons learned and implementation of corrective measures.

In accordance with provincial regulations, incident reports will be communicated to the relevant regulatory authorities within the prescribed timeframes.

The Incident Notification flowchart illustrating the above steps taken to respond to actual and potential emergencies in a timely and effective manner is shown in Appendix A.

4.2.2 Muster Point Assembly and Evacuation Procedures

In the event of an emergency, evacuation and assembly at the muster point will involve the following steps:

- Once the emergency notification system has been activated, Champion staff, contractors and visitors onsite must identify the nearest designated exit and, in a controlled manner, file out to the nearest, safe muster point. All exits must remain free from obstruction. All evacuees must remain at the muster point for a roll call and not leave under any circumstances while awaiting further instructions.
- Roll Call will be taken by a designated person, which may be a supervisor or Manager, in coordination with the Incident Commander. Names of people who have reported to the muster point will be collected and collated in a list.
- Supervisors must account for all personnel, including confirming their location and informing them of the situation, if possible.
- On completion of roll call, the list will be checked against the staff and visitors sign-in/sign-out logbook in the Security Office to ensure all personnel onsite are accounted for.
- If someone has been identified as missing, the supervisor will be contacted to verify the last known location. If required, the Incident Commander will contact external agencies for search and rescue efforts. Figure 4-1 illustrates a Missing Person flowchart.
- Depending on the severity of the emergency, there may be a need to move evacuees to secondary muster points. This will be communicated by the Emergency Response Team Coordinator in coordination with the Incident Commander. Movement between assembly locations shall be done calmly and quickly with evacuees staying together and watching out for danger.

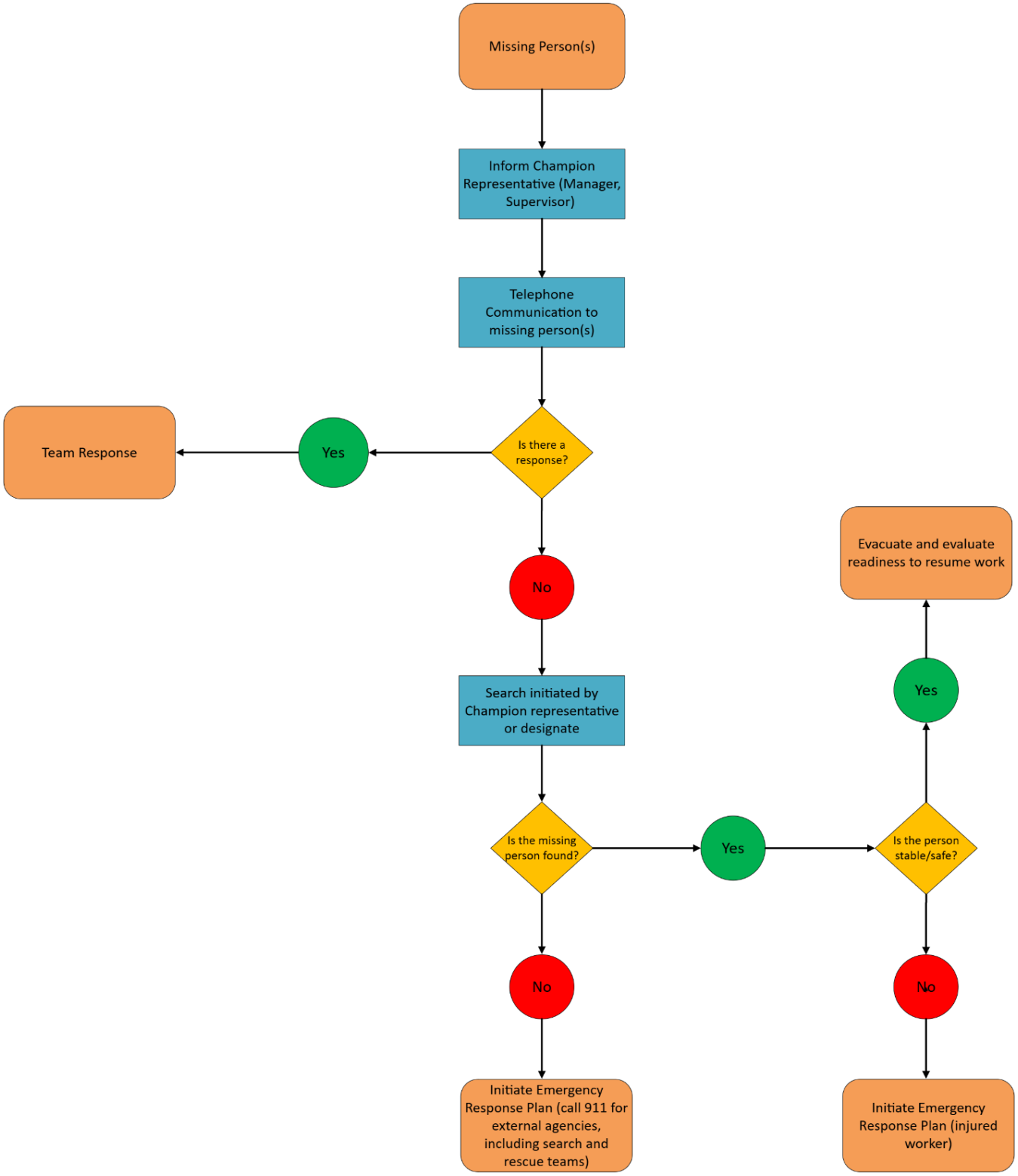


Figure 4-1: Missing Person Flowchart

4.3 Specific Response Procedures

4.3.1 Accidental Spills (Hazardous Materials)

- Stop all work in the area and cordon off from the surrounding area.
- Evacuate all workers in the area that are not involved in the containment, directing them upwind and away from the spill area.
- Proceed to muster locations.
- Remove any ignition sources.
- Attempt to contain the spill, if safe to do so. Ensure appropriate PPE worn by all.
- Block and protect drains and culverts.
- Determine the source, and if safe to do so, stop it.
- Complete a head count based on the Toolbox form.
- Call 911 for the fire department if required.
- Have personnel meet the first responders and escort to the spill location.
- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A).
- Mobilize recovery equipment and clean-up crew.
- Complete containment and cleanup using spill kits.
- Collect and store waste materials in approved containers.
- Label and isolate all contaminated materials for proper disposal.
- Record the type, quantity, and location of the spill.
- Conduct environmental monitoring or sampling if required.
    - External Notifications:
        - 911 (if there is a threat to life or public safety)
        - Provincial spill reporting line (e.g. NL Environmental Emergency Number)
        - Local fire department (for flammable or toxic spills)
        - Regulatory bodies (e.g. Department of Environment, Fisheries & Oceans if near water)
        - Spill Response contractor (if required)
    - Required equipment:
        - Spill kits
        - Personal Protective Equipment (PPE)
        - Fire extinguisher
        - Shovels, containers, and disposal drums
        - Warning signage and barricades
        - SDS for spilled substances
        - Spill report forms and documentation tools

4.3.2 Fires and Explosions

- Stop all work immediately.
- Evacuate the area and announce “Fire! Fire! Fire!” over the two-way radio or all call system.
- If safe to do so, attempt to use fire extinguisher to extinguish or control the fire.
- Proceed to muster location.
- Call 911 for the fire department.
- Have personnel meet the first responders and escort to the fire location.

- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A)
  - External Notifications:
    - 911- Fire department and medical assistance
    - Utility providers (if electrical involved)
    - Regulatory Agencies
  - Required Equipment:
    - Fire Extinguishers
    - Fire blankets
    - PPE
    - Emergency lighting and alarm systems
    - First aid kits and burn supplies
    - Muster point signage and crew lists
    - Means of communication
    - Incident reporting forms

4.3.3 Motor Vehicle Collision (Light Vehicle and Heavy Equipment)

- Stop all work immediately.
- Evacuate the area and announce "Emergency! Emergency! Emergency!" Over the two-way radio or all call system.
- Ensure scene is safe prior to approach.
- Provide first aid to injured parties if safe to do so.
- Call 911 for ambulance and fire department (if required).
- Secure area to prevent further accidents.
- Have personnel meet the first responders and escort to the accident location.
- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A).
- Isolate any spills (follow steps for Accidental Spill if necessary).
  - External Notifications:
    - 911 (Police, Fire EMS)
    - Regulatory Authorities (NLOHS, Environment, etc.)
  - Required Equipment:
    - Fire Extinguishers
    - Fire Blankets
    - PPE
    - First Aid Kit
    - Spill Kit
    - Means of communication
    - Incident reporting forms

4.3.4 Natural Disasters

- Stop all work immediately.
- Evacuate the area and announce "Evacuate! Evacuate! Evacuate!" over the two-way radio or all call system.
- Proceed to designated muster points.
- If in immediate danger, shelter in place.
- Call 911 if in need of immediate assistance.
- Complete head count using Toolbox Form.
- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A).

- Provide first aid and emergency support to any injured personnel.
- Shut down power, fuel, or gas systems if risk of damage or fire.
- Secure equipment and hazardous materials.
- Deploy flood barriers, fire suppression tools, or environmental controls if needed.
  - External Notifications:
    - 911 (if injuries or property damage)
    - Regulatory agencies (if environmental impacts are involved)
    - Utility providers (for power, or water main damage)
  - Required Equipment:
    - Emergency shelter or muster points
    - Means of communication
    - Emergency lighting and backup generators
    - First aid/ trauma kits
    - Fire extinguishers and wildfire suppression tools
    - Spill kits and environmental containment supplies
    - Sandbags or flood barriers
    - Maps, evacuation routes, contact lists

4.3.5 Occupational Injury

- Stop all work immediately.
- Announce "Emergency! Emergency! Emergency" over the two-way radio or all call system.
- Ensure scene is safe prior to providing first aid, if trained to do so.
- Call 911 for ambulance.
- Have personnel meet the first responders and escort to the injured person(s).
- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A).
  - External Notifications:
    - 911(EMS)
    - Regulatory Authority (e.g. OHS Division of WorkplaceNL)
    - Family member or emergency contact
  - Required equipment:
    - First Aid kits (stocked to provincial OHS standards)
    - AED
    - Backboard, blankets and immobilization tools
    - Means of communication
    - Emergency transport (Remote/ airlift if necessary)
    - Incident report forms and worker injury logs
    - Emergency contact list and medical facility directions

4.3.6 Wildlife Emergency/Incident

- Stop work and back away slowly from the animal.
- Do not engage, feed, or harass wildlife.
- Seek shelter from animal that poses a threat.
- Contact Wildlife Division or 911 if an injury has occurred (Follow steps for Injury [Appendix B]).
- Have personnel meet the Wildlife Division and escort to the area of the wildlife
- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A).
- Establish a safe perimeter and restrict access.

- Avoid sudden movements, loud noises, or actions that may agitate the animal.
  - External notifications:
    - Local wildlife authorities (NL Forestry and Wildlife Division)
    - 911 if a human injury occurs
    - Regulatory agencies for reportable interactions or species at risk
  - Required equipment:
    - Wildlife incident reporting forms
    - Bear spray
    - Air horns, whistles and noisemakers
    - Means of communication
    - Binoculars for observation from a distance

4.3.7 Drinking Water Impact

- Stop work immediately that caused or may be causing the impact.
- Contain and control any ongoing discharge or spill using spill kits, barriers or berms.
- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A).
- Notify water system operator and local health authority.
- Prevent access to impacted zones.
- Establish a safety permitter if the incident could pose risk to people.
- Conduct immediate water testing.
- Arrange for alternate drinking water supply.
- Begin clean-up under direction of environmental lead and regulators.
- Conduct expanded water testing per local health authority guidance.
- Engage qualified professionals for impact assessment and remediation planning.
  - External Notifications:
    - Local drinking water authority or municipality (if public system impacted)
    - Property owners or affected residents
    - 911 if there's a public health risk
    - Newfoundland and Labrador Department of Environment and Climate Change (Water Resources Division)
    - Indigenous or community leaders
  - Required equipment:
    - Spill containment and recover kits
    - Portable water testing kits
    - Emergency contact list for affected communities and authorities
    - Maps of known water sources and intake locations
    - Clean water tanks or alternate water supply sources
    - Incident report forms and regulatory notification templates

4.3.8 Water Supply Failure

- Recognize the failure (e.g. low/ no pressure, pump failure, line break)
- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A).
- Stop any tasks reliant on industrial water (e.g. cutting, dust suppression, cooling systems etc.).
- Shut off valves to isolate failed section, if possible.
- Prevent further damage or loss of water supply.
- Deploy back up water sources (e.g. water trucks, portable tanks, stored reserves) where possible.

- Inform all impacted teams and subcontractors.
- Suspend high-risk operations if water is essential for safe execution.
  - External notifications:
    - Local utility provider or water supplier
    - Regulatory bodies (if the failure affects environmental compliance or operational permits)
  - Required Equipment:
    - Back up water supply
    - Shutoff tools/ valve keys
    - Signage and barriers
    - Means of communication
    - Incident Report forms

4.3.9 Energy Generation/Transmission Failure

- Verify loss of power or energy transmission.
- Identify the scope (local, site-wide, system-specific.)
- Request emergency services if applicable (follow steps for fire/injury).
- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A).
- Notify utility provide or power authority (if necessary).
- Power down sensitive or high-risk equipment if not already offline.
- Cease hazardous operations that depend on stable energy supply.
- Keep personnel clear of any affected electrical systems, exposed wiring or downed lines.
- Isolate faulty equipment or systems, if safe to do so.
- Activate back up power systems, where available.
- Implement temporary lighting or manual safety control as needed.
  - External Notifications:
    - Utility provider or power authority
    - Regulatory body (if required due to permit conditions or environmental concerns)
    - Emergency Services (if there is a risk of fire, electrocution or injury)
  - Required Equipment:
    - Backup power sources
    - Voltage detectors/ electrical safety gear
    - Flashlights or temporary lighting systems
    - Means of communication
    - Lockout/ tagout kits
    - Incident report forms

4.3.10 Breach of Tailings Management Facility (Dam/Dike)

- Confirm breach through visual inspection, monitoring systems, or alarms.
- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A).
- Initiate evacuation of all personnel in the affected zone by announcing “Evacuate! Evacuate! Evacuate!” over two-way radio or all call
- Proceed to designated muster points located outside the potential impact area.
- Account for all personnel using Toolbox Form.
- Request emergency services (Call 911) if applicable (follow steps for fire/injury).
- Secure access to the affected area; restrict all entry.

- Divert water or tailings flow if possible, using containment berms or pumps.
- Protect critical infrastructure from downstream impacts.
- Engage geotechnical experts to stabilize the structure.
- Begin containment and cleanup of released tailings.
- Assess environment damage and initiate remediation as required.
  - External Notifications:
    - 911
    - Regulatory authorities (e.g. Department of Environment and Climate Change [DECC])
    - Nearby communities or stakeholders (if risk of downstream impact)
    - Tailings designer or third-party engineer of record
    - Emergency spill response contractor (if required)

4.3.11 Train Derailment

- Move to a safe distance – upwind and uphill if hazardous materials are involved.
- Do not approach derailed cars or spilled materials.
- Shut down operations if within proximity to the derailment.
- Call 911 immediately and report the derailment location, severity, and any visible threats (e.g. fire, chemical, release, injury).
- Administer first aid to injured workers if safe to do so.
- Notify railway emergency contact (QNS&L).
- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A).
- Establish an exclusion zone around the derailment site.
- Restrict access to authorized emergency personnel only.
- Shut down nearby equipment or traffic routes if required for safety.
- Monitor air quality and water sources for potential contamination.
- Deploy spill containment equipment if applicable (e.g. booms near waterways).
  - External Notifications:
    - Railway emergency response line (e.g. QNS&L Emergency Dispatch)
    - Newfoundland and Labrador DECC if spill occurs)
    - Transport Canada and Transportation Safety Board
    - Local municipalities
    - Nearby residents or businesses (if public risk exists)
  - Required equipment:
    - Spill kits
    - Emergency Signage and barricades
    - Means of communication
    - Fire extinguishers and suppression tools
    - First Aid kits and emergency response PPE
    - Air quality or gas detectors
    - Transportation for evacuation or site access

4.3.12 Security Incident (Public)

- Do not confront the individual(s) directly unless necessary for immediate safety.
- Remove yourself and others from the area if there is any risk of violence or escalation.
- Move to a secure location and maintain line-of-sight if safe to observe from a distance.
- Contact 911 immediately if the threat is violent, involves weapons, or endangers life or property.

- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A).
- Lock gates, buildings, or sensitive work zones if threat level increases.
- Suspend operations in immediate area if personnel safety is compromised.
- Avoid confrontation or engagement with aggressors.
- If verbal contact is necessary, remain calm and non-confrontational.
- Avoid escalating language or physical gestures.
- Remove any affected workers from the scene and provide support as needed.
  - External notifications:
    - 911 (police)
    - Nearby communities (if risk exists)
  - Required Equipment:
    - Site access logs and visitor sign-in/out sheets
    - Security cameras or surveillance logs
    - Means of communication
    - Emergency lock-down protocols
    - Incident report form

4.3.13 Security Incident (Bomb Threat)

- Threat Received by phone or in person:
  - Remain calm and do not hang up.
  - Keep the caller talking as long as possible.
  - Record exact words used and take note of the following:
    - Caller's voice, background noise, accents, gender, tone and anything unusual.
    - Time of the call and phone number (if available)
- If you discover a suspicious package or object:
  - Do not touch, move or tamper with the object.
  - Immediately evacuate the area and prevent others from entering.
- Call 911
- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A)
- Initiate a site-wide evacuation using radio, or all call system
- Direct all personnel to pre-designated muster points at a safe distance.
- Ensure a headcount is performed at the muster point.
- Maintain site security and wait for emergency services to arrive.
  - External Notifications:
    - 911 (police)
    - Nearby facilities or communities if risk extends beyond site)
    - Transport Canada or relevant infrastructure partners (if near railway, airport, etc.)
  - Required equipment:
    - Means of communication
    - Muster point signage and maps
    - First aid kits
    - Visitor and employee sign in register
    - Communication Plan and Emergency Contacts List

4.3.14 Infrastructure Collapse

- Move away from the collapsed structure or unstable area.
- Warn others nearby and prevent entry into the affected zone.
- Do not attempt rescue unless it is safe to do so.
- Provide first aid if safe and possible until emergency personnel arrive.
- Call 911 if there is any injury, entrapment, fire or structural hazard.
- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A).
- Evacuate the immediate area and direct all workers to their designated muster points.
- Account for all personnel using the Toolbox Form.
- Assign an escort to meet emergency responders and guide them to the scene.
- Establish a perimeter around the collapse site using barricades or flagging tape.
- Shut down utilities (e.g. power, gas, water) to prevent secondary hazards.
- Do not re-enter the area until cleared by structural engineers or emergency authorities.
  - External notifications:
    - 911 (police, fire, EMS)
    - Newfoundland and Labrador Occupational Health and Safety Division
    - Engineers or structural specialist for assessment
    - Utility providers
    - Local municipalities
  - Required Equipment:
    - First Aid kits and trauma supplies
    - Rescue equipment
    - Emergency lighting and communication tools
    - Barricades and signage
    - Air monitoring equipment
    - Engineered drawings and site layout plans

4.3.15 Fatality

- Stop all work immediately.
- Evacuate all personnel from the immediate area.
- Announce “Emergency! Emergency! Emergency” over the two-way radio or all call system.
- Ensure personal safety before approaching the scene.
- Call 911 immediately for medical responders and law enforcement.
- Designate a person to secure the area and restrict access to only essential personnel.
- Initiate first aid/ cardiopulmonary resuscitation (CPR) only if there is uncertainty about the person’s condition.
- Notify appropriate personnel in accordance with Incident Notification Flow Chart (Appendix A)
- Ensure scene remains undisturbed (no cleanup, movement of materials) until cleared by authorities.
- Arrange escorts from responding external agencies to the scene.
  - External notifications:
    - 911 (EMS/ RNC)
    - NL Occupational Health & Safety Division
    - Other regulatory Agencies as applicable.
  - Required Equipment:
    - Trauma Kit/ AED
    - Backboard and Immobilization tools
    - PPE
    - Barrier Tape

4.4 Response Capacity (Internal and External)

The summary of response capacities per emergency type is presented in Table 4-1:Response Capacity by Emergency Type below.

Table 4-1: Response Capacity by Emergency Type

Emergency Type	Kami On-Site Capacity	Nearby Community/ Partner Capacity	Available Equipment & Training
Industrial Water Supply Failure	Engineering & mechanical staff can initiate temporary shutdowns or rerouting	Support from utility providers (e.g., local water boards); municipal emergency coordination	Pumps, valves, spill containment kits; cross-trained maintenance personnel
Energy Generation/Transmission Failure	Site electricians and controls team on call; isolation and restart protocols	NL Hydro grid services, provincial utilities, and Transport Canada if power affects rail or public service	Load shedding procedures, backup generators, electrical PPE, trained electricians
Tailings Facility Breach (Dam/Dike)	Immediate site evacuation, on-site engineering	Local emergency services, environmental regulators, nearby Indigenous or municipal emergency teams	Spill containment booms, water diversion equipment, dam monitoring systems, environmental response training
Accidental Spill (Hazardous Materials)	Spill response team trained to Level II; immediate containment and reporting	Provincial hazmat responders (if escalated), fire department coordination	Spill kits, absorbent pads, containment booms, safety data sheet (SDS) binders, Workplace Hazardous Materials Information System (WHMIS)/ Globally Harmonised System (GHS) training
Fire/Explosion	Trained fire watch personnel, portable fire suppression equipment	Local fire services (volunteer or municipal), air ambulance (if needed), RNC for investigation	Fire extinguishers, water tanks, wildland fire gear, SCBAs (if applicable), fire response training
Traffic Accident (Light vehicle/ heavy equipment)	First aiders and emergency responders on-site; trained in trauma response	Police, ambulance, railway authorities (QNS&L, if applicable)	First aid kits, spine boards, trauma kits, fire extinguishers, trained drivers and vehicle operators
Natural Disasters (Storm, Flood, Wildfire)	Emergency shutdown procedures; shelter-in-place and evacuation routes mapped	Provincial Emergency Management Office (EMO), wildfire services, Red Cross, community shelters	Emergency radios, sandbags, fire brooms, water packs, communications backup, annual scenario-based drills
Occupational Injury	Certified first aiders on-site; stretcher and transport vehicles available	Local clinics, hospitals, medevac (if remote), WorkplaceNL	First aid kits, AED, evacuation plans, trained first responders, stretchers, daily crew check-ins for tracking
Wildlife Incident	Wildlife spotters and avoidance plans; no feeding/hazing allowed	NL Wildlife Division, local conservation officers, Indigenous guardian programs	Wildlife tracking logs, deterrent kits (air horns, bear spray – if permitted), wildlife encounter training
Drinking Water System Impact	Water testing protocols, shut-off valves, and containment measures	Local water authorities, provincial environmental lab testing	Water quality kits, spill response gear, environmental monitoring, notification procedures to landowners and users
Train Derailment (Freight)	Evacuation plans, emergency zone clearance, spill containment support	QNS&L Rail Emergency Response, Transport Canada, hazmat crews	Contact protocols, evacuation zones, traffic control measures, spill kits
Security Threat from Public	Trained security contractors (if on-site), incident reporting protocols, site lockdown capability	RNC	Perimeter fencing, site access logs, security cameras, emergency lockdown drills, security awareness training
Bomb Threat	Evacuation plan, muster point verification, incident reporting and coordination with law enforcement	RNC, fire department, provincial emergency services	Bomb threat checklists, communication logs, muster protocols, no-radio-use procedures near suspicious devices
Infrastructure Collapse	Area secured, rescue response, emergency engineering review, structural re-entry protocols	Fire/rescue teams, provincial engineering services, workplace safety investigators	Rescue gear, barricades, first aid and trauma kits, emergency lighting, pre-approved engineered structures, regular inspections and structural awareness training

5. Incident Reporting

5.1 Accident Investigation

Champion will conduct accident investigations using the Root Cause Analysis process, following each accident. The Safety Representative will initiate the investigation, assisted by the Environmental Representative, Incident Commander, Site Superintendent and other personnel deemed to be required. The analysis will include:

- Evaluation of the situation leading up to the incident
- Evaluation of mitigating factors (operating conditions, weather conditions, hours worked (normal operations or shutdown)
- Questioning relevant persons on the scene
- Review of relevant preventative maintenance and operational plans

The accident investigation is to be documented and retained. Champion will cooperate fully with external agencies should they undertake investigations.

5.2 Post-Incident Reporting

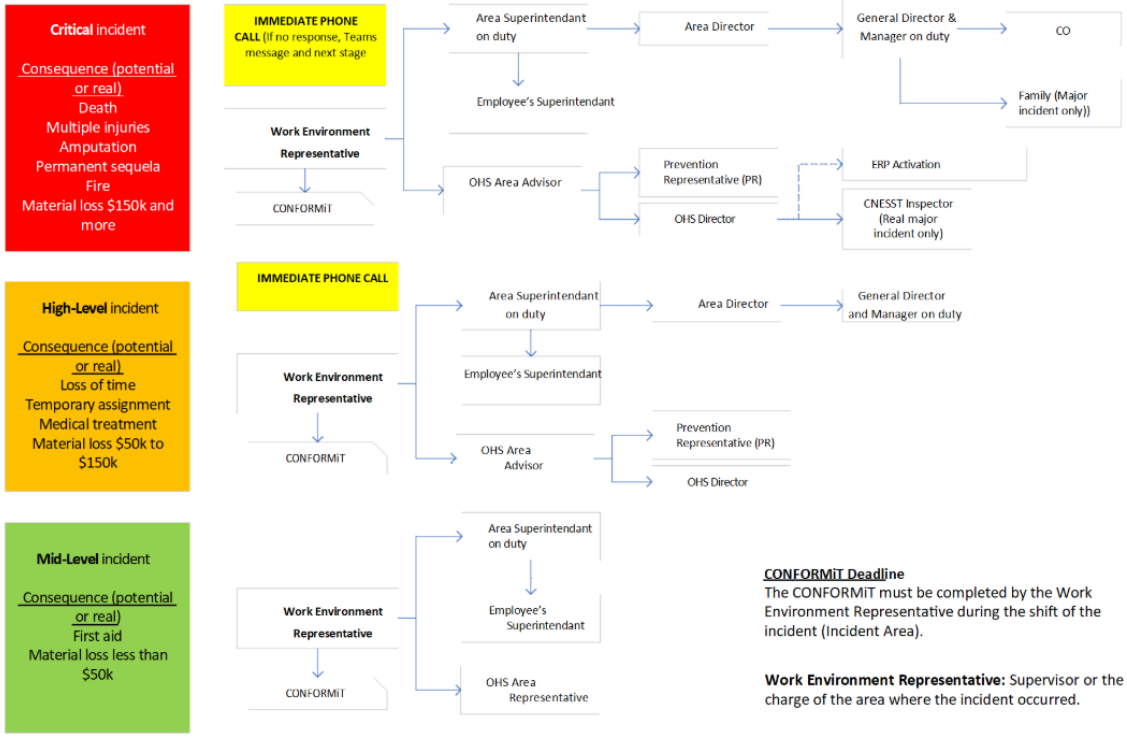
Following any incident at the site during the Project lifecycle, a structured post-incident review is to be completed by the Emergency Response Manager, to document the response, assess impacts, and support continuous improvement. The evaluation includes:

- **Incident Overview**: Date, time, location, type of emergency, personnel involved, and weather conditions (if applicable).
- **Immediate Actions**: Description of the initial response, including evacuation, containment, notifications, and coordination with emergency services.
- **Communication and Notifications**: Records of internal and external notifications, including those to regulatory authorities, local communities, and emergency responders.
- **Impact Assessment**: Evaluation of injuries, environmental damage, operational downtime, equipment or infrastructure losses, and community or stakeholder effects.
- **Root Cause Analysis**: Preliminary or confirmed causes, identifying factors such as human error, equipment failure, weather, or procedural gaps.
- **Corrective and Preventive Measures**: Actions taken to restore safe operations and prevent recurrence, such as procedural updates, training, or equipment upgrades.
- **Lessons Learned**: Insights from the incident, highlighting opportunities to improve preparedness, communication, or hazard control.
- **Follow-Up Actions**: Ongoing commitments including inspections, regulatory reporting, community updates, and post-incident monitoring.
- **Supporting Documents**: Inclusion of photos, maps, witness statements, inspection logs, and communications to validate the response and facilitate review.

All findings are to be documented in the Kami Incident database, discussed in Section 2.6. The summarised process for investigation and analysis of incidents is presented in Appendix C.

Appendix A: Incident Notification Flowchart

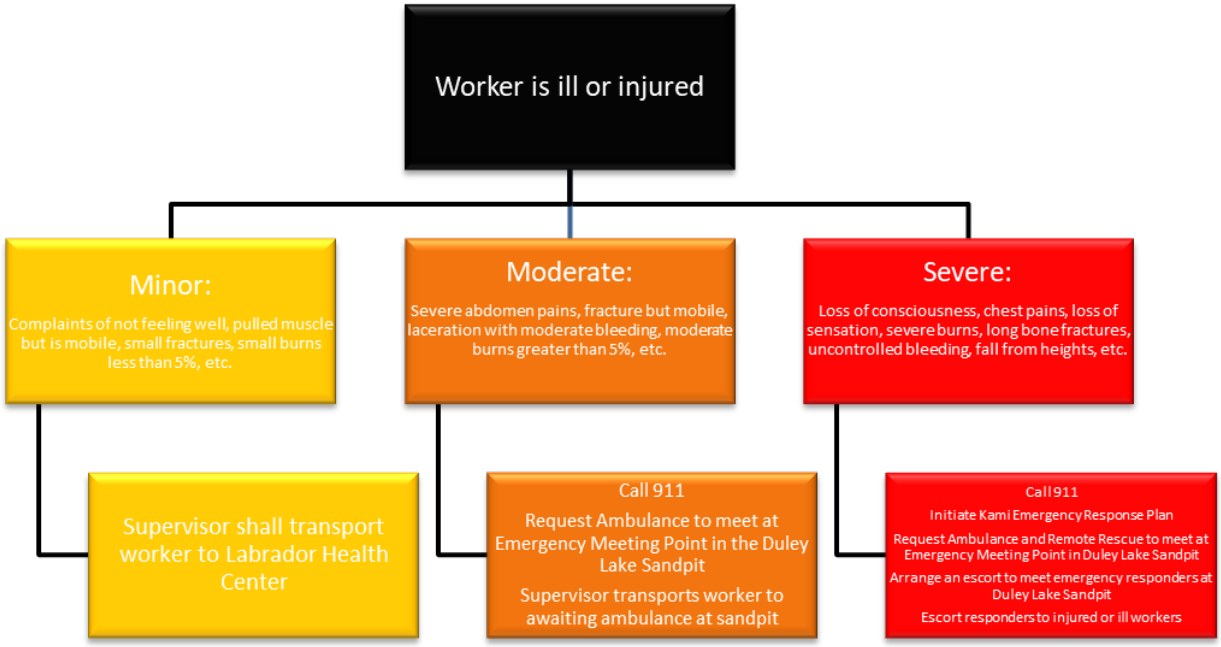
Chain of communication of an incident based on actual or potential severity



CONFORMiT Deadline
The CONFORMiT must be completed by the Work Environment Representative during the shift of the incident (Incident Area).

Work Environment Representative: Supervisor or the person in charge of the area where the incident occurred.

Appendix B: Flowchart for Injured or Ill Worker


Worker is ill or injured
Minor:
Complaints of not feeling well, pulled muscle but is mobile, small fractures, small burns less than 5%, etc.
Moderate:
Severe abdomen pains, fracture but mobile, laceration with moderate bleeding, moderate burns greater than 5%, etc.
Severe:
Loss of consciousness, chest pains, loss of sensation, severe burns, long bone fractures, uncontrolled bleeding, fall from heights, etc.
Supervisor shall transport worker to Labrador Health Center
Call 911
Request Ambulance to meet at Emergency Meeting Point in the Duley Lake Sandpit
Supervisor transports worker to awaiting ambulance at sandpit
Call 911
Initiate Kami Emergency Response Plan
Request Ambulance and Remote Rescue to meet at Emergency Meeting Point in Duley Lake Sandpit
Arrange an escort to meet emergency responders at Duley Lake Sandpit
Escort responders to injured or ill workers

Appendix C: Investigation and Incident Analysis Cheat Sheet

Investigation and Incident Analysis Cheat Sheet			
Critical Incident	**High-Level Incident**	**Medium-Level Incident**	**OHS Non-compliance**
Consequence (potential or actual) Death Multiple injuries Amputation Permanent sequelae Fire Material loss $150k or more	**Consequence (potential or actual)** Time loss Temporary reassignment Medical treatment Material loss of $50k to $150k	**Consequence (potential or actual)** First aid Incident Material loss of less than $50k	CAPA Risk situation Audit/inspection Non-legal compliance
Info gathering deadline: 12 hrs	**Info gathering deadline: 24 hrs**	**Info gathering deadline: 36 hrs**	
Immediate collection of details: (do not move anything; take photos)			
Step 1 – Investigative Team → Collection of facts (investigative report)			
Supervisor, concerned employee, witnesses, OHS Advisor (If time loss, assignment, or medical treatment, the Prevention Representative is required)			
Step 2 - Analysis Team → Complete the Ishikawa diagram and the CAPA			
Deadline of the analysis: 36 hrs following the completion of Step 1			
Critical	**High-Level**	**Medium-Level**	Consult the sector's OHS Advisor to determine the need for an investigation
☐ Supervisor ☐ Area Superintendant ☐ Director of another area ☐ OHS Advisor ☐ Prevention Representative	☐ Supervisor ☐ Superintendant ☐ OHS Advisor ☐ Prevention Representative	☐ Supervisor ☐ OHS Advisor	
→ **End of shift event: transmit all necessary 'information to the next shift to ensure deadlines are met**			

Step 1 – Information collection/Investigation	**Step 2 – Analysis**
Stop the work and secure the area Investigation = Collection of facts and interviews ☐ Photos (minimum of 4) ☐ Take the workers' statement ☐ Conduct interviews with the worker and witnesses ☐ Copy of the CIAT ☐ Complete CONFORMiT and record the facts	Analysis = Identification of causes and issuance of corrective actions (CAPA) ☐ Complete the Ishikawa diagram in ConformiT ☐ Identify abnormal facts ☐ Pinpoint the causes (5 whys) ☐ Create CAPA related to the causes


Kami
Kamistiatusset
Mining
Project

Kami Mining Project

Champion Kami Partner Inc.

Wabush, NL

Annex 5D: Environmental Protection Plan Annotated Table of Contents

Environmental Impact Statement

Document Number: CA00387135261-R-Rev0-Annex5D_Environmental Protection Plan Annotated Table of Contents

July 2025

1155 René-Lévesque Blvd. West, 33rd Floor
Montréal, Québec H3B 3X7 CANADA
T +1 514 316-4858
championiron.com

ANNOTATED TABLE OF CONTENTS FOR THE ENVIRONMENTAL PROTECTION PLAN (EPP)

Champion Kami Partner Inc. (Canada) is committed to completing the environmental protection plan for Ministerial Review prior to initiation of construction. Following the Ministerial Decision on the Project, Champion will incorporate commitments and conditions of the release into the Environmental Protection Plan, upon approval of the Project. Updates to the EPP will be made as required by the Minister.

Section	Description of Section	Sub-sections
1. Introduction	This section introduces the proposed Project and the requirement for the EPP according to the EIS Guidelines. It also provides a general description of the location, purpose of the EPP, organisation of the document and Champion's environmental policies.	1.1 Purpose of the Environmental Protection Plan 1.2 Environmental Protection Plan Organisation 1.3 Updates to the Plan 1.4 Environmental Policy
2. Roles and Responsibilities	This section provides an outline of the roles and responsibilities of the potential participants in the Project construction program for environmental compliance, stewardship, mitigation, reporting and monitoring.	Subsections will be included for the different roles of the Engineering, Procurement, Construction Management team and Champion team
3. Project Overview	This section provides a brief description of the Project and associated components and infrastructure at a high level, including a Site Map and a description of project phases.	No subsections anticipated
4. Development and Implementation of EPP	This section provides an overview of how the EPP will be implemented, with emphasis on the methods of communicating the information within the EPP to all personnel involved in Project construction.	4.1 Procurement Requirements 4.2 Training 4.3 Competency 4.4 Contractor Job Hazard Analysis and Weekly Meetings 4.5 Daily Toolbox Meeting 4.6 Crew Field Level Risk Assessment 4.7 Tools and Equipment Pre-Use Inspection 4.8 Environment Monitor Site Visits 4.9 Environmental Audits
5. Regulatory Requirements, Authorizations, Permits and Approvals	This section provides an overview of the requirements, commitments, and regulatory approvals related to work in the Project area.	5.1 Permit application and approval planning 5.2 Site Inspection and Compliance Monitoring
6. Environmental Protection Plans and Procedures	This section outlines the procedures required to protect the local environment during construction. As the work progresses, these procedures may be modified or new procedures added to account for new activities, site conditions, changes in engineering design or construction work methods, and/or lessons learned from the work as it is carried out.	6.1 Key Environmental Objectives 6.2 Environmental Protection and Mitigation Measures

Section	Description of Section	Sub-sections
7. Contingency Planning	This section presents an overview of the plans/procedures put in place by Champion to mitigate against unplanned or accidental events, e.g., Spill response requirements during construction. A generic outline of procedures may be included; however, reference will be made to the Emergency Response Plan (ERP) prepared under a separate cover which provides specific response procedures for potential emergency scenarios for the Project.	No subsections anticipated
8. Environmental Compliance Monitoring	This section provides an overview of the monitoring and reporting requirements, schedule and a concise description of procedures during various Project activities across phases to ensure compliance with environmental protection regulatory requirements, determine efficiency of protection measures in the EPP and identify areas for additional mitigation. This will be a summary section as an Environmental Effects Monitoring Plan (EMP) is also prepared under separate cover.	8.1 Regulatory requirements 8.2 Monitoring Schedules 8.3 Generic Monitoring Procedures
9. Adaptive Management	This section presents an overview of the adaptive management plan (AMP), which enables iterative environmental decision making under conditions of uncertainty. The three broad steps, including Plan, Do and Evaluate and Respond will be described and a sample AMP included as an appendix.	9.1 Elements of Adaptive Management
10. Communications Protocol	This section presents an overview of the communications protocol with diverse range of stakeholders, including Internal and external (interested parties, regulatory agencies and members of the public) communication.	10.1 Communication Objectives 10.2 Key Components of the Communications Protocol 10.3 Internal Communication 10.4 External Communication 10.5 Complaints Management
11. Operations	An overview of the anticipated activities that will be carried out during Project operations is presented in this section. The protection/mitigation measures during operations will be summarized in the EPP; however, It is expected that the comprehensive Operations EPP will be submitted for regulatory approval four months prior to the start of operations.	No subsections anticipated
12. Reference	Bibliography used in preparing the EPP.	No subsections anticipated
Appendices	The following appendices will be included as supporting material for the construction environmental protection plan.	A. Contact Lists, Forms and Checklists B. Guidance Documents, where appropriate C. Spill Response Templates D. Adaptive Management Plan

Kami Mining Project

Champion Kami Partner Inc.

Walbush, NL

Annex 5E: Environmental Effects Monitoring Program

Environmental Impact Statement

CA00387135261-R-Rev0-Annex 5E_Environmental Effects Monitoring Program

July 2025

1155 René-Lévesque Blvd. West, 33rd Floor
Montréal, Québec H3B 3X7 CANADA
T +1 514 316-4858
championiron.com

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1. Introduction

The Environmental Effects Monitoring Program (EEMP) has been developed by Champion Kami Partner Inc. (Champion) for the Kamistiatusset (Kami) Iron Ore Mine Project (the Project), an iron ore mine in the Province of Newfoundland and Labrador (NL). The Project is located entirely in Labrador, approximately 7 km southwest of the Town of Wabush, 10 km southwest of the Town of Labrador City, and 5 km northeast of the Town of Fermont, Québec. The Project will involve the construction, operation, and eventual closure of an open pit iron ore mine and supporting infrastructure.

The EEMP identifies the monitoring requirements for environmental aspects to be conducted throughout the Project life cycle. Work within the Project site will be initiated only after all applicable regulatory approvals have been obtained. Legislative and regulatory requirements and regulatory permits and approvals for the Project are provided in the Environmental Protection Plan (EPP).

During the Project, the environmental management team at Champion will continuously offer direction and supervision to ensure that all operations adhere to current environmental regulations and policies, complemented with overarching commitment to environmental stewardship, with meticulous planning, design, and execution.

The owner of the Project is Kami Iron Mine Partnership, which is comprised of Champion and the partnership members of Nippon Steel Corporation and Sojitz Corporation, for joint ownership and development of the Kami Project. While the Partnership will hold ownership of the Project, Champion will retain operatorship of the Project and will oversee the potential development and future operations of the Project. Champion is leading the Environmental Impact Statement (EIS) Submission and all permit applications for the Project.

Updates to the Environmental Effects Monitoring Program

The EEMP has been developed to outline the outcomes of the EIS guidelines. Following the completion of the EIS, this document will be updated to provide further details on the timing, duration and locations of monitoring activities throughout the Project phases. Additional updates to the EEMP will be required as Project engineering advances and prior to the Construction Phase to ensure alignment with conditions, permits, and authorizations required for the Project. The EEMP is a dynamic document that will be updated to incorporate new information and to reflect regulatory updates. Champion is dedicated to engaging with key Indigenous groups, stakeholders, and the public on the EEMP to ensure that expectations and regulations are being met. Revisions will align with the Champion's corporate values for sustainable development and approach to engagement to ensure direct and ongoing communication with Indigenous groups and public stakeholders.

1.1 Purpose and Objectives of the Program

As part of the Project planning and design process, baseline studies were conducted to support the characterization of existing environmental conditions. Through engagement with Indigenous groups, public stakeholders, and regulators, Champion has developed an understanding of concerns and regulatory requirements for approval of the Project.

The purpose of the EEMP is to verify the accuracy of predictions made in the assessment of the effects of the Project as well as the effectiveness of implemented mitigation measures in line with commitments made to Indigenous groups, public stakeholders through the consultation process. The EEMP provides direction on the expected monitoring and reporting requirements outlined in the permits, approvals, and authorizations for the Project.

The objectives of the EEMP are to:

1) document the roles and responsibilities of personnel within Champion and the construction contractors
2) outline the specific environmental monitoring and reporting requirements
3) provide methodologies for monitoring and calibration of equipment
4) outline plans to maintain communications and working relationships with Indigenous groups, government agencies, and stakeholders throughout the Project

1.2 Scope of the Program

The EEMP describes the steps taken by Champion to meet and maintain a high degree of control over the environmental mitigation measures proposed in the EIS to minimize adverse environmental effects to be implemented throughout the life of the Project.

The EEMP is a living document which will apply to the Project as it evolves throughout its life cycle. Project phases are further described in **Section 1.5 (Project Schedule and Phases)** and include Construction, Operations and Maintenance, and Decommissioning and Rehabilitation phases. Champion is currently planning and designing for the Closure and Reclamation Plan

which will be submitted to the Province following the submission of the EIS, and which will include an assessment of long-term mitigation and monitoring requirements. Therefore, the current version of the EEMP focuses on mitigation and monitoring of environmental aspects during the Construction phase and will be adapted to include future phases of the Project.

1.3 Relationship to Other Plans

The following other plans which are provided as Annexes to the EIS, are being prepared in support of this Project to describe the procedures, equipment and responsibilities that are in place to ensure the potential adverse effects are responded to appropriately during all phases of the Project:

- Annex 5B: Dam Safety Plan
- Annex 5C: Emergency Response Plan
- Annex 5D: Environmental Protection Plan (EPP) Annotated Table of Contents (full Construction EPP will be available prior to commencement of construction)
- Annex 5F: Erosion and Sediment Control Plan
- Annex 5G: Kami Engagement Plan (includes Domestic Woodcutting Plan)
- Annex 5H: Waste Management Plan

All plans prepared for the Project will be implemented by Champion. The plans will be updated periodically, where appropriate.

1.4 Environmental Policy

Champion's dedication to sustainability is deeply anchored in company culture. Its vision, strategy, and values guide Champion's approach to sustainability. Champion strives to enable its customers to produce steel more sustainably by innovating and producing high-purity iron ore products. The company continuously works to provide a safe and inclusive working environment, avoiding social inequities, embracing cultures, respecting human rights, and protecting the environment and biodiversity. Its commitment is articulated in company sustainability policies, including its Environmental Policy. Champion adheres to four pillars in its Environmental Policy:

Continuous Improvement of Environmental Performance

Champion's environmental performance is achieved through an effective and efficient environmental management system. The implementation of this system aims to ensure the following:

- strict obedience to compliance obligations
- achievement of ever higher environmental performance objectives and continuous monitoring, measurement, analysis, and evaluation of environmental performance
- responsible and proactive management of environmental risks associate with Operations, including management of tailings, mine rock, and water
- development of opportunities for improvement

Advocacy for Respect of Environmental Values

Champion's environmental performance is closely linked to the commitment of all hierarchy levels of the company. This results in:

- leadership oriented towards the development and maintenance of a responsible environmental culture
- commitment and dedication of all employees to achieve the highest environmental standards of the Canadian mining industry

Respect for Local Communities

The environmental and socioeconomic issues of stakeholders occupy a key place in defining Champion's success. Land use continues to be a privilege, and from this perspective, Champion aims to develop and maintain a successful collaboration with local communities, including Indigenous communities, in an approach based on listening, mutual understanding, trust, transparency, and respect.

Environmental Protection

Environmental protection and pollution prevention are essential to a profitable business strategy. Therefore, Champion aims to minimize the environmental, biodiversity, and social impacts of our current and future activities throughout the life cycle of Champion's operations. This commitment is reflected in the implementation of measures to reduce the following:

- Champion's emissions into the air, water, and land
- Champion's footprint, including deforestation
- Cumulative impacts on other watershed users

1.5 Project Overview

The proposed Project would include an open pit mine and surface infrastructure to support the extraction of iron ore from the Kami deposit and the production of high-purity iron ore concentrate. The Project includes construction, operation, and closure of the following components:

- an open pit (referred to as the Rose Pit)
- ore processing infrastructure, including conveyors and transfer stations, stockpiles, the process plant, and load-out facilities
- waste management infrastructure, including an overburden stockpile, mine rock stockpile, and tailings management facility
- water management infrastructure that will collect, convey, store, treat, and discharge contact and non-contact water, including dams, dikes, and collection ponds
- supporting infrastructure, including site roads, workforce accommodations, a mine service area, freshwater pumping stations, fuel storage, an emulsion and explosion production plant and explosive storage, a crushing plant, transmission lines for local site distribution, and telecommunications services
- transportation corridors, including access roads and a railway corridor that includes a spur line to connect the mine site to the Québec North Shore & Labrador Railway

A presentation of the site layout is provided on **Figure 1**. The environmental requirements for the Project are general outlined in the EIS, approvals, permits, and agreements for the Project. All mining and processing operations will take place within NL provincial boundaries. All Project components will be constructed, operated and closed in accordance with governing federal, provincial, and municipal regulations, as well as industry regulations and standards.

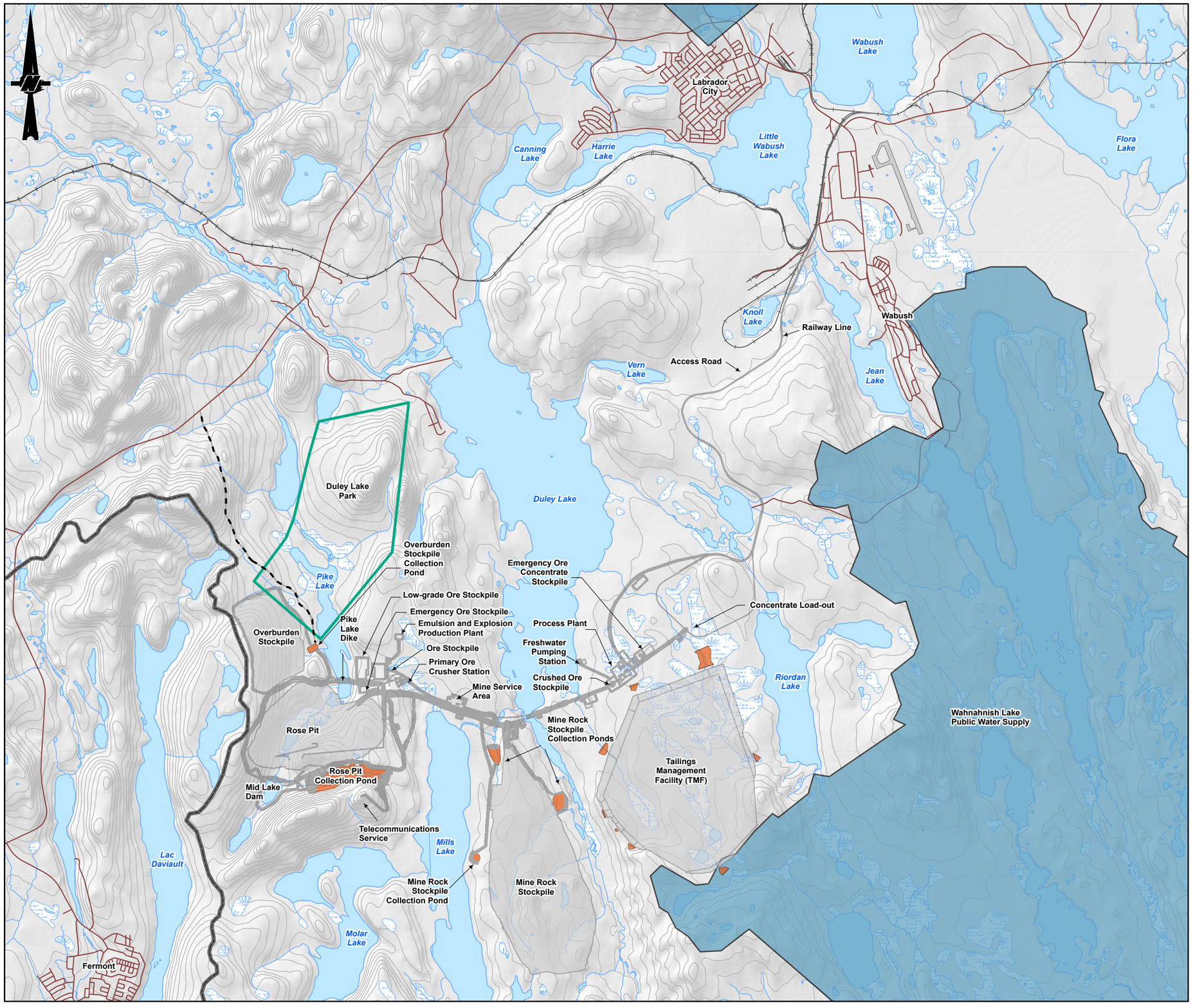
1.6 Project Schedule and Phases

Champion has developed a schedule outlining the duration and timing of the Project stages, phases, and periods–including the permitting and approvals stage; the Construction phase (referred to as Construction); the Operations and Maintenance phase (referred to as Operations); the Decommissioning and Rehabilitation phase (referred to as Closure); and the Post-closure period. The duration of the permitting and approvals stage is a tentative estimate based upon Champion's current understanding of the federal and provincial approvals and permitting processes for the Project. The proposed schedule is presented in this section.

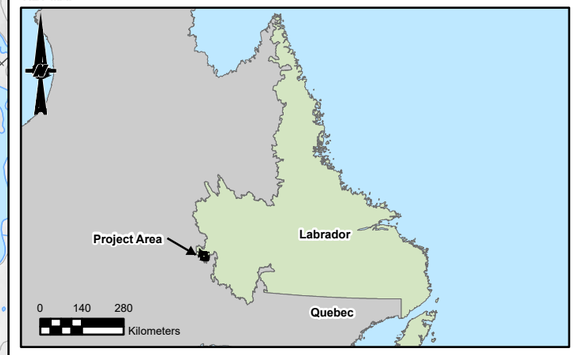
The 40-year lifespan of the Project is defined by the following Project segments:

- **Permitting and approvals stage**–The permitting and approvals stage includes release from the provincial Environmental Assessment (EA) process from the Government of NL and receipt of permits from applicable provincial and federal regulatory agencies. The duration of the Permitting and Approvals Stage is expected to be three years.
- **Construction phase (referred to as Construction)**–Includes site preparation, mine, process plant and site infrastructure development, and commissioning the structures, systems, and components. The duration of Construction is expected to be four years.
- **Operations and Maintenance phase (referred to as Operations)**–Includes the mining and milling of iron ore, production and shipment of iron ore concentrate, tailings management, management of mine rock, waste management, water management, release of treated effluent, site maintenance and transportation of staff and materials to and from the site. Operations include one year of pre-development mining (i.e., ramp-up). Operations are expected to commence within one year of pre-development mining and concludes when processing is complete, which is expected to be 26 years.

- **Decommissioning and Rehabilitation phase (referred to as Closure)**—Includes accelerated flooding of the Rose Pit, re-establishment of passive surface water drainage following the pit-flooding period, and recontouring and revegetating disturbed areas. Physical infrastructure that is not required during post-closure monitoring and for other activities required to achieve the Project's decommissioning criteria and to return the Project site to a safe and stable condition will be removed. Closure is expected to be 10 years.
- **Post-closure period**—The transition from Closure to Post-closure involves ongoing dam safety monitoring, water treatment, and environmental monitoring to verify that water quality is achievable for passive discharge and decommissioning criteria have been met. The length of the Post-closure period could be further refined through the completion of additional analysis as part of the Feasibility Study.



KEY MAP



SCALE 1:20,000,000

Legend

PROJECT DATA

- Proposed Project Infrastructure
- Proposed Sediment Pond
- Potential Access Road

BASEMAP INFORMATION

- Road
- Railway
- Watercourse
- Contour
- Duley Lake Park
- Bog/Wetland
- Waterbody
- Labrador/Quebec Boundary
- Public Water Supply

0 1,000 2,000 4,000

1:71,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. IMAGERY CREDITS:
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

PROJECT LOCATION AND SITE LAYOUT

CONSULTANT

Kami

YYYY-MM-DD	2025-02-27
DESIGNED	----
PREPARED	GM
REVIEWED	AF
APPROVED	JMC

PROJECT NO.	CONTROL	REV.	FIGURE
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2. Roles and Responsibilities

This section provides an outline of the participants in the environmental monitoring and reporting program. A more comprehensive outline of the roles and responsibilities of the Project Team and contractors can be found in the EPP.

Kami Mining Project Team will be responsible for:

- developing and implementing the EEMP in cooperation with the contractors
- ensuring compliance with the sustainability plans; procedures; commitments and opportunities; permitting and approval requirements; and health, safety, and environment protocols
- providing environment field staff and contractors with indoctrination of the Project environmental requirements
- as appropriate, auditing environmental field work, sampling and reporting procedures and outcomes, providing direction and additional training where required
- developing reports for compliance with regulatory approvals, permitting, and authorizations
- as appropriate, liaising with external stakeholders, regulators and stakeholders on environmental issues
- collecting and managing data required to maintain compliance tracking system
- as appropriate, providing technical specialists, (e.g., wetland, avifauna, blasting, air monitoring) input on the monitoring and reports regarding their specific expertise
- informing all teams of any concerns, incidents, and unmitigated risks
- assisting and supporting all site personnel on environmental issues and following up on environment concerns/issues to ensure that they are addressed in a timely manner
- stopping work on a site or an activity if an incident is imminent, allowing immediate temporary corrective action to take place. Working with the Site Engineers/Supervisor to ensure that implementation on a long-term corrective action is put in place and monitored
- conducting site visits, as appropriate for the conditions, and assessing the implementation and effectiveness of the environmental mitigation through monitoring
- initiating actions to resolve environmental issues where appropriate
- cooperating fully with regulatory inspectors (and providing all documentation and procedures for the work, as required

Contractors will be responsible for:

- updating the Environment Management Team and the Construction Management Team on changes to the schedule that may impact monitoring requirements
- providing records identified as required for environmental reporting (e.g., soil volumes, flow rates)
- immediately notifying the Champion Environmental Monitor (EM), Environmental Monitor Lead (EML), or Construction/Site Manager regarding any environmental concerns; the Construction/Site manager will immediately report any environmental concern to the EML

2.1 Site Inspections

EM/EMLs or equivalent will be an integral part of the mitigation implementation and check and balance portion of the Project. EM/EMLs will review all permit conditions with the Kami Mining Project Team and Contractors prior to the commencement of construction and operational activities. EM/EMLs will monitor the construction activities in the field and report on both regulatory and commitments-based activities.

During a site inspection the EM/EML will assess compliance with the regulatory permits and approvals, and site construction permits associated with the ongoing construction to evaluate the effectiveness of mitigation. If environmental concerns are identified, the EM/EML will notify the Project Team and the contractor responsible who will implement additional mitigation strategies. Daily field activities will be reported by the EM/EMLs, and will catalog the activities, sampling requirements and results, mitigation effectiveness, concerns and challenges, stockpiled soil volumes, and issues for follow up.

Field data will be tracked electronically through a compliance tracking system to allow the information to be assessed for trends in areas of concern as well as to provide information required for regulatory reporting.

Data associated with the regulatory permits and approvals, site construction permits, regulatory requirements, and commitments for the Project will be documented in the compliance tracking system and non-conformance events will be addressed with the contractor. Follow up will be triggered by the compliance tracking system to ensure that the issue is appropriately rectified and that there is a review of the issues to improve performance in the future. Review of conformance issues will take place with the contractor, Construction/Site Manager, and EM/EMLs to ensure everyone is aware of the issue, agrees with the corrective action, and commits to the improvement process. Continued non-conformance will be escalated to the Senior Project Team and the Sustainable Development Manager for contractual consideration.

2.2 Field Execution Plans

Prior to the initiation of the sampling program, field execution plans must be developed by the EM/EMLs for the phase of the Project (construction, operations, closure). The plans must include the following:

- Health, Safety, and Environment
  - job hazard analysis
  - required personal protective equipment
  - required safety equipment and training
  - safety data sheets
- Weather and Conditions Planning
  - transportation
  - inclement weather precautions
- Logistics Planning and Schedule
  - site access
  - sampling plan
  - sampling schedule
- Sample and Field Data Collection and Handling
  - requirements for location and time of sample
  - field data requirements
  - calibration of equipment
  - chain of custody example
  - labelling requirements and an example
  - sampling equipment requirements, preparation, and decontamination
  - samples required and number of field and quality control samples
  - sampling container requirements (size, type, number, preservative)
  - sampling methodology (how to take samples) and preservative methods
  - transportation requirements

An example of the information needed for a Field Execution Plan is provided in Appendix B in the guidance document for the Sampling and Analysis of Metal Mining Effluent (EC 2001).

Samples will be maintained at 4°C and transported within 24 hours to the laboratory for analysis. If, due to the remote location of the site, transportation cannot occur within the 24-hour window, further investigation into alternate preservation methodologies or analysis may be required.

2.3 Portable Equipment Calibration and Maintenance

Over the course of the construction program portable sampling equipment will be used to track the effectiveness of mitigation. Units may be used for monitoring water quality, air quality, noise, vibration, groundwater levels, and other real time parameters.

Portable equipment requires regular calibration and maintenance to maintain its accuracy. Portable monitors must be calibrated and maintained based on the requirements within the owner's manual.

All equipment must be calibrated and maintained to the requirements of the owner's manual and the information tracked. Equipment-specific calibration tracking sheets and guides must be developed for each piece of equipment and kept with the unit. Data for the calibration and maintenance must be logged into the compliance tracking system on a weekly basis by the EM/EMLs.

2.4 Verification, Assessment, and Reporting Requirements

Analytical and field results will be tracked and reviewed throughout the lifetime of the Project to allow for assessment against regulatory permits/approval requirements, mitigation effectiveness, and other requirements of the Project, where applicable. Baseline sampling at the initiation of the field program, in conjunction with regulatory requirements, will be used to set early warning thresholds and triggers for implementation of increased mitigation.

Data from the field assessment and analytical results will be monitored to determine if results from monitoring are shifting away from baseline results and potentially toward regulatory thresholds. In the event that a negative trend is apparent in the data, early detection through ongoing assessment of the data will allow for mitigation correction to improve the results of future sampling events.

If analytical results from a sampling event show changes in chemistry that significantly trend toward compliance thresholds, additional samples will be collected to verify the results. Confirmatory sampling will help to determine if there is a concern or if samples were not representative. Confirmatory sampling should include at least two samples in one event to make the data analysis effective.

Reporting to regulators will occur in line with the requirements of the regulatory permits and approvals. A reporting program will be developed based on the requirements for the Project that will outline the requirements for:

1) submission dates
2) data assessment required for effects and regulatory thresholds
3) field execution reporting (i.e., spills, emergency response, complaints)
4) responsible parties

3. Environmental Effects and Monitoring

This section outlines the environmental monitoring framework to be implemented to evaluate potential interactions between Project activities and the surrounding environment. The program will focus on verifying the accuracy of EA predictions and the effectiveness of mitigation measures, in line with applicable regulatory requirements and best practices. Monitoring will occur throughout key Project phases and will be designed to provide sufficient data to inform adaptive management if unanticipated effects arise.

3.1 Air Quality and Climate

Air quality and climate was selected as a valued environmental component (VEC) because it was identified as a key issue in the provincial EIS Guidelines. Emissions to the atmosphere, such as dust emissions from mining activities and emissions from fuel combustion, may occur during the Construction, Operations, and Closure phases of the Project. These atmospheric emissions can affect the environment, land use, and human health if they are present in certain concentrations; therefore, air quality has intrinsic importance to the health and well-being of humans, wildlife, and vegetation. Air quality contaminants of potential concern (COPCs) are used to characterize changes to attributes of the environment from the Project, other human developments, and natural factors.

An Ambient Air Quality Monitoring Program will be developed by Champion in collaboration with the Province. It is anticipated that the following COCs will be included in the monitoring plan:

- total particulate matter
- particulate matter less than 10 micrometres (PM_{10})
- particulate matter less than 2.5 micrometres ($PM_{2.5}$)
- nitrogen dioxide (NO_2)
- sulphur dioxide (SO_2)
- metals (arsenic, cadmium, copper, lead, mercury, nickel, vanadium, and zinc)

In addition to the contaminants of potential concern described above, which will be included within the Ambient Air Quality Monitoring Program, there will also be a separate requirement for the Project to report its emissions under the provincial *Management of Greenhouse Gas Act* (MGGA), and federal Greenhouse Gas Reporting Program (GHGRP) (described in Section 3.1.2 [Annual Greenhouse Gas (GHG) Reporting]).

3.1.1 Ambient Air Quality Monitoring

The ambient air quality monitoring program will assess the effectiveness of mitigation measures and inform if further refinements/updates to mitigation measures are required. The effectiveness of mitigation measures will be re-assessed through the life of the Project and opportunities for continuous improvement of dust management practices will be investigated, as required. The monitors will be in addition to the existing ambient air quality monitors operated by Iron Ore Company of Canada and Tacora in western Labrador. Data collected during the monitoring program will be tracked in the compliance tracking system to allow for assessment of trends in the data. The EM/EMLs will work with contractors on the continuous improvement of dust management practices. The development of the monitoring program will also consider the data requirements of the regulatory agencies. The EEMP will be updated prior to construction to include information on monitoring locations, parameters and frequency, informed by regulatory feedback.

3.1.2 Annual Greenhouse Gas Reporting

Both the federal government and the government of NL have established GHG emissions reduction targets and reporting frameworks to support Canada's climate goals. Federally, the 2030 Emissions Reduction Plan aims to cut national GHG emissions by 40% to 45% below 2005 levels by 2030, with a goal of achieving net-zero emissions by 2050. Provincially, NL have committed to reducing emissions by 30% below 2005 levels by 2030 to reach net-zero by 2050.

At the provincial level the MGGA has been in force since January 2019 and governs industrial GHG reporting within the province. Under Section 4 of the MGGA, any industrial facility emitting 15,000 tonnes or more of GHGs annually must report emissions to the Department of Environment and Climate Change (DECC). Once this threshold is exceeded, reporting remains mandatory until the facility either ceases operations or emits less than 14,000 tonnes for three consecutive years, after which it may apply for an exemption. Section 5 of the MGGA also introduces additional requirements for facilities emitting over 25,000 tonnes annually, including third-party verification of emissions reports and the establishment of emissions reductions targets. The MGGA replaces

the federal Out-Based Pricing System in NL and includes phased-in emissions targets for new facilities, exempting them during construction, pre-production, and the first three years of commercial operation. From years four to eight, targets are gradually introduced. Additionally, proponents of regulated facilities must submit a Best Available Control Technology (BACT) study for approval, demonstrating the use of feasible emissions control technologies.

Federally, the GHGRP, which is administered under Section 46(1) of the *Canadian Environmental Protection Act*, required annual reporting from industrial facilities emitting 10,000 tonnes or more of carbon dioxide equivalent per year. This program has been in place since 2004 and is updated annually through notices in the Canada Gazette. Reports must be submitted to the GHGRP by June 1 of the following year and must adhere to prescribed quantification methodologies. While the MGGA and GHGRP share similar inventory boundaries, the frameworks they provide ensure comprehensive monitoring and accountability for industrial GHG emissions across federal and provincial jurisdictions.

The Project is expected to result in increased GHG emissions compared to current sector, provincial, and federal totals during all Project phases. Based on the annual estimates of Project GHG emissions, it is anticipated that the Project will be required to report its emissions under the provincial MGGA, and federal GHGRP. The Project will also be subject to GHG emission reduction targets under MGGA, and required to develop a BACT study, as outlined in s.12.1 of the MGGA at the EIS stage. The BACT study is provided in Technical Support Document (TSD) IV (BACT Study Report) of the EIS (Champion 2025).

3.2 Noise and Vibration

Noise, Vibration, and Light were selected as VECs because they were identified as key issues in the provincial EIS Guidelines. Activities during construction, operations and closure will generate noise, vibration and light emissions. These emissions can result in sensory disturbance to natural and human receptors. A Noise Mitigation and Monitoring Plan will be developed by Champion in collaboration with the Province and informed by local stakeholder engagement. Champion will develop a Blasting Management Plan following completion of detailed design of the Project. Concerns related to light will be addressed through a complaint resolution mechanism process. To this end, the EEMP only presents the monitoring approach for noise and vibration (specific to blasting).

3.2.1 Noise Monitoring

A Noise Mitigation and Monitoring Plan will be developed by Champion in collaboration with the Province. Monitoring data will be assessed against the following performance objectives:

- site objectives and targets
- Champion policies and procedures
- regulatory requirements with respect to noise
- acceptable noise impacts on identified sensitive noise receptors where human activity is expected to occur

The data that will be gathered through noise monitoring should demonstrate the effectiveness of the Noise Management Plan and will contribute to its continuous improvement. Efforts shall be made to minimize and control noise resulting from noise effects which have the potential to occur throughout the Construction and Operations and Maintenance phases of the Project. This may include the use of muffling devices and maintenance of exhausts for vehicles and equipment which will be utilized during Project activities.

Noise monitoring sites will be identified in the Noise Mitigation and Monitoring Plan to determine the impact of Project construction on ambient noise levels. Following installation of noise monitoring equipment as noise monitoring sites, noise monitoring data will be downloaded and analyzed.

All noise data collected during the monitoring program will be tracked in the compliance tracking system to allow for assessment of trends in the data. In the event that assessment of the data indicates that the current levels of mitigation are not effective, the EM/EMLs will work with the contractors to improve the mitigation. Increased monitoring of areas of concern will continue until monitoring indicates that the mitigation is effective. Environmental monitoring of noise will assess the effectiveness of the mitigation put in place to allow for early corrective action if issues arise, as well as provide necessary data for regulatory permits and approvals-based reporting to the provincial government if/where required. The EEMP will be updated prior to operations to include revisions required based on regulatory requirements.

3.2.2 Vibration Monitoring, Specific to Blasting

Vibration monitoring is also expected to be required for general construction blasting activities to align with Québec's Cahier des charges et devis généraux (CCDG 2018) requirements, the *Town of Labrador City Development Regulations* dated April 2018 specific to blasting, and general industry practices. Based on typical blasts, monitoring would be recommended for construction blasting within 200 m of receptors verified to be vibration sensitive. Modification of blast designs is recommended where the measured level is 80% of the 25 mm/s limit. All blasting within 250 m of an active spawning bed during egg incubation would be monitored for ground vibration to confirm compliance with the Fisheries and Oceans Canada's (DFO) 13 mm/s limit. As well, all blasting within 75 m of the nearest fisheries habitat should be monitored for underwater overpressure to confirm compliance with the DFO's 50 kilopascals (kPa) limit. Modification of blast designs is recommended where the measured level is 80% of the DFO's limit.

General construction activities should be monitored where the estimated vibration at the nearest sensitive receptor is estimated to be 5 mm/s or greater. Where the measured vibration level exceeds the 5 mm/s zone of influence, mitigation measures are proposed to maintain compliance with the limits described in the EIS. Note, the Project is currently at the EA stage, and therefore, prior to commencing detailed design, discussions with the various stakeholders (i.e., utility infrastructure owners/operators) will be carried out to confirm the guidance documents considered in this vibration assessment and their respective criteria continue to be applicable to the Project.

Monitoring of the blasting programs will be completed to assess the effectiveness of mitigation outlined in the Blasting Plan and will assess the levels of vibration generated. The vibration monitoring data will be downloaded from the vibration monitoring instruments (seismographs) and a quality control check will be performed.

Blasting will be a necessary part of the rock extraction process during operations. Vibration monitoring is expected to be required to align with Québec's *Directive 019-Sur L'industrie Minière, Mars 2025* (Directive 019), the *Town of Labrador City Development Regulations* dated April 2018 specific to blasting, and general industry practices during blasting activities. Table 1 summarizes the operations vibration monitoring proposed to support the Project's adaptive management approach and confirm the findings presented in the EIS. The table describes what will be monitored, the method for completing the monitoring and the frequency proposed for the monitoring. The results of the monitoring will be used to establish that proper mitigation is implemented as part of the adaptive management program throughout the Project.

Table 1: Vibration Monitoring During Operations Phase

Parameter	Method	Frequency
Ground and air vibration level monitoring from blasting operations to develop site-specific vibration attenuation.	Establishing a series of seismographs at varying distances from blasts and keeping a detailed record of the loading parameters.	Monitoring campaign: from a minimum 12 blasts at 6 sites during each blast, set up at distances varying from about 300 to 1,000 m from the blast.
Blast ground and air vibrations at nearest receptor locations.	Establishing instrumentation at nearest receptor locations. During spawning season, also establish instrumentation for blasts with 525 m of the nearest active spawning bed.	Instrumentation to record ground and air vibration intensities on a continuous basis. Data would be compared to known blast times to assess peak ground and air vibration intensities produced.
Blast-induced water overpressure level at nearest active fishery.	Establishing instrumentation at nearest active fishery location for blasts within 275 m of the watercourse. This will include a hydrophone and data acquisition unit.	Instrumentation to record water overpressure intensities during the initial blasts. Based on the data recorded, a decision will be made on subsequent monitoring. Periodic monitoring should be conducted as the blasts approach the nearest fishery.

The Blasting Plan will not be developed until the detailed design is completed for the Project. Vibration monitoring and other monitoring component requirements will be developed based on the outcome of the Blasting Plan. Upon development of the detailed design and discussion with regulators, the blasting and vibration and other component monitoring requirements will be detailed in a summary document. EM/EMLs will monitor the effectiveness of blasting mitigation throughout the construction and operations phases. All data collected during the monitoring program will be tracked in the compliance tracking system to allow for assessment of trends in the data. In the event that assessment of the data indicates that the current levels of mitigation are not effective, the EM/EMLs will work with the contractors to improve the mitigation. Increased monitoring of areas of concern will continue until monitoring indicates that the mitigation is effective.

In the event of an exceedance of the limits for the various receptor types, the blasting shall cease at that location. Regulatory notification will be provided, as required (e.g., DFO, where an exceedance is recorded at fisheries habitat) The blaster shall provide a written plan indicating what mitigative measures will be introduced to prevent further exceedance. This shall be submitted to the regulators, as necessary. Blasting at that location will resume only when Champion has approved the mitigation plan.

3.3 Groundwater

Groundwater is considered a resource for human use and consumption. Groundwater can also provide baseflow to surface waters and can become a critical component for the maintenance of streamflow and ecological functioning of freshwater aquatic ecosystems. Groundwater can also be impacted by climate change. Groundwater availability for ecological and human uses and its susceptibility to chemical degradation or depletion by human activities is determined by hydrogeological and geochemical properties of the surficial and bedrock geology in which it is hosted.

Groundwater was selected as a VEC as there is potential for disruption or contamination of the groundwater drinking supply for nearby users and potable water supply requirements for the various stages of the Project and therefore requires assessment. Furthermore, groundwater is an integral component of the hydrologic cycle that can interact with and indirectly affect surface water resources and freshwater ecosystems at points of discharge.

3.3.1 Groundwater Monitoring Plan

Section 7.2.10.1 of the EIS requires Champion to develop a Groundwater and Surface Water Monitoring Plan that ensures the long-term security of the water resources, and shall include, but not be limited to, a groundwater monitoring program that will require the drilling of an appropriate number of monitoring and production wells. Locations for potential groundwater monitoring program shall be identified as part of the groundwater and surface water monitoring program. Monitoring locations within the Protected Water Supply Area shall be included.

A Groundwater Monitoring Plan will be implemented and may include the installation of groundwater wells in accordance with regulatory standards upon development of the detailed Project design after discussion with regulatory agencies. Groundwater monitoring may allow for continued assessment of long-term monitoring locations (i.e., at the tailings management facility). The groundwater monitoring and mitigation strategy will also include select wells and dewatering systems instrumented with continuous dataloggers to track groundwater levels and quality in real-time. The data collected will support the development of a Trigger-Action-Response Plan, to enable a proactive approach to management in the event that monitoring threshold values are exceeded during monitoring activities. Variable-frequency drive pumps will also be utilized in dewatering wells (if required) to allow for the precise control of groundwater extracting to minimize disruption to local groundwater, particularly near water and materials management facilities. Additionally, process water will be treated and reused to reduce pressure on local recharge systems. If monitoring detects adverse effects, appropriate remediation – such as water treatment or well replacement – will be undertaken. Groundwater resources are managed by the Pollution Prevention Division of the NL DECC, via issuance of a Certificate of Approval with conditions pertaining to water sampling frequency and testing criteria. In addition, the Guidelines for Canadian Drinking Water Quality published by Health Canada are also applicable to groundwater across Canada and have been adopted by the government of NL for regulated public drinking water supplies. The Guidelines for Canadian Drinking Water Quality are “established based on current published scientific research related to health effects, aesthetic effects and operational considerations” (Health Canada 2022).

3.3.1.1 Groundwater Monitoring Well Locations

Groundwater monitoring well locations will be selected following the completion of the EIS, based on site-specific hydrogeological conditions, potential impact zones, and regulatory guidance. Once the well locations and associated monitoring details are finalized, this information will be incorporated into a revised version of the EEMP to guide ongoing groundwater monitoring activities.

3.4 Surface Water

Surface water was selected as a VEC because it was identified as a key issue in the provincial EIS Guidelines and is a critical component to aquatic and terrestrial ecosystem health and human health. Treated effluent and sewage discharge from mining activities may occur during Construction and Operation phases of the Project. Treated effluent and sewage can result in elevated concentrations of contaminants of potential concern s in receiving environments; therefore, surface water has intrinsic importance to the health and well-being of fish, wildlife and humans. Contaminants of potential concern are used to characterize changes to attributes of the environment from the Project, other human developments, and natural factors.

3.4.1 Surface Water Monitoring Plan

Section 7.2.10.1 of the EIS requires Champion to develop a Groundwater and Surface Water Monitoring Plan that ensures the long-term security of the water resources, and shall include, but not be limited to, a groundwater monitoring program that will require the drilling of an appropriate number of monitoring and production wells and a real-time monitoring program for water quality, quantity, and climate. Locations for potential groundwater monitoring program and real-time monitoring program stations shall be identified as part of the groundwater and surface water monitoring program. Monitoring locations within Protected Water Supply Area shall be included.

The Surface Water Monitoring Plan aims to ensure regulatory compliance, validate predicted impacts of the Project on water quality, detect changes in drainage patterns and surface flow, and assess the need for additional mitigation or emergency response actions. A Surface Water Monitoring Plan will be further developed under separate cover subsequent to the completion of the EIS and prior to construction to ensure compliance with conditions and established regulatory requirements.

As part of water management during the Project, contact water (from mine disturbance areas) and non-contact water will be collected, subjected to treatment and discharged to the receiving water body (i.e., Duley lake) in compliance with *Metal and Diamond Mining Effluent Regulations* (MDMER) discharge requirements. According to the MDMER (Part 2, Division 1, Section 9), final discharge points (FDPs) are to be identified by Champion who will submit the information below in writing to the Minister of the Environment within the period specified in the regulations:

- plans, specifications, and a general description of each FDP together with its location by latitude and longitude
- a description of how each FDP is designed and maintained in respect of the deposit of deleterious substances
- the name of the receiving body of water, if there is a name

The Schedule 2 amendment process and determination of FDPs will be completed prior to the construction of the tailings management facility and other facilities subject to the amendment process.

In accordance with the MDMER, Champion will determine the following monitoring locations with respect to surface water quality and quantity:

- FDPs
- water quality points
- reference and exposure sites
- wastewater treatment plant inlet and outlet points
- provincial real-time water quality and quantity points

During construction and operation, Champion will collect grab surface water samples at the FDPs and reference and exposure sites according to the associated regulations. The MDMER specify monitoring frequency and parameters with respect to monitoring at FDPs and reference and exposure sites which is the basis of the monitoring program. Sublethal toxicity testing will occur at the most impactful FDP. Additional monitoring parameters may be required by the NL Certificate of Approval. See **Table** 2 for a summary of predicted monitoring site types and frequency.

When the mine site FDPs are operational, a request can be submitted to Environment and Climate Change Canada to reduce sampling frequency for arsenic, copper, cyanide, lead, nickel, zinc and/or un-ionized ammonia, if that parameter's monthly mean concentration at an FDP is less than 10% of the maximum authorized monthly mean concentration (Table 4.6 MDMER Schedule 4, Table 1, Column 2) for 12 consecutive months. For radium 226, if the concentration at the FDP is less than 0.037 becquerels per litre (Bq/L) for 10 consecutive weeks, a request can be made to reduce the sampling frequency. For acute lethality tests, if the result is not acutely lethal for 12 consecutive months, a request can be submitted to reduce the sampling frequency.

If subsequent FDP monitoring results for the above approved parameters on a reduced sampling frequency are equal to or exceed 10% of the maximum authorized monthly mean concentration (or 0.037 Bq/L for radium 226), Champion will increase the sampling frequency to weekly. If an acute lethality test result is acutely lethal, Champion will increase the sampling frequency to monthly.

A summary of the surface water monitoring reporting requirements is presented below in **Table 2**. Subject to change based on regulatory approvals and permits.

Table 2: Predicted Monitoring Site Types and Frequency

Point Type	Parameter Package	Sampling Frequency	Frequency Limitation
FDPs	MDMER, Schedule 4, Table 1	Weekly	≥ 24 hours apart between samples
	MDMER Acute Lethality Test	Monthly	Sampling date selected and recorded ≥ 30 days in advance; if cannot sample on that date, must be done as soon as practicable; ≥ 15 days apart between samples
	MDMER Effluent Characterization	Four times per calendar year	≥ one month apart between samples
	NL Certificate of Approval (typical)	Four times per calendar year	≥ one month apart between samples
	MDMER Sublethal Toxicity Test	Semi-Annual	–
INPs/OUPs	NL ECWSR Schedule A	One time per calendar year	–
	NL Wastewater Characterization	Quarterly	–
OUPs	WSER	Monthly	≥ 10 days apart between samples
WQPs	MDMER, Schedule 4, Table 1	Four times per calendar year	≥ one month apart between samples
	MDMER Effluent Characterization	Four times per calendar year	≥ one month apart between samples
	NL Certificate of Approval (typical)	Four times per calendar year	≥ one month apart between samples

≥ = greater than or equal to; FDP = final discharge point; INP = wastewater treatment plant inlet point; MDMER = *Metal and Diamond Mining Effluent Regulations*; NL = Newfoundland and Labrador; NL ECWSR = *Newfoundland and Labrador Environmental Control Water and Sewage Regulations*; OUP = wastewater treatment plant outlet point; WSER = *Water Systems Effluent Regulations*; WQP = water quality points.

Table 3: Surface Water Monitoring Reports

Deliverable	Construction	Operations
Monthly FDP Water Quality Results	Technical memo – submitted to ECCC	Technical memo submitted to ECCC
Quarterly Water Quality Results (within 45 days of each quarter)	Technical memo with Laboratory Certificates of Analysis and Results Spreadsheet to ECCC and NL DECC	Technical memo with Laboratory Certificates of Analysis and Results Spreadsheet to ECCC and NL DECC
Annual Surface Water Quality and Quantity Report (submit no later than March 31 in each year for previous calendar year)	Technical memo – submitted to ECCC and NL DECC	Technical memo – submitted to ECCC and NL DECC
Water Quality Exceedances (without delay)	Report to ECCC and NL DECC upon occurrence	Report to ECCC and NL DECC upon occurrence
Water Quality Exceedances Follow-up Report (within 30 days after tests completed)	Technical memo – submitted to ECCC and NL DECC	Technical memo – submitted to ECCC and NL DECC
Quarterly WWTP Water Quality Results (within 45 days after the end of each quarter)	Technical memo – submitted to NL DECC	Technical memo – submitted to NL DECC

DECC = Department of Environment and Climate Change; ECCC = Environment and Climate Change Canada; FDP = final discharge point; NL = Newfoundland and Labrador; WWTP = wastewater treatment plant.

3.4.2 Surface Water Quantity

Monitoring of surface water quantity will involve monitoring of water levels using datalogging instrumentation (level loggers) at predetermined frequencies, determining volume of effluent flow rate according to the flow measurement requirements outlined in the MDMER (Section 19, Subsection 1 – 3) and estimating flow rates at non-receiving water bodies/watercourses. The flow rates at the non-effluent receiving waterbodies will be estimated using a combination of in situ channel velocity, depth and flow profiling measurements, supported by continuous water level monitoring. Other parameters such as atmospheric pressure and ambient temperature will be measured to barometrically compensate level logger water level data.

Champion will conduct and record flow monitoring of all pumping equipment on site; records will include a monthly total and average volumes. The location of monitoring stations will be determined following the submission of the EIS, in consultation with applicable federal and provincial regulatory agencies.

3.4.3 Surface Water Quality

The Project will be registered under the MDMER. The primary water quality criteria applicable to the Project FDPs are the following:

- schedule 4 of the MDMER under the *Fisheries Act* when the mine discharges at an effluent flow rate of ≥50 m^3/d, based on effluent deposited from all mine FDPs
- general provisions of Section 36(3) of the *Fisheries Act* regarding the deposit of deleterious substances in water frequented by fish (1) during the period prior to the mine discharging effluent at >50m^3/d, based on effluent deposited from all mine FDPs; or (2) when the mine has attained recognized closed mine status
- schedule C of NL Regulations 65/03 *Environmental Control Water and Sewage Regulations, 2003* under the *Water Resources Act* (O.C. 2003-231)
- the conditions of a Certificate of Approval issued by Pollution Prevention Division of the NL DECC
- environmental effects of mine effluent in relation to receiving watercourses or waterbodies baseline water quality to satisfy requirements of the provincial EIS Guidelines

Schedule C of NL Reg. 65/03 states:

> *"A person primarily in the Metal Mining Industry shall comply with Sections 3 and 19.1 and 20 and Schedule 4 of the Metal Mining Effluent Regulations (Canada) SOR 2002-222, including any changes or amendments to those Sections of and that schedule to those regulations over time."*

Therefore, the primary surface water quality criteria applied to mine activity effluent discharge at the site are these in MDMER Schedule 4 and Certificate of Approval Conditions.

The sanitary wastewater treatment plant discharge has the following applicable surface water quality criteria:

- Section 6 and *Schedule A of NL Regulation* 65/03 ESCWR under the *Water Resources Act*
- *Wastewater Systems Effluent Regulations* under the *Fisheries Act*
- The conditions of a Permit to Operate issued by Water Resources Management Division of the NL DECC

Water quality results will also be evaluated in comparison to the following criteria:

- Canadian Environmental Quality Guidelines
- Baseline surface water quality results and predicted surface water quality information

3.4.3.1 Non-Receiving Water

Monitoring of non-receiving waterbodies within the site will be carried out using a combination of real-time monitoring, visual field assessment, in situ analysis and periodic sampling with laboratory analysis. Real Time Water Quality monitoring will be arranged for by Champion in collaboration with the Province (i.e., DECC – Water Resources); frequency of real time monitoring locations will be established based on Real Time Monitoring Network Agreement. Real Time Water Quality monitoring parameters include temperature, potential of hydrogen (pH), turbidity, dissolved oxygen, and specific conductance (total dissolved solids is computed from conductance and temperature measurements).

Champion will implement periodic water and sediment sampling and laboratory analysis to ensure Project compliance with the *Ambient Surface Water Quality Guidelines for the Protection of Aquatic Life* established by the Canadian Council of Ministers of the Environment and Federal Water Quality Guidelines. The parameters and recommended threshold according to the Canadian Council of Ministers of the Environment and Federal Water Quality Guidelines are presented in **Table** 4. The identification of the sampling/monitoring locations and sampling frequency will be determined by Champion in consultation with DECC. Water samples will be collected from sampling locations using laboratory supplied containers with the sampler facing upstream without disturbing the bottom sediment. Sediment samples will be collected only after water samples have been collected, and from the same sample location. Samples will be stored at 4°C and shipped within 24 hours to the laboratory, unless otherwise indicated by the laboratory.

During construction monitoring of culverts, in-stream, or work near water bodies, EM/EMLs will be required to be onsite to collect background data prior to the initiation of work. Field and water conditions must be noted. In-situ monitoring will be conducted onsite using potable water quality meters that measure parameters such as temperature, pH, dissolved oxygen, and turbidity as an early indicator of compliance. In the event that the parameters approach the threshold criteria, increased mitigation will be required at

the location. EM/EMLs or appropriately trained approved personnel will remain onsite during high-risk construction activities to monitor the mitigation in place as well as the water quality.

Table 4: Canadian Council of Ministers of the Environment and Federal Water Quality Guidelines

Parameters	Unit	CCME[a] and FWQG[b] Guideline	
General parameters		Short term	Long term
Alkalinity	mg/L as $CaCO_3$	–	–
Acidity	mg/L as $CaCO_3$	–	–
TDS	mg/L	–	–
Anions & nutrients		Short term	Long term
Fluoride	mg/L	–	0.12
Chloride	mg/L	640	120
Sulphate	mg/L	–	–
Nitrite	mg/L as N	–	0.06
Nitrate	mg/L as N	124	2.9
Phosphorous	mg/L	–	Guidance framework
Ammonia (total)	mg/L as N	–	variable (temp, pH), 1.54
Metals		Short term	Long term
Silver	µg/L	–	0.25[T]
Aluminum	µg/L	–	variable (DO, hardness, pH), 557[T]
Arsenic	µg/L	–	5[T]
Boron	µg/L	29,000[T]	1,500[T]
Barium	µg/L	–	–
Beryllium	µg/L	–	–
Bismuth	µg/L	–	–
Calcium	µg/L	–	–
Cadmium	µg/L	variable (hardness), 0.76[T]	variable, 0.07[T]
Cobalt	µg/L	–	variable (hardness), 0.67[T]
Chromium	µg/L	–	5[T]
Copper	µg/L	–	variable (temp, pH, DO, hardness), 2.6[D]; variable (hardness), 2[T]
Iron	µg/L	–	variable (DO, pH), 2,230[T]
Mercury	µg/L	–	0.026[T]
Potassium	µg/L	–	–
Lithium	µg/L	–	–
Magnesium	µg/L	–	–
Manganese	µg/L	variable (hardness), 2,770[D]	variable (hardness), 350[D]
Molybdenum	µg/L	–	73[T]
Sodium	µg/L	–	–
Nickel	µg/L	–	variable (hardness), 25[T]
Lead	µg/L	–	variable (DO, hardness), 6.2[D]
Sulfur	mg/L	–	–
Antimony	µg/L	–	–
Selenium	µg/L	–	1[T]
Silicon	µg/L	–	–
Tin	µg/L	–	–
Strontium	µg/L	–	2,500[D]
Thorium	µg/L	–	–

Parameters	Unit	CCME[a] and FWQG[b] Guideline	
Titanium	µg/L	–	–
Thallium	µg/L	–	0.8[T]
Uranium	µg/L	33[T]	15[T]
Vanadium	µg/L	–	120[T]
Tungsten	µg/L	–	–
Yttrium	µg/L	–	–
Zinc	µg/L	variable (hardness, DOC), 46[D]	variable (pH, hardness, DOC), 11[D]

(T) Guideline applicable to Total metal concentration.
(D) Guideline applicable to Dissolved metal fraction.
(a) Canadian Council of Ministers of the Environment (CCME 2024).
(b) Environment and Climate Change Canada (ECCC 2024).
$CaCO_3$ = calcium carbonate; CCME = Canadian Council of Ministers of the Environment; DO = dissolved oxygen; DOC = dissolved organic carbon; TDS = total dissolved solids; FWQG = Federal Water Quality Guidelines.

All data collected during the monitoring program will be tracked in the compliance tracking system to allow for assessment of trends in the data and to meet regulatory reporting requirements. If assessment of the data indicates that the current levels of mitigation are not effective, the EM/EMLs will work with the contractors to improve the mitigation. Increased monitoring of areas of concern will continue until monitoring indicates that the mitigation is effective.

3.4.3.2 Receiving Water

Champion will carry out periodic monitoring within Duley lake in compliance with MDMER water quality monitoring requirements (MDMER, Schedule 5, Section 7). The data generated from water quality monitoring are used to monitor changes in the environmental conditions in the receiving environment, provide an indication of temporal or seasonal trends as well as to help interpret biological (fish and benthic invertebrate community survey) monitoring and sublethal toxicity testing results. An overview of the monitoring process is presented within this section.

Water quality monitoring will be conducted by collecting and analyzing samples of water from the exposure area surrounding the point of entry of effluent into water from each FDP and from the related reference areas and will be carried out concurrently with biological monitoring studies described in **Section 3.5.1 (Fish and Fish Habitat – Monitoring)**. The sampling locations will be identified by the EM/EML within 100 m of the FDPs to ensure accuracy of predicted water quality model results.

Sampling frequency will be once per quarter (four times per year) and not less than one month apart between collection dates while the mine is depositing effluent (MDMER, Schedule 5, Section 7). According to the *Metal Mining Technical Guidance for Environmental Effects Monitoring* (ECCC 2023), the following factors will be considered in determining when samples are to be collected:

- seasonal variability in water quality and flow in the exposure area
- the time of year when concentrations in the exposure area of contaminants are expected to be highest
- the time of year when previous water quality monitoring samples have been collected
- the time of year when samples for effluent characterization are collected
- the time of year when the biological monitoring is conducted

As required under Subsection 7(1), water quality monitoring will include in situ measurements of water quality parameters in the exposure and reference areas, including temperature, dissolved oxygen, pH, total dissolved solids, and collection of grab samples to record hardness, alkalinity, concentration of deleterious substances (MMER, Part 1, Section 3) and the concentration of the following substances listed in **Table 5** (MMER, Schedule 5, Section 4):

Table 5: Water Quality Substances List

Parameters	Unit
Other parameters	– Alkalinity – Acidity – TDS
Anions and nutrients	– Fluoride – Chloride – Sulphate – Nitrite – Nitrate – Phosphorus – Ammonia (total)
Metals	– Silver – Aluminum – Arsenic – Boron – Boron – Barium – Beryllium – Bismuth – Calcium – Cadmium – Cobalt – Chromium – Copper – Iron – Mercury (may be discontinued if the concentration is less than 0.1 µg/L in 12 consecutive samples collected as part of deleterious substance and pH testing) – Potassium – Lithium – Magnesium – Manganese – Molybdenum – Sodium – Nickel – Lead – Sulfur – Antimony – Selenium – Silicon – Tin – Strontium – Thorium – Titanium – Uranium – Vanadium – Tungsten – Yttrium – Zinc

TDS = total dissolved solids.

Analyses for each of the above listed substances will comply with the analytical requirements set out in Table 2 of Schedule 3 of the MDMER and will include quality assurance and quality control measures to help ensure accuracy of the data. It should be noted that the following may not be analyzed:

- cyanide, if not used by Champion as a process reagent (MMER Schedule 5, Subsection 7(2)(d)(i)
- Radium 226 if the concentrations of this deleterious substance are <0.037 Bq/L for at least 10 consecutive weeks (MMER Schedule 5, Subsection 7(2)(d)(ii))

3.5 Fish and Fish Habitat

Fish and fish habitat was selected as a VEC due to its high ecological, cultural, economic, and recreational value to the public and the government. The quality and quantity of freshwater fish and fish habitat are key indicators of the overall health of an aquatic ecosystem. The impacts of Project activities on fish and fish habitat have been assessed under the federal *Fisheries Act*. By acting and planning in accordance with the *Fisheries Act*, through mitigation and offsetting measures, fish and fish habitat will be protected or compensated for, where applicable. Given the importance of many fish species in the waterbodies around the Project location, it is crucial that all measures be taken to help maintain the stability of these populations. Fish habitat refers to waters inhabited by fish, either temporarily or permanently, that directly or indirectly support their life processes, including, but not limited to, spawning, nursing, rearing, and migrating. While fish refers to shellfish, crustaceans, and marine animals, including, but not limited to, eggs, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans, and marine animals.

3.5.1 Fish and Fish Habitat Monitoring Program

The Fish and Fish Habitat Monitoring Program is a key component of the Project's environmental follow-up program, designed to confirm predicted effects, address uncertainties, and ensure adherence to regulatory requirements such as the *Fisheries Act*, the MDMER and other legislation, where applicable. Monitoring fish and fish habitat will evaluate the effectiveness of proposed mitigation and reclamation measures, identify any unanticipated adverse effects, and support continuous improvement throughout the Project life cycle. The Fish and Fish and Fish Habitat Monitoring Program includes environmental effects and compliance monitoring, biological studies, and habitat assessments, with specific focus areas, which are further outlined below.

- Environmental Effect and Compliance Monitoring: Biological monitoring required under MDMER, Schedule 5, Section 9 and associated reporting (Sections 12, 15, 16, and 20); as well as any monitoring, testing, and/or reporting required under the DECC Certificate of Approval (e.g., fish population sampling, water quality testing, and habitat assessments).
- Fish Offsetting Monitoring: As part of the offsetting plan, compliance monitoring for Project effectiveness will begin, as well as any environmental effects management required under the Section 35 authorization (e.g., fish population surveys, water quality testing habitat assessments, sediment testing and analysis, and biological monitoring, such as benthic invertebrate surveys).
- Monitoring of Offsetting Project efficacy: Monitoring of offsetting Project efficacy (e.g., hydrology surveys, habitat surveys, fish population estimates, and redd surveys).

Before construction begins, the Fish and Fish Habitat Offsetting Plan will require approval by DFO. An EPP, including mitigation measures for the protection of freshwater fish and fish habitat, will also be developed. The following surveys will be used to meet the MDMER requirements. In addition to the survey programs described above and below, any survey requests by DFO as part of the *Fisheries Act* authorization will be incorporated into the EEMP.

3.5.1.1 Fish Population Sampling

As required under Part 2 of Schedule 5 of the MDMER, a study of fish populations will be performed if the concentration of effluent in the exposure area is greater than 1% at 250 m from the FDP. The study will assess the effect of the indicator defined by the MDMER, which includes growth, reproduction, condition, and survival. These indicators may be measured by analyzing size-at-age (growth), relative gonad size (reproduction), condition relative to liver size (condition), and age (survival). Other survey designs or modified methods may be used as substitutes for these indicators if the standard survey is impractical or ineffective.

3.5.1.2 Fish Tissue Sampling

Under Section 9 in Part 2 of Schedule 5 of the MDMER, fish tissue sampling for the study of mercury and selenium levels will be conducted if specific concentrations of these two substances are found to be in the mine effluent. The triggers for the studies will follow the thresholds set in Section 9(c), 9(d), and 9(e) of the MDMER. These Sections describe triggers for mercury as effluent

characterizations exceeding an annual mean concentration of total mercury of ≥ 0.10 µg/L, or if the method detection limit used to analyze mercury levels in two of four samples is also ≥ 0.10 µg/L.

For selenium, if effluent characterization exceeds an annual mean concentration of total selenium of ≥10 µg/L, if the annual mean concentration of total selenium in the effluent is ≥ 5 µg/L, or if the method detection limit used to analyze selenium is ≥ 10 µg/L, or if the levels in two of the four samples are ≥ 5 µg/L.

Studies of mercury and selenium levels in fish tissue will be designed and conducted following Section 3.11 of *the Metal Mining Technical Guidance for Environmental Effects Monitoring*, where possible. Studies may be altered or modified where standard surveys are found to be impractical or ineffective.

3.5.1.3 Benthic Invertebrate Community Study

Under Section 9 in Part 2 of Schedule 5 of the MDMER, a benthic invertebrate study will be conducted if the highest concentration of effluent in the exposure area, during a period in which there are deposits, is greater than 1% at any location that is 100 m from the point where effluent enters a waterbody from a discharge point.

Similar to the fish population sampling studies, there are effect indicators associated with the benthic invertebrate community study. These indicators include total benthic invertebrate density, evenness index (a measurement of how evenly individuals are distributed among different species within a community), taxonomic richness, and similarity index. These indicators may be measured by analyzing the number of animals per unit area (total benthic invertebrate density), Simpson's evenness (evenness index), number of taxa (taxa richness), and the Bray-Curtis index (measurement of the similarity between two communities based on the presence and absence of species and their relative abundance). Studies may be altered or modified where standard surveys are found to be impractical or ineffective.

3.6 Vegetation, Wetlands, and Protected Areas

Vegetation, wetlands, and protected areas were selected as a VEC because of their relationship between this VEC, wildlife and other biological and physical environments, as well as due to the importance of associated ecological (i.e., habitat) and hydrological (i.e., erosion and flood control) functions that are essential to maintaining the health of natural ecosystems, as well as cultural benefits (i.e., recreational values). Project activities have the potential to affect:

- distribution and abundance of vegetation species, including Species at Risk (SAR) and Species of Conservation Concern (SOCC) and vegetation communities
- wetlands and their functions
- availability of protected areas

Mitigation measures for protected areas, vegetation, including SAR and SOCC and vegetation communities are included in the EIS and will be incorporated into the EPP. A follow-up program will be implemented to verify that EIS predictions and effectiveness of mitigation. For the EEMP, only wetland monitoring is proposed based on the overlap of the Project with wetland areas and the influence of groundwater and surface water on wetlands within the vicinity of the Project.

3.6.1 Wetland Monitoring

Natural variability is defined as the seasonal and long-term fluctuations that occur within a wetland and is determined by the presence, quantity, and quality of physical, hydrological, biological, or chemical attributes not influenced by anthropogenic activity. Natural variability is best determined by measuring key wetland functions, such as wetland hydrology, hydric soils, woody plant density, vegetation, erosion, wildlife as well as several other functions and values. These functions are known as indicators and may increase, decrease, appear or disappear, and remain stable or fluctuate over time. Effective monitoring of these indicators is recommended to obtain an understanding of the natural range of variability of biogeochemical parameters within wetlands.

EM/EMLs or appropriately trained approved personnel will monitor wetland parameters outlined for wetland mitigation and monitoring to assist in the long-term assessment of impacts on the wetlands within the Project footprint as well as potential short-term effects from construction. Results from the wetland monitoring and assessment will be reported to the regulator based on the requirements in the regulatory permits/approvals.

3.6.1.1.1 Construction Based Monitoring Requirements

During construction there will be short-term changes to surface water flow, compaction of soils, and disturbance of wetland areas. To mitigate the long-term impacts of the construction on the wetlands, EM/EMLs, or appropriately trained approved personnel, will monitor key early indicators of wetland health and provide that data for tracking and interpretation. In the event that assessment of the data indicates that the current levels of mitigation are not effective, the EM/EMLs will work with the contractors to improve the mitigation. Increased monitoring of areas of concern will continue until monitoring indicates that the mitigation is effective. Wetlands identified for construction-based monitoring will be determined in consultation with appropriate regulatory agencies.

3.6.1.1.2 Long-Term Monitoring Requirements

After consultation with regulatory agencies, the required sampling and assessment parameters for long-term monitoring of the wetlands will be established. EM/EMLs will collect data required for the long-term assessment and the information will be tracked in the tracking system to allow for assessment of trends in the date.

The Wetland monitoring program will include return visits to selected wetlands in the local study area (LSA) where baseline conditions were gathered in 2023, including a functional assessment using the Wetland Ecosystem Services Protocol for Atlantic Canada. The monitoring schedule should be established in consultation with regulators, possibly including site visits to selected wetlands in the LSA to document that Project mitigation measures are effective and confirm the actual total wetland effect area, for the purpose of establishing commitments to offset loss of wetland function.

3.7 Wildlife and Wildlife Habitat

Wildlife was selected as a VEC because of the potential for interactions between Project activities and wildlife species and their habitat, and protected areas. This VEC includes avifauna, bats, and other wildlife. Avifauna (birds) encompass migratory and non-migratory species (waterfowl, raptors, shorebirds, wetland birds, and passerines). Avifauna provide recreational, domestic (food supply), and economic benefit for residents of western Labrador, and are therefore of importance to resource managers and are regulated under the NL *Wildlife Act*. Additionally, migratory birds are federally protected under the *Migratory Birds Convention Act, 1994* (MBCA). Avifauna species may also be federally protected under the *Species at Risk Act* (SARA) and/or provincially protected under the NL *Endangered Species Act* (NL ESA). Bats provide important ecosystem services by consuming large quantities of insects that can damage important timber species and agricultural crops. Several species are federally protected under SARA, and all species in Labrador are provincially protected under NL ESA. Other wildlife includes ungulates, furbearers, small mammals, amphibians, and reptiles. Ungulates and furbearers provide recreational, domestic (food supply), and economic benefit to residents of western Labrador, and are therefore important to resource managers and are regulated under the NL *Wildlife Act*. Small mammals, amphibians, and reptiles are important prey items and indicators of environmental health.

Monitoring for wildlife and habitat during the Construction phase will include targeted monitoring based on species-specific protocols (e.g., birds and bats) during key seasonal windows (e.g., breeding, migration). Additionally, general monitoring for wildlife, consisting of incidental observations, will occur throughout construction of the Project. Wildlife encounters will also be logged and tracked to determine if there is a correlation between the number of encounters and potential patterns or trends that may be indicative of concentrations of vulnerable individuals or critical habitat patches. Sightings of SAR or SOCC will be identified to the Wildlife Division.

During the Operations Phase, continued targeted wildlife and habitat monitoring may be required. The EEMP will be updated prior to Operation to include revisions based on regulatory requirements.

Additional details related to targeted monitoring for SAR and SOCC **(Section 3.7.1.1 [Species at Risk (SAR) and Species of Conservation Concern [SOCC])**; invasive species **(Section 3.7.1.2 [Invasive Species])**; and avifauna **(Section 3.7.1.3 [Avifauna])** are provided below. Wildlife Species that occur or potentially occur within the LSA and regional study area (RSA) pertinent to the Kami Mining Project property are provided in **Appendix A**.

3.7.1.1 Species at Risk and Species of Conservation Concern

Targeted monitoring for SAR or SOCC will involve species-specific protocols during key seasonal windows (e.g., breeding, migration), while general wildlife monitoring will involve incidental observations throughout the Construction phase. All wildlife sightings will be logged with a GPS, species name recorded with photo number (if available) and date and tracked to identify potential patterns or trends that may be indicative of concentrations of vulnerable individuals or patches of critical habitat. Any observations of SAR or SOCC will be reported to the Wildlife Division. During the Operations phase, SAR/SOCC and habitat monitoring activities may continue. If it is determined that there are SAR or SOCC that could be impacted during operations, Champion personnel will review regulatory requirements with respect to the particular species of interest. The EEMP will be updated prior to operations to reflect any changes required by regulatory authorities.

All data collected on SAR/SOCC during the monitoring program will be tracked in the compliance environmental management system to allow for assessment of trends in the data. Trends in siting locations may indicate that there is a concentration of SAR/SOCC in specific portions of the construction site. In the event that a correlation is determined, the EM/EMLs, in consultation with the contractor, will develop a mitigation plan to establish a buffer around the area as a whole, where possible.

As appropriate, site personnel will be provided with training on SAR and SOCC identification (training is outlined in the EPP). Sightings of avifauna or bats SAR and SOCC will be identified to the Wildlife Division.

3.7.1.2 Invasive Species

Invasive species, including weeds, can have a damaging impact on the wetlands, waterways, and wildlife habitat through the introduction of an aggressively competing species that displaces native species and alters the overall landscape. Changes to the landscape may remove food sources, habitat, and the general ecosystem balance. Given the potential impacts of invasive, or non-native species, on the environment, mitigation will be undertaken to reduce the potential for the transfer of invasive species, as well as management of invasive or non-native species that do make their way to the Project site.

Invasive alien plant species with potential to occur in western Labrador, may include, but are not limited to:

- Canada thistle (*Cirsium arvense*)
- coltsfoot (*Tussilago farfara*)
- tansy ragwort (*Senecio jacobaea*)
- common dandelion (*Taraxacum officinale*)
- pineapple weed (*Matricaria discoidea*)

Construction areas will be monitored for invasive species and contractors will be required to implement invasive species management where required. In the event that invasive species are identified in the field, the location will be logged with a GPS in addition to the species, photo number (if available) and date. The information will be provided for tracking in the compliance environmental management system and the contractor will be notified of the issue. The EM/EMLs will increase monitoring of the area, logging the progress of the mitigation.

Trends in the spread of invasive species will be monitored to assess mitigation techniques. In the event that standard mitigation measures are not effective, the EM/EMLs and the contractor, will develop an Enhanced Mitigation Plan.

3.7.1.3 Avifauna

Section 7.2.10.2 requires the development of an Avifauna Mitigation and Monitoring Plan (AMMP) in consultation with Environment and Climate Change Canada's Canadian Wildlife Service. The plan shall include mitigation measures, monitoring, and adaptive management frameworks for minimizing impacts of the Project on Avifauna.

The AMMP will be further developed separately subsequent to the completion of the EIS and prior to construction. This plan will ensure compliance with conditions and established regulatory requirements and support biodiversity stewardship throughout all phases of the Project. The AMMP will include detailed procedures for assessing and managing birds and bird habitat, including monitoring protocols, mitigation measures, and reporting requirements. If vegetation clearing is required to take place during the breeding bird season, an EM/EML will conduct nest sweeps a maximum of 72 hours prior to clearing. If a nest is discovered, it will be recorded using GPS, assigned species-appropriate buffer, and monitored to ensure construction activities do not cause disturbances to the nest. If a nesting bird shows signs of disturbance (e.g., cessation of nest-building, adults flushing from the nest, or failure to return) due to construction activities, the EM/EML will temporarily halt work until it is safe to resume. Nest monitoring will discontinue if the nest fails (i.e., the eggs do not hatch within the incubation period), the nest is depredated, or the nest is destroyed by natural causes (e.g., high winds).

Monitoring requirements, including nest setbacks and observation protocols, will be tailored to the species and reproductive status. All data will be logged in a compliance tracking system to identify trends, such as nest clustering in specific areas as trends in nest location may indicate that there is a concentration of bird nests in specific portions of the construction site. If patterns emerge, the EM/EML will collaborate with the contractor to implement broader mitigation measures, such as establishing a buffer around the area as a whole, where possible.

The AMMP will also include a broader monitoring program to assess the effects of the Project on avifauna and to detect any deviations from baseline conditions. This will involve targeted surveys, with details on frequency and duration to be finalized in the updated Avifauna Mitigation and Monitoring Program based on regulatory guidance/requirements.

3.7.1.3.1 Regulatory Context for Avifauna

The MBCA was implemented to protect birds (both populations and individuals) and nests that contain live birds and/or viable egg(s). In 2022, new *Migratory Birds Regulations* were brought into force, modernizing, and enhancing migratory bird protection. The *Migratory Birds Regulations* prohibit the capture, kill, take, injury or harassment of a migratory bird, and protects migratory bird nests, year-round, for 18 migratory bird species that re-use nests. Birds protected under the MBCA include land birds (e.g., warblers, thrushes, sparrows), waterfowl (e.g., ducks, loon, geese), insectivorous perching birds (e.g., swallows) and waterbirds (e.g., gulls and terns). In NL, almost all bird families are federally protected by the MBCA. The majority of migratory bird species listed under Schedule 1 of the MBCA can occur in NL, most frequently on the shoreline surrounding the island of Newfoundland. Migratory birds that are SAR are further protected under the SARA.

SARA was established to protect endangered or threatened wildlife from becoming extinct or lost and to support recovery efforts of these species. Species are classified as extirpated, endangered, threatened or of special concern by the Committee on the Status of Endangered Wildlife in Canada. SARA has similar goals to the MBCA: to federally protect species by prohibiting capture, killing, taking, or harming listed species, as well as damage or destruction of a residence of a listed species (e.g., nests).

The NL ESA designed to complement SARA, was established to provide special protection to species considered to be endangered, threatened or vulnerable. The NL ESA ranks species based on the recommendations of the Species Status Advisory Committee and SARA, which is based on the reporting efforts of the Committee on the Status of Endangered Wildlife in Canada. There are currently 15 bird species listed under the NL ESA: Barrow's goldeneye, bobolink, chimney swift, common nighthawk, Eskimo curlew, harlequin duck, ivory gull, Newfoundland gray-cheeked thrush, olive-sided flycatcher, peregrine falcon, piping plover, red crossbill, red knot, rusty blackbird, and short-eared owl. Additionally, provincial legislation protects raptor and owl species under the *Wildlife Act*. Provincial and federal regulations for avifauna are outlined in subsequent sections.

3.8 Other Valued Environmental Components

This section describes follow-up and monitoring approaches which will be implemented for several socioeconomic VECs including Indigenous Land and Resource Use; other land and resource use; economy and employment; services and infrastructure; as well as community health and well-being.

Dedicated follow-up and monitoring plans are not proposed for either Indigenous Land and Resource Use or other land and resource use. For Indigenous Land and Resource Use and other land and resource use, the Kami Engagement Plan will be used to address specific interests, while monitoring programs for other VECs will also apply indirectly. The Kami Engagement Plan (which includes the approach to local domestic woodcutters) will maintain engagement with government bodies, community groups, and stakeholders to Project planning and information sharing throughout the duration of the Project.

In terms of economy and employment, Champion will seek to enhance benefits from the Project and follow the Benefits Agreement and Gender Equity and Diversity Plan and Workforce and Employment Plans, which will be generated following submission of the EIS.

For services and infrastructure, Champion is committed to ongoing work with the Labrador West Alliance, a Regional Working Group of mining companies, municipalities, provincial, and federal government agencies, and the Labrador West Chamber of Commerce to help address common issues, such as labour supply, health care service capacity, transportation access and housing/accommodations, which could include:

- coordination with childcare service providers to notify them of the potential increase in demand
- coordination with local health care providers and relevant government agencies to notify them of the Project and the potential increases in population associated with the Project workforce
- coordination with community organizations to explore opportunities with affected organizations
- monitoring adverse effects on flight availability and cost
- managing the demand on housing and accommodation, with the priority to make more housing available over time to increase the potential for local employment opportunities
- creating new residential lots to accommodate population growth

The relevant monitoring and adaptive management programs to community health and well-being include those identified for air quality; water quality; and noise, vibration, and light. Champion will continue to engage with resource users and communities to assess the success of mitigation measures related to community health and well-being as well as other VECs.

4. Summary of Key Environmental Objectives and Monitoring Requirements

The key objective of environmental monitoring is to identify and assess changes in environmental conditions that may result from Project activities. Monitoring is structured around specific environmental aspects, which are defined as distinct elements of the environment that may interact with the Project. These aspects are derived from the VECs assessed in the EIS.

For each environmental aspect, general monitoring objectives have been defined to guide the development of discipline specific monitoring plans. Monitoring activities are designed to achieve the defined mitigation objectives and to inform adaptive management where needed. This approach ensures that environmental protection commitments are met, and that monitoring remains responsive to observed conditions in the field.

Compliance monitoring is implemented to assess the performance of the Project with respect to the regulatory permits and approvals, and authorizations. Data accumulated throughout the compliance and commitments monitoring will be used to assess the effectiveness of the environmental program during construction and operations. Monitoring is also required to meet the commitments identified in the EIS.

The EM/EML will be responsible for the majority of compliance monitoring, but all construction staff are responsible for identifying the appropriate representative conditions that may be causing the Project to be out of compliance with the regulatory or construction permit requirements. **Table 6** provides a summary of the applicable monitoring programs for the VECs described in Section 3; their monitoring objectives and monitoring commitments presented in this EEMP. This list may evolve pending conditions of release from EA, permit conditions, and through ongoing engagement with regulators.

Table 6: Key Environmental Objectives and Monitoring Requirements

VEC	Objective	Summary of Monitoring Requirements	Duration
Air quality	Monitor the performance and effectiveness of ambient air quality mitigation measures and contribute to continuous improvement.	**Ambient Air Quality Monitoring Program** An ambient air monitoring program (including monitoring for COCs at select locations around the Project to be determined in consultation with the Province. The program will be implemented during each Project phase to verify the air quality model predictions, assess the effectiveness of mitigation measures, and inform if further mitigation measures are required through adaptive management approaches. The monitors will be in addition to the existing ambient air quality monitors operated by the Iron Ore Company of Canada and Tacora in western Labrador. Monitor locations will be determined following consultation with applicable regulatory agencies.	Implemented during the Construction phase and continued into the Operations phase.
Climate	Meet regulatory GHG reporting requirements	– There will be a requirement to fulfill annual calculation of GHG emissions and reporting to appropriate federal and provincial governments based on requirements under the NL MGGA and the ECCC's GHGRP. – Annual GHG reporting is required under the NL MGGA for facilities emitting over 15,000 tonnes of CO_2 equivalent annually until the facility ceases operations or emits less than 14,000 tonnes for three consecutive years, after which it may apply for an exemption. – Annual GHG reporting is required under ECCC's GHGRP, administered under Section 46(1) of the *Canadian Environmental Protection Act* for industrial facilities emitting 10,000 tonnes of CO_2 equivalent annually.	Implemented during the Construction phase and continued into the Operations phase.
Noise	Monitor noise levels at potentially sensitive receptors to verify mitigation measure effectiveness and contribute to continuous improvement.	**Noise Mitigation and Monitoring Plan** – Implementation of noise monitoring and measurements that consider applicable regulations, guidelines, and/or policies; indicators and PORs, remedial actions and complaints resolution processes should noise, and vibration concerns are brought forward. – Review of noise monitoring locations should be completed periodically and confirmed to determine appropriateness.	Implemented during the Construction phase and continued into the Operations phase.
Vibration	Monitor blasting at potentially sensitive receptors to verify mitigation measure effectiveness and contribute to continuous improvement.	**Vibration Monitoring Plan** – A series of seismographs at varying distances from blasts will be established and a detailed record of the loading parameters will be kept for ground and air vibration level monitoring from blasting operations to develop site-specific vibration attenuation. – Instrumentation to monitor vibrations will be established at the nearest PORs (including for blasts within 525 m of the nearest active spawning bed during spawning season). – Instrumentation to monitor vibrations will be established at the nearest active fishery location for blasts within 275 m of a watercourse (this will include a hydrophone and data acquisition unit) to record water overpressure intensified during initial blasts. Periodic monitoring should be conducted as the blasts approach the nearest fishery.	Implemented during the Operations phase

VEC	Objective	Summary of Monitoring Requirements	Duration
Groundwater	Monitor groundwater levels and groundwater quality to avoid effects on the receiving environment, monitor the performance and effectiveness of water management infrastructure, and contribute to continuous improvement.	**Groundwater Monitoring Plan** – Verify that water management infrastructure and facilities are operating as designed and evaluate effectiveness of surface water mitigations. – Establish groundwater monitoring for the measurement of groundwater prior to the start of construction in consultation with the Province. – Evaluate the effectiveness of reclamation and other mitigation actions and modify or enhance as necessary through monitoring and developing updated mitigation measures (if needed).	Implemented during the Construction phase and continued through the Project's Closure phase
Surface water	Monitor surface water levels and quality to avoid effects on the receiving environment, monitor the performance and effectiveness of water management infrastructure, and contribute to continuous improvement.	**Surface Water Monitoring Plan** – Surface water and sediment quantity and quality monitoring to confirm discharge meets appropriate threshold criteria and whether changes to water quality/quantity or sediment quality occur. – Monitor Project effluent quantity and quality discharged to the receiving environment. – Verify that water management infrastructure and facilities are operating as designed and evaluate effectiveness of surface water mitigations. – Monitor and track the trajectory of COPCs that were identified to exceed thresholds (e.g., cobalt, selenium) in the receiving environment and farther downstream. – Verify the predictions of the EIS and confirm that the aquatic ecosystem in the receiving environment is protected, evaluate the effectiveness of reclamation and other mitigation actions, and adjust/enhance any mitigations/monitoring efforts as necessary. – A Real-Time Monitoring Network Agreement in consultation with the Water Resources Management Division will be prepared and submitted to the Minister of Environment and Conservation, to receive the Minister's approval for the Real-Time Monitoring Network prior to the start of construction. – Surface water quantity and quality stations for the monitoring program will be determined following submission of the EIS in consultation with applicable regulatory agencies.	Implemented during the Construction phase and continued through the Project's Closure phase

VEC	Objective	Summary of Monitoring Requirements	Duration

Fish and fish habitat	Monitor fish and fish habitat to avoid effects on fish, monitor the performance and effectiveness of water management infrastructure, and contribute to continuous improvement.	**Fish and Fish Habitat Monitoring Plan**
		– Verify the predictions of the EIS and confirm that the aquatic ecosystem/fish habitat in the receiving environment is protected, evaluate the effectiveness of reclamation and other mitigation actions, and adjust/enhance any mitigations/monitoring efforts as necessary.
		– Ensure the mine operation remains in compliance with the *Fisheries Act* and other relevant legislation, following the approval and initiation of the Project. The monitoring program should include:
		  – Any environmental effects monitoring required under the Section 35 *Fisheries Act* authorization, including fish population surveys, water quality testing, habitat assessments or estimates, sediment testing and analysis, biological monitoring (e.g., benthic invertebrate surveys), hydrological surveys, habitat surveys, and redd surveys.
		  – Any monitoring, testing, and/or reporting required under Section 36 of the *Fisheries Act* related to effluent monitoring, biological studies, and environmental effects monitoring/reporting.
		  – Any monitoring, testing, and/or reporting required under the Department of Energy and Climate Certificate of Approval related to fish population sampling, water quality testing, and habitat assessments.
		– The Fish and Fish Habitat Offsetting Plan will be reviewed and requires approval by DFO prior to the beginning of the Construction Phase. Upon completion of the offsetting project, compliance monitoring will be completed in the St. Lewis River to assess the Project's effectiveness.
		– Monitoring will include fish surveys below and above the passage structure.
		– As part of monitoring, follow-up, and compliance, fish population sampling, fish tissue sampling, and benthic invertebrate studies will be completed to support requirements under the MDMER.
			Implemented during the Construction phase and continued through the Project's Closure phase

Wetlands	Monitor wetlands to avoid effects, monitor the performance and effectiveness of water management infrastructure and contribute to continuous improvement.	**Construction Based Monitoring** – Verify the predictions of the EIS and confirm that the receiving environment is protected, evaluate the effectiveness of reclamation and other mitigation actions, and adjust/enhance any mitigations/monitoring efforts as necessary. – Monitor key early indicators of wetland health and provide that data to the tracking and interpretation. In the event that assessment of the data indicates that the current levels of mitigation are not effective, the EM/EMLs will work with the contractors to improve the mitigation. Increased monitoring of areas of concern will continue until monitoring indicates that the mitigation is effective.	Implemented during the Construction phase

VEC	Objective	Summary of Monitoring Requirements	Duration
		Long-Term Monitoring – Verify the predictions of the EIS and confirm that the receiving environment is protected, evaluate the effectiveness of reclamation and other mitigation actions, and adjust/enhance any mitigations/monitoring efforts as necessary. – After consultation with regulatory agencies, the required sampling and assessment parameters for long-term monitoring of the wetlands will be established. – The wetland monitoring program will include return visits to selected wetlands in the LSA where baseline conditions were gathered in 2023, including a functional assessment using the WESP-AC. The monitoring schedule should be established in consultation with regulators, possibly including site visits to selected wetlands in the LSA to document that Project mitigation measures are effective and confirm the actual total wetland effect area, for the purpose of establishing commitments to offset loss of wetland function.	Implemented during the Operations phase
Wildlife and wildlife habitat	Monitor the performance and effectiveness of mitigation measures, mitigate effects on wildlife (including SAR/SOCC and migratory birds), and contribute to continuous improvement.	**Species at Risk or Species of Conservation Concern** – Verify the predictions of the EIS and confirm that the receiving environment is protected, evaluate the effectiveness of reclamation and other mitigation actions, and adjust/enhance any mitigations/monitoring efforts as necessary. – Wildlife and habitat monitoring, as well as SAR/SOCC monitoring will include both targeted and general observations. Any observations of SAR/SOCC will be reported to the wildlife Division.	Implemented during the Construction phase and continue observations into the Operations phase.

		Invasive Species Monitoring
		– Invasive alien plant species with potential to occur in western Labrador, may include, but are not limited to:
		  – Canada thistle (*Cirsium arvense*)
		  – coltsfoot (*Tussilago farfara*)
		  – tansy ragwort (*Senecio jacobaea*)
		  – common dandelion (*Taraxacum officinale*)
		  – pineapple weed (*Matricaria discoidea*)
		– Construction areas will be monitored for invasive species and contractors will be required to implement invasive species management where required.
		– In the event that invasive species are identified in the field, the location will be logged with a GPS in addition to the species, photo number (if available) and date. The information will be provided for tracking in the compliance environmental management system and the contractor will be notified of the issue.
			Implemented during the Construction phase

VEC	Objective	Summary of Monitoring Requirements	Duration
		Avifauna Mitigation and Monitoring Plan – Verify the predictions of the EIS and confirm that the receiving environment is protected, evaluate the effectiveness of reclamation and other mitigation actions, and adjust/enhance any mitigations/monitoring efforts as necessary. – The AMMP will be further developed separately subsequent to the completion of the EIS and prior to construction. This plan will ensure compliance with conditions and established regulatory requirements and support biodiversity stewardship. – Monitoring requirements, including nest setbacks and observation protocols, will be tailored to the species and reproductive status. – If a migratory bird nest is identified during monitoring and a nesting bird shows signs of disturbance due to construction activities, the EM/EML will halt work until it is safe to resume. Nest monitoring will cease if the nest fails, is predated, or destroyed by natural events. All monitoring data will be recorded in the Environmental Management System to identify trends, such as nesting hotspots.	Implemented during the construction phase and continue into the Operations phase.

CO_2 = carbon dioxide; COPC = contaminant of potential concern; DFO = Fisheries and Oceans Canada; EA = Environmental Assessment; ECCC = Environment and Climate Change Canada; EIS = Environmental Impact Statement; EPP = Environmental Protection Plan; GHGRP = Greenhouse Gas Reporting Program; MDMER = *Metal and Diamond Mining Effluent Regulations*; MGGA = *Management of Greenhouse Gases Act*; NL = Newfoundland and Labrador; POR = point of reception; SAR = species at risk; SOCC = species of conservation concern; VEC = valued environmental component; AMMP = Avifauna Mitigation and Monitoring Plan; WESP-AC = Wetland Ecosystem Services Protocol for Atlantic Canada.

5. Adaptive Management

Adaptive management is a systematic process for improving environmental knowledge and adjusting management practices based on outcomes. It provides a structured yet flexible approach to decision-making, allowing for adjustments in monitoring and mitigation measures throughout a project's lifespan. Figure 2 shows the integrated adaptive management framework that is proposed for the Kami Project.

As new information verifies environmental effects and the efficacy of mitigation measures, monitoring programs will be improved accordingly. Monitoring will be compared to anticipated effects and permit requirements. Management has also been proposed to address the uncertainties associated with the effects predictions and mitigation. If results do not meet expectations or if there is insufficient understanding of a project's impact and an inability to confidently predict outcomes, adaptive management will be employed to mitigate these effects/uncertainties and meet Project requirements. For instance, if environmental monitoring detects unexpected changes, adaptive management will determine the necessary actions to minimize adverse effects and reduce uncertainty. These actions may include more intensive or focused monitoring, specific studies focused on better understanding of a particular change in measurable parameters and associated environmental effects, improved or modified design features, or additional mitigation measures.

In accordance with the EIS Guidelines, the detailed monitoring program may be finalized after the EIS process in consideration of comments received by government agencies, Indigenous communities, and other interested parties. As such, the Adaptive Management Plan has been proposed to address uncertainties associated with potential effects and mitigation measures, allowing for continual review and analysis of uncertainties and risks. Adaptive management considerations provide a structured approach to decision-making, while allowing flexibility to modify approaches to environmental protection throughout the Project's lifespan.

Actions stemming from adaptive management may include more intensive or focused monitoring; additional studies to increase understanding of changes and associated environmental effects, improved or modified design features; or the implementation of additional mitigation measures.

The Adaptive Management Plan, which pertains to the Operations phase of the Project and includes details on its process and application, will be prepared and completed following the submission of the EIS.

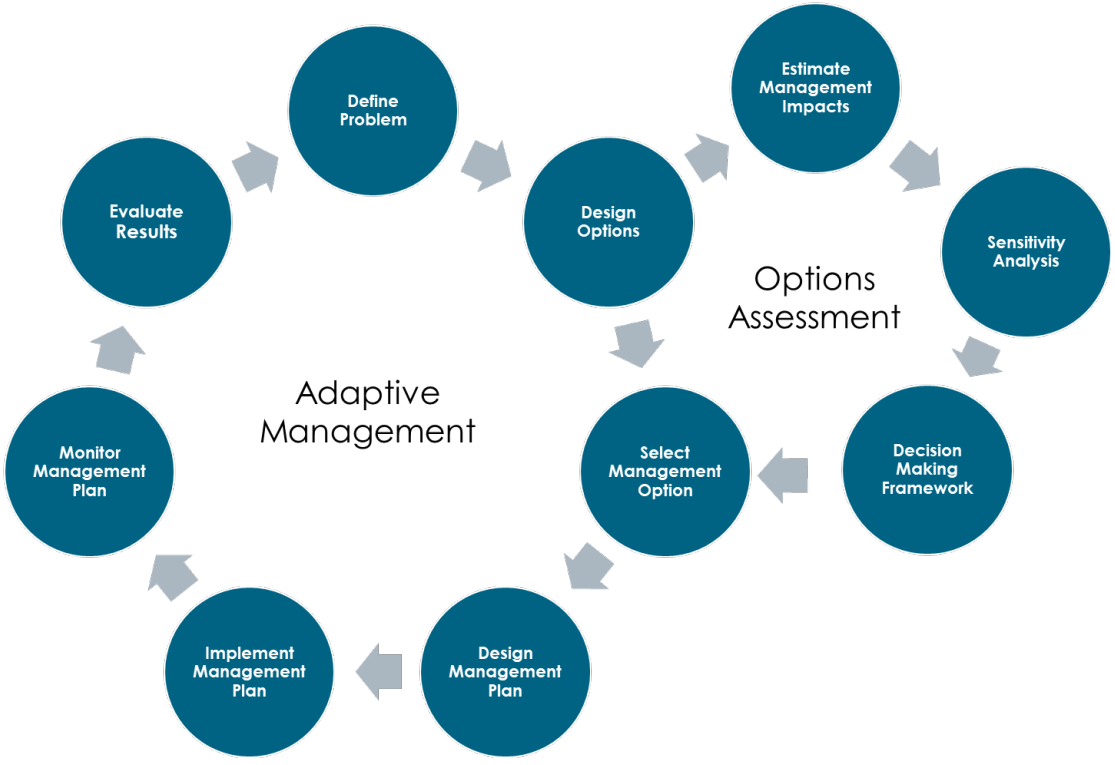

Figure 2: Integrated Adaptive Management Framework

6. Communication and Engagement

Champion is committed to consulting and engaging Indigenous groups, public stakeholders, and regulators on the development and implementation of the EEMP. Champion's commitment to responsible mining is reflected in its four core values, which form the cornerstone of Champion's beliefs, guiding daily operations as follows (Champion 2025a):

1) **Pride**–Develop a collective sense of belonging in all spheres of iron ore mining.
2) **Ingenuity**–Leverage employee creativity and expertise to achieve and maintain efficient practices aimed at operational excellence.
3) **Respect**–Respect people, resources, the environment, safety standards, partnerships, and equipment.
4) **Transparency**–Promote transparent communications through active listening and open dialogue.

Champion's dedication to developing strong relationships with Indigenous groups and public stakeholders is based on the following three pillars (Champion Iron 2025b):

1) providing a safe and inclusive working environment, avoiding social inequities, and respecting human rights
2) engaging with communities by respecting corporate values
3) protecting the environment and biodiversity

Champion views relationships of trust with local communities as key to the success and sustainability of its operations. It is through local community relationships that Champion can successfully create lasting benefits, minimize negative social and environmental impacts in the areas where it operates, and advance its contributions toward sustainable development. Champion engages with communities by contributing to local economic development through local hiring, sourcing, and community investments. As outlined in **Chapter 22, Engagement**, of the EIS and the Kami Engagement Plan, Champion is committed to continuing engagement throughout the life of the Project. Any issues or concerns related to Champion's monitoring programs will be considered and incorporated into updates of the EEMP.

7. References

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Champion. 2013a. Kami Iron Ore Project amendment to the environmental impact statement volume 1 – summary. St. John's NL.

Champion. 2013b. Kami iron ore project environmental impact statement - information request responses. St. John's, NL.

Appendix A: Wildlife Species that Occur or Potentially Occur Within the Local Study Area and Regional Study Area

Species Name	Occurence[1]	Data Source	Relative Abundance[2]	Habitat	MCBA Designation	SARA Designation	NL ESA Designation
Birds							
Alder flycatcher ***Empidonax alnorum***	**CONFIRMED**	**Alderon 2012, EBIRD 2025**	**Common (breeder)**	**Forest**	**Yes**	**–**	**–**
American bittern ***Botaurus lentiginosus***	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Wetlands**	**Yes**	**–**	**–**
American black duck ***Anas rubripes***	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Wetlands**	**Yes**	**–**	**–**
American coot ***Fulica americana***	**REPORTED**	**EBIRD 2025**	**Rare (breeder)**	**Freshwater wetlands and riparian areas**	**Yes**	**Not at Risk**	**–**
American crow ***Corvus brachyrhynchos***	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**General**	**–**	**–**	**–**
American golden plover *Pluvialis dominica*	REPORTED	EBIRD 2025	Common (migratory)	Upland barrens/shoreline	Yes	–	–
American goldfinch ***Spinus tristis***	**CONFIRMED**	**Alderon 2012, EBIRD 2025**	**Rare (breeding)**	**Open woodlands**	**Yes**	**–**	**–**
American kestrel *Falco sparverius*	REPORTED	EBIRD 2025	Uncommon (breeder)	Barrens	–	–	–
American pipit *Anthus rubescens*	REPORTED	EBIRD 2025	Common (migrant)	Open meadows	Yes	–	–
American robin ***Turdus migratorius***	**CONFIRMED**	**Alderon 2012, EBIRD 2025, QBBA 2014**	**Common (breeder)**	**General**	**Yes**	**–**	**–**
American three-toed woodpecker ***Picoides dorsalis***	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Coniferous forest**	**Yes**	**–**	**–**
American tree sparrow *Spizella arborea*	REPORTED	EBIRD 2025	Uncommon (breeder)	Barrens/forest	Yes	–	–
American wigeon *Mareca americana*	REPORTED	EBIRD 2025	Rare (breeder)	Wetlands and grasslands	Yes	–	–
Arctic tern *Sterna paradisaea*	REPORTED	EBIRD 2025	Uncommon (breeder)	Shorelines	Yes	–	–
Aythya sp. *Aythya* sp.	REPORTED	EBIRD 2025	n/a	n/a	n/a	n/a	n/a
Bald eagle ***Haliaeetus leucocephalus***	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**General**	**–**	**Not at Risk**	**–**
Bank swallow *Riparia riparia*	REPORTED	EBIRD 2025	Uncommon (breeder)	Wetlands	Yes	Threatened	Threatened

Species Name	Occurence[1]	Data Source	Relative Abundance[2]	Habitat	MCBA Designation	SARA Designation	NL ESA Designation
Barn swallow *Hirundo rustica*	REPORTED	EBIRD 2025	Uncommon (breeder)	Open areas/ structures/ cliffs	Yes	Threatened	Vulnerable
Barrow's goldeneye *Bucephala islandica*	REPORTED	EBIRD 2025	Uncommon (breeder)	Wetlands	Yes	Special Concern	Vulnerable
Belted kingfisher *Megaceryle alcyon*	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Wetlands**	**-**	**-**	**-**
Black scoter *Melanitta americana*	**REPORTED**	**ACCDC 2025, EBIRD 2025**	**Uncommon (migrant)**	**Wetlands**	**Yes**	**-**	**-**
Black tern *Chlidonias niger*	REPORTED	EBIRD 2025	Rare (migrant)	Wetlands/ shorelines	Yes	Not at Risk	-
Black vulture *Coragyps atratus*	REPORTED	EBIRD 2025	Rare (all seasons)	General	-	-	-
Black-and-white Warbler *Mniotilta varia*	REPORTED	EBIRD 2025	Rare (breeding)	Forest	Yes	-	-
Black-backed woodpecker *Mniotilta varia*	**REPORTED**	**EBIRD 2025, QBBA 2014**	**Common (breeder)**	**Coniferous forest**	**Yes**	**-**	**-**
Black-belied plover *Pluvialis squatarola*	REPORTED	EBIRD 2025	Common (migrant)	Wetlands/ coastal areas	Yes	-	-
Black-capped chickadee *Poecile atricapillus*	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Forest**	**Yes**	**-**	**-**
Blackpoll warbler *Dendroica striata*	**CONFIRMED**	**Alderon 2012, EBIRD 2025**	**Common (breeder)**	**Forest**	**Yes**	**-**	**-**
Blue jay *Cyanocitta cristata*	REPORTED	EBIRD 2025	Common (breeder)	Forest/towns	-	-	-
Blue-headed vireo *Vireo solitaries*	**REPORTED**	**EBIRD 2025**	**Uncommon (breeder)**	**Mixed forest**	**Yes**	**-**	**-**
Bohemian waxwing *Bombycilla garrulus*	REPORTED	EBIRD 2025	Rare (winter)	General	Yes	-	-
Boreal chickadee *Poecile hudsonicus*	**CONFIRMED**	**Alderon 2012, EBIRD 2025, QBBA 2014**	**Common (breeder)**	**Forest**	**Yes**	**-**	**-**
Boreal owl *Aegolius funereus*	REPORTED	EBIRD 2025	Uncommon (breeder)	Forest	-	Not at Risk	-
Brant *Branta bernicla*	REPORTED	EBIRD 2025	Rare (migration)	Freshwater lakes	Yes	-	-
Brown creeper *Certhia americana*	REPORTED	EBIRD 2025	Uncommon (breeder)	Forest	Yes	-	-

Species Name	Occurence[1]	Data Source	Relative Abundance[2]	Habitat	MCBA Designation	SARA Designation	NL ESA Designation
Brown-headed cowbird *Molothrus ater*	REPORTED	EBIRD 2025	Rare (breeder)	Open country	-	-	-
Bufflehead *Bucephala albeola*	REPORTED	EBIRD 2025	Uncommon (breeder)	Wetlands	Yes	-	-
Cackling goose *Branta hutchinsii*	REPORTED	EBIRD 2025	Rare (migrant)	Tundra/Lakes	Yes	-	-
Canada Goose *Branta canadensis*	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Wetlands**	**Yes**	**-**	**-**
Canada Jay *Perisoreus canadensis*	**REPORTED**	**EBIRD 2025, QBBA 2014**	**Common (breeder)**	**Coniferous forest**	**-**	**-**	**-**
Cedar waxwing *Bombycilla cedrorum*	**CONFIRMED**	**Alderon 2012, EBIRD 2025**	**Uncommon (breeder)**	**Forest**	**Yes**	**-**	**-**
Common goldeneye *Bucephala clangula*	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Wetlands**	**Yes**	**-**	**-**
Common grackle *Quiscalus quiscula*	REPORTED	EBIRD 2025	Uncommon (breeder)	Towns	-	-	-
Common loon *Gavia immer*	**REPORTED**	**EBIRD 2025, QBBA 2014**	**Common (breeder)**	**Wetlands**	**Yes**	**Not at Risk**	**-**
Common merganser *Mergus merganser*	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Wetlands**	**Yes**	**-**	**-**
Common nighthawk *Chordeiles minor*	**CONFIRMED**	**AMEC 2014, EBIRD 2025**	**Uncommon (breeder)**	**Open forest**	**Yes**	**SC**	**Vulnerable**
Common raven *Corvus corax*	**REPORTED**	**EBIRD 2025, QBBA 2014**	**Common (breeder)**	**General**	**Yes**	**-**	**-**
Common redpoll *Acanthis flammea*	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Barrens/forest**	**-**	**-**	**-**
Common tern *Sterna hirundo*	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Aquatic habitats**	**Yes**	**Not at Risk**	**-**
Common/ red breasted merganser *Mergus merganser/serrator*	REPORTED	EBIRD 2025	Common (breeder)	Lakes	Yes	-	-
Dark-eyed junco *Junco hyemalis*	**REPORTED**	**EBIRD 2025, QBBA 2014, NLBBA 2025**	**Common (breeder)**	**Forest**	**Yes**	**-**	**-**
European starling *Sturnus vulgaris*	REPORTED	EBIRD 2025	Common (breeder)	Towns	-	-	-

Species Name	Occurence[1]	Data Source	Relative Abundance[2]	Habitat	MCBA Designation	SARA Designation	NL ESA Designation
Fox sparrow ***Passerella liliaca***	**CONFIRMED**	**Alderon 2012, EBIRD 2025, QBBA 2014, NLBBA 2025**	**Common (breeder)**	**Forest**	**Yes**	**–**	**–**
Golden eagle *Aquila chrysaetos*	REPORTED	EBIRD 2025	Uncommon (migrant)	Forest/barrens	–	–	–
Golden-crowned kinglet ***Regulus satrapa***	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Forest**	**Yes**	**–**	**–**
Gray-cheeked thrush *Catharus minimus*	REPORTED	EBIRD 2025, QBBA 2014	Uncommon (breeder)	Forest	Yes	–	Threatened
Great black-backed gull *Catharus minimus*	REPORTED	EBIRD 2025	Common (breeder)	General	Yes	–	–
Great horned owl *Bubo virginianus*	REPORTED	EBIRD 2025	Uncommon (breeder)	Forest	–	–	–
Greater scaup *Aythya marila*	REPORTED	EBIRD 2025	Uncommon (breeder)	Wetlands	Yes	–	–
Greater yellowlegs ***Tringa melanoleuca***	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Wetlands**	**Yes**	**–**	**–**
Green-winged teal ***Anas crecca***	**REPORTED**	**EBIRD 2025**	**Uncommon (breeder)**	**Wetlands**	**Yes**	**–**	**–**
Gyrfalcon *Falco rusticolus*	REPORTED	EBIRD 2025	Uncommon (wintering)	Arctic barrens	–	Not at Risk	–
Hairy woodpecker *Picoides villosus*	REPORTED	EBIRD 2025	Uncommon (breeder)	Forest	Yes	–	–
Harlequin duck *Histrionicus histrionicus*	REPORTED	EBIRD 2025	Uncommon (migrant)	Wetlands	Yes	Special Concern	Vulnerable
Hermit thrush ***Catharus guttatus***	**CONFIRMED**	**Alderon 2012, EBIRD 2025, QBBA 2014**	**Common (breeder)**	**Forest**	**Yes**	**–**	**–**
Herring gull ***Larus argentatus***	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**General**	**Yes**	**–**	**–**
Hoary redpoll ***Acanthis hornemanni***	**REPORTED**	**EBIRD 2025**	**Uncommon (breeder)**	**Barrens/forest**	**Yes**	**–**	**–**
Horned lark *Eremophila alpestris*	REPORTED	EBIRD 2025	Uncommon (breeder)	Barrens	Yes	–	–
Killdeer *Charadrius vociferus*	REPORTED	EBIRD 2025	Uncommon (breeder)	Open ground	Yes	–	–

Species Name	Occurence[1]	Data Source	Relative Abundance[2]	Habitat	MCBA Designation	SARA Designation	NL ESA Designation
Lapland longspur ***Calcarius lapponicus***	**REPORTED**	**EBIRD 2025**	**Common (migrant)**	**General habitat during migration**	**Yes**	**–**	**–**
Least flycatcher ***Empidonax minimus***	**REPORTED**	**EBIRD 2025**	**Uncommon (breeder)**	**Forest**	**Yes**	**–**	**–**
Least sandpiper *Empidonax minimus*	REPORTED	EBIRD 2025	Uncommon (breeder)	Upland barrens/shoreline	Yes	–	–
Lesser scaup *Aythya affinis*	REPORTED	EBIRD 2025	Rare (migration)	Wetlands/lakes	Yes	–	–
Lesser yellowlegs *Tringa flavipes*	REPORTED	EBIRD 2025	Rare (migration)	Wetlands/Open boreal forest	Yes	–	–
Lincoln's sparrow ***Melospiza lincolnii***	**CONFIRMED**	**Alderon 2012, EBIRD 2025, QBBA 2014**	**Common (breeder)**	**Barrens**	**Yes**	**–**	**–**
Long-tailed duck *Clangula hyemalis*	REPORTED	EBIRD 2025	Uncommon (breeder)	Wetlands	Yes	–	–
Magnolia warbler ***Dendroica magnolia***	**REPORTED**	**EBIRD 2025**	**Uncommon (breeder)**	**Forest**	**Yes**	**–**	**–**
Mallard ***Anas platyrhynchos***	**REPORTED**	**EBIRD 2025, QBBA 2014**	**Uncommon (breeder)**	**Wetlands**	**Yes**	**–**	**–**
Merlin ***Falco columbarius***	**REPORTED**	**EBIRD 2025, QBBA 2014**	**Common (breeder)**	**Forest/barrens**	**–**	**Not at Risk**	**–**
Mourning dove *Zenaida macroura*	REPORTED	EBIRD 2025	Rare (year-round)	Any semi-open area	Yes	–	–
Nashville warbler *Oreothlypis ruficapilla*	REPORTED	EBIRD 2025	Rare (year-round)	Forest	Yes	–	–
Northern flicker ***Colaptes auratus***	**CONFIRMED**	**Alderon 2012, EBIRD 2025, QBBA 2014**	**Common (breeder)**	**Forest**	**Yes**	**–**	**–**
Northern goshawk ***Accipiter gentilis***	**REPORTED**	**EBIRD 2025**	**Uncommon (breeder)**	**Forest**	**–**	**Not at Risk**	**–**
Northern harrier *Circus cyaneus*	REPORTED	EBIRD 2025	Uncommon (breeder)	Open, vegetated habitat	–	Not at Risk	–
Northern hawk owl *Surnia ulula*	REPORTED	EBIRD 2025	Uncommon (breeder)	Barrens/forest	–	Not at Risk	–
Northern Pintail *Anas acuta*	REPORTED	EBIRD 2025	Uncommon (breeder)	Wetlands	Yes	–	–
Northern shrike *Lanius borealis*	REPORTED	EBIRD 2025	Uncommon (breeder)	Forest	Yes	–	–

Species Name	Occurence[1]	Data Source	Relative Abundance[2]	Habitat	MCBA Designation	SARA Designation	NL ESA Designation
Northern waterthrush *Seirus noveboracensis*	REPORTED	EBIRD 2025, QBBA 2014, NLBBA 2025	Common (breeder)	Forest	Yes	-	-
Olive-sided flycatcher *Contopus cooperii*	**CONFIRMED**	**Alderon 2012, EBIRD 2025**	**Uncommon (breeder)**	**Forest**	**Yes**	**-**	**Vulnerable**
Orange-crowned warbler *Vermivora celata*	**CONFIRMED**	**Alderon 2012, EBIRD 2025, QBBA 2014**	**Common (breeder)**	**Forest**	**Yes**	**-**	**-**
Osprey *Pandion haliaetus*	**REPORTED**	**EBIRD 2025, QBBA 2014**	**Common (breeder)**	**Riparian forest**	**-**	**-**	**-**
Peregrine falcon *Falco peregrinus anatum*	REPORTED	EBIRD 2025, QBBA 2014	Uncommon migrant	Forest/barrens	-	Not at Risk	Vulnerable
Philadelphia vireo *Vireo philadelphicus*	**REPORTED**	**EBIRD 2025**	**Uncommon (breeder)**	**Mixed forest**	**Yes**	**-**	**-**
Pine grosbeak *Pinicola enucleator*	**REPORTED**	**EBIRD 2025, NLBBA 2025**	**Common (breeder)**	**Forest**	**Yes**	**-**	**-**
Pine siskin *Spinus pinus*	**REPORTED**	**EBIRD 2025, QBBA 2014, NLBBA 2025**	**Common (breeder)**	**Barrens/forest**	**Yes**	**-**	**-**
Purple finch *Carpodacus purpureus*	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Coniferous forest**	**Yes**	**-**	**-**
Red crossbill *Loxia curvirostra*	REPORTED	EBIRD 2025	Uncommon (breeder)	Coniferous forest	Yes	Threatened	Threatened
Red knot *Calidris canutus*	REPORTED	ACCDC 2025	Uncommon (migrant)	Shoreline habitats	Yes	Endangered	Endangered
Red-breasted merganser *Mergus serrator*	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Wetlands**	**Yes**	**-**	**-**
Red-breasted nuthatch *Sitta canadensis*	**REPORTED**	**EBIRD 2025, QBBA 2014**	**Common (breeder)**	**Forest**	**Yes**	**-**	**-**
Red-eyed vireo *Vireo olivaceus*	REPORTED	EBIRD 2025	Uncommon (breeder)	Mixed forest	Yes	-	-
Red-tailed hawk *Buteo jamaicensis*	REPORTED	EBIRD 2025	Uncommon (breeder)	Barrens	-	Not at Risk	-
Red-winged blackbird *Agelaius phoeniceus*	REPORTED	EBIRD 2025	Uncommon (breeder)	Wetlands	-	-	-
Ring-billed gull *Larus delawarensis*	REPORTED	EBIRD 2025	Common (breeder)	General	Yes	-	-
Ring-necked duck *Aythya collaris*	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Wetlands**	**Yes**	**-**	**-**

Species Name	Occurence[1]	Data Source	Relative Abundance[2]	Habitat	MCBA Designation	SARA Designation	NL ESA Designation
Rough-legged hawk *Buteo lagopus*	REPORTED	EBIRD 2025	Uncommon (breeder)	Barrens	-	Not at Risk	-
Ruby-crowned kinglet *Regulus calendula*	**CONFIRMED**	**Alderon 2012, EBIRD 2025, QBBA 2014, NLBBA 2025**	**Common (breeder)**	**Forest**	**Yes**	**-**	**-**
Ruffed grouse *Bonas umbellus*	REPORTED	EBIRD 2025	Common (breeder)	Forest	-	-	-
Rusty blackbird *Euphagus carolinus*	**CONFIRMED**	**Alderon 2012, EBIRD 2025**	**Uncommon (breeder)**	**Wetlands**	**-**	**SC**	**Vulnerable**
Savannah sparrow *Passerculus sandwichensis*	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Post-fire habitat/barrens**	**Yes**	**SC**	**-**
Semipalmated plover *Charadrius semipalmatus*	REPORTED	EBIRD 2025	Common in migration	Shoreline habitat	Yes	-	-
Semipalmated sandpiper *Calidris pusilla*	REPORTED	EBIRD 2025	Uncommon breeder	Shoreline habitat	Yes	-	-
Sharp-shinned hawk *Accipiter striatus*	REPORTED	EBIRD 2025	Uncommon (breeder)	Forest	-	Not at Risk	-
Shorebird sp. *Charadriiformes sp.*	REPORTED	EBIRD 2025	n/a	n/a	n/a	Not at Risk	n/a
Short-eared owl *Asio flammeus*	**REPORTED**	**EBIRD 2025**	**Uncommon (breeder)**	**Barrens**	**-**	**Special Concern**	**Threatened**
Snow bunting *Plectrophenax nivalis*	**REPORTED**	**EBIRD 2025**	**Common (migrant)**	**General habitat during migration**	**Yes**	**-**	**-**
Snow goose *Answer caerulescens*	REPORTED	EBIRD 2025	Uncommon (migrant)	Wetlands	Yes	-	-
Snowy owl *Bubo scandiacus*	REPORTED	EBIRD 2025	Uncommon (wintering)	Tundra/open country	-	Threatened	-
Solitary sandpiper *Tringa solitaria*	REPORTED	EBIRD 2025	Common (breeder)	Wetlands	Yes	-	-
Song sparrow *Melospiza melodia*	**REPORTED**	**EBIRD 2025**	**Uncommon (breeder)**	**Forest**	**Yes**	**-**	**-**
Spotted sandpiper *Actitis macularius*	**REPORTED**	**EBIRD 2025**	**Common (breeder)**	**Shoreline habitat**	**Yes**	**-**	**-**
Spruce grouse *Canachites canadensis*	**REPORTED**	**EBIRD 2025**	**Uncommon (breeder)**	**Forest**	**-**	**-**	**-**

Species Name	Occurence[1]	Data Source	Relative Abundance[2]	Habitat	MCBA Designation	SARA Designation	NL ESA Designation
Surf scoter *Melanitta perspicillata*	REPORTED	EBIRD 2025, QBBA 2014	Uncommon (breeder)	Wetlands	Yes	–	–
Swainson's thrush *Catharus ustulatus*	CONFIRMED	Alderon 2012, EBIRD 2025, QBBA 2014	Common (breeder)	Forest	Yes	–	–
Swamp sparrow *Melospiza georgina*	CONFIRMED	Alderon 2012, EBIRD 2025	Common (breeder)	Wetlands/forest	Yes	–	–
Tennessee warbler *Vermivora peregrine*	CONFIRMED	Alderon 2012, EBIRD 2025, QBBA 2014, NLBBA 2025	Common (breeder)	Forest	Yes	–	–
Tree swallow *Tachycineta bicolor*	CONFIRMED	Alderon 2012, EBIRD 2025	Common (breeder)	Wetlands/near open water	Yes	–	–
White-crowned sparrow *Zonotrichia leucophrys*	CONFIRMED	Alderon 2012, EBIRD 2025, NLBBA 2025	Uncommon (breeder)	Forest	Yes	–	–
White-throated sparrow *Zonotrichia albicollis*	CONFIRMED	Alderon 2012, EBIRD 2025, NLBBA 2025, QBBA 2014	Common (breeder)	Forest	Yes	–	–
White-winged crossbill *Loxia leucoptera*	CONFIRMED	Alderon 2012, EBIRD 2025, NLBBA 2025	Common (breeder)	Coniferous forest	Yes	–	–
Willow ptarmigan *Lagopus lagopus*	REPORTED	EBIRD 2025	Common (breeder)	Barrens; riparian thicket	–	Not at Risk	–
Wilson's snipe *Gallinago delicata*	REPORTED	EBIRD 2025	Common (breeder)	Wetlands	Yes	–	–
Wilson's warbler *Wilsonia pusilla*	CONFIRMED	Alderon 2012, EBIRD 2025, QBBA 2014	Common (breeder)	Forest	Yes	–	–
Winter wren *Troglodytes troglodytes*	CONFIRMED	Alderon 2012, EBIRD 2025, QBBA 2014	Uncommon (breeder)	Forest	Yes	–	–
Yellow warbler *Dendroica petechia*	CONFIRMED	Alderon 2012, EBIRD 2025, NLBBA 2025	Common (breeder)	Forest	Yes	–	–
Yellow-bellied flycatcher *Empidonax flavivetris*	CONFIRMED	Alderon 2012, EBIRD 2025, QBBA 2014	Common (breeder)	Forest (wet)	Yes	–	–
Yellow-rumped warbler *Dendroica coronate*	CONFIRMED	Alderon 2012, EBIRD 2025, QBBA 2014, NLBBA 2025	Common (breeder)	Forest	Yes	–	–
Bats							
Eastern red bat *Lasiurus borealis*	CONFIRMED	WSP 2024, WSP 2025	Uncommon (breeder)	Forest edge, open habitat, wetlands	n/a	–	Endangered

Species Name	Occurence[1]	Data Source	Relative Abundance[2]	Habitat	MCBA Designation	SARA Designation	NL ESA Designation
Hoary bat ***Lasiurus cinereus***	**CONFIRMED**	**WSP 2024, WSP 2025**	**Uncommon (migrant)**	**Open, wetlands**	**n/a**	**–**	**Endangered**
Little brown myotis ***Myotis lucifugus***	**CONFIRMED**	**WSP 2024, WSP 2025**	**Common (breeder)**	**Forest edges, forest open patches, wetlands, ponds, developed land**	**n/a**	**Endangered**	**Endangered**
Northern myotis ***Myotis septentrionalis***	**CONFIRMED**	**WSP 2024, WSP 2025**	**Uncommon (breeder)**	**Forest, forest Edges, wetlands**	**n/a**	**Endangered**	**Endangered**
Silver-haired bat ***Lasionycteris noctivagans***	**CONFIRMED**	**WSP 2024, WSP 2025**	**Uncommon (breeder)**	**Forest edge, wetlands**	**n/a**	**–**	**Endangered**
Terrestrial Mammals							
Arctic fox *Alopex lagopus*	REPORTED	Government of Newfoundland and Labrador 2000	Common	Arctic tundra	n/a		–
Arctic hare *Lepus arcticus*	REPORTED	Government of Newfoundland and Labrador 2000	Common	Arctic tundra	n/a		–
American ermine ***Mustela erminea***	**CONFIRMED**	**Alderon 2012, AMEC 2012**	**Common**	**Forest, woodland, field**	**n/a**	**Threatened**	**–**
American marten ***Martes americana***	**CONFIRMED**	**Alderon 2012, AMEC 2012, JWEL 2001**	**Common**	**Forest with coarse woody debris**	**n/a**	**Threatened**	**Vulnerable**
American mink *Neogale vison*	CONFIRMED	AMEC 2012, Minaskuat 2008a	Common	Wetland, water	n/a	–	–
Beaver ***Castor canadensis***	**CONFIRMED**	**Alderon 2012**	**Common**	**Wetland, water**	**n/a**	**–**	**–**
Black bear ***Ursus americanus***	**CONFIRMED**	**Alderon 2012**	**Common**	**Broad range habitats, developed land**	**n/a**	**–**	**–**
Canada lynx ***Lynx canadensis***	**CONFIRMED**	**Alderon 2012, Labrador Iron Mines Ltd. 2009**	**Common**	**Boreal forest**	**n/a**	**Not at Risk**	**–**
Eastern coyote ***Canis latrans***	**CONFIRMED**	**Alderon 2012, AMEC 2012**	**Uncommon**	**Forest, field, wetland, developed land**	**n/a**	**–**	**–**
Fisher *Pekania pennanti*	REPORTED	Government of Newfoundland and Labrador 2000	Uncommon	Boreal forest	n/a	–	–
Gray wolf ***Canis lupus***	**CONFIRMED**	**Alderon 2012, AMEC 2012**	**Common**	**Forest, wetland, shrubland, field**	**n/a**	**Not at Risk**	**–**

Species Name	Occurence[1]	Data Source	Relative Abundance[2]	Habitat	MCBA Designation	SARA Designation	NL ESA Designation
Moose ***Alces alces***	**CONFIRMED**	**Alderon 2012**	**Common**	**Boreal and deciduous forest, shrubland, wetland**	**n/a**		**-**
Muskrat *Ondatra zibethicus*	CONFIRMED	Labrador Iron Mines Ltd. 2009	Common	Wetland, water	n/a		-
North American river otter ***Lontra canadensis***	**CONFIRMED**	**Alderon 2012, JWEL 2001, Minaskuat 2008a**	**Common**	**Wetland, water**	**n/a**		**-**
Porcupine ***Erethizon dorsatum***	**CONFIRMED**	**Alderon 2012, AMEC 2012, Minaskuat 2008b**	**Common**	**Forest**	**n/a**		**-**
Red fox ***Vulpes vulpes***	**CONFIRMED**	**Alderon 2012, AMEC 2012, JWEL 2001**	**Common**	**Broad range habitats, developed land**	**n/a**		**-**
Snowshoe hare ***Lepus americanus***	**CONFIRMED**	**Alderon 2012, AMEC 2012**	**Common**	**Boreal forest, wetland**	**n/a**		**-**
Wolverine *Gulo gulo*	REPORTED	Government of Newfoundland and Labrador 2000	Historically common; currently rare	Broad range habitats in northern landscapes	n/a	Special Concern	-
Woodland caribou *Rangifer tarandus*	REPORTED	Government of Newfoundland and Labrador 2000	Historically common; currently uncommon	Large contiguous tracts of undisturbed mature to old forest in peatland complexes	n/a	Threatened	Threatened
Amphibians							
American toad ***Anaxyrus americanus***	**CONFIRMED**	**Alderon 2012**	**Common**	**Broad range of habitats, ponds and pools for breeding**	**n/a**	**-**	**-**
Blue-spotted salamander *Ambystoma laterale*	REPORTED	Government of Newfoundland and Labrador 2005	Common	Deciduous forest, wetland, vernal pools for breeding	n/a	-	-
Mink frog *Lithobates septentrionalis*	REPORTED	Government of Newfoundland and Labrador 2005	Common	Edge of water and wetland habitats	n/a	-	-
Northern leopard frog *Lithobates pipiens*	REPORTED	Government of Newfoundland and Labrador 2005	Uncommon	Wetland, slow-moving streams	n/a	Not at Risk	-
Northern two-lined salamander *Eurycea bislineata*	CONFIRMED	Alderon 2012	Common	Forest, woodland, wetland	n/a	-	-

Species Name	Occurence[1]	Data Source	Relative Abundance[2]	Habitat	MCBA Designation	SARA Designation	NL ESA Designation
Spring peeper *Pseudacris crucifer*	REPORTED	Government of Newfoundland and Labrador 2005	Uncommon	Forest, wetland	n/a	–	–
Wood frog *Lithobates sylvaticus*	**CONFIRMED**	**Alderon 2012**	**Common**	**Damp lowlands, woodlands, vernal pools, peat bogs**	**n/a**	**–**	**–**

Note: n/a = Not applicable; – = no designation.

1 – CONFIRMED = observed during targeted surveys and incidental observations within the wildlife LSA and RSA; REPORTED = reported in databases only. Species occurrences shown in **bold** are confirmed to occur in the immediate or close proximity to the SSA. Targeted surveys for terrestrial mammals were limited to winter aerial surveys, observations of this taxa were primarily incidental and may not accurately represent mammal occurrence within the LSA and RSA.

2 – Relative abundance (i.e., common, uncommon, rare) was assessed based on the combination of species status (i.e., NL *ESA*) in Labrador and occurrence databases: Avibase NL (Birds Canada Avibase 2024), 2000 General Status of NL's Terrestrial Mammals (Government of Newfoundland and Labrador 2000), 2005 Amphibian General Status Assessments (Government of Newfoundland and Labrador 2005).

3 – Common small mammals (e.g., *Microtus, Napaeozapus, Sorex, Tamiasciurus, Glaucomys*) are not listed in the table but assumed to also occur in the RSA given their distribution in the ecozones.

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Kami
Kamistiatusset
Mining
Project

Kami Mining Project

Champion Kami Partner Inc.

Wabush, NL

Annex 5F: Erosion and Sediment Control Plan

Environmental Impact Statement

Document Number: CA00387135261-R-Rev0-Annex 5F_Erosion and Sediment Control Plan

July 2025

1155 René-Lévesque Blvd. West, 33rd Floor
Montréal, Québec H3B 3X7 CANADA
T +1 514 316-4858
championiron.com

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1. Introduction

The Erosion and Sediment Control Plan (ESCP) has been developed by Champion Kami Partner Inc. (Champion) for the Kamistiatusset (Kami) Iron Ore Mine Project (the Project), an iron ore mine in the Province of Newfoundland and Labrador (NL). The Project is located entirely in Labrador, approximately 7 km southwest from the Town of Wabush, 10 km southwest from the town of Labrador City, and 5 km northeast of the town of Fermont, Québec. The Project will involve the construction, operation and eventual closure of an open pit iron ore mine and supporting infrastructure.

The ESCP identifies requirements and actions for the management of soil erosion by wind or water and transport of suspended sediment generated by the Project. This will also include all related documentation and reporting requirements for regulatory bodies and expectation of Champion.

The ESCP is a dynamic document that may require updates to address unforeseen waste scenarios or improvements identified through process evaluations. Such revisions will be undertaken throughout the Project duration to align with evolving circumstances, fostering open communication across all levels and facilitating continuous enhancement.

During the Project, the environmental management team at Champion will continuously offer direction and supervision to verify that all operations adhere to environmental regulations and policies on erosion and sediment control, complemented with our overarching dedication to environmental stewardship, with meticulous planning, design, and execution.

Champion is dedicated to engaging with key stakeholders and the public on the ESCP to confirm that expectations and regulations are being met.

1.1 Purpose of the Erosion and Sediment Control Plan

The purpose of the ESCP is to be used as a reference document to address and manage erosion and sedimentation throughout the various phases of the Project with a specific focus on construction, while ensuring alignment with the Project Environmental Protection Plan and compliance with regulatory requirements and industry best practices. Objectives of this ESCP are to:

- provide recommendations for site-specific structural, operational, or conditional Best Management Practices (BMPs) to prevent or mitigate erosion and/or sediment transport and meet the applicable regulatory requirements and/or specific discharge/performance criteria
- reference the applicable regulatory requirements and specific discharge/performance criteria
- set out monitoring requirements to determine the effectiveness of the ESCP

1.2 Scope of the Plan

There are no specific guidelines within the province for preparing an ESCP. This ESCP has been prepared in consultation with the best practices guidelines such as the *Guide to Developing Erosion and Sediment Control Plans* (Nova Scotia Environment and Climate Change nd) and the *Professional Practice Guidelines–Erosion and Sediment Control* (Engineers and Geoscientists British Columbia, College of Applied Biologists, and The BC Institute of Agrologists 2024). Mitigation measures and techniques presented in Section 4.1 considered the erosion and sedimentation control techniques described in Section 3.1 of the Best Management Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador (DFO 2022).

The scope of the plan covers a description of key biophysical components of the site relevant to erosion and sedimentation including the site geology, topography, hydrological environment and climactic conditions. An analysis of wind and water erosion risks is also presented with a comprehensive overview of the best ESC management practices/measures. The requirements for implementing the ESCP and monitoring are also provided with an overview of the contingency planning as part of adaptive management measures.

1.3 Relationship to Other Plans

The following other plans which are provided as Annexes to the EIS, are being prepared in support of this Project to describe the procedures, equipment and responsibilities that are in place so that potential adverse effects are responded to appropriately during all phases of the Project:

- Annex 5A: Benefits Agreement / Gender Equity, Diversity and Inclusion Plan
- Annex 5B: Dam Safety Plan
- Annex 5C: Emergency Response Plan

- Annex 5D: Environmental Protection Plan (Annotated Table of Contents, with full Environmental Protection Plan available prior to commencement of construction)
- Annex 5E: Environmental Effects Monitoring Program
- Annex 5G: Kami Engagement Plan
- Annex 5H : Waste Management Plan

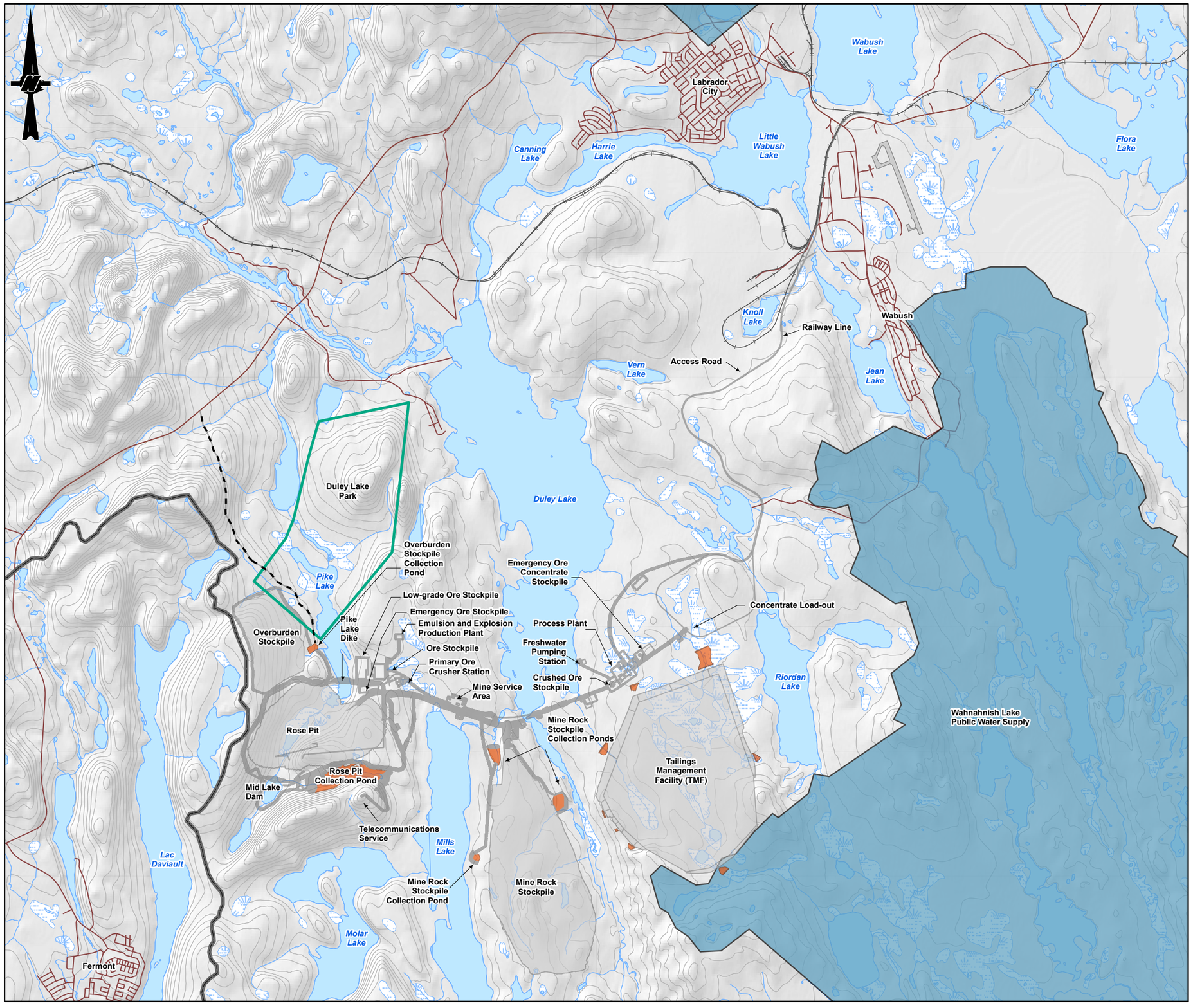
All plans prepared for this Project will be implemented by Champion. The plans will be updated periodically, where appropriate.

1.4 Project Overview

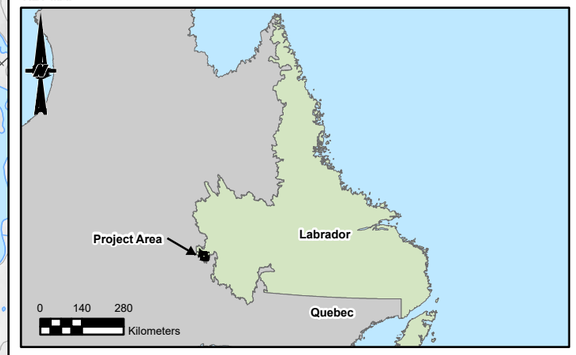
The proposed Project would include an open pit mine and surface infrastructure to support the extraction of iron ore from the Kami deposit and the production of high purity iron ore concentrate. The Project includes construction, operation, and closure of the following components:

- an open pit (referred to as the Rose Pit)
- ore processing infrastructure, including conveyors and transfer stations, stockpiles, the process plant and load-out facilities
- waste management infrastructure, including an overburden stockpile, mine rock stockpile and tailings management facility (TMF)
- water management infrastructure that will collect, convey, store, treat and discharge contact and non-contact water, including dams, dikes and collection ponds
- supporting infrastructure, including site roads, workforce accommodations, a mine service area, freshwater pumping stations, fuel storage, an emulsion and explosion production plant and explosive storage, a crushing plant, transmission lines for local site distribution and telecommunication services
- transportation corridors, including access roads and a railway corridor that includes a spur line to connect the mine site to the Québec North Shore & Labrador Railway

A presentation of the site layout is provided in Figure 1-1. All mining and processing operations will take place within Newfoundland and Labrador provincial boundaries. All Project components will be constructed, operated and closed in accordance with governing federal, provincial and municipal regulations, as well as industry regulations and standards. The Project is aiming to enhance the long-term viability of Champion and the local economy of the Labrador West area with sustainable employment through the creation of approximately 600 positions during construction and 400 during Project operations, as well as numerous indirect jobs, throughout the estimated 40-year Project life span.



KEY MAP



SCALE 1:20,000,000

Legend

PROJECT DATA

- Proposed Project Infrastructure
- Proposed Sediment Pond
- Potential Access Road

BASEMAP INFORMATION

- Road
- Railway
- Watercourse
- Contour
- Duley Lake Park
- Bog/Wetland
- Waterbody
- Labrador/Quebec Boundary
- Public Water Supply

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NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. IMAGERY CREDITS:
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

PROJECT LOCATION AND SITE LAYOUT

CONSULTANT

Kami

YYYY-MM-DD	2025-02-27
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PREPARED	GM
REVIEWED	AF
APPROVED	JMC

PROJECT NO.	CONTROL	REV.	FIGURE
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1.5 Roles and Responsibilities

The roles and responsibilities outlined in this plan are specific to the construction phase of the Project. As the Project advances into the operations and maintenance phase, these responsibilities will be reassessed and revised to align with the evolving Project and regulatory requirements.

1.5.1 Champion Kami Partner Inc.

The following roles and responsibilities will be fulfilled by Champion:

- approval of the planning, design, implementation, inspection, monitoring, maintenance, operation and decommissioning of erosion and sediment control (ESC) measures
- communication of ESC information and training to all Project personnel and making the ESCP accessible on site
- verification that ESC measures meet the criteria outlined in permits, approvals and authorizations
- verification that ESC measures are properly installed, maintained and if necessary, restored
- appointment of an Environmental Monitor Lead or designate to verify compliance with regulatory requirements as outlined in the ESCP
- The Environmental Monitor Lead or designate is responsible for inspecting ESC measures to assess and confirm their effectiveness.
- may delegate these responsibilities to qualified design and construction professionals for the duration of the Project

1.5.2 Construction Contractor

The following roles and responsibilities will be fulfilled by the Construction Contractor:

- overseeing the installation, maintenance and decommissioning of ESC measures to confirm their continued effectiveness
- coordinating with Champion's Environmental Monitor Lead (EML) and Environmental Monitor (EM) or designate to verify compliance with regulatory requirements outlined in the ESCP
- taking immediate corrective action if any non-compliant activities are identified with respect to the ESCP or other applicable regulations
- sourcing ESC materials and maintaining an adequate inventory readily available on site

2. Site Description

2.1 Geology

The Project site is underlain by folded, metamorphosed sequences of the Ferriman Group and includes (from oldest to youngest): Denault (Duley) Formation dolomitic marble (reefal carbonate) and Wishart Formation quartzite (sandstone) as the footwall to the Sokoman Formation. The Sokoman Formation includes iron oxide, iron carbonate, and iron silicate facies; it also hosts iron oxide deposits. The overlying Menihek Formation resulted from clastic pelitic sediments derived from emerging highlands into a deep-sea basin and marks the end of the chemical sedimentation of the Sokoman Formation.

2.2 Topography and Soils

The Project site overlies rocks from the Paleoproterozoic Era. The characterisation of baseline conditions for topography and soils will be discussed within the context of the local study area (LSA) which includes the area of potential direct disturbance (i.e., location of proposed infrastructure) plus a 100 m buffer.

Surficial materials in the Kami LSA are dominated by till (moraine) occupying over 75% of the LSA and organic accumulations occupying approximately 14.6% of the LSA. The majority (approximately 98%) of the LSA is mapped as stable terrain (Class I, II, and III), with minor areas (1.2%) mapped as potentially unstable ([Class IV] or 46.5 ha,), and 1.4% mapped as unstable (Class V).

Topography is relatively planar in most areas of the LSA with inclined and rolling landscapes with slopes between 10% and 20% grade found on slopes adjacent to lakes and fluvial systems and steep slopes (up to 97%) found in association with bedrock outcrops.

Soils in the Kami LSA are generally well to moderately well drained Brunisols and Podzols. There are some areas of very poorly drained areas associated with organic soils. Reclamation suitability for soils in the LSA is generally classified as unsuitable due to very low pH values (<3.5) in the Ae horizons or because of very high coarse fragment contents. Mineral soils in the LSA were generally at a moderate risk for wind erosion, very low risk for water erosion, and low risk for soil compaction. Organic soils were not rated for reclamation suitability or erosion and compaction risk as the rating systems are not designed to include Organic soils. Approximately 64.0% of the LSA is considered to be well drained, 0.1% is considered to be very rapidly drained, and 8.1% is mapped as having imperfect to poor drainage where water tables fluctuate, or inundation or seepage is present. Very poor drainage associated with areas of organic accumulation account for 15.5% of the LSA.

2.3 Site Drainage and Watercourses

The drainage pattern within the vicinity of the Kami Mining Project is directed north and east through a network of watercourses, lakes and wetlands form part of the Churchill River watershed headwaters. The west portion of the proposed Project site drains into Pike Lake, which then is collected by several lakes and streams connected to the Walsh River and discharging into Duley Lake from the north. The south portion of the proposed Project site follows an in-line lake pattern in the following order: Molar Lake, Mills Lake, and Duley Lake. The Waldorf River and several streams from the south and southeast drain into Duley Lake. One of these streams in the east connects Riordan Lake into Duley Lake. Finally, Duley Lake drains into Canning Lake and Harrie Lake on the northwest.

2.4 Climate

The climate in the region is typical of north-central Québec/Western Labrador (subarctic climate). Typically, winters are harsh, lasting approximately six to seven months with heavy snow from December through April. Freezing temperatures and snowfall persist from January to mid-April at the start of the year and from the end of October through December.

Baseline characterisation of climactic conditions for the Project were derived from climate normals over a 30-year period (1991 – 2020) at the Wabush area. Wabush climate normals are developed as a composite of data from three stations in the Wabush area (Wabush Lake A, Wabush A [1] and Wabush A [2]) which are the nearest Environment and Climate Change Canada meteorological stations to the Project.

2.4.1 Precipitation

Total annual average precipitation in the Wabush area was 860.1 mm, with 458.9 cm of snow and 526.8 mm of rain. The monthly average precipitation ranged between 38.1 to 119.9 mm, with the least precipitation in February and the most occurring in August. Extreme daily rainfall was 65.4 mm on August 20, 2010, and the extreme daily snowfall was 45.2 cm on February 15, 2007, as presented on Table 2-1.

Table 2-1: 1991 – 2020 Climate Normals (Precipitation) for the Environment Canada and Climate Change Wabush Area

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Precipitation													
Rainfall (mm)	0.8	1.8	3.1	11.8	42	85.7	112.1	119.6	86.7	45.1	14.7	3.6	526.8
Snowfall (cm)	70.7	56.7	71.4	47.7	13.9	1.2	0	0.3	3.4	38.9	80.2	74.8	458.9
Precipitation (mm)	48.7	38.1	52.3	47.9	55	88.7	113.5	119.9	90.8	80.6	72.2	52.5	860.1
Extreme Daily Rainfall (mm) and Date (yyyy/d)	7.6 (1996/25)	12.6 (1996/25)	9.6 (2011/12)	15.8 (2011/11)	21 (2011/24)	29.2 (1999/14)	38.4 (2004/05)	65.4 (2010/20)	33.2 (2010/04)	23.6 (1991/25)	32.2 (2008/16)	11.7 (2000/18)	–
Extreme Daily Snowfall (cm) and Date (yyyy/dd)	34.4 (1995/15)	45.2 (2007/15)	36.6 (2008/21)	33 (2010/10)	18 (2006/07)	6.4 (1994/01)	0.2 (1991/01)	6 (2009/27)	7.2 (1991/29)	33.2 (2003/23)	30.2 (2005/07)	30.6 (2010/13)	–
Extreme Daily Precipitation (mm) and Date (yyyy/dd)	31 (1995/15)	28.2 (2007/15)	36.2 (1999/10)	21 (2017/07)	32.4 (2015/30)	29.2 (1996/14)	50.4 (2020/12)	65.4 (2010/20)	38.4 (2020/30)	37 (2017/26)	32.2 (2008/16)	35.8 (2010/13)	–

3. Erosion Risk Assessment

There are risks of erosion and sedimentation occurrence from implementation of ground disturbance activities during phases of the Project including construction, operation and decommissioning. An overview of these activities is presented below:

- **Clearing and grubbing**—Clearing (cutting, stockpiling and removal of trees) and grubbing (removal of tree stumps and roots after clearing) operations during site preparation and construction increases the likelihood of erosion and consequent sediment transport within the site and areas immediately surrounding the site. Extensive tree roots bind soil particles together, and their removal exposes the soil to wind and water erosion.
- **Stockpiles**—Overburdened stockpiles, which comprise a loose mixture of soil and gravels as a result of materials removed from excavations, stripping or borrow pits, can bring about soil erosion. Stockpiles are prone to soil loss under precipitation (rainfall) events due to their lack of vegetation cover, steep slopes, loose surface material and non resistance to erosion (Lv, Luo and Xie 2019, Conforti and Ietto 2019). Dislodged soil particles may increase sedimentation in nearby watercourses.
- **Stripping**—The removal of organic mat to expose underlying soil from the construction site may increase erosion potential.
- **Excavation**—During Project construction, various types of excavation are expected to be carried out to serve different purposes. These include borrow extraction (for obtaining construction materials like soil, gravel or sand); channel excavation (for removal of materials from channels and drainage ditches); roadway excavation (to make way for road construction or for building roadways) and footing excavation (for construction of foundations for buildings, bridges). Excavation increases erosion occurrence by disrupting soil structure and causing soil exposure to wind and water. Also, by altering natural drainage patterns, excavation can increase surface runoff.
- **Installation of watercourse crossings**—The Project will require the installation of bridges (for the main overland conveyor and access road to cross the Waldorf River) and culvert (to maintain flow and fish passage). Erosion occurs with the use of culverts, as a result of years of high-speed water exiting the culvert into the streambed base and creating scour zones, and sediment accumulation.
- **Construction of on-site roads**—Project development will require the construction of on-site roads comprising roads for light vehicle traffic (i.e., pick-up trucks), haul roads for heavy vehicle (i.e., mining haul trucks and equipment) and multi-purpose roads to be used by both light and heavy vehicles. These road structures are gravel roads (unpaved) and can contribute to soil erosion as a result of exposure of road surfaces due to rain and vehicular traffic.
- **Construction of ditches**—Construction of ditches along the edges of all mine facilities, access roads, and around building pads to channel rainwater run-off collection basins could alter the original drainage patterns onsite, increase flow velocity and erosion potential. Further, construction of ditches create exposed slopes that are further subject to erosion.
- **Snow removal and storage**—Clearing of snow from roads and construction areas, and storage of snow in areas prone to erosion, or in ways that alter natural drainage patterns, can hasten erosion during snowmelt. Snow piles also contain sediments which can be transported to receiving watercourses during snowmelt

An evaluation of the water and wind erosion risk, and soil compaction risk was carried out as part of the baseline characterisation of topography and soils within the LSA and are presented further in this section.

3.1 Soil Water Erosion Risk

The potential water erosion rating was estimated using the Revised Universal Soil Loss Equation for Application in Canada (RUSLEFAC) (Wall, et al. 2002). RUSLEFAC was developed to predict the average soil losses by soil erosion via water for Canada. Characteristics of soil and terrain (i.e., topsoil texture, slope length, and gradient) recorded during the field programs were used, where possible, to calculate the estimated soil loss (Wall, et al. 2002). The estimated area of soil loss by water erosion (A) was calculated using the RUSLEFAC equation $A = {}^{1}R * K * LS * C * P$ which is then mapped into one of the five erodibility classes which rank from Very Low, Low, Moderate, High, and Severe (Wall, et al. 2002).

Soil water erosion risk on rated soils in the LSA is dominantly Very Low, with 1,278.4 ha (33.1%) rated as Low (Table 3-3). Similar to the soil wind erosion risk, the coarse textured (SL, LS, or S) soils of the site study area (SSA) have higher K values, indicating they are only very slightly susceptible to water erosion (Wall, et al. 2002). Coarse textured soils also lend to better infiltration which leads to less runoff and water erosion (Wall, et al. 2002). Ratings were not assigned to 22.4% of the LSA because these are areas

[1] Rainfall and runoff (R); soil erodibility factor (K); slope factor (LS); crop/vegetation and management factor (C); support or management practices (P).

of open water, rock, organic or anthropogenic materials. Units which were comprised primarily of water, rock or bedrock, or anthropogenic polygons were not assigned ratings. Organic soils were not rated in Table 3-1 as the water erosion risk calculations are set up for mineral soil; however, soils high in organic matter are better able to resist erosion (Government of Alberta 2018), as well as their association with generally level topography lending to water erosion resistivity. Finally, the fluvial Waldorf River soil management unit was also not rated as it is described as material that has already had the finer textured material washed (eroded) from it which has left only coarse fragments that are not susceptible to water erosion.

Table 3-1: Water Erosion Risk Ratings in the Site Study Area and Local Study Area

Water Erosion Risk Class	Site Study Area		Local Study Area	
	Area (ha)	Percentage (%)	Area (ha)	Percentage (%)
Very low	859.8	32.1	1,278.4	33.0
Low	241.0	9.0	308.9	8.0
Moderate	344.7	12.9	482.3	12.5
High	416.8	15.5	519.0	13.4
Severe	246.2	9.2	413.4	10.7
Not rated	572.4	21.4	866.6	22.4
Total[(a)]	2,680.9	100	3,868.6	100

(a) Units comprised primarily of water, rock, anthropogenic sources or organic soils were not rated.

(b) Numbers may not add up due to rounding.

3.2 Soil Wind Erosion Risk

Soil erosion was evaluated using rates of erosion risk for dry, exposed mineral soils (i.e., vegetation cover has been removed). Erosion risk is dependent on soil and site characteristics such as soil texture, coarse fragment content, slope gradient, and length of slope. Wind erosion risk ratings are texturally based; therefore, organic soils are not rated but are inherently resistant to wind erosion because of their physical characteristics. The dominant soil texture assigned to each soil management unit was used to establish the wind erosion risk as being High, Moderate, or Low and is presented in Table 3-2 (Coote and Pettapiece 1989).

Table 3-2: Criteria for Determining Wind Erosion Risk

Soil Texture	Wind Erosion Risk Class
Very fine sand, sand, coarse sand, loamy sand, gravelly sand	High
Sandy loam, loam, silt loam, sandy clay loam, sandy clay	Moderate
Silt, silty clay loam, clay loam, silty clay, clay, heavy clay	Low

Source: Adapted from Coote and Pettapiece 1989.

The wind erosion risk ratings for the SSA and LSA are presented in Table 3-3. Soil wind erosion risk in the LSA is dominantly Moderate with the rating assigned to 2,743.9 ha (70.9%). Soils of the LSA are dominated by loamy sand or sandy loam, and in some cases sand. These soils tend to consist of much larger in particle size which have a higher resistance to movement by wind as compared to other finer (e.g., heavy clay, clay, and silty clay) soil surface texture classes (Coote and Pettapiece 1989).

Table 3-3: Wind Erosion Risk Ratings in the Site Study Area and Local Study Area

Wind Erosion Risk Class	Site Study Area		Local Study Area	
	Area (ha)	Percentage (%)	Area (ha)	Percentage (%)
Low	0	–	0	–
Moderate	1,949.5	72.7	2,743.9	70.9
High	159.0	5.9	258.1	6.7
Not rated[(a)]	466.8	17.4	624.3	16.1
Not applicable[(a)]	105.7	3.9	242.3	6.3
Total[(b)]	2,680.9	100.0	3,868.6	100.0

Source: Adapted from Coote and Pettapiece 1989.

(a) Rock (R1), water (ZWA), anthropogenic (ZDL) are not applicable and organic (FLO, MIL, WLR) units were not rated.

(b) Numbers may not add up due to rounding.

3.3 Soil Compaction Risk

Compaction risk is associated with soil physical properties, the moisture content when the soil is disturbed, and the nature of the applied force (Cannon and Landsburg 1990). Compacted soil can have decreased soil porosity which is an important property of soil to control moisture availability to vegetation and can result in greater amounts of surface runoff (Archibald 1997). Soil compaction risk was assigned to soil units based on their texture, coarse fragment content, and drainage. Soil compaction ratings were assigned based on a generalized rating system for compaction risk (Table 3-4), which was developed using professional judgment and adaption from two compaction systems. Both compaction systems were designed for forestry applications and are soil and moisture based, so are applicable to the SSA and LSA. The matrix considers the combined influences of soil texture, coarse fragment content, and soil drainage. Organic soils were not rated for compaction but are susceptible to compaction due to their low load bearing materials being easy to displace (BC FLNRORD 1999).

Table 3-4: Compaction Risk Matrix

Drainage	Soil Textural Class				
	Fragmental (>70% coarse fragments) and Very Coarse	Moderately Coarse	Medium	Moderately Fine	Fine/Very Fine
	S, LS	SL, fSL	SiL, Si, L	SCL, CL, SiCL, Si	SC, SiC, C, HC
Rapid	Low	Low	Low	Low	Moderate
Well	Low	Low	Low	Moderate	Moderate
Moderately well	Low	Low	Low	Moderate	Moderate
Imperfect	Low	Low	Moderate	High	High
Poor	Moderate	Moderate	High	High	High
Very poor (organic)	Not rated				

Sources: Adapted from BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development (BC FLNRORD 1999) and Compaction and Rutting Hazard for Soils in Ontario (Archibald et al. 1997).

S = Sand; LS = Loamy Sand; SL = Sandy Loam; fSL = Fine Sandy Loam; SiL = Silty Loam; Si = Silt, L = Loam; SCL = Sandy Clay Loam; CL = Clay Loam; SiCL = Silty Clay Loam; SC = Sandy Clay; SiC = Silty Clay; C = Clay; HC = Heavy Clay.

Soil compaction risk is assigned based mainly on soil texture and soil drainage; 2,783.3 ha (71.9%) of the LSA were assigned a Low risk class for soil compaction (Table 3-5). Soil texture and moisture are some of the most important parameters related to soil compaction. Research indicates that soil compaction increases with increasing clay content; therefore, the fact that soils of the LSA have inherently low clay content, being mostly sandy loam, loamy sand, and clay; makes them less susceptible to compaction (Cannon and Landsburg 1990). Areas of Organic soils have not been rated but would likely be at a High risk for compaction. Open water, rock, and previously disturbed areas in the LSA were also not rated for compaction risk ("Not rated" in Table 3-5).

Table 3-5: Soil Compaction Risk Ratings in the Site Study Area and Local Study Area

Soil Compaction Risk Class	Site Study Area		Local Study Area	
	Area (ha)	Percentage (%)	Area (ha)	Percentage (%)
Low	1,960.8	73.1	2,783.4	71.9
Moderate	163.4	6.1	239.5	6.2
High	0.9	<0.01	1.6	<0.01
Not rated[(a)]	450.1	16.8	601.9	15.6
Not applicable[(a)]	105.7	3.9	242.3	6.3
Total[(b)]	2,680.9	100	3,868.6	100

(a) Rock (R1), water (ZWA), anthropogenic (ZDL) are not applicable and organic (FLO, MIL, WLR) units were not rated.

(b) Numbers may not add up due to rounding.

4. Erosion and Sediment Control Mitigation Measures

Considerable water management infrastructure has been incorporated into the design of the Project to mitigate sediment and erosion effects. The proposed water management infrastructure will collect and treat all contact water generated from the Project, before either reuse of water for mining operations or discharge to environment.

Section 4.1 provides an overview of the Project's water management infrastructure. Once constructed, the need for temporary erosion and sediment control mitigation required for construction will be greatly reduced or eliminated.

Section 4.2 provides a summary of the general erosion and sediment control measures that will be implemented for the Project. These measures will primarily be implemented during the construction phase, as activities during the construction phase are expected to pose the greatest risk for erosion and sedimentation events prior to the construction of the Project's water management infrastructure. Following the construction of water management infrastructure presented in Section 4.1, mitigation measures deemed to be redundant will be removed. Section 4.3 provides a description of specific erosion and sediment mitigation techniques that could be implemented, depending on site conditions. These techniques will be implemented to mitigate sediment and erosion effects from the Project. The mitigation measures and techniques presented in Section 4.2 and 4.3 considered Fisheries and Oceans Canada's (DFO's) Best Management Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador (DFO 2022).

4.1 Water Management Infrastructure

The Project's water management infrastructure will reduce and potentially eliminate the need for extensive erosion and sediment control measures, particularly, during the operation, maintenance and decommissioning phases. As outlined below and in greater detail in Chapter 2, Project Description, this infrastructure will enable control and treatment of all contact water prior to release to the environment through the use of ditches, collection ponds and basins and a water treatment plant.

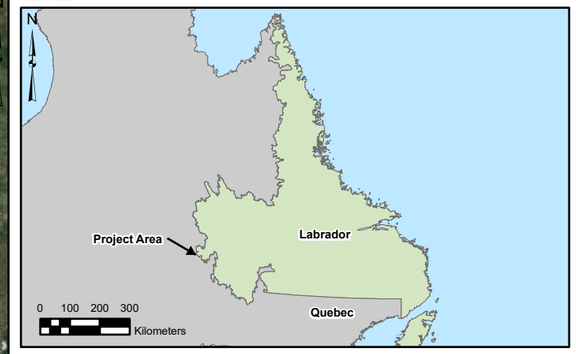
The proposed water management infrastructure for the Project includes the following key components:

- a collection pond (referred to as the Rose Pit collection pond) south of the Rose Pit within End Lake and Elfie Lake. Two dams will be built to support the Rose Rit collection pond.
- a diversion dam upstream of Rose Pit (referred to as the Mid Lake Dam) to facilitate the diversion of clean non-contact water around the Rose Pit and to Pike Lake
- a dike to maintain separation between Pike Lake and the Rose Pit, referred to as the Pike Lake dike
- contact water collection ponds surrounding the overburden stockpile and mine rock stockpile with pumping stations to facilitate the collection and diversion of contact water from the stockpiles to the Rose Pit collection pond
- clean non-contact water perimeter diversion ditches around the Rose Pit collection pond
- perimeter contact water collection ditches around the overburden stockpile, mine rock stockpile, TMF and other Project facilities
- TMF and associated infrastructure, including dam embankment seepage collection and TMF pond pump back systems, and process plant water reclaim systems within the TMF pond

- process plant and associated infrastructure including the fresh water intake from Duley Lake and the water treatment plant
- effluent discharge pipeline and diffuser within Duley Lake to manage discharge from the Rose Pit collection pond and the water treatment plant
- pumping system to convey water from Duley Lake to Pike Lake to maintain water levels in Pike Lake during operations
- ten collection basins scattered along the main road to manage contact water related to roads and material storage on site

Major water management infrastructure that is planned for the Project is presented in Figure 4-1 and Figure 4-2.

KEY MAP



SCALE 1:20,000,000

LEGEND

- PROPOSED PUMPING STATION
- PROPOSED INFRASTRUCTURE
- LABRADOR/QUEBEC BOUNDARY
- PROPOSED SEDIMENTATION POND
- PROPOSED BASIN
- PROPOSED DAM/DIKE
- PROPOSED PROJECT INFRASTRUCTURE
- SITE STUDY AREA (SSA)

0 0.75 1.5 3

1:85,000 KILOMETRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - NEWFOUNDLAND AND LABRADOR
2. IMAGERY CREDITS: WORLD IMAGERY: MAXAR
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

WATER MANAGEMENT INFRASTRUCTURE

CONSULTANT

Kami

YYYY-MM-DD	2025-06-30
DESIGNED	----
PREPARED	MS
REVIEWED	JC
APPROVED	TS

PROJECT NO.	CONTROL	REV.	FIGURE
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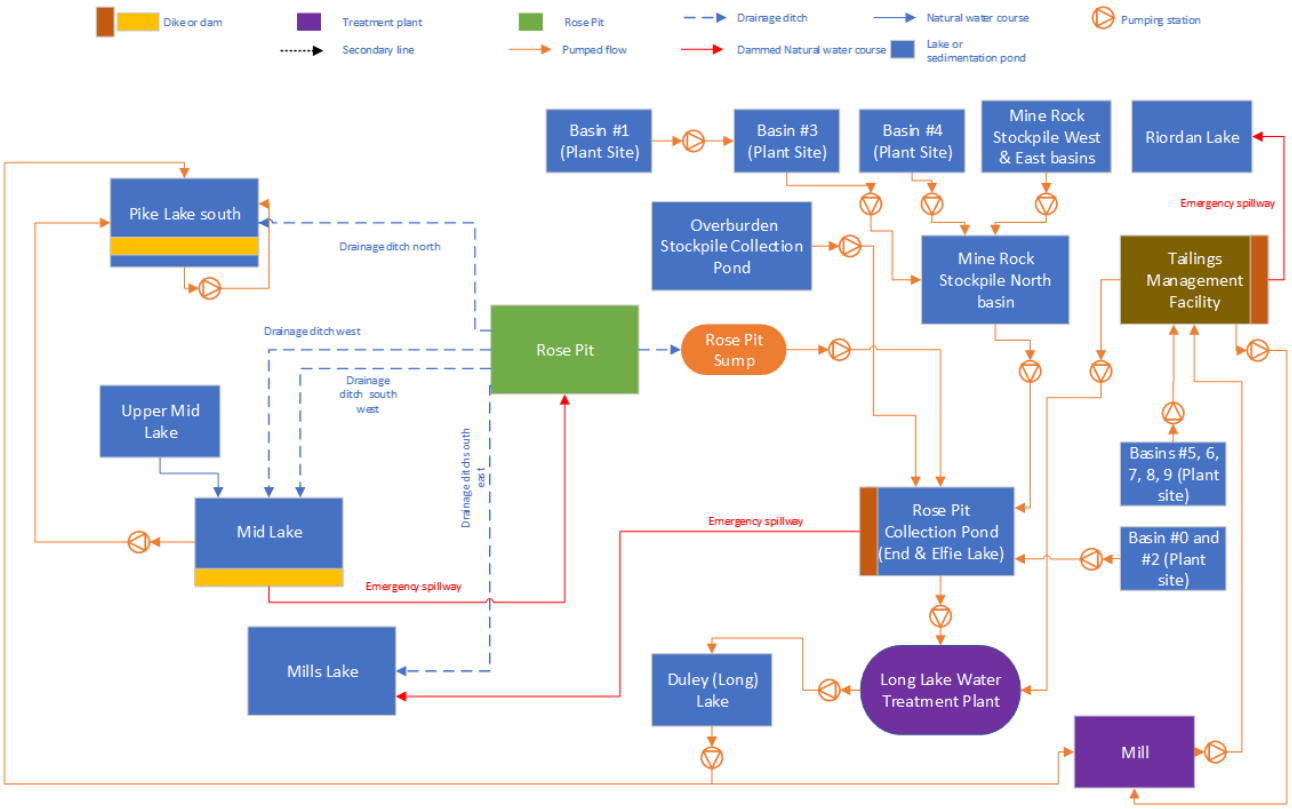

Figure 4-2: Site Water Management Flow Diagram

4.2 General Mitigation

General protocols for the design, installation, and monitoring of sediment and erosion controls during construction, operation and decommissioning are outlined below. In most cases, the mitigation measures will be applied during the construction phase, as construction activities are expected to pose the greatest risk for erosion and sedimentation events. Once water management infrastructure presented in Section 4.1 is constructed, additional in-water work is not expected and all contact water on site is expected to be collected and treated, reducing the need for many of the general mitigation measures during the operation and active closure phases. Where applicable, mitigation measures will be implemented during Project Decommissioning where in-water work or work with the potential to result in and sediment and erosion to waterbodies is proposed.

The most appropriate mitigation measures will be selected and implemented based on the nature of the work, soil and site conditions and applicable best management practices. Protocols for the design, installation, and monitoring of sediment and erosion controls listed below are the responsibility of Champion and their contractors.

4.2.1 Erosion Control

- Vegetation clearing and other ground disturbance activities will be confined to only those areas where it is necessary for Project development.
- Tree material will be mulched, as necessary, and reused on site for erosion control.
- The length and steepness of slopes should be minimized, where possible, and provide erosion protection for temporary and long-term permanent slopes.
- Runoff velocities and erosive energies should be minimized, where possible, by using interceptor ditches, minimizing gradients, and maximizing lengths of conveyance ditches.
- All work must be carried out in accordance with the conditions set out in the permits/approval for the site construction.
- A buffer zone of undisturbed vegetation shall be maintained between construction areas and all water bodies, wetlands, and ecologically sensitive areas.
- Peat, topsoil, and excavated overburden will be stored in separate stockpiles for later use. Re- vegetation of stockpiles shall be promoted. Stockpiles must be located a minimum of 50 m from a water body, watercourse or wetland. The area must be cleared (through appropriate surveys by EML/EM) of breeding birds prior to revegetation.
- Mulch, or coarse woody debris, or matting will be used on newly constructed stockpiles or recently replaced soils.
- Wind barriers (snow fences) will be installed.
- Soil handling (stripping, stockpiling, and replacement) will be suspended during and after heavy rainfall events.
- Excavation, embankment and grading in the vicinity of stream crossings shall be done in a manner that minimizes erosion and sedimentation of watercourses and bodies of water. See the DFO Factsheet entitled Streambank Stabilization (Appendix A).
- To minimize erosion and sedimentation, water body crossings shall:
  - have stable approaches
  - be at right angles to the water body
  - be located where channels are well defined, unobstructed, and straight
  - be at a narrow point along the water body
  - allow room for direct gentle approaches and
  - have all mineral soil exposed during bridge construction and culvert installation seeded with a native seed mix
- Contingency measures must be implemented to deal with storm events and high run-off to minimize adverse environmental effects from these events. Erosion prevention and sediment-containment materials such as silt fence material, riprap, straw bales, filter fabric and designated equipment must be available to address contingency/emergency situations.
- Erosion control measures such as riprap, filter fabrics, drainage channels, and gravel or wood chip mulches will be implemented in areas prone to soil loss. Installation of these controls shall be done to minimize erosion and sedimentation of watercourses and bodies of water. See the NL Guidelines for Protection of Freshwater Fish Habitat in Newfoundland and Labrador (Gosse et al., 1998) and appropriate DFO operational statements.

4.2.2 Sedimentation Control

- A plan for the control of sediment and erosion will be implemented (Sediment Control and Drainage Plan). The plan will be reviewed with all personnel involved in the task prior to the start of construction. EML/EMs must be aware of any water that will be directed out of the Project site. This water must be tested for total suspended solids and hydrocarbons (if there are visible signs of hydrocarbon contamination) as outlined in the Certificate of Approval for compliance monitoring.
- Appropriate sediment controls will be implemented to achieve water quality requirements (non-deleterious) for discharge to local watercourses, drainage ditches, wetlands, or other sensitive areas.
- Sedimentation ponds will be constructed early in the construction phase to enable initial pond filling from runoff, construction phase sedimentation. Sedimentation pond water will be used for construction uses, such as dust suppression and cement batching, where possible.
- Siltation control structures (i.e., silt fences, cofferdams, and/or straw bales) will be constructed prior to beginning any activities involving disturbance of the soil, work along a shoreline or near areas of high runoff potential.
- Runoff of sediment-laden water during grubbing will be minimized by using measures such as settling ponds, ditch blocks, interception ditches and filter fabrics.
- Mechanisms for energy dissipation shall be implemented to prevent scouring and erosion at discharge locations (such as impervious geotextile mats, riprap, check dams).
- Dewatering of trenches shall make use of measures to minimize and control the release of sediment laden water through the use of filtration, straw bales, geotextiles or other devices (see *Best Management Practices for the Protection of Freshwater Fish Habitat / Newfoundland and Labrador* [DFO 2022]).
- Filtration or other suitable measures, such as settling ponds, silt fences and dykes, will be implemented for sediment removal and turbidity reduction in water pumped from work areas before discharging (see *Best Management Practices for the Protection of Freshwater Fish Habitat / Newfoundland and Labrador* [DFO 2022]).
- Prior to periods of anticipated high rainfall, settling ponds will be lowered to the extent possible, and erosion and sediment management measures will be checked for adequacy and to make sure they are properly secured. These features will be rechecked after the high rainfall to assess effectiveness and improve mitigation as required.
- Champion and their contractors are required to monitor the effectiveness of mitigation and implement corrective action or enhancements immediately if the mitigation is found to be deteriorating or ineffective. In the event of excessive accumulation of sediment, excess sediment must be removed from the control measures to verify that the mitigation is working effectively.
- Water quality monitoring of run-off will be monitored by the EML/EM in accordance with the Environmental Effects Monitoring Plan (Annex 5E) and may be required by NLDECC Pollution Prevention Division to confirm no adverse effects on the receiving environment.
- Where possible, clean water shall be discharged to vegetated areas to further reduce any potential effects on watercourses.
- Discharged water shall be encouraged to follow natural surface drainage patterns.
- When constructing ditches near streams, the ditch itself should not lead directly into the stream. Ditch waters should be directed into existing vegetation a minimum of 30 m from a water body/watercourse.

Procedural mitigation measures to reduce sedimentation include:

- Avoid scheduling work during periods that may result in high flow volumes and/or increased erosion and sedimentation (e.g., spring freshet).
- Where possible, instream and in-lake construction in potential spawning habitat areas (EIS Chapter 9, Fish and Fish Habitat, sections 9.4.2.2, 9.4.2.3 & 9.5.3.1.1 for details) will occur outside the spawning period for fish known to be within the regional study area (RSA). Construction activities will be scheduled to avoid work during Fisheries and Oceans Canada's (DFO) Restricted Activity Timing Windows for the Protection of Fish and Fish Habitat (DFO 2019). Restricted activity periods for fish known to be within the RSA are as follows:
  - Lake trout and lake whitefish (September 1 to July 15),
  - Northern pike (May 1 to July 15); and
  - Ouananiche (October 1 to May 31).

4.3 Specific Erosion and Sedimentation Mitigation Techniques

This section presents an overview of the design criteria and installation requirements for the erosion and sediment controls which may be applicable to the Project. These erosion and sedimentation control techniques reflect those described in Section 3.1 of the Best Management Practices for the Protection of Freshwater Fish Habitat in Newfoundland and Labrador (DFO 2022).

Due to changing conditions of the work site as the Project progresses, the specific ESC controls at the different work areas for the Project will be identified and implemented based on site conditions. The installed temporary or permanent ESC measures should be maintained until the disturbed ground has been permanently stabilized, suspended sediment in surrounding waterbodies or settling basin has resettled, or surface runoff water is now clear. Installation of these control measures is the responsibility of Champion and their contractors. These techniques will primarily be implemented during Project construction and during Project decommissioning. Once water management infrastructure presented in Section 4.1 is constructed, all contact water on site is expected to be collected and treated, reducing the need for supplemental erosion and sedimentation techniques to be implemented.

4.3.1 Riprap

Riprap is used to stabilize slopes prior to the natural stabilisation post construction, and only used when vegetation cannot provide the needed support (Figure 4-3. General design criteria are as follows:

- Riprap should not be used where the bank exceeds 3 m high, and the grade is greater than 2:1.
- The rock used should be clean and large enough to withstand being displaced by peak flood events.
- Rock material should consist of a mixed gradation and be blocky and angular. Based on Buchanan et al., 1989, the mean stone diameter vs stream flow is provided in Table 4-1.

Table 4-1: Riprap Size Based on Stream Flow

Stream Flow (m/sec)	Mean Stone Diameter (mm)
Less than 3	200 – 400
3 - 4	200 – 770
4 - 4.6	500 – 1220

Figure 4-3: Riprap Placed Along a Slope (DFO, 2022)

4.3.2 Silt Fence/Filter Fabric

Silt fences are designed to surround a disturbed area and to intercept flow. Constructed with filter fabric and posts or stakes, they are typically installed in series at pre-determined intervals along drainage ditches within areas to be developed (Figure 4-4).

Filter fabric dams provide an effective filter to trap sediments in runoff from disturbed slopes and surfaces, adequately removing sediments from collected water prior to release to receiving watercourses (Figure 4-5).

Both controls have limited retention capacity and not designed as long-term solution to sedimentation, while also requiring ongoing maintenance. The best management practices for the use of these structures include:

- The silt fences/filter fabric structures should be placed on slopes with a maximum steepness of 2:1
- For the Project, use of filter fabric structures should be limited to areas in which surface runoff is expected and not in natural watercourses or locations of continuous flow or moderate to high water velocities to maintain effectiveness.
- A crescent shaped trench should be excavated to intercept the flow.
- Filter fabric dams should be installed in series, i.e., placing one after another downstream, to facilitate effective removal of sediments from collected water prior to discharge to receiving watercourses.
- The silt fencing must be embedded in the ditch bottom and sides approximately 0.3 m such that sediment laden water cannot move around the silt fence.
- Wooden stakes should be installed a maximum of 1 m apart and on the downstream side of the silt fence.
- In locations where fabrics join, a minimum of 0.15 m of overlap shall be used and two pieces shall be stapled or attached together. Filter fabric should be approximately 200g/m^2.

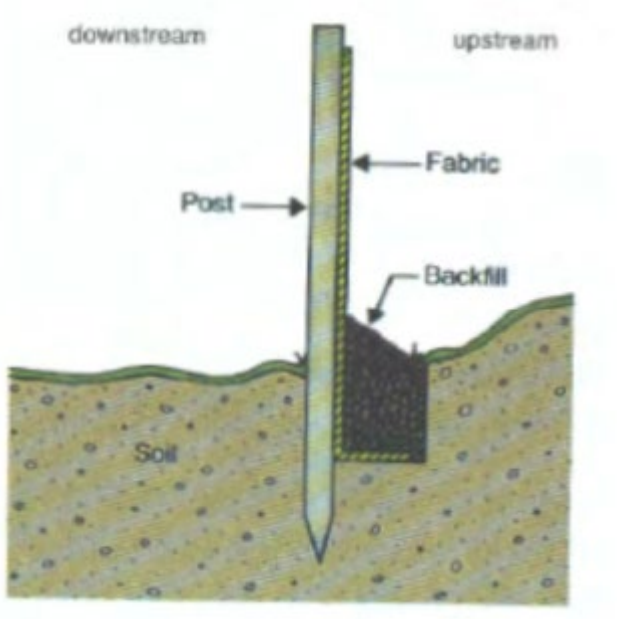

Figure 4-4: Silt Fence Installation (Gosse et al. 1998; DFO, 2022)

In instances where filter fabric dams are being used for removal of sediment prior to entering a watercourse, multiple dams should be installed as represented in Figure 4-5.

Figure 4-5: Filter Fabric Dams (Gosse et al. 1998; (DFO, 2022)

4.3.3 Check Dams

Check dams are meant to slow the velocity of water running though a ditch and therefore, help in the prevention of erosion. These features are meant to be impenetrable, such that water will move over the dam, but sediment will settle out. Proper installation of check dams includes the use of riprap or other non-erodible material.

Check dams must be maintained appropriately. Accumulated sediment must be removed and damaged filter fabric repaired. Fabric should weigh at least 200 g/m^2 and rock fragments should be sized between 100 mm and 150 mm.

Figure 4-6 provides an illustration of a properly constructed check dam.

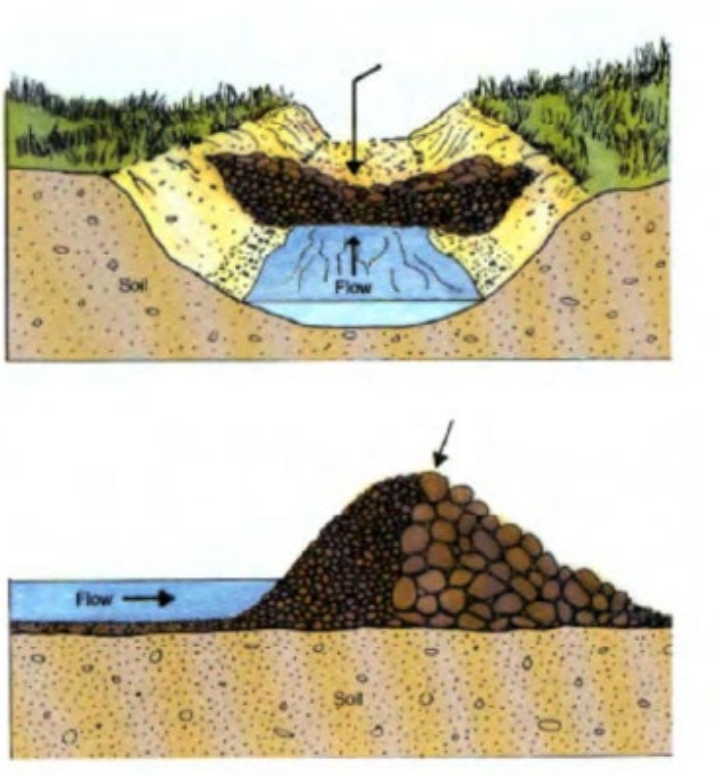

Figure 4-6: Proper Design (Side and Oblique view) of a Check Dam (Gosse et al. 1998; (DFO, 2022)

4.3.4 Ditches

Ditches are meant to transport runoff away from the construction site to reduce ponding and control the collection of water (Figure 4-7). At no time should a ditch flow directly into a watercourse or sensitive area.

For shallow ditches, straw bales can be used for stability and some sediment control. Straw bales must be staked in place and must be checked regularly for effectiveness as they generally only last a maximum of 3 months.

When required for the Project, the following best management practices will be implemented (DFO 2022):

- **Stabilize ditches** and confirm they do not discharge directly into a watercourse. Instead, ditches should flow into vegetated areas upslope of watercourses to trap sediment before runoff enters the watercourse (Figure 4-7**)**.
- **Determine the location and access** to interceptor ditches by reviewing the topography, existing or planned drainage patterns, and subgrade conditions. Lay out ditches following site contours, if possible, and construct them during initial site clearing.
- In sidehills or similar areas, **install ditches on the uphill sides of roads** to intercept seepage and runoff.
- Where ditches are excavated in erosion-prone soils, **line them immediately with non-erodible material**.
- **Incorporate cross drainage culverts and take-off ditches** (Figure 4-8) to carry water away from the road and into surrounding vegetation, where sediments can be filtered.
- For roadside ditches with long slopes, **use rock check dams** to reduce water velocity, control erosion, and prevent sedimentation of nearby watercourses.
- Where topography does not permit take-off ditches, **use settling ponds** to trap sediment and prevent sedimentation of nearby watercourses.
- **Implement a regular maintenance program** to keep ditches in good working order. Remove sediment from rock check or filter fabric dams, adjust or repair these structures as needed, and provide additional stabilization if necessary. Inspect all ditches and structures after heavy rainfall or during sustained precipitation.
- Fill and vegetate temporary ditches when they are no longer required.

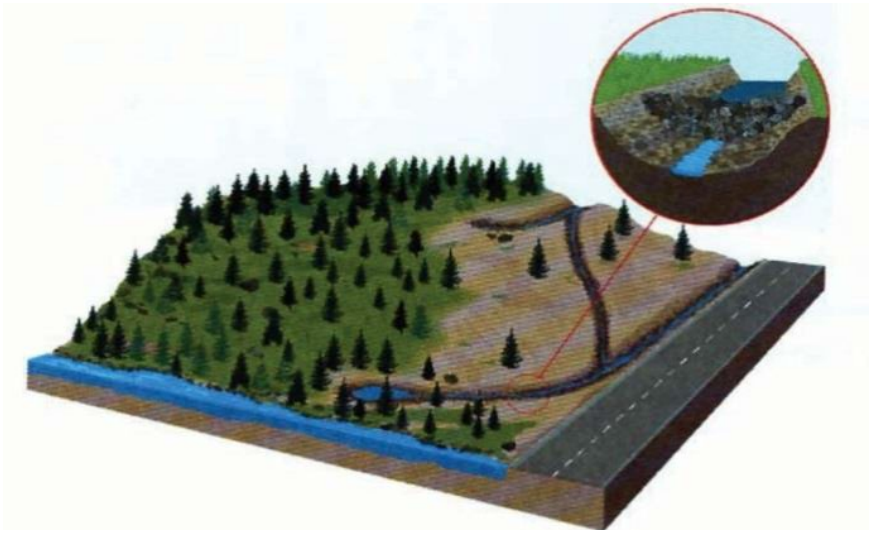

Figure 4-7: Features of a Well Designed Ditch System (Gosse et al. 1998; (DFO, 2022)

Figure 4-8: Cross Drainage Culverts and Take-off Ditches Carry Water from the Road and into Surrounding Vegetation (Gosse et al. 1998; (DFO, 2022)

4.3.5 Sedimentation Pond

Sedimentation ponds will be used across the site to control sediment releases to the environment. During site preparation and construction, collected water within excavations and work areas will be pumped into sedimentation ponds, where required, which will be built in advance of the construction work, where typical storm water management measures such as ditching and silt fencing may not address the issue of sedimentation.

Sedimentation ponds have been designed with sufficient sediment settling time to allow effluent to meet the requirements in the *Metal and Diamond Mining Effluent Regulations*.

During construction the intent of the ponds is to reduce the velocity of the water, allowing the sediment to settle to the bottom prior to leaving the site. Locations and management of Sedimentation Ponds will be provided in the Water Management and Monitoring Plan.

4.3.6 Temporary Settling Basin

Temporary settling basins are a short-term construction control for managing the flow of sediment laden water generated during construction (Figure 4-9). The intent of the basins is to reduce the velocity of the water, allowing the sediment to settle to the bottom prior to leaving the construction area. Settling basins will require Regulator permittin; therefore, the Contractors must provide requirements for basins well in advance for proposed basins not already included in the Regulator authorization. Permitting a basin could take upwards of three months.

General criteria for construction are as follows:

- The length should be four times the width.
- If work requiring the basin will occur more than a week's time, at least two basins will be required. Multiple basins in series will be required for longer construction periods.
- The settling basin should include an overflow pipe or other acceptable technology that allows the water at the top of the basin to discharge.
- Where necessary, the bottom of the settling ponds should be lined up with plastic or other suitable impermeable material.

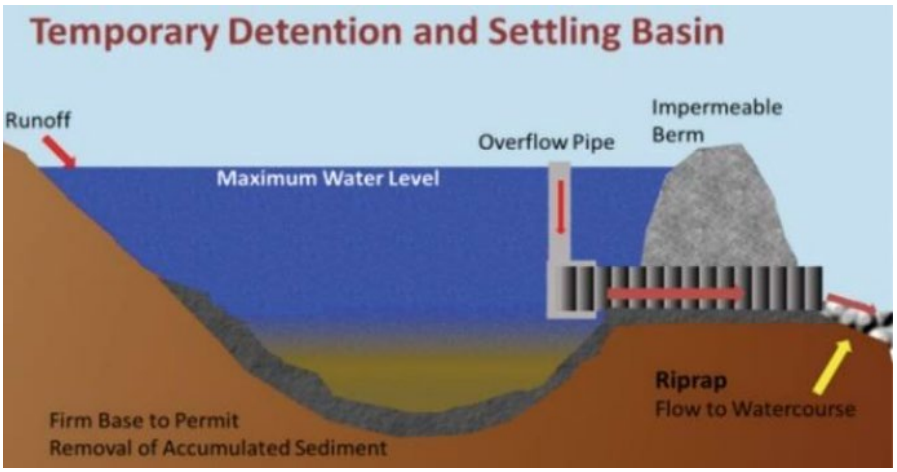

Figure 4-9: Features of a Well Constructed Settling Pond/Basin (DFO 2022)

4.3.7 Straw Barrier/Bale Structure

This is a temporary structure consisting of a row or more of entrenched and anchored straw bales designed to intercept and detain small amounts of sediment to prevent escape from the Project site (Figure 4-10). They are installed across small drainages and are not ideal for large storm events or across larger waterbodies such as streams and rivers. Bales are typically bound with wire or polypropylene twine and placed in rows with bale ends slightly leaning on adjacent bales. Straw bales comparatively have low flow rates which has to be considered prior to installation as ponding can rapidly occur above the bales. Table 4-2 shows the criteria for placement of straw bale.

Table 4-2: Criteria for Straw Barrier Placement)

Land Slope (%)	Maximum Slope Length Above Bale (ft)
<2	75
2 to 5	50
5 to 10	35
10 to 20	20
>20	10

Source: Mississippi Department of Environmental Quality (MDEQ)

Bales should be installed on nearly level ground and placed at least 10 ft from the toe of any slope, and should not be used in areas where rock or hard surfaces prevent the full and uniform anchoring of the bales.

Figure 4-10: Anchored Straw Bale (Mississippi Department of Environmental Quality [MDEQ], n.d.)

4.3.8 Erosion Control Blanket

These are woven or composite textile sheets made from a variety of natural and synthetic materials that protect against surface erosion through forming a temporary cover over the ground. They are effective in protecting the soil against wind and water erosion by reducing impact of raindrops and slowing runoff as it flows across the surface. They also help in stabilising disturbed soil areas on steep slopes. Blankets may incorporate features such as being resistant to fire and ultraviolet light or may contain seed and fertiliser to support vegetation growth.

Some of the best management practices for installation of erosion control blankets include the following:

- To prevent damage from stormwater, mud, debris, and other sources, blankets are to be rolled within their protective covering and stored until needed.
- Installation of blankets will be in phases as the Project progresses.
- Prior to placement, soils should be prepared according to the manufacturer's specification by loosening up soil and adding amendments and seed as required.
- Rocks and debris should be removed from the site, and rills and gullies filled and compacted to promote direct contact of the blanket with the soil.
- Temporary weights should be used during placement to prevent movement or damage of blanket from strong winds.
- Large continuous pieces of the blanket should be used to fit the area needed and excessive materials trimmed as necessary. Blankets should be unrolled down slopes while ensuring continuous contact with the ground.

4.3.9 Fiber Rolls

These are similar to the erosion control blankets as they are made of similar materials but are rolled into large diameter 'logs' which can be customised to any size and are usually encased in netting material into the desired shape. These logs are used to pool up and slow down runoff speed along sloped areas to enable settlement of sediments. Long wooden stakes are used to properly anchor down the fiber rolls. Coir logs (Figure 4-11) are the most commonly used logs globally followed closely behind by rice and wheat.

Figure 4-11: Anchored Fiber Roll (Coir log)

5. Implementation of the Plan

Implementation of the ESCP follows the preparation of the plan and begins with the consideration of the specific ESC mitigation techniques applicable to a given phase or stage of the Project. Prior to the start of each phase, the ESCP is to be reviewed with Champion field personnel and their contractors to review the ESC objectives and obtain any feedback on practicability of installation of ESC controls. Prior to commencing work, it is expected that all ESC materials and equipment required to implement the ESCP are available onsite. In the event that there will be changes to the proposed approach for installing ESC controls, the changes are to be properly communicated and accepted as suitable to achieve the planned design. For the purpose of implementation, a dedicated ESC professional may be retained by Champion for the duration of the Project. The individual will be expected to work closely with the EML/EM for monitoring and compliance with acceptable regulatory requirements for discharge of runoff.

The key stages of the ESCP implementation adopted from the *Professional Practice Guidelines – Erosion and Sediment Control* (Engineers and Geoscientists British Columbia, College of Applied Biologists, and The BC Institute of Agrologists 2024) are described in this section.

5.1 Pre-construction Site Assessment

Pre-construction site assessment activities will likely include the following:

- review of requirements of applicable permits, licenses or authorizations obtained for the Project with copies available onsite
- review and confirmation of location and configuration of receiving environments
- identification and delineation of sensitive areas (e.g., aquatic habitats, riparian boundaries, sensitive wildlife features)
- identification of monitoring and sampling locations
- verification that all ESC materials and equipment have been procured and available for deployment onsite
- discussion and review of contingency planning initiatives

5.2 Construction Phase Inspections

- Field reviews will be conducted at predetermined stages of the Project including start of construction, key milestones/deliverables and Project closure.
- An inspection will be conducted to respond to unforeseen events and recommend adaptations.
- Monitoring programs will be implemented in alignment with the schedule in the ESCP; important storm events may require additional monitoring on an ad hoc basis.

5.3 Review of Monitoring Reports

Monitoring and inspection reports will be reviewed and where feedback or recommendations are received from onsite Project personnel, the designated ESC professional has to approve and update ESCP accordingly. Observed deficiencies or changing site conditions that may require adaptive management will be recorded.

5.4 Revisions

Depending on the actual site conditions and the effectiveness of the installed control measures, the ESCP is expected to evolve and adapt to changing conditions during the development of the Project. The frequency of revision or updates to the plan will align with a predetermined schedule, except when there is an important storm event that warrants immediate corrective measures. Any changes will be properly communicated to Project personnel to adapt their work as required, and updates will be documented accordingly.

6. Monitoring Program

To determine the effectiveness of the ESC measures in reducing Project impacts to the receiving environment, it is expected that a monitoring program be implemented. The frequency of the monitoring program will depend on the Project phase, anticipated weather conditions, Project risks or regulatory requirements. Monitoring frequencies may be scheduled on a weekly or bi-weekly basis and complemented with event-specific monitoring events. As previously mentioned, additional monitoring events will be conducted in anticipation of or after storm events where the risk of erosion and sediment transport is greatly increased. For precipitation events forecasted by Environment Canada ≥ 20 mm, monitoring will be conducted during or within 12 hours of the conclusion of the precipitation event to assess the efficiency of the environmental controls.

During the monitoring event, the following information may be documented by the Environmental Monitor (EM):

- date/time of field inspection
- weather conditions at the time of field monitoring
- the ESC measures that are in place, their effectiveness, and any maintenance requirements
- any applicable non-conformance with ESCP requirements or specifications
- key site deficiencies with respect to BMPs or imminent risks of potential adverse effects
- current state of the receiving environment (e.g., stream(s) and/or environmentally sensitive receptors) and if there have been any impacts adversely affecting those features
- record incidences of discharge and water quality samples collected
- record of most recent equipment calibration (for in-situ sampling)
- representative site photos during each site inspection
- records of any onsite communication during monitoring

During site inspections, if sediment-laden impacts to waterbodies are observed due to failure or compromise of ESC measures, then this incident shall be reported within 12 hours of the observed incident. Detailed investigation of the incident should be conducted and report findings (i.e., cause of the incident and appropriate remedial action to address the impact) documented. This information should be distributed to key participants (Section 6.2) within 24 hours of the observed incident and remedial work conducted with 48 hours of the reported incident.

6.1 Monitoring Requirements

During the construction phase of the Project, specific monitoring requirements are defined within the regulatory permits and approvals provided by the government. Effluent from settling basins, sedimentation ponds, and erosion control areas, will be sampled and analyzed for specific parameters based on the *Metal and Diamond Mining Effluent Regulations* and the Certificate of Approval requirements. Discharge sampling requirements may change based on input from the regulator or conditions of the regulatory permits or approvals.

Monitoring for temperature, pH, DO, and turbidity will be conducted with a portable water quality meter on a regular basis dependent upon the field condition and the regulator requirements. For parameters that require laboratory analysis, water samples must be taken in laboratory supplied containers. Grab samples for laboratory analysis will be taken initially on a weekly basis in the appropriate laboratory supplied containers. Unless otherwise stipulated by the laboratory, samples will be stored at 4°C and shipped within 24 hours to the laboratory.

Discharge sample collection, storage, and laboratory analysis will be completed in consideration *of Guidance Document for the Sampling and Analysis for Metal Mining Effluents* (Environment Canada 2001) and the *Metal Mining Technical Guidance for Environmental Effects Monitoring* (Environment Canada 2023).

All data collected during the monitoring program will be adequately tracked via an established system to allow for assessment of the data. In the event that assessment of the data indicates that the current levels of mitigation are not effective, the EMs will work with the contractors to improve the mitigation. Increased monitoring of areas of concern will continue until monitoring indicates that the mitigation is effective.

6.2 Distribution of Monitoring Report

Monitoring reports will be documented and distributed to identified key internal Project team members to document the mitigation process and identify corrective actions as required. Distribution of reports to external bodies, including relevant stakeholders and regulators, will likely be an outcome of regulatory requirements and stakeholder engagement to showcase Champion's transparency and ongoing commitment to sustainable practices.

7. Contingency Planning

The design of ESC measures should be considered a dynamic process that adapts to new information gathered during activities at the various phases of the Project. Contingency strategies for the Project will be proactive and flexible, involving continuous inspection, maintenance, and reassessment of all BMPs and site conditions. If monitoring reveals that BMPs are not performing effectively, the following actions will be taken:

- Verifying that the control measure or feature is installed correctly.
- Evaluating whether the size, length, or depth of the control method is appropriate for the site conditions.
- Determining if an alternative BMP, control method, or contingency measure is necessary. Assess whether increased maintenance or more frequent inspections are required.

An inventory of ESC materials will be maintained on-site to address any issues that may arise. This inventory will be regularly updated to provide an accurate estimate of the quantities needed. The materials will offer a range of solutions to address various site conditions and levels of severity.

8. References

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Coote, D R, and W W Pettapiece. 1989. *Wind Erosion Risk, Alberta.* Publication 5255/B, Contribution Number 87-08, Land Resource Research Centre, Research Branch, Agriculture.

Engineers and Geoscientists British Columbia, College of Applied Biologists, and The BC Institute of Agrologists. 2024. "Professional Practice Guidelines - Erosion and Sediment Control."

Environment Canada. 2001. *Guidance Document for the Sampling and Analysis for Metal Mining Effluents .* Ottawa: Minerals and Metals Divison, Environmental Protection Service, Environment Canada.

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Appendix A: Streambank Stabilization (DFO Factsheet)

FACTSHEET

Filter Fabric

Department of Fisheries and Oceans

CONDITIONS WHERE APPLICABLE

This type of temporary barrier is commonly referred to as a silt fence or filter fabric dam. Its purpose is to prevent silt from entering waterbodies. These structures are not designed for long term control of siltation. Filter fabric should not be used in natural watercourse. It can be used in ditches and to surround a disturbed site to control site water runoff.

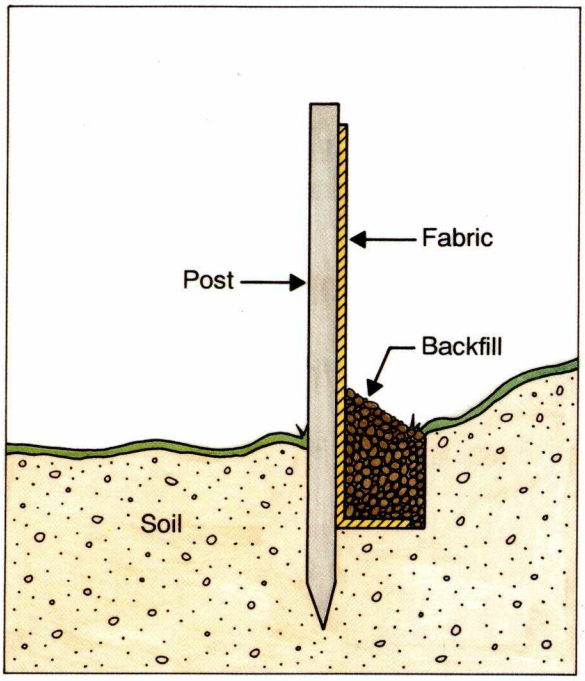
CONSIDERATIONS

- More than one filter fabric dam may be required.
- Filter fabric is designed for temporary use only.
- Further stabilization of disturbed areas may be required prior to filter fabric removal.

IMPLEMENTATION PROCEDURES

- For ditch installations filter fabric should be keyed in to the ditch bottom and sides a minimum of four inches.
- Keying in may be accomplished by excavating a minimum 4" x 4" trench in the ditch bottom and sides.

Wooden stakes should be installed a maximum of 1m apart on the downstream side of the trench and filter fabric attached to the upstream side of the stakes. The trench should then be backfilled. Installation for other disturbed areas should be similar with respect to trenching, stakes and backfilling.



MAINTENANCE

- Clean out accumulated silt at regular intervals as required and dispose of material so that it cannot subequently run into any waterbodies containing fish.

Filter Fabric

- Repair or replace any damaged section(s) of fabric as well as any undercut or end flow areas where water flows freely around the filter fabric.

ABANDONMENT

- Filter fabric should not be removed until all site work has been completed and disturbed areas stabilized.
- Ensure all accumulated silt is removed and disposed of in an appropriate manner prior to removing fabric.
- All materials should be disposed of at an approved dumpsite.

Failure to key the dam into the ditch sides allowed water to wash around the dam.

REFERENCES

Anon. 1988. Erosion and Sediment Control - Handbook for Construction Sites. N.S. Dept. of the Environment.

FACTSHEET

Rock Check Dam

Department of Fisheries and Oceans • Newfoundland Region

CONDITIONS WHERE APPLICABLE

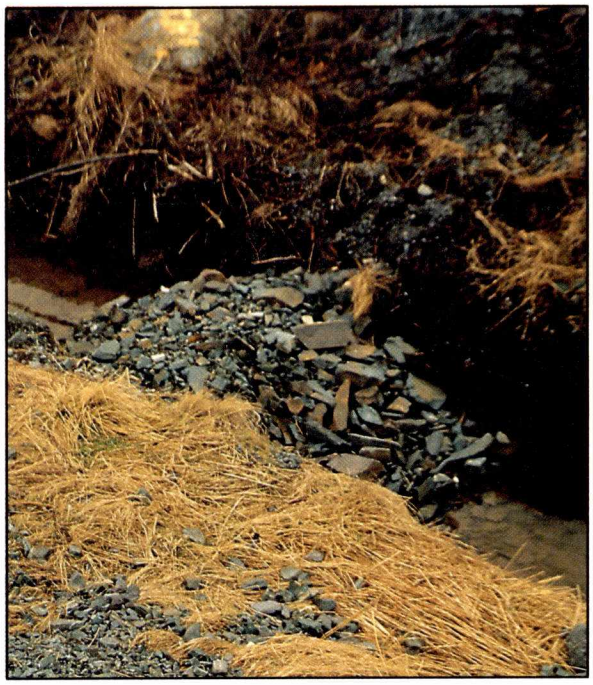
Rock check dams can be used to prevent erosion and control siltation arising from roadside ditches.

CONSIDERATIONS

- These structures must never be used in natural watercourses.
- They can be constructed of locally available materials.
- Rock dams are relatively easy and economical to construct.
- If only larger stones are available, the dam should be lined with impermeable material.
- More than one dam may be necessary.

IMPLEMENTATION PROCEDURES

- Where drainage areas are larger and/or slopes are greater, 100 - 150 mm (4-6in) stones should be used to protect the back and sides of the dam.
- The center of the dam must be lower than the sides.
- The ends of the dam should be stabilized with rip-rap.



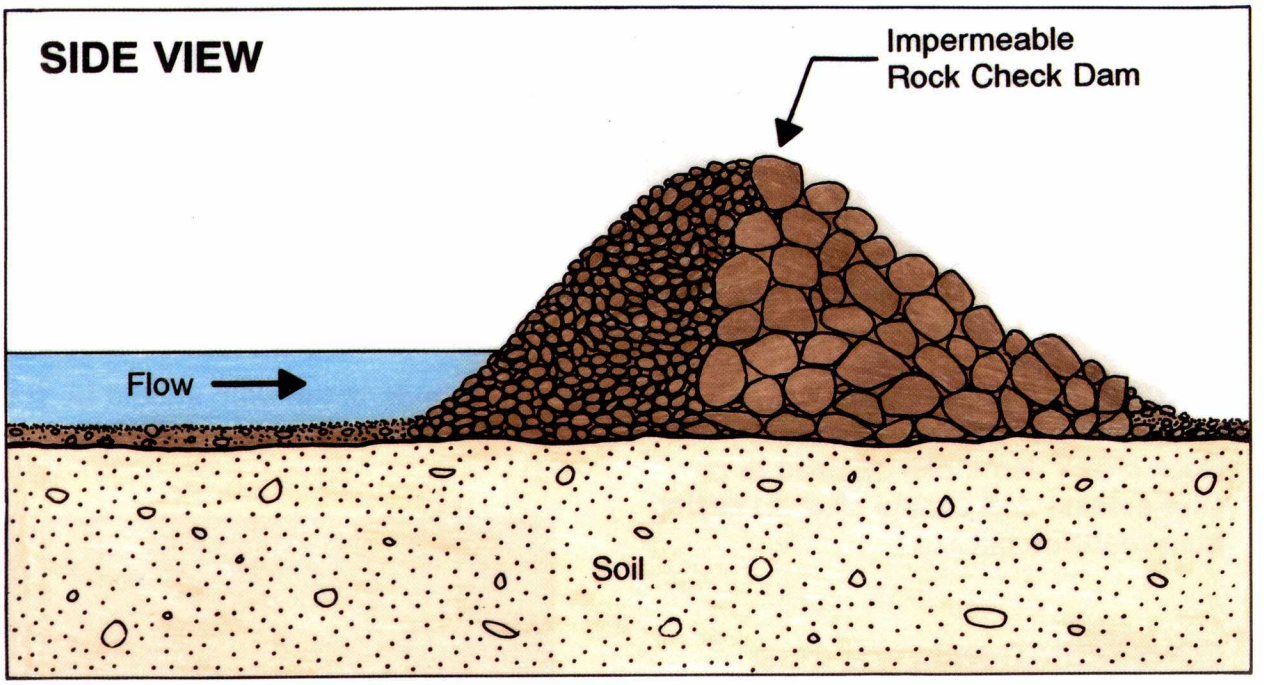
MAINTENANCE

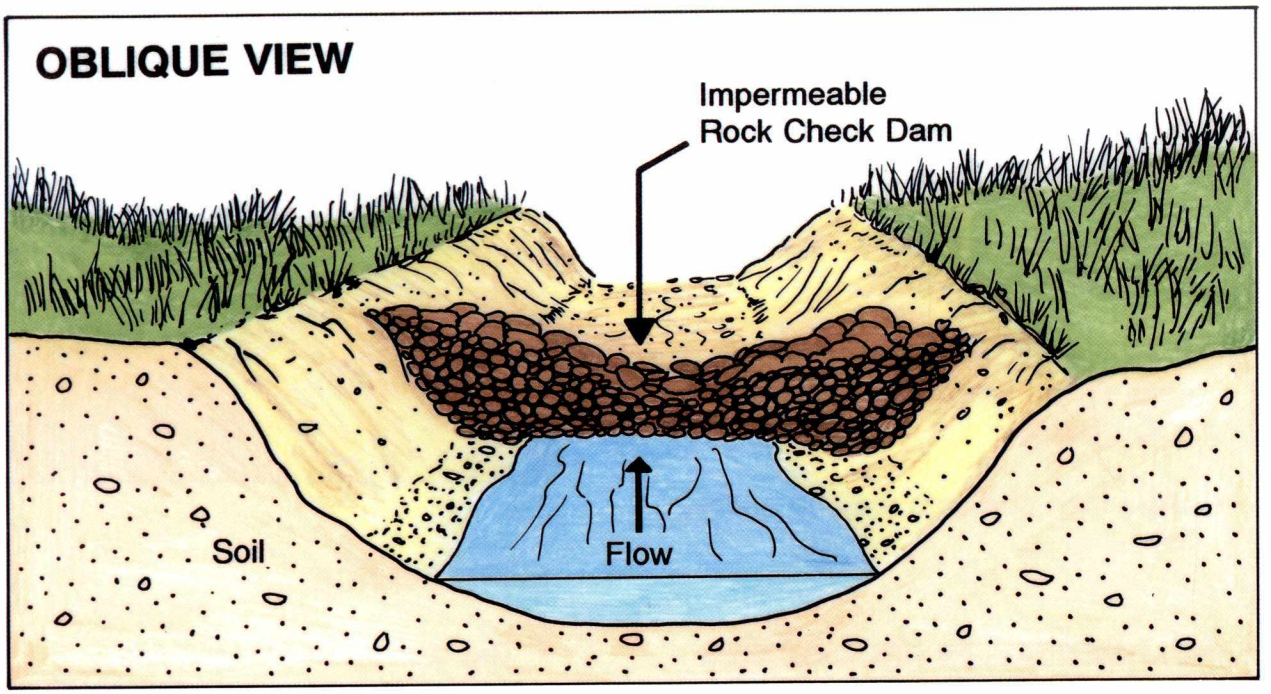
- The dam should be regularly inspected, and accumulations of sediment removed.

REFERENCES

Anon. 1988. Erosion and Sediment Control - Handbook for Construction Sites. N.S. Dept. of the Environment.

Rock Check Dam





This Fact Sheet does not constitute DFO approval; other mitigative strategies may be required. The proponent is advised to contact all other appropriate regulatory agencies.

For more information contact the nearest Department of Fisheries and Oceans office.

FACTSHEET

Instream Work in the Dry
Temporary Diversion

Department of Fisheries and Oceans

CONDITIONS WHERE APPLICABLE

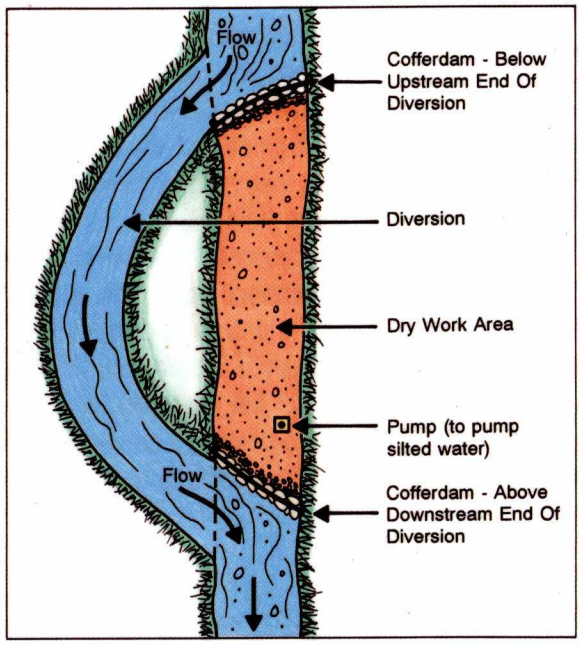
A temporary diversion is used to conduct instream work in the dry. This method is usually limited only by the availability of space within which to construct a diversion.

CONSIDERATIONS

- Constant maintenance of diversion channels may be required.
- Care must be exercised in the excavation of the diversion channel to ensure that it is capable of accommodating peak flows from the stream which is being diverted.
- A pump is usually required to remove silted site water arising in dewatered work areas.

IMPLEMENTATION PROCEDURES

- Temporary diversions should be excavated from the downstream end toward the upstream point of diversion, where a "plug" of earth should be left to prevent the entry of streamflow into the diversion channel before it is stabilized. Strong plastic sheathing can be used to line the channel bottom and slopes. This sheathing should be weighted down with crushed stone and staked into the top of the channel slopes. Once



Temporary diversion.

Temporary diversion - channel liner.

Instream Work in the Dry - Temporary Diversion

the channel has been lined and the lining secured, the "plug" of earth referred to earlier can be removed.

- A cofferdam (recommended double walls of sand bags with plastic placed between the walls) should then be placed immediately below the upstream point of diversion to re-route the flow of water into the diversion. Another cofferdam should then be placed immediately above the downstream point of diversion to isolate the work area and prevent silted water from escaping into the stream. In this manner the work area is effectively isolated from the stream and instream work can proceed in the dry. Silted water arising within the work area should be treated by discharging to vegetated areas, sediment traps or settling basins.

MAINTENANCE

- Plastic used to line the diversion must be kept in a good state of repair.

- Care must be exercised to ensure that streamflow does not get under or behind the channel liner and cause erosion of the channel banks and subsequent downstream siltation.

- At increased water levels and velocities it may be necessary to further secure the channel liner.

ABANDONMENT

- The diversion should be filled in and stabilized when no longer in use.

This Fact Sheet does not constitute DFO approval; other mitigative strategies may be required. The proponent is advised to contact all other appropriate regulatory agencies.

For more information contact the nearest Department of Fisheries and Oceans office.

Fisheries and Oceans Pêches et Océans

Canada

FACTSHEET

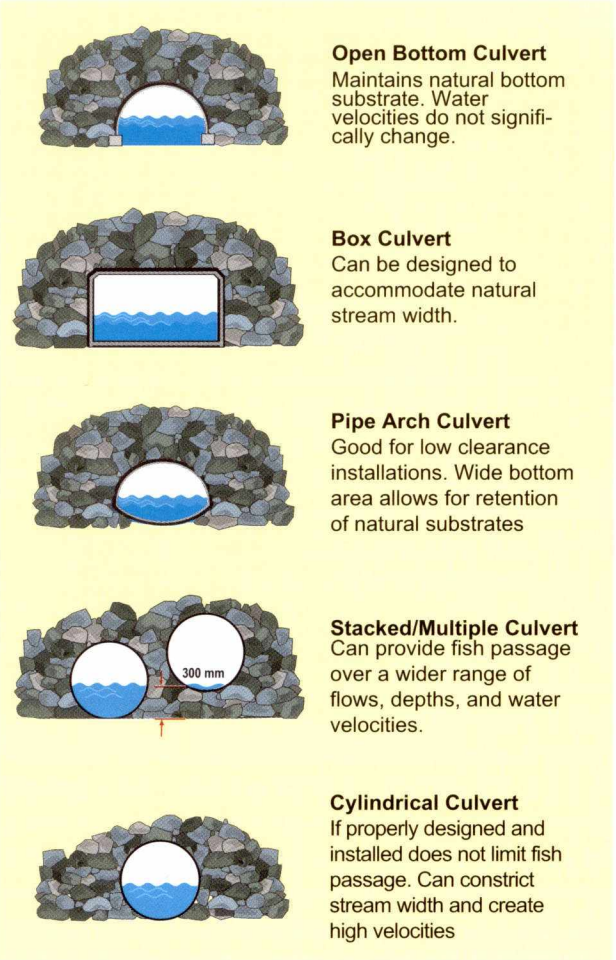
Culvert Installations

Department of Fisheries and Oceans

CONDITIONS WHERE APPLICABLE

Culverts are the most commonly used method for providing access over a watercourse, and particularly for small and medium sized streams. Several types of culverts are used including; open bottom/bottomless arch, pipe arch, box, and circular/cylindrical. Box type culverts are generally made from wood or concrete while other types are made from plastic, concrete or, most commonly, corrugated steel. Figure 1 identifies various culvert shapes.

Figure 1 Culvert Shapes



Open Bottom Culvert
Maintains natural bottom substrate. Water velocities do not significally change.

Box Culvert
Can be designed to accommodate natural stream width.

Pipe Arch Culvert
Good for low clearance installations. Wide bottom area allows for retention of natural substrates

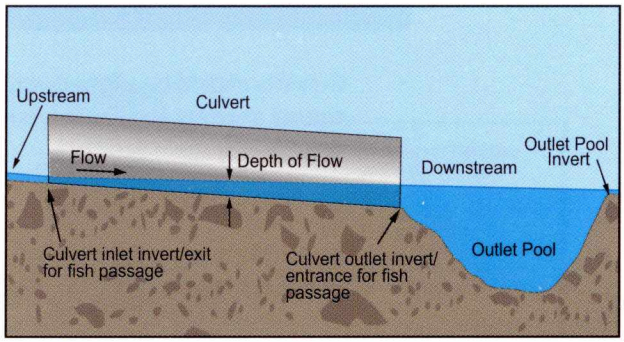
Stacked/Multiple Culvert
Can provide fish passage over a wider range of flows, depths, and water velocities.

Cylindrical Culvert
If properly designed and installed does not limit fish passage. Can constrict stream width and create high velocities

CONSIDERATIONS

- Sufficient depth of flow and appropriate water velocities for fish passage should be provided in culvert installations.
- Culvert size should be based on the capacity to handle peak flows. It may be necessary to have a hydrologic and hydraulic analysis performed in order to determine the correct size of the culvert to be used. The hydrologic analysis is used to determine the peak flow and the hydraulic analysis is used to calculate the capacity of the culvert to adequately pass the peak flows.
- The type of culvert selected and installed should minimize potential impacts on fish habitat, maintain fish passage, and sufficiently accommodate watercourse flows. To the extent possible, natural stream conditions (i.e., widths, habitat, etc.) should be maintained. Figure 2 illustrates some common terms associated with culvert crossings.

Figure 2. General Culvert Terms



- Natural bottom substrate and hydraulic capacity of watercourses are best maintained using open bottom/bottomless arch culverts; these are the preferred type of culvert crossings.

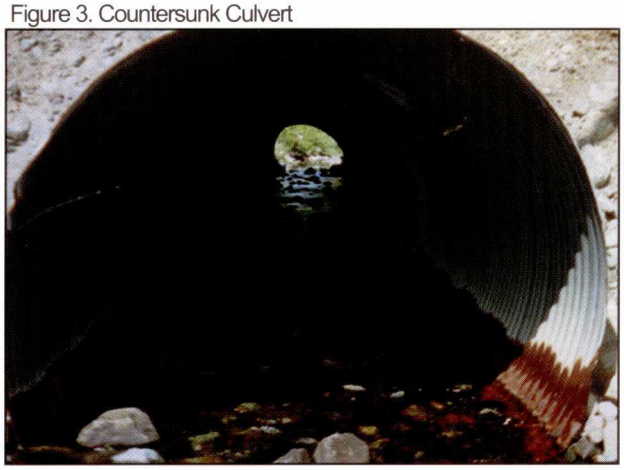
Culvert Installations

- Footings for open bottom culverts should be installed outside the normal wetted perimeter of the watercourse and tied into the bedrock or sufficiently stabilized to prevent erosion around the footing or undermining.

- For installation of cylindrical culverts in fish bearing streams, a minimum culvert diameter of 1000 mm should be provided and designed/sized according to site specific considerations.

- Cylindrical culverts should be installed to simulate open bottom or pipe arch culverts. Culverts up to 2000 mm in diameter should be countersunk a depth of 300 mm below the streambed elevation. Culverts with diameters exceeding 2000 mm should be countersunk a minimum of 15% of the diameter below the streambed elevation. Note: Countersinking reduces the hydraulic capacity of the culvert, therefore the required diameter of the culvert must be adjusted accordingly (Figure 3).

Figure 3. Countersunk Culvert



- Culverts should be aligned parallel to the existing natural channel and located on a straight stream section of uniform gradient.

- The culvert should be placed on firm ground and be countersunk to the appropriate depth. In sites where soft foundations are present the unsuitable material should be removed and replaced by clean granular material to prevent the culvert from sagging. Water movement under or around a culvert installation should be prevented through the use of headwalls, or other means, as necessary.

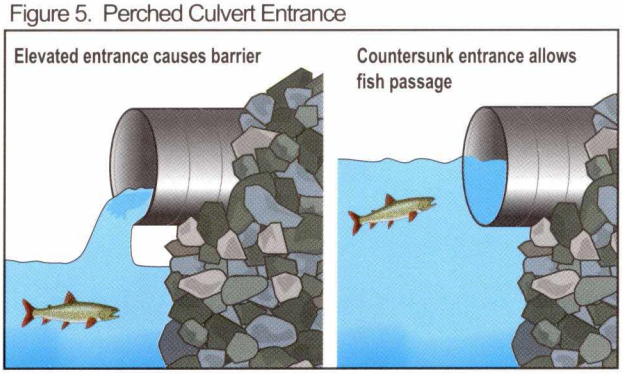
- A culvert should extend beyond the upstream and downstream toe of the fill (eg., a minimum of 300 mm, see Figure 7).

- For multiple culvert installations the culvert intended to provide fish passage should be placed in the deepest part of the channel and be countersunk to the required depth. The remaining culvert(s) should be placed a minimum of 300 mm above the invert of the fish passage culvert. (Figure 4).

Figure 4. Multiple Culvert Installation

- Culverts should be sufficiently sized and installed such that scouring of the outlet streambed does not occur as a result of increased water velocities in the culvert. Elevated culvert entrances can cause scouring which may create an obstruction for migrating fish (Figure 5).

Figure 5. Perched Culvert Entrance



- A minimum water depth of 200 mm should be provided throughout the culvert length. To maintain this water depth at low flow periods an entrance/ downstream pool can be constructed. In some cases, an upstream pool may also be necessary.

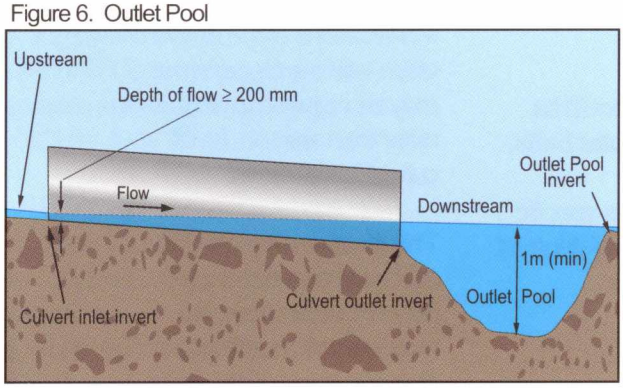
Culvert Installations

- The invert of the pool outlet should be at an elevation that maintains a minimum of 200 mm of water depth up to the inlet or upstream end of the culvert (Figure 6).

- The culvert slope should follow the existing streambed slope where possible. Excessive culvert slope, reduced culvert capacity due to countersinking and maintenance of the 200 mm minimum depth of flow, and back watering due to the creation of an outlet pool should be considered when selecting the required culvert diameter to allow fish passage and pass peak flows.

- Pools should be designed so that there is a smooth transition of flow from the culvert to the natural stream width.

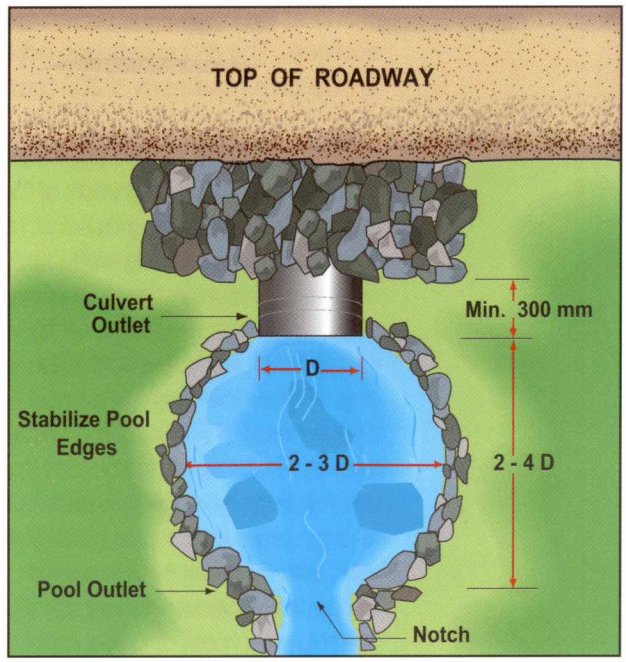
Figure 6. Outlet Pool



- The natural streambed elevation should be used as the pool outlet invert; however, depending on site specific conditions, a pool outlet may need to be constructed. It is essential that the invert elevation of the pool outlet be stable and, if necessary, well maintained to ensure a minimum water level in the culvert. Clean, non-erodible riprap or gabions should be used to stabilize the pool. The pool outlet may need to be v-notched to enable fish passage at low flow periods. More than one pool may be required.

- Pools should be pear shaped and sized such that: pool length = 2 to 4 times culvert diameter; pool width = 2 to 3 times culvert diameter; pool depth = 0.5 times the culvert diameter, 1 metre minimum. (Figure 7). The culvert diameter referred to the above is that of the fish passage culvert.

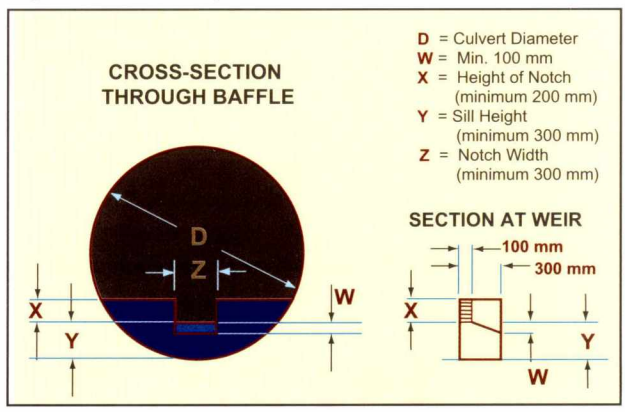
Figure 7. Pool Sizing



- For stacked/multiple culverts, pools should be installed with the fish passage culvert orientated to the centre of the pool to allow for a smooth transition of water from the culvert to the watercourse.

- Depending on site-specific conditions (eg., steep slopes, long crossings, constricted streams resulting in high water velocities, etc.), baffles/weirs may need to be installed in the fish passage culvert. Baffles/weirs can provide an adequate depth of flow and reduce the water velocity in the culvert in order to facilitate fish passage. Baffle dimensions should be provided as per Figure 8.

Figure 8. Baffle Sizing



Culvert Installations

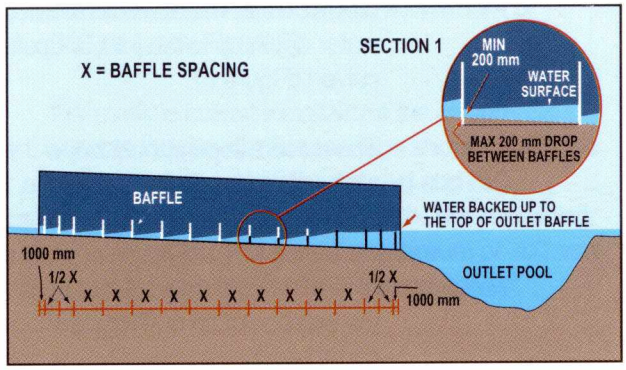
- A minimum depth of flow of 200 mm should be provided throughout the culvert and baffled sections. The drops between adjacent baffles should be a maximum of 200 mm.

- Baffles should be placed approximately 1 metre from the inlet and outlet ends of the culvert, the next baffles should be placed at 1/2 the baffle spacing. The remaining baffle spacing should be determined by using the low flow (flow at the time of fish migration, i.e., lesser of flow at 90% exceedance via flow duration analysis or the 7 day, 10 year low flow) as a basis for meeting the above depth of flow and drop between baffles criteria. Baffle spacing should also provide a pool volume large enough to dissipate the kinetic energy produced by the water falling over the weir; and consider high flows (i.e., 10% exceedence based on flow duration) during the fish migration period. Baffle spacing is illustrated in Figure 9.

- The invert elevation of the outlet pool should be set to back water up to the top of the outlet baffle.

- The upstream culvert invert, in some site specific situations, can be countersunk to facilitate depth of flow provided that the head differential is accounted for.

Figure 9. Culvert Baffle Spacing Requirements



Maintenance

Culvert installations should be suitably stabilized to prevent erosion, seepage, and undermining and maintained in good repair and operating condition.

Special Considerations

Modifications of the above criteria/guidance in consultation with the Department of Fisheries and Oceans may be required to address the passage of fish species other than salmon, brook trout, and brown trout in culvert installations.

This factsheet concerning culvert installations is generic and has been developed to apply to a variety of different circumstances. Some site specific situations may warrant modification of the above guidance, as deemed appropriate and in consultation with the appropriate Area Habitat Biologist. In some site specific situations, a professional engineer and/or biologist should be consulted.

This Fact Sheet does not constitute DFO approval; other mitigative strategies may be required. The proponent is advised to contact all other appropriate regulatory agencies.

For more information contact the nearest
Department of Fisheries and Oceans office


Kami
Kamistiatusset
Mining
Project

Kami Mining Project

Champion Kami Partner Inc.

Wabush, NL

Annex 5G Kami Engagement Plan

Environmental Impact Statement

Document Number: CA00387135261-R-Rev0-Annex5G_Engagement Plan

July 2025

1155 René-Lévesque Blvd. West, 33rd Floor
Montréal, Québec H3B 3X7 CANADA
T +1 514 316-4858
championiron.com

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1. Introduction

The Kami Engagement Plan (KEP) has been developed by Champion Kami Partner Inc. (Champion) for the Kamistiatusset (Kami) Iron Ore Mine Project (the Project), an iron ore mining project in the province of Newfoundland and Labrador (NL). The Project is located entirely in Labrador, approximately 7 km southwest of the Town of Wabush, 10 km southwest of the Town of Labrador City, and 5 km northeast of the Town of Fermont, Québec. The Project will involve the construction, operation, and eventual closure of an open pit iron ore mine and supporting infrastructure.

This document serves to meet the requirements outlined in Sections 7.2.4, 7.2.5, and 7.2.8 of the Environmental Impact Statement (EIS) Guidelines issued by the Newfoundland and Labrador Department of Environment and Climate Change (the Department) on December 19, 2024, for the development of the Public Participation Plan, Indigenous Participation Plan, and Domestic Wood Cutting Consultation Plan,[1] respectively. The combined Public Participation Plan, Indigenous Participation Plan, and Domestic Wood Cutting Consultation Plan form the KEP. The KEP has been developed based on Champion's engagement objectives for the Kami Project and was informed by the previous engagement work completed with public stakeholders and Indigenous groups by Alderon during the previous EIS (Alderon 2012).

During the Project, the environmental management team at Champion will offer direction and supervision to confirm that that all construction and operations activities adhere to all environmental policies regarding Indigenous and public participation. These efforts will be complemented by the company's overarching dedication to environmental stewardship, with meticulous planning, design, and execution.

Champion is dedicated to implementing the KEP and engaging with key stakeholders and the public to help ensure that expectations and regulations are being met.

1.1 Approach to Engagement

Champion's commitment to responsible mining is reflected in its four core values, which form the cornerstone of Champion's beliefs, guiding daily operations as follows (Champion 2025a):

1) **Pride**–Develop a collective sense of belonging in all spheres of iron ore mining.
2) **Ingenuity**–Leverage employee creativity and expertise to achieve and maintain efficient practices aimed at operational excellence.
3) **Respect**–Respect people, resources, the environment, safety standards, partnerships, and equipment.
4) **Transparency**–Promote transparent communications through active listening and open dialogue.

Champion's dedication to developing strong relationships with Indigenous Peoples, local communities and other public stakeholders is based on the following three pillars (Champion Iron 2025b):

1) Providing a safe and inclusive working environment, avoiding social inequities, and respecting human rights.
2) Engaging with communities by respecting corporate values.
3) Protecting the environment and biodiversity.

Champion views relationships of trust with local communities as key to the success and sustainability of its operations. It is through local community relationships that Champion can successfully create lasting benefits, minimize negative social and environmental effects in the areas where it operates, and advance its contributions toward sustainable development. Champion engages with communities by contributing to local economic development through local hiring, sourcing, and community investments.

[1] The Domestic Wood Cutting Consultation Plan is a consultation plan that is defined by the Department as intending to guide engagement with domestic wood cutters and the Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture to identify and address any concerns with the Project and develop appropriate mitigation measures.

1.2 Purpose of the Plan

The purpose of the KEP is to integrate Champion's commitment to responsible mining and allow for public stakeholders and Indigenous groups to meaningfully engage with the planning and design of the Project. To align the Project with Champion's approach to developing relationships with local communities and Indigenous groups, the KEP has been designed to achieve the following objectives:

- Provide information to public stakeholders and Indigenous groups in a timely manner to allow for feedback throughout the lifecycle of the Project.
- Communicate openly and consistently with public stakeholders, Indigenous groups, and regulators to continue building trust and support for the Project.
- Receive, consider, and, where required, integrate stakeholder feedback into the Project within designated timelines and regulations.
- Continue to build the effective relationships Champion has with public stakeholders and Indigenous groups, with the goal of a well-supported Project from early planning to Closure.
- Be proactive to reduce risks to the Project and encourage opportunities.

1.3 Scope

This KEP is intended to guide engagement activities with public stakeholders to meet the requirements of the EIS Guidelines (NL 2024), Indigenous groups, and regulators throughout the development of the EIS and through the Project lifecycle, which includes Construction, Operations and Maintenance, and Decommissioning and Rehabilitation phases (as described further in Section 1.5).

The Government of Canada has a Duty to Consult and, where appropriate, accommodate Indigenous Peoples when it considers conduct that might adversely effect potential or established Aboriginal and/or treaty rights on Crown land. The Duty to Consult is derived from Section 35 of the *Constitution Act* (1982) and is passed to the Province of the Newfoundland and Labrador through procedural aspects to fulfill this duty. While the Duty to Consult rests with the Crown and Champion does not intend to fill the role of the Crown, Champion recognizes that Project engagement may be used to inform or satisfy procedural aspects of Crown consultation. Champion has engaged with Indigenous groups as outlined in the EIS Guidelines. Champion has presented optimizations made to the Project since the 2014 EA ministerial release and to continue improving the Project with the comments and recommendations from stakeholders and Indigenous groups. The KEP is a living document that will evolve as the planning and design of the Project evolves. To better guide the implementation of mitigation measures and commitments made during the EIS process, the KEP will be regularly reviewed for its effectiveness and refined with input from public stakeholders, Indigenous groups, regulators, and the Project team.

Effective communication and engagement relies on a shared understanding of key terms and concepts, as presented in Table 1-1.

Table 1-1: Key Terms of the Plan

Term	Description
Domestic cutting block	Operating areas for domestic wood harvesting within a forest management district where domestic cutting permit holders can cut or remove timber for subsistence purposes.
Domestic cutting permit	Permits to cut or remove wood for subsistence purposes from Crown lands or public lands, under the *Forestry Act, 1990*'s *Cutting of Timber Regulations*.
Forest management district	The operational area of forest management activities (e.g., timber harvesting, planting, thinning and road construction) to implement strategies and policies within the 10-year provincial sustainable forest management strategy.
Indigenous group(s)	Used when discussing leadership/political entity identified for the current EIS by the Newfoundland and Labrador NL Office of Indigenous Affairs and Reconciliation.
Indigenous communities	Used when discussing physical locations of communities.
Indigenous Peoples	Broad term for Indigenous People, including First Nations, Inuit, and Métis, whose rights are protected under Section 35 of the *Constitution Act, 1982*

Term	Description
Indigenous Knowledge	Used when discussing knowledge based in the worldview of an Indigenous People[2]
Local Knowledge	Used when discussing knowledge about a specific geographic area shared by local stakeholders.
Local communities	Used when discussing Project-vicinity communities (i.e., Town of Fermont, Town of Wabush, and Town of Labrador City).
Stakeholders	Used when discussing non-Indigenous groups or people who could influence or have an interest in the Project.
Rightsholders	Refers to Indigenous Peoples whose rights are protected under Section 35 of the *Constitution Act, 1982*. "Stakeholder" is a common corporate term that is not well received among many Indigenous groups. Indigenous Peoples are Rightsholders rather than stakeholders, as Indigenous Peoples hold Indigenous rights protected under Section 35.
Wood cutters	A wood cutter is an individual who is allowed to cut timber on or remove timber from Crown lands or public lands under the *Forestry Act, 1990*'s *Cutting of Timber Regulations*. Wood cutters are required to have a domestic cutting permit and, during forest fire season, an additional operating permit.

1.4 Relationship to Other Plans

The following other plans, which are provided as annexes to the EIS, are being prepared in support of this Project to describe the procedures, equipment, and responsibilities that are in place to help ensure that potential adverse effects are prevented and/or responded to appropriately during all phases of the Project:

- Annex 5B: Dam Safety Plan
- Annex 5C: Emergency Response Plan
- Annex 5D: Environmental Protection Plan (annotated Table of Contents, with full plan available prior to commencement of construction)
- Annex 5E: Environmental Effects Monitoring Program, including the following management plans
- Annex 5F: Erosion and Sediment Control Plan
- Annex 5H: Waste Management Plan

All plans prepared for the Project will be implemented by Champion. The plans will be updated periodically, where appropriate.

[2] Indigenous Knowledge reflects the unique cultures, languages, values, histories, governance and legal systems of Indigenous Peoples (IAAC 2022). It is place-based, cumulative and dynamic (IAAC 2022). Indigenous Knowledge systems involve living well with, and being in relationship with, the natural world. Indigenous Knowledge systems build upon the experiences of earlier generations, inform the practice of current generations, and evolve in the context of contemporary society (IAAC 2022).

1.5 Project Overview

The proposed Project will include an open pit mine and surface infrastructure to support the extraction of iron ore from the Kami deposit and the production of high-purity iron ore concentrate. The Project includes construction, operation, and closure of the following components:

- an open pit (referred to as the Rose Pit)
- ore processing infrastructure, including conveyors and transfer stations, stockpiles, the process plant, and load-out facilities
- waste management infrastructure, including an overburden stockpile, mine rock stockpile, and tailings management facility
- water management infrastructure that will collect, convey, store, treat, and discharge contact and non-contact water, including dams, dikes, and collection ponds
- supporting infrastructure, including site roads, workforce accommodations, a mine service area, freshwater pumping stations, fuel storage, an emulsion and explosion production plant and explosive storage, a crushing plant, transmission lines for local site distribution, and telecommunications services
- transportation corridors, including access roads and a railway corridor that includes a spur line to connect the mine site to the Québec North Shore & Labrador Railway

A presentation of the site layout is provided in Figure 1-1. All mining and processing operations will take place within Newfoundland and Labrador provincial boundaries. All Project components will be constructed, operated, and closed in accordance with governing federal, provincial, and municipal regulations, as well as industry regulations and standards.

The 40-year lifespan of the Project is defined by the following Project phases:

- **Construction phase** (referred to as Construction)—Includes site preparation; mine, process plant, and site infrastructure development; and commissioning of the structures, systems, and components. The duration of Construction is expected to be four years.
- **Operations and Maintenance phase** (referred to as Operations)—Includes the mining and milling of iron ore, production and shipment of iron ore concentrate, tailings management, management of mine rock, waste management, water management, release of treated effluent, site maintenance, and transportation of staff and materials to and from the site. Operations begin with one year of pre-development mining (i.e., ramp-up) and concludes when processing is complete. Operations are expected span 26 years.
- **Decommissioning and Rehabilitation phase** (referred to as Closure)—Includes accelerated flooding of the Rose Pit, re-establishing passive surface water drainage following the pit-flooding period, and recontouring and revegetating disturbed areas. Any physical infrastructure will be removed if it is not required during post-closure monitoring and for other activities required to achieve the Project's decommissioning criteria and return the Project site to a safe and stable condition. Closure is expected to span 10 years.

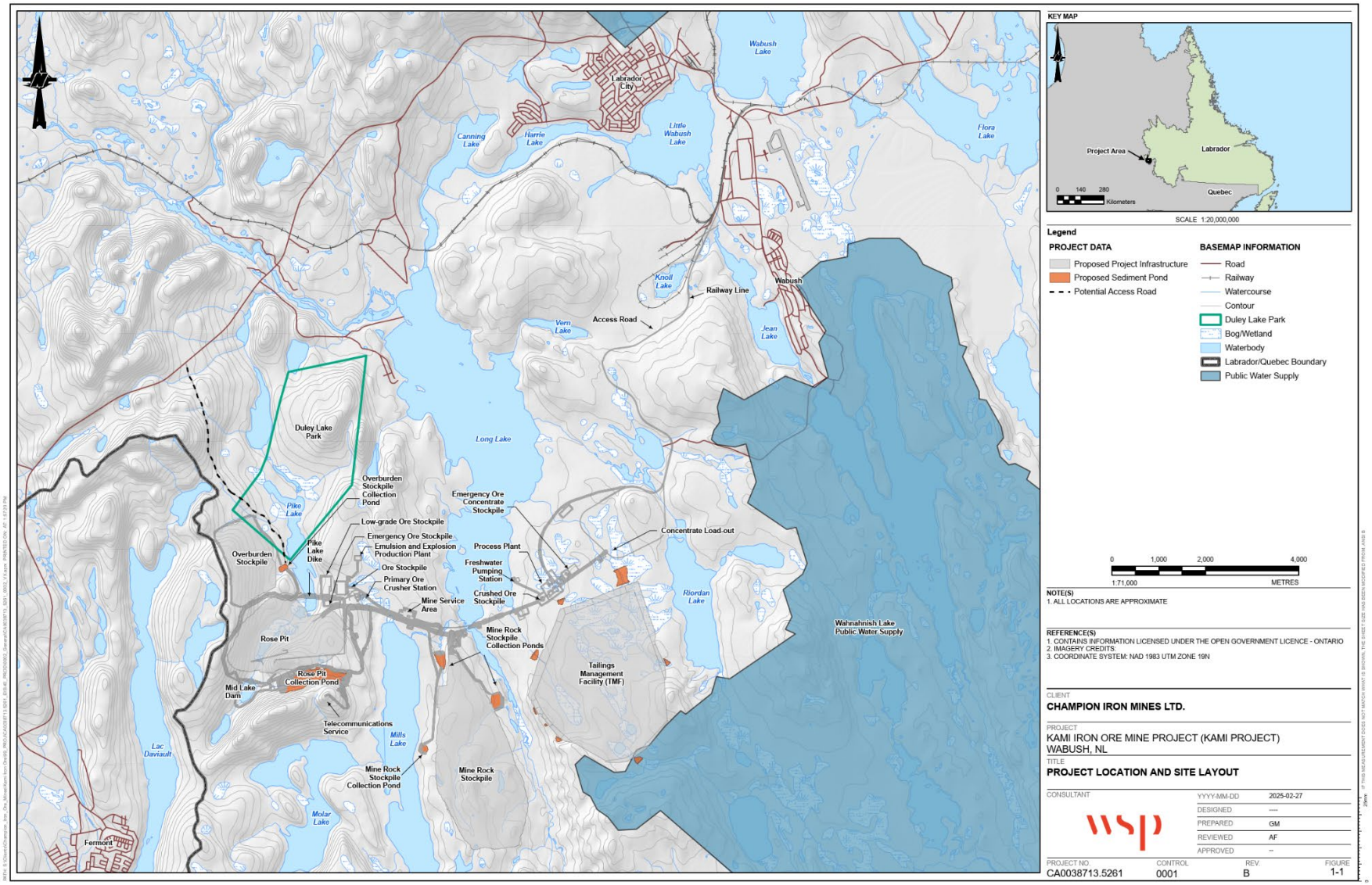

Figure 1-1: Site Layout

2. Key Risks and Opportunities

Key risks are those that arise through the engagement process and that could cause delays during the planning and design of the Project. Potential risks to the Project may include the following:

- Public stakeholders may develop engagement exhaustion, and some may have capacity issues or competing demands that reduce their ability to participate in discussions.
- High employment expectations may lead to disappointment and dissatisfaction if the number of jobs created does not meet community expectations.
- The Project be perceived as contributing to a "boom and bust" economy in the region.
- Management of contractors could pose risks in areas such as workforce behaviour, potentially leading to community tensions and operational challenges.
- Community support may dwindle should there be an opinion that social or environmental mitigation is not sufficient.

Key opportunities can be leveraged to mitigate risks during the engagement process. Potential positive engagement opportunities for the Project may include the following:

- improvement of relationships with public stakeholders and regulators
- identification of synergies and efficiencies in wood harvesting and recycling
- improvement of relationships with Indigenous groups and furthering of reconciliation efforts
- development of new agreements with Indigenous groups, including Consultation Agreements
- creation or improvement of existing partnerships between Champion and other parties within the host region (i.e., due to Bloom Lake operations)
- improvement of livelihoods and employment opportunities
- improvement of infrastructure within the host region
- being seen as a leader in sustainable mining
- being seen as an attractive workplace in the host region

3. Public Stakeholders and Indigenous Groups

The term "stakeholder" refers to a broad range of interested and affected individuals and groups, including local government organizations, communities, businesses, non-governmental organizations, public interest groups, clubs, and domestic wood cutters. Indigenous Peoples are Rightsholders rather than stakeholders, as Indigenous Peoples hold Indigenous rights protected under Section 35 of the *Constitution Act, 1982*.

In the context of this Project, a stakeholder may be any person or group of people who have an interest to protect, who have a stake in the issue, or who have knowledge to contribute. This includes a person or group that would be directly affected by the Project and a person or group with more general or varying degrees of concern, interest, and desire to engage with issues related to the Project.

3.1 Identification of Public Stakeholders

Stakeholders for the Kami Project have been identified based on previous experience and information acquired from Champion, as well as from a review of available secondary information. Champion identified interested stakeholders using the following criteria:

- Proximity of persons or groups that reside, have property, or have an interest within or near the proposed Project area, or could be potentially affected due to proximity from the proposed Project area.
- Past or current interest of persons or groups in the Project, or similar projects or developments in the vicinity of the Project.
- Persons or groups not located in close proximity to the Project area, but that could be potentially affected by the outcomes of the Project.

The previous EIS documented engagement with the following stakeholders:

- select local stakeholders, including residents of the communities of the towns of Labrador City, Wabush, and Fermont
- other potentially effected or interested stakeholders beyond these towns' boundaries, including non-governmental organizations, economic development organizations, and outdoor recreation users and outfitters

Table 3-1 provides the preliminary list of stakeholders identified for the Project. Additional stakeholders may be identified through planned engagement activities.

Table 3-1: Public Stakeholder Groups for the Project

Category	Stakeholder
Municipal governments	Wabush
	Labrador City
	Fermont
Cabin owners and cabin owner associations	Duley Lake Cabin Owners Association
	Mills Lake Cabin Owners Association
	Riordan Lake Cabin Owners Association
	Québec cabin owners
Local economic development	Centre local de développement de Caniaspicau
	Conseil de développement économique d'Uashat mak Mani-Utenam
	Labrador West Chamber of Commerce
	Labrador West Employment Corporation
	Labrador West Tourism Corporation
	Newfoundland and Labrador Organization of Women Entrepreneurs
	Town of Labrador City Economic Development Department
	Women in Resource Development Corporation
Local environment interest groups	Conseil régional de l'environnement de la Côte-Nord
Local education, social services, and health services	College of the North Atlantic
	Centre de santé et services sociaux de L'Hématite
	Labrador-Grenfell Health
	Labrador Institute of Memorial University, Labrador Campus
	Labrador West Status of Women
	Labrador Friendship Centre
	Newfoundland and Labrador English School District
	Conseil scolaire francophone de Terre-Neuve et Labrador
	Newfoundland and Labrador Housing Corporation
	Provincial Advisory Council on the Status of Women
	Royal Newfoundland Constabulary
Outfitters and recreation	Duley Lake Family Park
	Newfoundland and Labrador Outfitters Association
	White Wolf Snowmobile Club
	Menihek Nordic Ski Club
	Smokey Mountain Ski Lodge
	Tamarack Golf Course
Non-profit organizations	Labrador-West Alliance
	Heritage Foundation of Newfoundland and Labrador

3.2 Domestic Wood Cutting Profile

The *Forestry Act, 1990* mandates the Forest Service of NL to manage provincial forest resources. Forest management planning is scheduled on a five-year cycle and occurs on a district-by-district basis. The five-year operating plans outline the operational areas of proposed forest management activities (e.g., timber harvesting, planting, thinning, road construction) to implement strategies and policies within the 10-year provincial sustainable forest management strategy (Government of NL 2025a).

The province is divided into 24 forest management districts (FMDs), with 18 in Newfoundland and 6 in Labrador. To facilitate planning, some districts are combined into zones (Government of NL 2025a). The Project is located within FMD 22 in Western Labrador, which is bounded by the Québec–Newfoundland and Labrador border in the west and FMDs 19b, 23, and 24 to the east and north (Government of NL 2021). FMD 22 has historically not been dependent on the forestry industry. In the 2017 to 2021 period the number of annual commercial harvesting permits increased but the levels of Traditional forestry harvest remained low (Government of NL 2021). Most commercial harvesting stemmed from land clearing for mine expansions, quarries, and mineral exploration and most often involved non-merchantable scrub. Domestic harvesting is a more significant activity in the area and has more than doubled compared to the previous five-year average (2012 to 2016) (Government of NL 2021)

Under the *Forestry Act*'s *Cutting of Timber Regulations*, a cutting permit is required to cut timber on or remove timber from Crown lands or public lands. Domestic cutting permits are for permits to cut or remove wood for subsistence purposes, whereas commercial cutting permits are for permits to cut or remove wood for sale or trade (Government of NL 2025b). Domestic cutting permits have a maximum annual permissible harvest volume of 22 m^3 for each permit issued unless otherwise specified (Government of NL 2021). Regardless of permits, small quantities of wood are anticipated to be harvested by cabin owners outside of the identified domestic areas.

There are 13 designated domestic wood harvesting areas, called domestic cutting blocks, within FMD 22, where domestic cutting permit holders can cut or remove timber for subsistence purposes. The Project is located within the Duley Lake harvesting area in domestic cutting block CC22503, which spans 39,544 ha and is shown in Figure 3-1.

During the last plan period from 2017 to 2021, the estimated volume of harvested domestic wood in the Duley Lake cutting block included approximately 7,029 m^3 of softwood and 0 m^3 of hardwood (Government of NL 2021). Domestic wood cutting use in FMD 22 and the Duley Lake harvesting area is expected to be consistent with the previous five years (i.e., approximately 64 permits issued per year with a maximum harvesting rate of 1,408 m^3/yr) (Government of NL 2021). Domestic wood cutters in the Duley Lake harvesting area are likely to consist primarily of cabin owners near the Project area. Through proposed engagement activities (as described in Section 5.3), Champion will engage with stakeholders to determine whether additional domestic wood cutters should be considered.

Throughout the Project Construction and Operations phases, Champion is committed to ongoing engagement with domestic wood cutters to better understand concerns regarding permitted harvesting in the area. These discussions will also help inform strategies to mitigate potential effects on their access to wood resources. Compensation approaches will be guided by these engagements and may include access to locally sourced wood – where feasible and safe – or alternative sources, depending on health and safety considerations related to the use of site wood. A map showing the approximate location of existing cabins and their respective cabin owners association is shown on Figure 3-2. The spatial overlap of the Project footprint with domestic cutting blocks in FMD 22 are shown in Table 3-2.

Table 3-2: Spatial Overlaps of Domestic Cutting Blocks and the Site Study Area

Domestic Cutting Block	Area of Overlap with Site Study Area (ha)	Area of Overlap with SSA (%)
O'Connells (CC22501)	0.28	0
Duley Lake (CC22503)	2,814.86	7.14
Mount Albert (CC22506)	6.62	0

SSA = site study area.

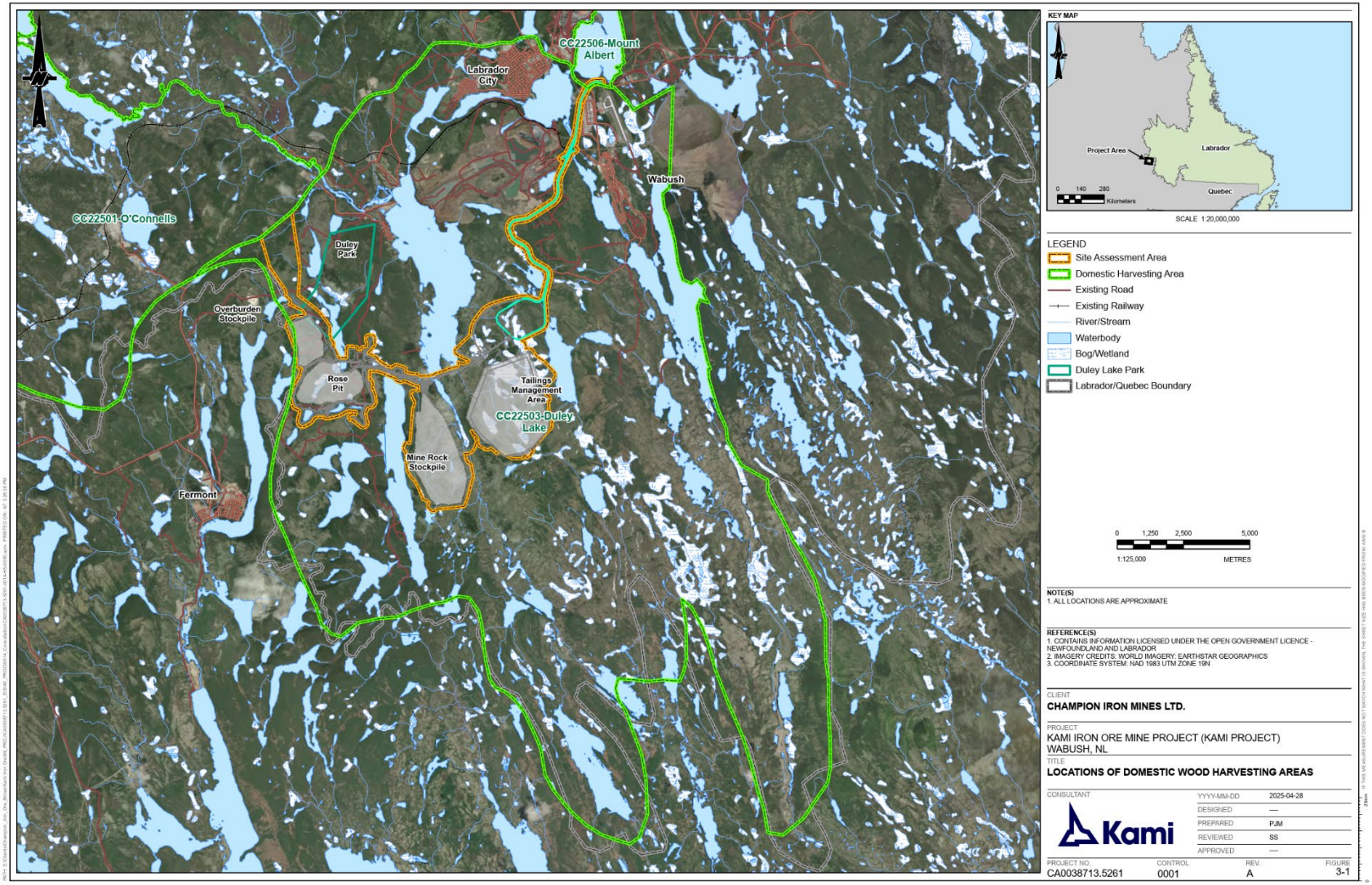

Figure 3-1: Locations of Domestic Wood Harvesting Areas

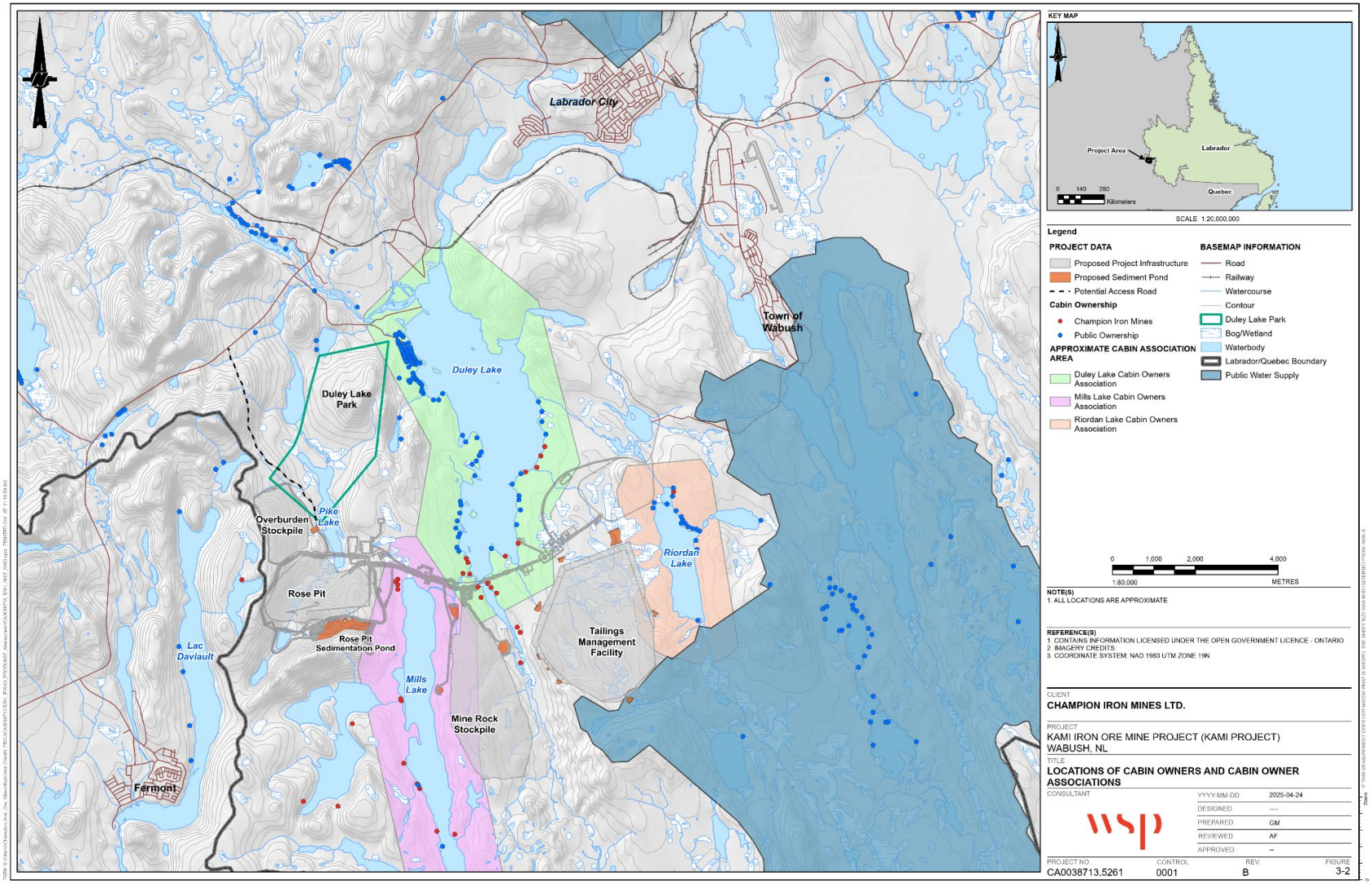

Figure 3-2: Locations of Cabin Owners and Cabin Owner Associations

4. Indigenous Groups

Champion recognizes the unique relationship that Indigenous Peoples have with the natural environment in which they live. The company is committed to developing and maintaining lasting relationships with Indigenous Peoples to help ensure fruitful collaborations conducive to reconciliation and the establishment of a climate of understanding, trust, transparency, and mutual respect. Champion is therefore committed to the following:

- respecting the rights, interests, aspirations, culture, and natural resource-based livelihoods of Indigenous groups in the design and development of its projects and operations
- seeking to reflect the diversity of host communities and Indigenous groups in Champion's workforce
- applying mitigation measures to address adverse effects of Champion's activities on host communities and Indigenous groups and offer host communities and Indigenous groups positive and lasting benefits
- seeking to obtain the voluntary, prior, and informed consent of Indigenous groups when considerable effects are likely to occur, either due to the relocation of property or the disturbance of land, territories, or cultural heritage that is important to Indigenous groups
- Incorporating the results of discussions and engagement processes with host communities and Indigenous groups in the planning and design of the Project, the mitigation of negative effects on environmental aspects, and agreements with host communities and Indigenous groups.

As described in Section 1.3, Champion will engage with Indigenous groups to understand how the Project can be improved through their understanding of the land and perspective from their people. Champion will continue to present the evolution of the Project and establish a relationship based on trust and respect where recommendations and comments can be shared and discussed.. Champion is committed to working with provincial regulators to comply with the delegation of the Duty to consult from the Province and will provide regular updates on the KEP and engagement activities with Indigenous groups as they are undertaken. Champion is also willing to provide opportunities or facilitate provincial government participation during KEP activities with Indigenous groups.

The KEP will be informed by issues and concerns outlined by Indigenous groups. Each Indigenous group may have different communications and engagement protocols. Targeted engagement protocols will be co-developed with Indigenous groups based on their preferred methods of engagement. Additionally, engagement will be conducted in accordance with the *United Nations Declaration on the Rights of Indigenous Peoples Act*'s free, prior, and informed consent parameters.

4.1 Identification of Indigenous Groups

The Crown has a Duty to Consult and, where appropriate, accommodate Indigenous groups when it considers conduct that might adversely effect potential or established Indigenous and/or treaty rights. The Crown may delegate procedural aspects of consultation to Provinces and proponents. During the previous EIS, five Indigenous groups were identified by the former Canadian Environmental Assessment Agency as potential Rightsholders (i.e., as having potential Indigenous and/or treaty rights that could be adversely affected by the Project). The following groups were identified by the Canadian Environmental Assessment Agency as potential Rightsholders:

- Innu Nation
- Innu Takuaikan Uashat mak Mani-Utenam
- La Nation Innu Matimekush-Lac John
- Naskapi Nation of Kawawachikamach
- NunatuKavut Community Council

The Newfoundland and Labrador Office of Indigenous Affairs and Reconciliation confirmed to Champion that the Indigenous groups previously identified for the current EIS remain the same as those requiring engagement during the previous EIS.

5. Communications and Engagement Methodology

Early and ongoing engagement throughout the life of the Project is important to:

- build new or strengthen existing relationships
- discuss needs, issues, concerns, plans, and potential effects (positive or negative) to gain insights
- alleviate potential disparities between perceptions of the Project, environmental effects, changes in land use or landscape and Champion's objectives and plans
- build awareness about the Project through information sharing

The process of engagement includes an active approach to providing public stakeholders and Indigenous groups with opportunities to learn more about the Project and to express their knowledge and views on aspects of the Project. The Project team will consider ongoing studies and important cultural activities and events in planning and scheduling activities such that appropriate messaging is aligned and conflicting event timing is avoided.

5.1 Principles of Engagement

The KEP has been developed in consideration of the nine guiding principles for communications and engagement, following International Association for Public Participation core values (IAP2 2024, 2025). The nine guiding principles are outlined below:

Early Notification

Information about the Project will be provided to public stakeholders and Indigenous groups in a comprehensive and timely manner to facilitate early and meaningful engagement.

Transparent Communication

Pertinent information about the Project will be shared with the identified public stakeholders and Indigenous groups. Their input will be sought, documented, and addressed appropriately. Records of communications with all public stakeholders and Indigenous groups will be tracked and available as needed to demonstrate transparency.

Accessibility and Inclusion

A variety of techniques and methods will be used to share information about the Project and to gather feedback. To the greatest extent possible, information will be provided in a language and/or method that facilitate understanding. The Project team will attempt to identify barriers to participation by equity-deserving groups within Indigenous and non-Indigenous communities, such as women, parents, caregivers, and persons with disability, and make efforts to help ensure representation of their viewpoints.

Flexibility

Feedback on the engagement process will be sought to confirm that sufficient opportunities for meaningful input are provided. The team will continuously evaluate the engagement process and refine this KEP as required.

Capacity Building

Where acceptable and appropriate to those involved, public stakeholders and Indigenous groups may be involved through hands-on activities to develop capacity within the local communities, so that a skill transfer can allow for future employment in industry.

Mutual Respect

Respect will be extended to the differing cultures, values, and constraints of local communities, and there will be follow-through on commitments.

Efficiency

The engagement process will be designed to make the most effective use of existing processes and resources.

Timely Communication

Engagement will be undertaken at key points in the Project when studies and recommendations are still in draft format and can be revised. Clear and reasonable timelines will be established for input and comments.

Ownership, Control, Access, and Possession®

Engagement will uphold Indigenous ownership and jurisdiction over Indigenous Knowledge and information, and recognize individual and collective ownership of information, control over the use of information provided, and provide access to information and possession of information for the benefit of communities.

5.2 Levels of Engagement

It is important to align the priorities, interests, and capacity of public stakeholders and Indigenous groups with their level of involvement with the engagement activities. As these may change over the course of the Project, the engagement preferences will be periodically revised.

The International Association for Public Participation provides a Communication and Engagement Spectrum based on increasing levels of involvement in the engagement process, with the understanding that activities should correlate with the level of interest and potential to be influenced by a project's outcomes. Levels of engagement are enacted in a phase-based manner (i.e., informing occurs before consulting; consulting occurs before involving). The levels of engagement for this Project are identified in Table 5-1.

Table 5-1: Levels of Engagement for the Project

LOW HIGH

Inform	Consult	Involve	Collaborate
Stakeholders are kept informed through dispensing of well-balanced and objective information that assists in their understanding of the proposed Project need, and potential effects associated with the proposed Project.	Stakeholders are provided with opportunities to have their concerns heard and Champion identifies how their input will influence its decisions related to the Project.	Champion works directly with stakeholders to completely understand their issues and concerns and incorporate them into the planning process for the proposed Project.	Champion partners with participants to develop solutions and recommendations to address identified issues or concerns.

Stakeholders with low interest or influence will be provided with passive methods of communications and engagement that reflect an "inform" or "consult" level of engagement, such as regular updates via email. Stakeholders with greater influence and interest will require active methods of communications and engagement, with the goal of achieving higher levels of engagement (i.e., involve, collaborate, empower), such as regular Project meetings.

By aiming to meet the *United Nations Declaration on the Rights of Indigenous Peoples Act*'s free, prior, and informed consent parameters, active methods of communications and engagement with Indigenous groups will be required to achieving higher levels of engagement (i.e., involve and collaborate).

5.3 Potential Engagement Activities

To engage public stakeholders and Indigenous groups effectively, Champion will implement a range of outreach activities aimed at informing, engaging, and gathering feedback on critical aspects of the Project. Through these activities, Champion will provide timely notifications to stakeholder groups and invite feedback from interested participants. This feedback will be documented and help enable Champion to capture key issues, interests, and concerns as well as to respond meaningfully to any raised matters within the planning and design of the Project, and throughout the assessment of residual effects and via mitigation measures.

The following engagement activities are planned to support these goals, contributing to the preparation and review of the EIS and fulfilling Champion's engagement objectives:

- **Contact lists**–Champion has created a contact list of all participating public stakeholders and Indigenous groups that will be maintained throughout the duration of the planning and design of the Project.
- **Project website**–Champion will consider establishing a Project website throughout the duration of the Project.
- **Social media**–Champion will maintain Project-specific social media accounts, including Facebook and LinkedIn, to provide Project updates (e.g., updates on fieldwork activities).
- **General meetings/presentations**–Champion will undertake face-to-face meetings/presentations with stakeholder and Indigenous groups, as appropriate, throughout the development of the EIS.
- **Community meetings/open houses**–Champion will endeavour to host meetings in local communities, as appropriate.
- **Issues scoping meetings**–Champion will continue to meet with stakeholder groups throughout the planning and design process, particularly during the development of the EIS.

- **Plain language summary**–Champion will circulate a plain language summary of the EIS to help ensure that approaches and outcomes of the EIS can be understood by non-technical reviewers.
- **Circulation of draft documents**–Where appropriate, Champion will circulate copies of draft documents for review and comment. Champion will review and gather feedback on results of baseline studies, evaluation and selection of alternatives, potential effects and mitigation measures, and Closure planning.

5.4 Engagement Tracking

Engagement between Champion and all public stakeholders and Indigenous groups will be tracked throughout the Project lifecycle. The engagement tracking database will be composed of records of engagement that occur between Champion and stakeholders and Indigenous groups. Correspondence regarding the Project obtained by the department or other government agencies will not necessarily be included and, therefore, the database will remain a record of Champion-led engagement activities. The database will be used to generate reports that include the following:

- Who was engaged and consulted.
- When, where, and by what method the activity took place.
- What issues/interests were shared and how they were addressed.
- Summaries of engagement, issues, and responses to issues.
- Follow-up actions or commitments arising from engagement activities.

Engagement will be tracked using an internal database that has been designed for tracking stakeholder issues, concerns, and follow-up recommendations. Tracking will follow the recommended process outlined as follows:

1) All communications sent by Champion to stakeholders and regulators will be bcc'd to an engagement tracking email address. Where engagement takes place as a phone call or at an open house, an email summary will be completed by Champion and bcc'd to the tracking email address. All communications received by Champion and discipline leads will also need to be sent to this email address.
2) Details regarding any communications will be input into the engagement tracking database.
3) The individual(s) responsible for inputting will summarize the communications. Copies of the original communications will be stored in a secure folder.
4) Champion will review summaries of communications weekly.

5.5 Evaluation

The KEP and related activities will be evaluated by the Project team on an ongoing basis to confirm their successful implementation. Issues will be tracked using an issues resolution process described in Section 6.3. The Project team is committed to the continual improvement of the KEP and recognizes that it is a living document that will be revisited as the Project progresses.

An evaluation of ongoing efforts will be solicited from participants and used to refine and improve the KEP where appropriate. Evaluations may be conducted using a variety of methods, including comment forms distributed at public meetings, workshops, and Indigenous and local community sessions, documenting verbal feedback from participants and inviting feedback to be submitted to the Project's email address.

6. Implementation of the Plan

6.1 Environmental Assessment Notifications

Notifications are mandated by several stages throughout the preparation of the EIS. In the province of Newfoundland and Labrador, the requirements of the *Environmental Assessment Regulations, 2003* under the Newfoundland and Labrador *Environmental Protection Act* are to promote transparency throughout Indigenous group and stakeholder engagement. Key notices are published at distinct stages and are managed by the department, which also publishes each notice on the Environmental Assessment Bulletin (Government of NL 2024a). This process includes the following:

- **Notice of Project Registration**–This initial notice is required when the Project Registration is submitted to the department. The notice of Project Registration and Project Registration document alert both the public and relevant Indigenous groups and stakeholders about the proposed Project.

- **Public notice and review**–Once registered, there is a mandatory public review period of 35 days during which citizens, community groups, and Indigenous communities are encouraged to submit feedback to the Minister on the Project Registration. Notices for public participation opportunities are published and must meet provincial standards that often involve advertisements online, promotion efforts in the local media, and direct notifications sent to interested parties.
- **Notice of EIS Guidelines**–If the Minister determines that an EIS is required, the Assessment Committee will generate guidelines for the Project and issue public notice of the EIS Guidelines. The public notice is subject to a 40-day public review prior to approval by the Minister. The documents for the EIS Guidelines provide the requirements the EIS needs to address to support a ministerial decision on the Project.
- **Notice of EIS**–This notice is submitted once Champion submits the EIS to the Province. The EIS is subject to a 50-day public review prior to decision by the Minister. Any subsequent addenda to the EIS are also subject to a 50-day public review period.
- **Ministerial decision notices**–After review of the EIS and feedback are considered, the Minister issues a decision on whether the Project can proceed; it often includes conditions based on public and environmental concerns. This decision is publicly communicated as a final notification in the EIS process.

Key notifications issued by the department for the Project to date include the following:

- May 3, 2024–Project registered
- June 7, 2024–deadline for initial public comments
- June 13, 2024–requirement for an EIS announced by the department
- August 23, 2024–draft EIS Guidelines made available by the department for public review
- October 2, 2024–public comment deadline for draft EIS Guidelines
- December 19, 2024–final EIS Guidelines released by the department

6.2 Engagement Activities

Champion has and will continue to take a proactive and structured approach to engagement to help ensure direct and ongoing communications with Indigenous groups and public stakeholders. This approach prioritizes transparency, responsiveness, and meaningful dialogue to identify, track, and address concerns throughout the Project's lifecycle. Champion is committed to continuing engagement with public stakeholders and Indigenous groups as the Project progresses through the Construction, Operations and Maintenance, and Decommissioning and Rehabilitation phases (as described in Section 1.5).

Champion engages directly with Indigenous groups and public stakeholders. Engagement efforts include:

- providing weekly fieldwork updates to public stakeholders
- providing regular in-person and virtual meetings with Indigenous groups and public stakeholders to provide updates on the Project
- hosting public information sessions
- participating in Labrador West Alliance meetings
- coordinating ongoing meetings with the Kami working group
- issuing formal correspondence through letters and direct outreach
- responding to inquiries via telephone, email, and virtual meetings
- proposing consultation agreements to Indigenous groups to meet the Province's Consultation Policy on Land and Resource Development Decisions

These initiatives position engagement within a broader regional planning context and reflect Champion's commitment to supporting long-term, community-driven solutions.

Kami Working Group

In May 2024 a working group comprised of select local stakeholders was formed. The Kami working group includes the towns of Fermont, Labrador City and Wabush, the Mills Lake Cabin Association, the Riordan Lake Cabin Association, the Duley Lake Cabin Association, the White Wolf Snowmobile Club, and a Member of the Newfoundland and Labrador House of Assembly. This group plays a key role in fostering collaboration, addressing Project-related concerns, and supporting Project-planning efforts.

Labrador West Alliance

In June 2024, Champion became a member of the Labrador West Alliance, composed of the Iron Ore Company of Canada; Tacora Resources; Champion Iron; the towns of Wabush and Labrador City; Department of Labrador Affairs (provincial); Department of Industry, Energy and Technology (provincial); the Atlantic Canada Opportunities Agency (federal); and the Labrador West Chamber

of Commerce. The Labrador West Alliance brings together industry, government, business, and community leaders to advance shared priorities. Its mission is to drive sustainable growth and diversification, unlock new opportunities, and help attract people to live and work in a thriving Labrador West region.

6.2.1 Planning

During the Planning phase, Champion will finalize Project plans in preparation for the Construction phase. During this period, Champion will:

- develop an engagement plan that includes a discussion of the domestic wood cutting approach, as well as the development of other plans listed in Section 1.4
- host public information sessions
- establish a community liaison team and a Kami working group of public stakeholders
- present regular updates on various aspects of the Project, highlighting progress and scheduling upcoming activities

6.2.2 Construction

During the Construction phase of the Project, Champion will maintain ongoing communications with the public stakeholders and Indigenous groups to keep them informed about construction phase progress, potential disruptions, and mitigation measures. Additionally, any Consultation Agreements entered into by Champion will be implemented during Construction. Local employment and procurement will be prioritized to help ensure that the benefits of the Project directly reach local communities and groups. Champion will work with its contractors to verify that they are aware of engagement requirements and comply with commitments made.

Public engagement activities during the construction phase will include the following activities:

- implementation and continuous improvement of the Plans, including the KEP
- public announcement and press release at the onset of the Construction phase
- posting construction signage and placing flagging in relevant areas to advise the public to exercise caution
- public information sessions and community events to continue face-to-face community engagement

6.2.2.1 Domestic Wood Cutting

The EIS Guidelines call for timber harvested during Construction from road construction or site clearing to be delimbed, cut into 2.4 m lengths, piled at roadside, and made available to domestic wood cutters. It is anticipated that throughout the Construction phase of the Project, access roads and the Project site will be active with and occupied by various pieces of heavy machinery. The complex Construction schedule, which is further described in **Chapter 2, Project Description**, and presence of heavy machinery will pose unmitigable health and safety risks to domestic wood cutters, who may not have the health and safety training to safely access the site. Champion anticipates that the timber harvested during construction of the proposed access roads to the Project site will be harvested from locations that are not feasibly or safely accessible by domestic wood cutters. Two access roads are proposed for the Project, which will provide limited locations to safely lay down and store harvested timber for domestic pick-up. Based on the stakeholder profile provided in Section 3.2 (i.e., it is expected to be generally cabin owners in the area), Champion anticipates that the development of the Project area will not substantially interfere with the ability of domestic wood cutters in the Duley Lake cutting block in harvesting wood for Traditional use. Champion proposes that timber harvested during Construction be retained for use by Champion. Should Champion be unable to use the wood, a commercial wood cutting permit will be obtained to permit commercial sale and royalty compensation for the Province. As outlined in Section 3.2, Champion will engage with identified domestic wood cutters on the topics of concern related to their permitted harvesting within the Duley Lake harvesting area throughout the Project's Construction phase. Compensation approaches will be guided by these engagements and may include access to locally sourced wood – where feasible and safe – or alternative sources, depending on health and safety considerations related to the use of site wood.

6.2.3 Operations and Maintenance

During the Operations and Maintenance phase of the Project, Champion will continue to engage with public stakeholders and Indigenous groups through established channels to address issues or concerns relating to Operations phase such as noise, vibration, marine traffic, and land and resource use. Consultation Agreements entered into by Champion will be reviewed and updated annually during operations.

Public engagement activities during this phase will include the following activities:

- public announcement and press release at the onset of the Operations and Maintenance phase
- Project commencement press conference for public stakeholders, Indigenous groups, media, and local communities
- provision of facility and site tours for local government, service organizations, and other interested parties

6.2.3.1 Domestic Wood Cutting

It is anticipated that timber will not be harvested by the Project during operations.

Based on the stakeholder profile provided in Section 3.2, Champion anticipates that Kami operations will not substantially interfere with the ability for domestic wood cutters in the Duley Lake cutting block (i.e., expected to be generally cabin owners in the area) to harvest wood for Traditional use. Throughout the Project Operations phase, Champion will continue to engage with domestic wood cutters on the topics of concern related to their permitted harvesting within the Duley Lake harvesting area. In particular, Champion will continue to engage with domestic wood cutters to help ensure that timber is locally accessible. Compensation approaches will be guided by these engagements and may include access to locally sourced wood – where feasible and safe – or alternative sources, depending on health and safety considerations related to the use of site wood.

6.2.4 Closure

Champion intends for the Project to remain operational for 26 years. Upon the Closure phase of the Project, Champion will collaborate with public stakeholders and Indigenous groups to implement decommissioning and rehabilitation plans. The public will be made aware of Project developments relating to decommissioning and rehabilitation. Public engagement during this phase will include:

- meetings and presentations on the development of a Decommissioning and Rehabilitation Plan
- public information session to gather feedback on community expectations for the area

6.3 Issue Tracking and Resolution

Champion is maintaining an electronic record of its engagement activities for the Project, as described in Section 5.3. Champion recognizes the benefit of resolving issues early and to the mutual satisfaction of those involved. To this end, public stakeholders and Indigenous groups bringing forward an issue of concern regarding the Project will receive a response containing information to help clarify and/or assist in issue resolution.

All comments from public stakeholders and Indigenous groups (written or verbal) as well as responses from Champion will be documented and, where applicable, considered in the preparation of the EIS and design and planning of the Project. Input from public stakeholders and Indigenous groups will be obtained at open houses, meetings, and personal contact through verbal and written comments (i.e., comment forms). Depending on the magnitude and nature of any concerns, Champion will make every effort to address and resolve the concern directly with the stakeholders.

Champion will develop a complaint and grievance mechanism that is efficient, culturally appropriate, and accessible to all stakeholders. Indigenous groups will also have access to this mechanism, and its details will be outlined in any consultation agreements established.

An issue may arise where agreement on a resolution cannot be readily reached; in these cases, Champion will continue to work to resolve the issue and, where necessary, involve third party-led dispute resolution processes. Depending on the nature of the dispute, third parties may include provincial representatives, mediators, or legal counsel, and could arise through the Mineral Rights Adjudication Board, established under the Newfoundland and Labrador *Mineral Act*. Third parties will be asked to provide advice, facilitate discussion, and give guidance on the approach to issue resolution. Relevant regulators will be notified of any outstanding issues, which will be documented in the engagement tracking database. Rationale will be provided for comments and/or issues that were not addressed in the EIS.

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Kami
Kamistiatusset
Mining
Project

Kami Mining Project

Champion Kami Partner Inc.

Wabush, NL

Annex 5H Waste Management Plan

Environmental Impact Statement

Document Number: CA00387135261-R-Rev0-Annex 5H_Waste Management Plan

July 2025

1155 René-Lévesque Blvd. West, 33rd Floor
Montréal, Québec H3B 3X7 CANADA
T +1 514 316-4858
championiron.com

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1. Introduction

The Waste Management Plan (WMP) has been developed by Champion Iron Mines Ltd. (Champion) for the Kamistiatusset (Kami) Iron Ore Mine Project (the Project), an iron ore mining project in the Province of Newfoundland and Labrador (NL). The Project is located entirely in Labrador, approximately seven kilometres (km) southwest from the Town of Wabush, 10 km southwest from the town of Labrador City, and five km northeast of Ville de Fermont, Quebec. The Project will involve the construction, operation and eventual closure of an open pit iron ore mine and supporting infrastructure.

The WMP identifies requirements and actions for the management of waste generated by the Project. This includes methods to reduce, reuse, recycle, recover, and/or manage residual waste through off-site disposal. Champion seeks to achieve and maintain a high degree of control over the collection, storage, transportation, and disposal of waste to minimize adverse environmental effects while ensuring compliance with all applicable acts, regulations and standards. This will also include all related documentation and reporting requirements for regulatory bodies and expectation of Champion.

The WMP is a dynamic document that may require updates to address unforeseen waste scenarios or improvements identified through process evaluations. Such revisions will be undertaken throughout the Project duration to ensure alignment with evolving circumstances, fostering open communication across all levels and facilitating continuous enhancement.

During the Project, the environmental management team at Champion will continuously offer direction and supervision to ensure that all operations adhere to environmental regulations and policies on waste management, complemented with our overarching dedication to environmental stewardship, with meticulous planning, design, and execution.

Champion is dedicated to engaging with key stakeholders and the public on the WMP to ensure that expectations and regulations are being met.

1.1 Purpose of the Waste Management Plan

The purpose of the WMP is to describe all liquid and solid waste (e.g., hazardous waste, landfills, mine rock, tailings waste, etc.) expected to be generated during construction, operation and maintenance, decommissioning and rehabilitation for all components of the Project, and methods to reduce, reuse, recycle, recover, and/ or manage residual wastes through disposal. It ensures the responsible and environmentally sustainable handling, storage and adequate disposal of all waste materials generated during all the phases of the Project, thereby, minimising potential environmental and health impacts. To attain this purpose, the objectives of the WMP are to:

- Provide a summary of regulatory requirements for managing waste at federal, provincial and municipal jurisdictions;
- Provide guidance to Project personnel on the methods for collection, segregation, storage, and disposal of hazardous and non-hazardous waste streams associated with the project; and
- Provide documentation and reporting requirements for regulatory bodies and to meet the needs of Champion.

1.2 Scope of the Plan

The plan describes the steps to be taken by Champion to meet and maintain a high degree of control over the collection, storage, transportation, and disposal of waste to minimize adverse environmental effects while ensuring compliance with all applicable acts, regulations, and standards.

The plan applies to all components of the Project, it addresses all phases of the Project from Construction, through Operations Decommissioning and Rehabilitation Phase. The WMP will address all forms of generated waste during each phase, including industrial waste (scrap rubber, plastics, wood and metals, organic waste) and mine waste (mine effluent, tailings and mine rock).

The plan applies to all employees of Champion; furthermore, all contractors and sub-contractors will be required to adhere to the Plan.

1.3 Relationship to Other Plans

The following other plans which are provided as Annexes to the EIS, are being prepared in support of this Project to describe the procedures, equipment and responsibilities that are in place to ensure the potential adverse effects are responded to appropriately during all phases of the Project:

- Annex 5A: Benefits Agreement / Gender Equity, Diversity and Inclusion Plan
- Annex 5B: Dam Safety Plan

- Annex 5C: Emergency Response Plan
- Annex 5D: Environmental Protection Plan (EPP) (Annotated Table of Contents, with full EPP available prior to commencement of construction)
- Annex 5E: Environmental Effects Monitoring Program, including the following management plans:
  - Air Mitigation and Monitoring Plan
  - Avifauna Mitigation and Monitoring Plan
  - Groundwater and Surface Water Management Plan
  - Noise Mitigation and Monitoring Plan
  - Wetlands Mitigation and Monitoring Plan
- Annex 5F: Erosion and Sediment Control Plan
- Annex 5G: Kami Engagement Plan

All plans prepared for this project will be implemented by Champion. The plans will be updated periodically, where appropriate.

1.4 Project Overview

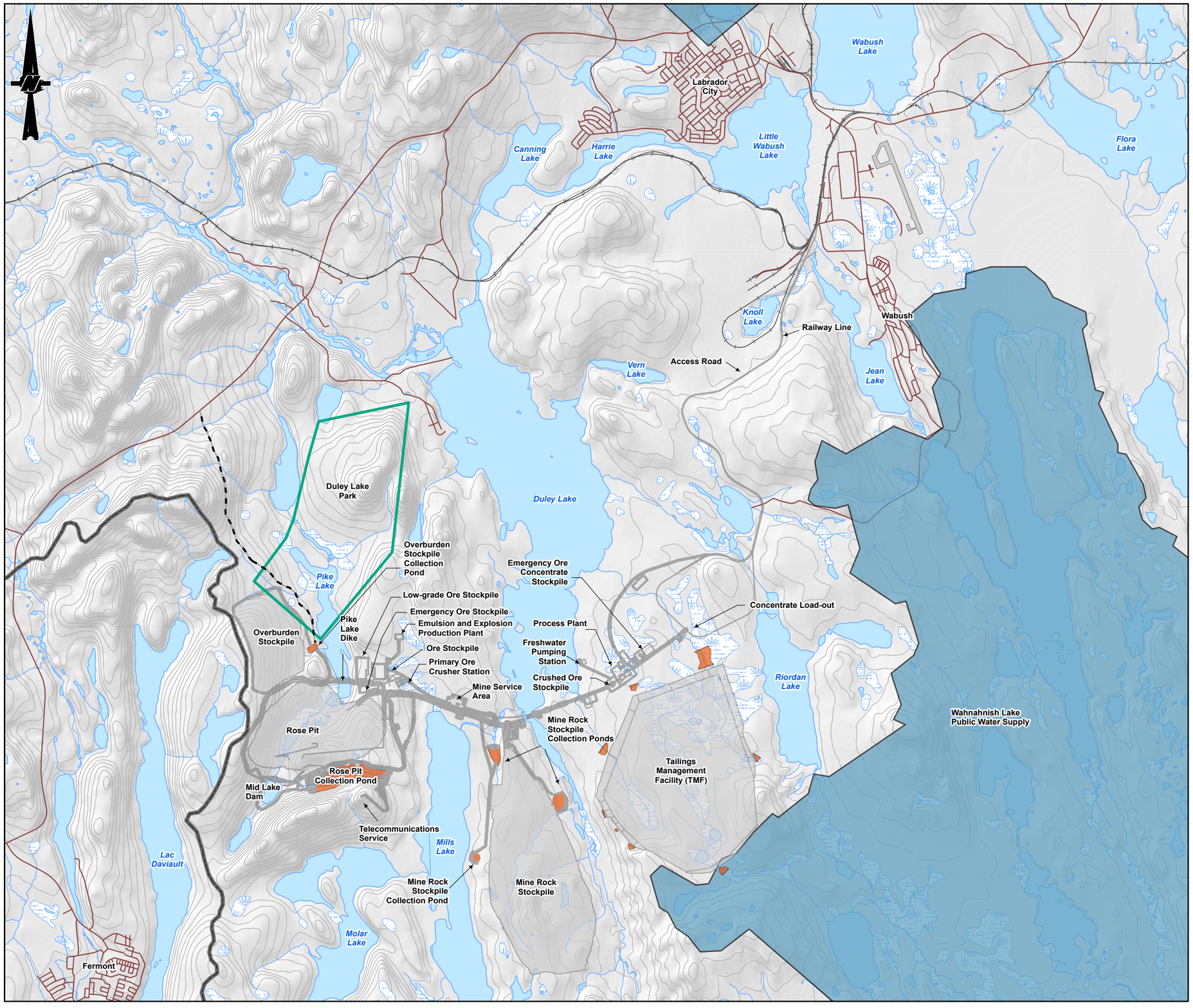
The proposed Project would include an open pit mine and surface infrastructure to support the extraction of iron ore from the Kami deposit and the production of high purity iron ore concentrate. The Project includes construction, operation, and closure of the following components:

- An open pit (referred to as the Rose Pit).
- Ore processing infrastructure, including conveyors and transfer stations, stockpiles, the process plant and load-out facilities.
- Waste management infrastructure, including an overburden stockpile, mine rock stockpile and tailings management facility (TMF).
- Water management infrastructure that will collect, convey, store, treat and discharge contact and non-contact water, including dams, dikes and collection ponds.
- Supporting infrastructure, including site roads, workforce accommodations, a mine service area, freshwater pumping stations, fuel storage, an emulsion and explosion production plant and explosive storage, a crushing plant, transmission lines for local site distribution and telecommunication services.
- Transportation corridors, including access roads and a railway corridor that includes a spur line to connect the mine site to the Québec North Shore & Labrador (QNS&L) Railway.

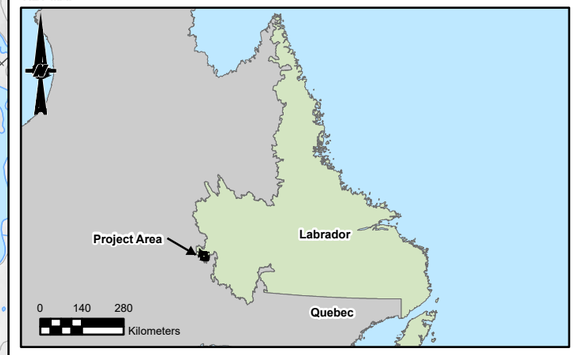
A presentation of the site layout is provided in Figure 1-1. All mining and processing operations will take place within Newfoundland and Labrador provincial boundaries. All Project components will be constructed, operated and closed in accordance with governing federal, provincial and municipal regulations, as well as industry regulations and standards. The Project is aiming to enhance the long-term viability of Champion and the local economy of the Labrador West area with sustainable employment through the creation of approximately 600 positions during construction and 400 during Project operations, as well as numerous indirect jobs, throughout the estimated 40-year Project life span.

The 40-year lifespan of the Project is defined by the following Project phases:

- **Construction Phase (referred to as Construction)**: includes site preparation, mine, process plant and site infrastructure development, and commissioning the structures, systems, and components. The duration of Construction is expected to be four years.
- **Operations and Maintenance Phase (referred to as Operations)**: includes the mining and milling of iron ore, production and shipment of iron ore concentrate, tailings management, management of mine rock, waste management, water management, release of treated effluent, site maintenance and transportation of staff and materials to and from the site. Operations initiates with one year of pre-development mining (i.e., ramp-up) and concludes when processing is complete and is expected to be 26 years.
- **Decommissioning and Rehabilitation Phase (referred to as Closure)**: includes accelerated flooding of the Rose Pit, re-establishment of passive surface water drainage following the pit-flooding period, and recontouring and revegetating disturbed areas. Physical infrastructure that is not required during post-closure monitoring and for other activities required to achieve the Project's decommissioning criteria and to return the Project site to a safe and stable condition will be removed. Closure is expected to be 10 years.



KEY MAP



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Legend

PROJECT DATA

- Proposed Project Infrastructure
- Proposed Sediment Pond
- Potential Access Road

BASEMAP INFORMATION

- Road
- Railway
- Watercourse
- Contour
- Duley Lake Park
- Bog/Wetland
- Waterbody
- Labrador/Quebec Boundary
- Public Water Supply

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NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. IMAGERY CREDITS:
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

PROJECT LOCATION AND SITE LAYOUT

CONSULTANT

Kami

YYYY-MM-DD	2025-02-27
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PREPARED	GM
REVIEWED	AF
APPROVED	JMC

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2. Regulatory Framework

The requirements for waste management in Newfoundland and Labrador are determined by the regulatory framework for industrial waste management including legislation, regulations, and guidelines at the federal, provincial, and municipal jurisdictions.

Champion Iron is responsible for meeting all applicable legislation, policies, and guidelines for the Project. The waste streams that will be handled, stored, and disposed will be tracked and reported on. Prior to transferring any hazardous waste, a generator request will have to be approved from an accredited facility. Waste manifests will be kept for the transportation of all waste transported offsite.

The principal legislation providing for waste management in Newfoundland and Labrador is the *Environmental Protection Act* (EPA). The EPA covers the technical aspects of waste disposal, including handling, diverting, recovering, recycling, reducing and reusing waste materials. Under the provisions of the legislation, waste materials may be designated for recycling, composting or reuse and bans may be placed on the disposal of certain wastes.

Other potential federal, provincial and municipal legislations governing waste management or containing requirements for management of wastes that could apply to the Project include:

Federal

- Canadian Environmental Protection Act (CEPA);
- Canadian Centre for Occupational Health and Safety Act;
- Fisheries Act;
- Transportation of Dangerous Goods (TDG) Act;
- National Fire Code of Canada (NFC);
- Workplace Hazardous Materials Information System (WHMIS);
- CCME Environmental Codes of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products; and
- Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations.

Provincial

- Air Pollution Control Regulations;
- Dangerous Goods Transportation Act;
- Environmental Control Water and Sewage Regulations;
- Occupational Health and Safety Act;
- Occupational Health and Safety Regulations;
- Storage and Handling of Gasoline and Associated Products Regulations;
- Used Oil Control Regulations;
- Waste Diversion Regulations;
- Waste Management Regulations; and
- Water Resources Act.

Newfoundland and Labrador's Department of Environment and Climate Change, Pollution Prevention Division has a guidance document (GD-PPD-077) titled "Best Management Practice for the storage of waste dangerous goods/hazardous waste (WDG/HW) at business sites" dated September 8, 2015. The guidance document is incorporated into the waste management plan by reference.

Municipal

The applicable municipal legislation that could be applicable for any waste handling, storage, and/or disposal taking place within the municipal boundary include:

- Urban and Rural Planning Act, 2000
  - Labrador City Development Regulations, 2017
  - Wabush Development Regulations, 2018
  - Wabush Municipal Plan, 2018 to 2028
- Municipalities Act
  - Labrador City Open Air Burning Regulations, 2012

All Champion employees and contractors/subcontractors are responsible and encouraged to report problems or concerns related to any aspect of the WMP.

3. Waste Characterization and Generation

The following section outlines the types of waste anticipated to be generated by the Project. The wastes are characterized as industrial waste, hazardous waste, domestic waste, or mine waste. Further information on the types of waste streams within each category is defined in the following sections.

3.1 Industrial Waste

3.1.1 Contaminated Soils, Snow and Ice

Soils, snow and ice within the mine site could be contaminated during Project construction from accidental spillage of hydrocarbons or industrial chemicals stored on site or leakage of fuel from equipment and heavy-duty vehicle use. Soils can also be contaminated during mine operation from release of heavy metals into soil during ore processing, or seepage of tailings leachate.

As part of ongoing facility operations, any known spills during operations will be addressed when they occur and remediated in accordance with applicable guidelines. It is possible that soil contamination issues will also arise after site closure and during site remediation. These will likely involve remediation of soils contaminated by hydrocarbon products, antifreeze and other chemical agents spilled over the mine life.

3.1.2 Electronic Waste

Electronic waste including used computers, cell phones, cameras, TV and monitor screens, media players and switches could be generated during all the Project phases and can be a source of heavy metal contamination and plastic pollution. They also include fluorescent lamps (bulbs and tubes). Used electronic equipment are typically not TDG regulated.

3.1.3 Waste Wood, Metal, Plastics and Rubber

Metal

Metal waste may be generated from scrap metals produced by structural and electrical work. This waste stream will consist of ferrous and non-ferrous scrap metals of various types. Waste metal will be stockpiled on site and then transported to appropriate recycling or waste facility.

Wood

Wood waste can be generated from disposal of temporary infrastructure and off cuts or from pallets used in transport of equipment or other Project components and may comprise treated and non-treated wood. It is anticipated to be generated throughout all Project phases.

Plastic and Rubber

Generation of plastics could range from use of polyethylene film and other construction plastics including packaging (containers), insulation, pipelines, wire sheath and various other construction consumables. Plastic waste is anticipated to be generated throughout all Project phases.

The main source of rubber waste will be from light vehicle or mine truck tires and conveyor belts, and is expected to be generated mainly during Project operation.

3.1.4 Cleared Vegetation

This is anticipated to be generated from the removal and clearing of vegetation required for the installation of Project and ancillary infrastructure. Plant waste is expected to be significant during site preparation and construction with moderate amounts generated during Project operation from vegetation removal during maintenance activities.

3.2 Hazardous Waste

According to the *Environmental Protection Act* (EPA) enacted in the province in May 2002, hazardous wastes are defined as 'waste dangerous goods which encompass a wide range of environmentally hazardous substances or constituents which due to their

nature and quantity, are potentially hazardous to human health and/or the environment and which require special disposal techniques to eliminate or reduce the hazard'.

Based on the above definition, the hazardous waste stream category for the Project lifecycle includes chemical wastes, petroleum-based wastes and biomedical wastes. It is expected that hazardous waste will be generated from activities during all Project phases including construction, operation and closure. They will generally exhibit one or more of the following characteristics: flammable, reactive, corrosive, or toxic. Hazardous waste requires that specific management measures be taken to ensure the health and safety of the workers, public, and the environment, described further in Section 4.2.

3.2.1 Chemical Waste

3.2.1.1 Solid Chemicals

The solid chemical waste stream that may be generated during all the Project phases consists of:

- Used batteries: comprising wet and dry cell batteries, lithium ion and rechargeable batteries which may be TDG regulated.
- Activated Charcoal
- Explosives (Ammonium Nitrate)
- Calcium Chloride
- Packing containing chemical contaminants, e.g., aerosol cans;
- Compressed Gas cylinders
- Absorbents and other spill response material
- Cement and concrete additives

3.2.1.2 Liquid Chemicals

The liquid chemical waste stream that may be generated during all the Project phases include:

- Spent laboratory reagents
- Ozone depleting substances (i.e., air conditioning and refrigerant gases)
- Liquid flocculants, e.g., Calcium Chloride
- Coolants
- Solvents, cleaners, epoxies, and adhesives

3.2.2 Petroleum waste

3.2.2.1 Liquid Petroleum waste

Petroleum-based liquid wastes generated at the site include:

- Lube Oil
- Grease
- Diesel Fuel
- Gasoline
- Hydraulic fluid
- Fuel Oil
- Paint

3.2.2.2 Solid Petroleum Waste

This category includes the storage containers for petroleum product, filters or liners and comprise the following:

- Waste oil/hydrocarbon containers
- Oil filters
- Paint and resin drums
- Contaminated berm liner
- Used grease tubes
- Automatic lubers

- Oily rags and similar debris (if used to clean up spills)

3.2.3 Biomedical Waste

Biomedical wastes include used hypodermic needles or bodily fluids such as blood. Although not a significant type of waste for the Project, it could be generated during the Project phases by self-medicating members of the construction and decommissioning workforce, or during mine operation by personnel or contractors at the site.

3.3 Domestic Waste

3.3.1 Residential/Office Waste

Domestic waste generated is expected to have similar waste composition as found in the municipal solid waste stream. The domestic waste stream consists of food, beverage waste and packaging. Office wastes consist mainly of corrugated cardboard, paper and paper products. Generation of these categories of waste are expected to occur during all Project phases.

3.3.2 Sewage/Domestic wastewater

Sources of sewage and domestic wastewater on the site include sanitation facilities (toilets, sinks, showers), laundry, kitchen activities, and runoff from the camp areas and personnel accommodation. This waste stream is anticipated to be generated during all the Project phases.

3.4 Mine Waste

3.4.1 Mine Rock

Mine rock extracted during mining operations is comprised of mine rock within Rose Pit and ore that does not meet quality criteria for processing. A total of 914 Mt of mine rock will be produced over the mine's life. The mine rock stockpile and overburden stockpile have been designed considering the anticipated storage volumes over the life of the mine, the stability of the entire pile, and taking into account design for closure philosophy.

Geochemical characterization of the mine rock (Okane, 2025) indicates that between 22% to 27% of the total mine rock is expected to be potentially acid generating (PAG), but that the expected median neutralization potential ratio (NPR) of the mine rock stockpile will be 7.2, indicating that there is sufficient NP available to neutralize potential acidity generated from sulfide oxidation through strategic mine rock management. Potential contaminants of concern (COCs) identified through shake flask extraction tests include cadmium, chromium, copper, fluorine, iron, nickel, ammonia, selenium, uranium, and zinc. Additionally, mine rock was characterized for naturally occurring radioactive material (NORM) risk. Only radium-226 was exceeded for the unconditional release limits in the graphitic schist lithology of the Menihek Formation. Median values from all other formations and the weighted Mine Rock Stockpile were below unconditional release limits for all individual radionuclides analyzed. However, the sum of ratios for the Menihek, Sokoman, and weighted Mine Rock Stockpile exceeded the unconditional release limit of 1. Due to the small number of samples tested and preference to select potentially high uranium containing samples, these results may be biased and overestimate the NORM risk potential from the mine rock.

3.4.2 Tailings

Tailings constitute the combination of fine-grained (usually silt-sized, in the range from fine to coarse) solid materials remaining after the extraction of recoverable iron ore together with the water and chemicals used in the recovery process. Generation of tailings is associated with mine operation and is usually the subject of concern among members of the public and other key stakeholders due to environmental impacts associated with its long-term storage at tailings storage facilities. The physical and chemical properties of tailings depend on the nature of the ore and processing method; however, tailings can be broadly classified as follows:

- Physical Properties: Based on size of the individual particles, tailings can be classified into:
  - Coarse tailings: Has an average particle size of 150 µm (Zuccheratte et al. 2017); mainly composed of quartz and small amounts of hematite and goethite with amount of water less than 15% (Yang et al. 2014, Fontes et al. 2016, Galvao et al. 2018, Weishi et al. 2018).
  - Fine tailings: Characterized basically by size fractions corresponding to clay (with more than 90% below 74 µm in diameter) (Yang et al. 2014) with water content generally higher than 20% (da Silva et al. 2014).

- Chemical Properties: Based on their chemical composition, tailings can be divided into the following:
  - High silica iron tailings: high silica (SiO_2) content, fine particle size, and no valuable associated elements. The content of silicon dioxide is more than 70%. Most of the tailings are silicate minerals, such as quartz and chlorite. Stone, hornblende, mica, feldspar, etc.
  - High aluminium iron tailings: relatively small displacement, high alumina content, and generally do not contain associated elements and components. Some tailings associated minerals contain phosphorus and sulfur at a constant rate. It also contains minerals such as feldspar, mica, kaolin, chlorite, apatite and pyrite.
  - High calcium-magnesium iron tailings: In addition to high calcium and magnesium content, this type of tailings is also associated with sulphur and cobalt. This type of ore contains minerals such as diopside, dolomite, feldspar, pyrite, and chalcopyrite.
  - Low calcium magnesium aluminium silicon iron tailings: the particle size is generally less than 0.074mm, accounting for about 70%. Elements such as silica, calcium, and magnesium are low in tailings, and minerals such as barite, phyllite, olivine, and jasper are common in the ore.
  - Polymetallic iron tailings: This kind of tailings has a relatively complex composition and many associated elements. In addition to containing a large amount of non-ferrous metal elements, it also contains recyclable rare metals and precious metal elements.

All tailings have been classified as non-potentially acid-generating (NPAG) and there is no risk of acid generation from the tailings. There may be some potential for metal(loid)s to leach from the tailings. Elements higher than five times the crustal abundance included arsenic, bismuth, iron, manganese, selenium, and tellurium. Shake flask extractions completed on tailings flagged iron, chromium, and ammonia. There is low natural occurring radioactive material (NORM) risk associated with the Kami tailings and iron ore. Results from these tests indicated most analytes were below detection limit, with no individual radionuclides above the unconditional release limit. Additionally, the sum of ratios values for all samples were well below the unconditional release limit.

The proposed Project, which involves the mining of iron ore by open pit method, is expected to generate a total of 420.4 million tons of tailings produced in the form of two tailing streams, consisting of coarse and fine tailings, over the lifetime of the mine (26 years) (WSP 2024). Based on an average tailings deposited dry density of 1.5 tonnes per cubic metre, the total tailings to require surface disposal is 280.3 million cubic metres (WSP 2024). The results of previous studies and testing performed to date indicate that the tailings have been classified as non-acid generating with low metal leaching potential (WSP 2024).

3.4.3 Overburden

In this Project, the overburden is considered as the soil overlaying the bedrock. A relatively small quantity of overburden material will come from the surface preparation for the various dams and dikes during Project construction; the excess overburden material will come mainly from the surface excavation in the Rose Pit's footprint during mine operation.

The overburden material mostly consists of lake sediments and/or organic materials, natural deposits of sand and silt and deposits of till. The sand and silt natural deposits consist of varying proportions of sand and silt, traces of gravel to gravelly material, and occasional traces of clay. The till deposits consist of varying proportions of sand, silt, and gravel with traces to some clay, and presence of cobbles and boulders.

Overburden material is classified as Non-Potentially Acid Generating (NPAG), with high neutralization potential ratio (NPR) values (median of 13, and an NPR of 2 at the 5th percentile) (Okane, 2025). Overburden is therefore not a concern for acidic drainage. Potential COCs identified through shake flask extraction tests include iron, selenium, ammonia arsenic, cadmium, chromium, copper, nickel, uranium, and zinc.

During the construction phase of the Project, the expected overburden deposition volume at the OB Stockpile is about 3.4M m^3. During the operation phase of the project, approximately 67M m^3 of overburden is expected to be deposited. No overburden deposition is currently expected during the closure phase. A more detailed breakdown of the overburden deposition at the OB Stockpile is shown in Table 3-1.

Table 3-1: Overburden Deposition Sequence

Year	Infrastructure Construction	Required OB Deposition Volume* (M m^3)	Cumulative Required OB Deposition Volume (M m^3)
-3	OB Stockpile's collection pond and ditches	-	-
-2	-	-	-
-1	-	3.4	3.4
0 to 5	-	60.3	63.6
6 to 10	-	6.8	70.4
11 to 15	-	-	-
16 to 20	-	-	-
21 to 25	-	-	-

* Overburden tonnage requirements provided by MFQ were converted into volume requirements based on a density of 1.8 tons/m^3. In addition, the volumes were increased by 20% to account for the revised maximum OB stockpile footprint.

3.4.4 Contact Water

Contact water will come from different sources: groundwater infiltration in the pit, direct precipitation, pit natural catchment runoff and pitwall runoff. Direct precipitation, runoff and exfiltration from the overburden stockpile and the mine rock stockpile is also considered as contact water. All contact water will have to be managed prior to discharge to the environment as treated effluent.

Contact water characteristics are based on its contact with the overburden, pitwalls and mine catchment and will be affected by the geochemical characteristics of these areas. Mine operation, with the use of explosive and the generation of TSS, can also affect the contact water characteristics.

The quantity of contact water to manage will evolve as the project progresses and will reach a maximum at the end of operation. Table 3-2 shows the predicted annual flows of contact water to manage issued from the pit, the MRS and the OB, based on a mean annual precipitation (MAP) scenario at the end of operations.

Table 3-2: Predicted Monthly Mine Flows to Pit Collection Pond at End of Operations

Month	Pit Dewatering (Mm^3)	Mine Rock Stockpile (Mm^3)	Overburden Stockpile (Mm^3)
January	1.26	0.33	0.10
February	1.14	0.31	0.07
March	1.25	0.35	0.09
April	1.33	0.37	0.08
May	1.89	0.68	0.17
June	1.52	0.54	0.13
July	1.51	0.44	0.11
August	1.47	0.43	0.11
September	1.39	0.43	0.10
October	1.48	0.41	0.11
November	1.36	0.41	0.11
December	1.26	0.35	0.09
Total	**16.84**	**5.07**	**1.27**

4. Waste Management Strategies

As previously stated, the main objective for management of Project waste is for the sustainable handling, storage and adequate disposal of waste to reduce impact to people and the environment. Champion's overall strategy/approach to waste management is aligned with the waste management hierarchy adopted from the municipal solid waste management procedures recommended by Environment and Climate Change Canada (ECCC n.d.). The waste management hierarchy prioritizes methods for reducing and managing waste to enhance the recovery and value of used materials, and involves the following:

- **Waste Prevention:** Preventing the generation of waste as much as possible from various activities during the phases of the Project
- **Reduce:** Reducing and preventing the amount of material entering the recycling and Project waste stream
- **Reuse:** Reusing materials and/or products as much as possible through repairing and refurbishing before entering the recycling or Project waste stream
- **Recycle:** Recycling by collecting, sorting and using materials as a resource input or selling them to secondary markets
- **Recovery:** Using materials or waste that cannot be reused or recycled to produce fuel or energy, e.g., for heating.

Where none of the above methods suffices for management of Project waste, Champion will initiate the safe and responsible disposal/discharge of waste streams through the following:

- The disposal of and long-term storage of solid waste at accredited onsite (for tailings and mine rock) or offsite waste management facilities.
- The discharge or release of treated liquid waste into the environment under stringent compliance with regulatory requirements including conditions under the applicable permit or license such as effluent quality criteria.

Any Contractor-generated site-specific WMP shall consider the waste management hierarchy and site-specific practicality to develop waste disposal options for operational waste streams.

The following sections outline how the waste management approach will be implemented for each of the waste categories identified for the Project.

4.1 Industrial Waste

4.1.1 Contaminated Soils, Snow and Ice

During Project operation, following the activation of the initial spill response plan, contaminated soils will be remediated onsite if possible, for minor spills, or excavated and remediated offsite at accredited facilities in the case of major contamination. Contaminated snow and ice will be stored at snow dump and treated onsite using oil/water separator.

The approach to the identification, removal and treatment of contaminated soil will be the same for closure as during operations. The process identified in the DECC *"Guidance Document for the Management of Impacted Sites in Newfoundland and Labrador"* will be followed. A program to assess the extent of soil contamination at the mine site will be conducted in all areas not addressed during operations where hazardous materials have been stored, used, or known to have been spilled over the mine life. These investigations will center on storage facilities, service shops, utilities, tank farms and the plant site. If excavation is required, clean fill will be brought into backfill areas from where contaminated soil has been removed. The reclamation cost estimated includes funding for a site wide Environmental Site Assessment (ESA), as well as implementation of an existing Remediation Action Plan (RAP) for the fuel farm location. Any contaminated soil that is removed will be taken off site by a licensed waste management contractor and transported to special waste disposal facilities, approved for the management of contaminated soils.

4.1.2 Electronic Waste

Electronic waste shall be collected in airtight bags in designated hazardous storage areas prior to offsite disposal. Where applicable, batteries shall be removed and managed accordingly (Section 4.2.1.1). If possible, disposed electronic appliances could be recycled. Fluorescent lamps may be processed onsite using a bulb eater, if available, which crushes the bulbs and captures mercury vapour prior to offsite disposal. Otherwise, care will be taken to collect the lamps without breaking and, depending on the volume, either transport lamps to an offsite lamp recycling facility or arrange for commercial collection service by third-party vendors.

4.1.3 Waste Wood, Metal, Plastic and Rubber

Non-treated wood which includes scrap wood, pallets and spools, will be stored at a laydown area for regular pick-up. The wood will be returned for refund, reused, or recycled as appropriate. Wood that cannot be returned, reused or recycled may be sent to the local landfill, to be determined based on consultation with the appropriate stakeholders.

Treated wood, which includes railway ties and poles, will be removed from site upon replacement or removal from service. Railway ties and poles will be replaced as needed during ongoing maintenance and upkeep operations. For site closure, it is anticipated that due to the good condition of the railway ties and poles, the majority of them can be reused or recycled by a third party. As practiced during operations, all railway ties will be removed from site upon closure.

Upon site closure, all stored marketable recyclable metals will be removed from the site. Metals from demolition of building structures, machinery, and equipment if feasible will be removed by a licensed metals recycler and transported to markets by either rail or road. Any metals that have no salvage or scrap value shall be disposed of in accordance with provincial regulations.

Plastics at the site will be collected and stored throughout the site in the appropriate bins/drums. Where applicable, they will be recycled or reused. All plastics that cannot be reused or recycled will be disposed.

Tires for off-the-road (OTR) vehicles such as dirt bikes, all-terrain vehicles (ATV), forklifts, farm machinery, non-highway construction equipment and tires that have a rim diameter greater than 24.5 inches are not included in Newfoundland and Labrador's Used Tire Management Program. OTR tires will be stored at a lay down area for regular offsite removal, where they are returned to the suppliers for reuse or recycling. This practice will continue until it is no longer viable. For site closure, tires that have not been returned to the suppliers for reuse or recycling and have no market value will be disposed of in accordance with provincial regulations, with approval from Digital Government and Service NL.

Conveyor belts that are no longer in service will be rolled and stored at a lay down area for regular offsite removal, where they are reused or recycled by a third party. The conveyor belts that cannot be reused or recycled will be disposed of in accordance with provincial regulations, with approval from Digital Government and Service NL.

4.1.4 Cleared Vegetation

The cleared vegetation can be reused or recycled onsite, e.g., by chipping into mulch, for landscaping purposes or erosion control where possible. Plant parts that cannot be recycled will be transported to offsite designated sites for disposal.

4.2 Hazardous Waste

The objective of hazardous waste management is the safe storage, treatment and final disposal of hazardous or dangerous waste in a manner that protects the health and safety of people and the environment in which they live. Regardless of the type of hazardous waste generated as a result of the Project, the below procedures are commonly applied in the management of these wastes:

- Identification and classification: The wastes are properly identified, labeled and classified to ensure proper handling and disposal.
- Storage: This involves the onsite storage of hazardous wastes in the designated hazardous waste storage area on the site. With the exception of mine rock and tailings which have separate storage areas, wastes will be stored in appropriate containers within sections in the designated area to minimise the possibility of spills, leaks or contamination. Special care will be given to waste types that are flammable such that they are separated from combustible materials.
- Treatment: Where applicable, wastes may be subject to further treatment to reduce toxicity.
- Transportation: This involves the transportation of hazardous wastes to accredited offsite facilities. Some classes of hazardous wastes are subject to regulations (e.g., TDG Regulations) and the transportation of these wastes must comply with regulatory requirements to ensure safety. Hazardous waste can be sent to a receiver or hazardous waste facility located outside of Newfoundland and Labrador only when the receiver or facility has been registered in both the originating and the receiving province.
- Disposal: Depending on the waste type and applicable regulations, final disposal can include landfilling, incineration or recycling.

It is a requirement for all site personnel to be aware of the hazards and risks associated with the chemical, material or product they intend to use.) Further requirements applicable to all Champion personnel responsible for management of hazardous wastes include the following:

- Waste handlers shall be certified with Workplace Hazardous Materials Information System (WHMIS) and Transportation of Dangerous Goods (TDG)
- Waste handling procedures shall conform to all existing or new internal or external regulations and policies as identified in this WMP.
- Handling of waste related to an employee's specific line of work should be conducted by the employee as required within their normal duties. Depending on the waste type and method of storage, proper training and/or instruction and orientation may be required to ensure the procedures as outlined in the WMP are followed.
- Handling of hazardous or hydrocarbon waste should only be conducted by personnel trained in all aspects of handling, transportation and storage of the material or materials.

The rest of this section outlines the specific management plans for the potential hazardous waste streams generated during the development of the Project. The WMP will continue to evolve to capture management of unforeseen dangerous wastes that may arise at any of the Project phases to ensure that the objectives of hazardous waste management continue to be sustained throughout the lifecycle of the Project.

4.2.1 Chemical Waste

Management of chemical solid and liquid wastes will generally involve the collection and storage in designated hazardous waste transfer areas on site prior to offsite disposal at accredited facilities. The designated hazardous waste transfer areas will be designed specially for the hazardous materials stored, such as having secondary containment in the event of spills or leakage.

4.2.1.1 Solid Chemical Waste

Used wet acid batteries will be collected in special airtight plastic bags (e.g., Quatrex bags) after batteries have been drained of power and terminals covered in non-conductive tape like electrical tape or appropriate covering. Used lithium ion batteries will be stored in airtight bags and embedded in sand, chalk powder ($CaCO_3$) or vermiculite after batteries have been drained and terminals covered with insulating tape. The batteries will be stored in designated sections within the hazardous waste transfer area; where batteries are to be stacked, cardboards would be used to separate the stacks. Storage of batteries would be away from flammable and combustible materials and care taken to ensure batteries are not damaged while awaiting disposal.

Waste solid chemicals (e.g., calcium chloride, activated charcoal) will be collected and stored in Quatrex bags prior to offsite disposal. Calcium chloride, or other desiccants, may be reused as dust suppressants if authorised.

Compressed gas cylinders will be appropriately emptied of contents (valve slowly opened in ventilated area until pressure gauge indicates cylinder is empty and then valve closed) and adequately labelled. Used cylinders may be shipped to manufacturers for reuse. For onsite storage at designated areas, valves are to be removed, and cylinder purged with compressed air or inert gas. Cylinders that cannot be recycled will be disposed of as scrap metal in municipal landfills.

Spent plastic and glass for packaging of hazardous chemicals will be adequately emptied, collected and stored in hazardous waste transfer areas (for toxic chemicals) prior to offsite disposal.

4.2.1.2 Liquid Chemical Waste

Management of spent laboratory reagents or liquid chemicals (e.g., solvents, additives) will follow the Material Safety Data Sheet (MSDS) recommendations for storage and disposal.

4.2.2 Petroleum Waste

4.2.2.1 Liquid Petroleum Waste

Waste diesel or gasoline from the mine service area (containing workshop, garage) will be collected in trays or drums and stored in closed top drums in the hazardous waste transfer areas until final disposal. Diesel or gasoline will not be considered as waste unless contaminated by a substance which makes it unusable as fuel. Spent lube oil and hydraulic fluids will be collected in trays and stored in closed top drums in the hazardous waste transferarea for offsite disposal; lube oil may be reused for heating purposes as appropriate.

4.2.2.2 Solid Petroleum Waste

Waste oil containers will be drained onsite and drums transported to offsite accredited facilities for reuse, recycling or final disposal. Empty diesel or gasoline drums will be drained onsite and residuals collected in containers for reuse if not contaminated by another substance. Drums should be packaged on palletsin the hazardous waste storage areas for offsite disposal.

Lube oil filters will be effectively drained and compressed and placed in open top drums in the hazardous waste transfer areas for offsite disposal. Oily rags, oily sludge or absorbents will be collected in labelled drums or receptacles onsite and stored in the hazardous waste transfer areas for final disposal.

4.2.3 Biomedical Waste

Members of construction or decommissioning workforce or operations personnel who need to administer their own medication shall place used needles or wound dressings in approved labelled biohazard containers provided in designated areas on the Project site. These containers will be collected and removed from the Project site to a licensed offsite facility for final disposal.

4.3 Domestic Waste

4.3.1 Residential/Office Waste

Labrador West has limited recycling capabilities for large commercial projects; therefore, the Project will have to transport recycling materials to a larger recycling facility. Non-hazardous domestic/office waste streams will be temporarily stored in designated laydown areas on the Project site and will be progressively removed to the local landfill or recycling facility for final disposal.

Solid waste will either be trucked to the Labrador West Regional landfill located on Route 500 or Champion will implement actions to design and apply for permits to implement an on-site waste disposal facility.

Waste cardboard and paper will be regularly collected and taken off site for recycling at accredited facilities located outside of Labrador West (there are no cardboard and paper recycling facilities locally). This practice will continue until site closure.

Most food wastes will be generated in the lunchroom areas of the work site. All food waste will be secured in animal-proof storage waste bins, to reduce odour and minimize the attraction of wildlife, and temporarily stored in designated areas onsite. Champion will arrange with a third-party contractor for offsite disposal of food wastes at accredited facilities.

4.3.2 Sewage/Domestic Wastewater

Temporary toilet and wash facilities will be located on the Project site. Untreated sewage will be held in the portable toilet facility and progressively collected by a local septic removal contractor during the Construction and Closure Phases of the project.

Wastewater produced on site during operations will be treated at a wastewater treatment plant that will be constructed at the worker accommodation. Wastewater from the mine service area, concentrator and the crusher will be kept in their self assigned storage tanks to be vacuumed and transported to the worker accommodation wastewater treatment plant. Wastewater treatment will meet the requirements of *NLR65/03 – Environmental Control Water and Sewage Regulations*, 2003 under the *Water Resources Act*. Champion has set the design criteria for wastewater effluent to meet the most restrictive standards to ensure that present and future Newfoundland and Labrador norms can be met. The high-quality discharge effluent will be discharged to a drainage ditch or channel that leads to a surface wetland or directly to a surface wetland around the worker accommodation within the site study area. Inert sludge generated as a by-product of the treatment of sewage will be collected and deposited in the TMF.

4.4 Mine Waste

4.4.1 Mine Rock

Mine rock will be stored in the Mine Rock Stockpile, which will be located east of Mills Lake (referred to as the Rose South Disposal Area) (Figure 4-1). Mine rock will be placed on the mine rock stockpile using a system of relocatable conveyors mounted on skids, cross-belt feeders, index conveyors, bridge conveyors, and a mobile stacker. Track dozers will be used to push the mine rock and level the lifts. The mine rock stockpile will be built in layers in the north-south and west-east axes. The external slopes of the mine rock stockpile will be constructed with a overall 3.5H:1V slope to avoid re-sloping at reclamation. The proposed mine rock stockpile could be optimized by adding capacity during future phases of the Project.

Based on geochemical characterization of the mine rock, the mine rock stockpile will remain classified as NPAG through the entire life of mine assuming it is adequately blended; however, loading rates may vary between different rock formations and between time frames. A PAG and metal leaching management program will be developed to ensure sufficient neutralization potential (NP) is available to manage acid producing potential (AP) from the materials and manage potential metal leaching associated with certain rock types as material is extracted and placed in the mine rock stockpile during the Operations phase. The rock management program will involve a quality assurance/quality control (QA/QC) sampling program for mined materials to ensure sufficient blending is occurring during construction of the mine rock stockpile, to mitigate the risk of localized acid generation in the stockpile that may result in increased metal release. One potential method is performing onsite carbon and sulfur analyses of blast hole samples using a LECO furnace to estimate NP and AP of a mining block. Due to the presence of non NP-bearing carbon minerals such as graphite and siderite, site-specific correlations of total carbon and NP will need to be developed for a PAG management program to be successful.

Ditches will be constructed at the perimeter of the Mine Rock Stockpile to collect runoff. The ditches will channel the water by gravity to three basins located on the west, north, and east sides of the stockpile. The water from the West and East Basins will be pumped to the North basin. From there, the water will be pumped to the Rose Pit Collection Pond, which handles contact water from the western part of the site, including the Mine Rock Stockpile. A flow diagram representing the entire site is presented in Figure 4-1. The basins and their pumping systems are designed to handle 1:100 years design floods.

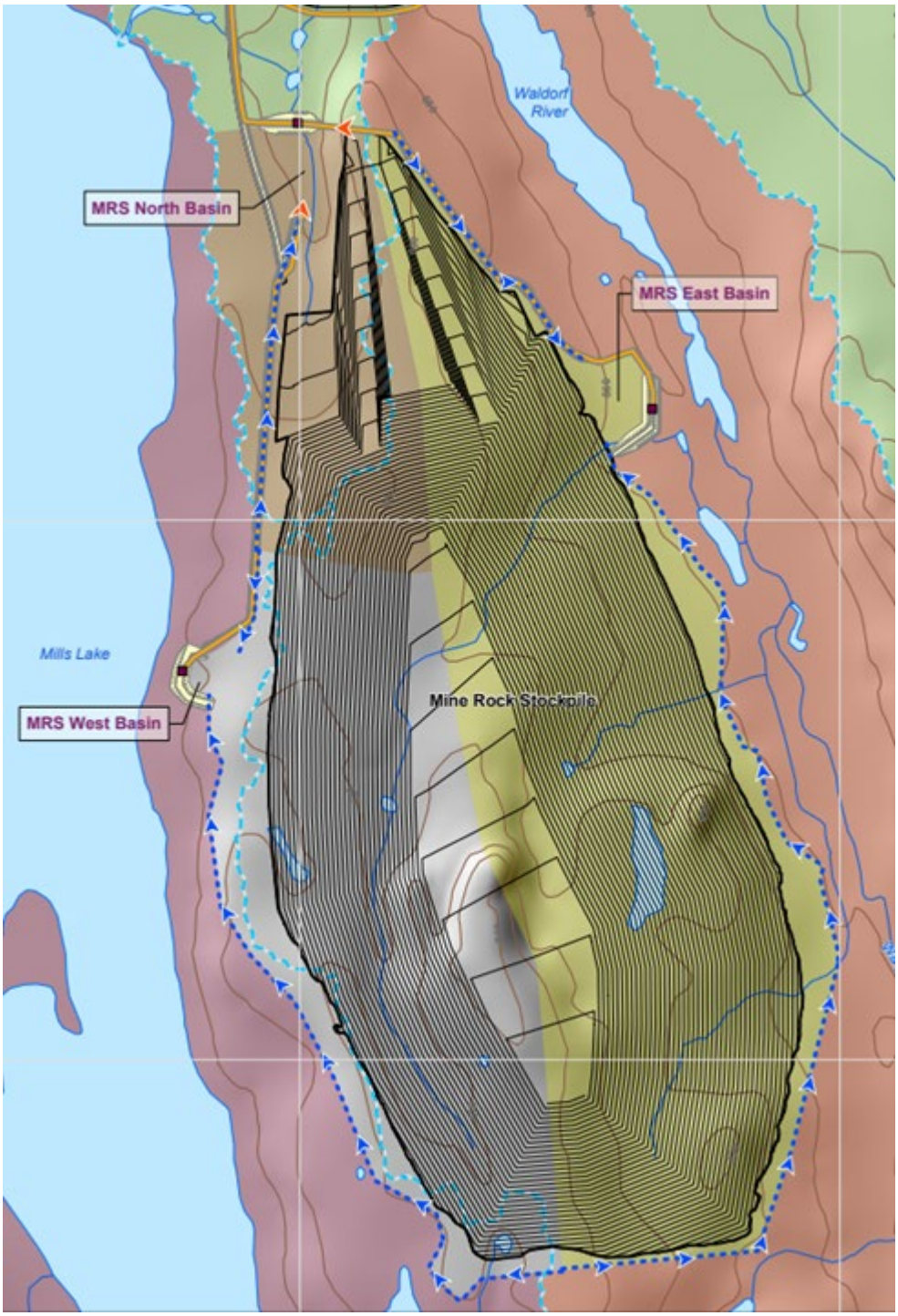


Figure 4-1: Mine Rock Stockpile

4.4.2 Tailings

The management of tailings generated from Project operation will involve the deposition of tailings by conventional slurry method into tailings management facility (TMF), i.e., an engineered impoundment for the safe, stable and non-polluting storage of tailings.

Champion carried out a TMF Pre-Feasibility Level Design in 2024 to inform the design criteria for the TMF and associated water management components for the proposed Project. According to the report, the proposed TMF location is adjacent to the south of the process plant and will consist of a lined starter dam with a centreline raise with rockfill comprising most of the downstream shell of the embankment (WSP 2024). The TMF is required to permanently dispose of about 280.3 M-m^3 of tailings solids. A supernatant pond will be operated within the TMF to manage operational and stormwater. The tailings dam will adopt a phased management approach consisting of a starter dam representing Stage 1 for the facility, with a total of nine embankment stages to accommodate tailings solids containment and water management throughout the life of the mine. The facility will be designed with contingencies to accommodate changes in operations and seasonal influences such as ice build-up in the winter months (WSP 2024).

The method of tailings disposition within the TMF will include continued spigotting of coarse tailings from the perimeter crest of the dams that will be used to build tailings beaches against the embankment slopes. The fine tailings will be deposited into the facility using a single point discharge located towards the south extent of the facility (WSP 2024). Care and management will be required to minimize fine tailings from entering the TMF Pond to reduce water treatment requirements (e.g., controlled deposition, establishing sedimentation curtains and rockfill berms).

Water management within the TMF will consist of operational and stormwater management and will generally involve the following:

- Collection and management of runoff from precipitation and water being discharge with tailings and recirculation into the process plant.
- Collection of local runoff from the downstream slope in ditches, conveyed to sumps and pumped back to the TMF.
- Collection of surface water runoff from other mine infrastructure, as required.
- Transfer of reclaim water to the processing plant for use in the operations.
- Transfer of excess water to the treatment plant for release to the environment.
- Discharge through the emergency spillway in case of an extreme precipitation event that exceeds the environment design flood level (EDF) criteria for the TMF.

Specific water quality considerations for the TMF effluent include sedimentation and red water treatment. The TMF will have some clarification potential within the TMF Pond to aid in solids settling and reduction of total suspended solids in the reclaimed water. Process water design may need to consider additional measures for water released to the environment to address red water requirements (WSP 2024).

The monitoring requirements for tailings is discussed in Section 6.2.1.

4.4.3 Overburden

The excavated overburden material will be deposited at the Overburden (OB) Stockpile, located near the northwest side of the Rose Pit. The OB Stockpile will reach a maximum elevation of 700 m, and will have stable slopes, ensured by slope stability analysis. The OB Stockpile will be equipped with a runoff drainage system including a perimeter collection ditch and a collection pond, as shown in Figure 4-2 : below.

Based on geochemical characterization of the overburden, the Overburden Stockpile is not a concern for acidic drainage. Despite being classified as NPAG, some parameters of potential concern have been identified (Section 3.4.3) that may require specific management to reduce metal loadings. However, the limited number and spatial variability in overburden sampling to date may over represent the risk of metal leaching from the Overburden Stockpile. As a next step, additional testing for the overburden materials will be implemented to develop more representative overburden source terms, and reduce the uncertainty around metal loading from the Overburden Stockpile.

Ditches will be constructed at the perimeter of the Overburden stockpile to collect runoff. The ditches will channel the water by gravity to one basin located on the East side of the stockpile. From there, the water will be pumped to the Rose Pit Collection Pond, which handles contact water from the western part of the site, including the Overburden stockpile. A flow diagram representing the entire site is presented in Figure 4-2. The basin and its pumping system is designed to handle 1:100 years design floods.

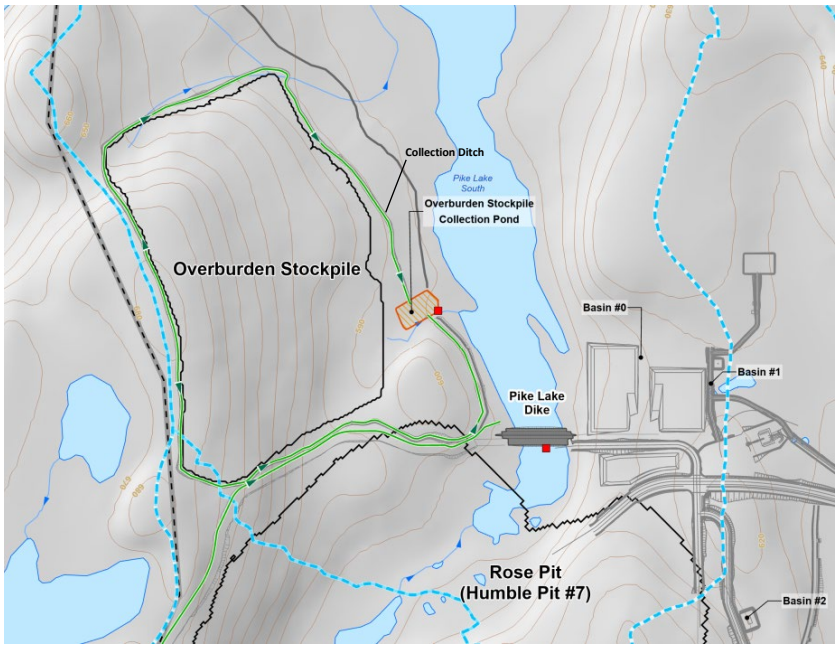


Figure 4-2 : Localization of the Overburden (OB) Stockpile

4.4.4 Contact Water Atkins

A water management strategy has been developed to minimize impacts of the contact water from the Project to the receiving environment. Contact water is anticipated to be generated from rainwater runoff, percolation through stockpiles, wastewater from tailing ponds within the TMF and dewatering during ore extraction. Several scenarios have been tested before selecting the configuration presented below, considering the natural capacity of the surrounding lakes to support the changes caused by mining activity.

To manage contact water from the Project, several water management infrastructures are planned:

- Perimeter diversion ditches around Rose Pit to minimize and prevent external clean water runoff into the pit. The diversion ditches will convey water to Mills Lake, Mid Lake, and Pike Lake south.
- Pit dewatering system and diversion to Rose pit collection pond (RPCP).
- Diversion dam upstream of Rose Pit (Mid Lake dam) and pumping facilities to divert clean water to Pike Lake.
- A dike to seclude Pike Lake water further from Rose Pit walls (Pike dike).
- Dewatering facilities to manage water downstream of the Pike dike and keep the area dry.
- Perimeter collection ditch around the OB.
- Pond to collect runoff from the OB and pumping facilities to pump the water to the RPCP.
- Perimeter collection ditch around the mine rock stockpile (MRS).
- Three basins to collect runoff from the MRS and pumping facilities to pump the water to the RPCP.
- RPCP and pumping facilities to divert water to the treatment plant.
- Perimeter diversion ditches around the RPCP.
- Collection basins on the mine plant area; some diverted to the RPCP and some diverted to the treatment plant.
- A treatment plant at Duley Lake to treat water from the RPCP before discharging to the environment.

Water transfer from Duley Lake to Pike Lake to compensate for Pike Lake losses is expected to occur due to Rose pit dewatering operations. The treatment plant at Duley lake will treat water for total suspended solids (TSS). Sedimentation is also possible in the different collection ponds on site before the water is transferred to the treatment plant. As mentioned in Section 4.4.2, the treatment plant will also receive excess water from the TMF.

Figure 4-3 and Figure 4-4 show the Site flow Diagram and the water management infrastructures location map.

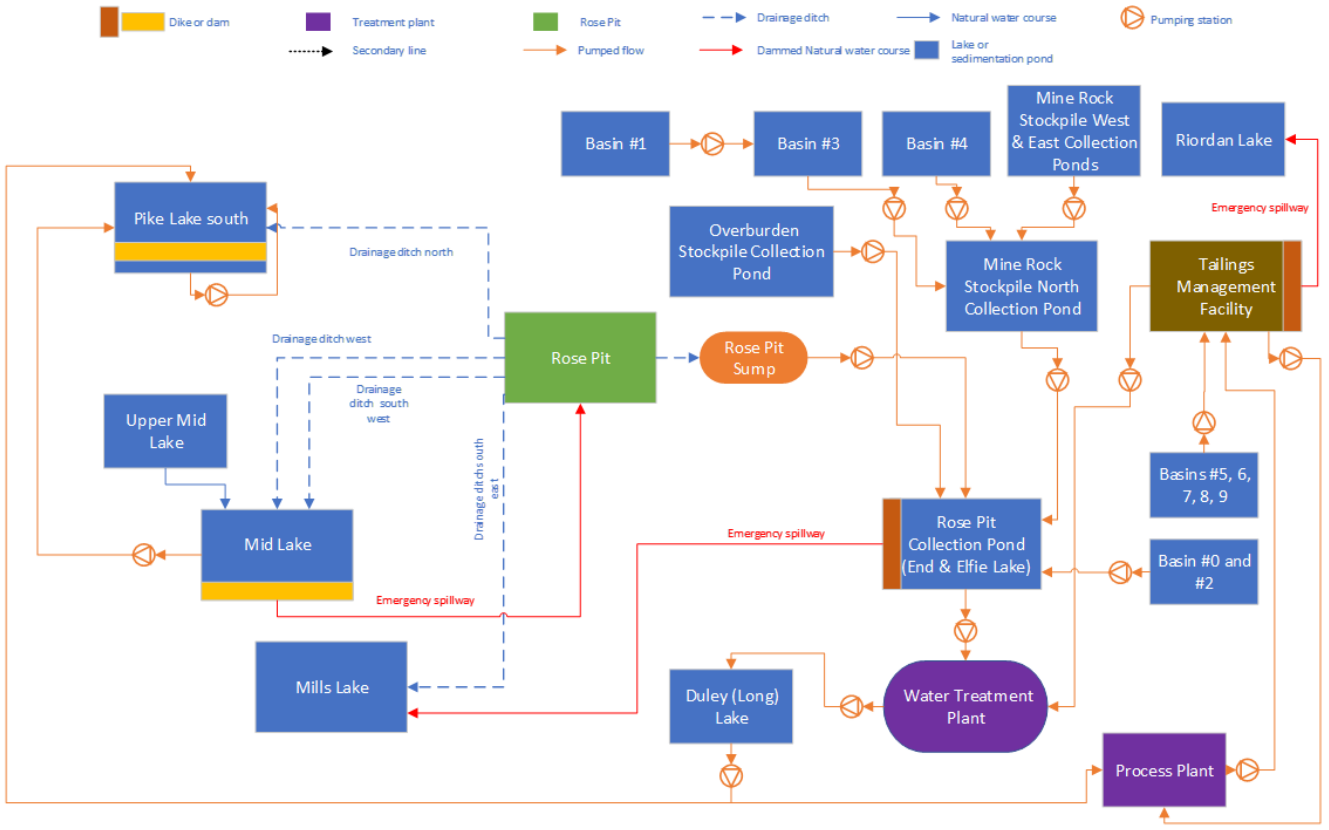
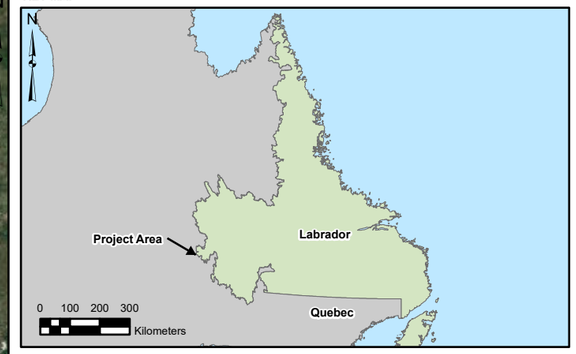


Figure 4-3: Site Flow Diagram

KEY MAP



SCALE 1:20,000,000

LEGEND

- PROPOSED PUMPING STATION
- PROPOSED INFRASTRUCTURE
- LABRADOR/QUEBEC BOUNDARY
- PROPOSED SEDIMENTATION POND
- PROPOSED BASIN
- PROPOSED DAM/DIKE
- PROPOSED PROJECT INFRASTRUCTURE
- SITE STUDY AREA (SSA)

0 0.75 1.5 3

1:85,000 KILOMETRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - NEWFOUNDLAND AND LABRADOR
2. IMAGERY CREDITS: WORLD IMAGERY: MAXAR
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 19N

CLIENT

CHAMPION IRON MINES LTD.

PROJECT

KAMI IRON ORE MINE PROJECT (KAMI PROJECT)
WABUSH, NL

TITLE

WATER MANAGEMENT INFRASTRUCTURE

CONSULTANT

Kami

YYYY-MM-DD	2025-06-30
DESIGNED	----
PREPARED	MS
REVIEWED	JC
APPROVED	TS

PROJECT NO.	CONTROL	REV.	FIGURE
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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The previous figures show the expected water management infrastructure configuration at the end of mine life. A phased approach will be developed, particularly for the construction and operation phases.. This approach ensures that each phase of the project has an appropriate water management system, following the adaptive management plan, progressing towards the proposed final layout.

4.5 Summary of Waste Management Strategies

Table 4-1 provides a summary of the waste inventory and management strategies to reduce impacts to people and the environment. The table identifies each waste type, which Project phase it is anticipated to be generated, and summarizes the management strategies that will be implemented.

Table 4-1: Summary of Waste Characterization and Management Strategies

Waste Type	Project Phase Generated			Management Strategies
	Construction	Operation	Closure	
Industrial Waste				
Contaminated Soils, snow and ice	✓	✓	✓	Contaminated soil - onsite remediation at land farm facilities for minor spills; excavation and offsite remediation for major spills Contaminated snow and ice – onsite storage at snow dump and treatment using oil/water separator
Electronic Waste	✓	✓	✓	Collected in airtight bags in designated hazardous storage areas prior to offsite disposal. Recycling option may be viable for disposed electronic appliances if possible. Fluorescent lamps – may be processed onsite prior to offsite disposal if possible. Disposal options include transportation to offsite recycling facilities or commercial collection service agreement with third party vendors.
Waste Wood, Metal, Plastic and Rubber	✓	✓	✓	Metals – recyclable metals will be removed from site by a licensed metal recycler and transported via rail or road to markets. Non-salvageable or scrap metal will be disposed of in accordance with provincial regulations. Wood – non-treated and treated wood will be collected and stored at laydown areas for pick up for reuse or recycle as appropriate. Plastics – collected and stored in appropriate receptacles in designated areas. Non-recyclable/reusable plastics will be disposed. Tires and Conveyor belts – stored at designated areas for regular offsite transport to manufacturers for reuse or recycling as much as feasible. Non-salvageable tires will be disposed of in accordance with provincial regulations, with approval from Digital Government and Service NL.
Cleared Vegetation	✓	✓	n/a	To be reused or recycled onsite where possible; vegetative parts that cannot be recycled will be transported to offsite designated sites for disposal.
Hazardous Waste				
Chemical Waste	✓	✓	✓	Used batteries – collected in special bags after batteries have been drained and terminals covered in non-conductive/insulating tape and stored in hazardous waste storage areas. Use of sand, chalk powder ($CaCO_3$) or vermiculite to embed lithium-ion batteries. Waste chemicals – collected and stored in airtight special bags prior to disposal. Desiccants may be reused as dust suppressants if authorised. Protocol for managing spent laboratory reagents or liquid chemicals will follow MSDS recommendations. Compressed gas cylinders – emptied, valves removed and stored onsite at designated areas. Used cylinders may be shipped to manufacturers for reuse. Cylinders that cannot be recycled will be disposed of as scrap metal in municipal landfills. Containers (plastic and bottle) – emptied, collected and stored in hazardous waste storage areas (for toxic chemicals) prior to offsite disposal.

Waste Type	Project Phase Generated			Management Strategies
	Construction	Operation	Closure	
Petroleum Waste	✓	✓	✓	Waste diesel or gasoline – collected in trays or drums and stored in closed top drums in hazardous waste storage areas until offsite disposal. Diesel or gasoline will not be considered as waste unless contaminated by a substance which makes it unusable as fuel. Spent lube and hydraulic fluids - collected in trays and stored in the hazardous storage area for offsite disposal; lube oil may be reused for heating purposes as appropriate. Lube oil filters – drained, compressed and placed in open top drums in the hazardous waste storage areas for offsite disposal Oily rags, oily sludge or absorbents - collected in labelled drums or receptacles onsite and stored in the hazardous waste storage areas for final disposal
Biomedical Waste	✓	✓	✓	Waste collected in approved labelled biohazard containers, stored in hazardous waste storage areas and removed from Project site to accredited offsite facility.
Domestic Waste				
Residential/Office Waste	✓	✓	✓	General residential/office waste - temporarily stored in designated areas and progressively removed to the local landfill or recycling facility for final disposal. Waste paper – collected and transported to offsite licensed recycling facilities Food waste – collected and secured in animal-proof storage waste bins prior to offsite disposal or collection by third-party contractor.
Sewage/Domestic wastewater	✓	✓	✓	Sewage will be treated on site at the worker accommodations. All sewage will undergo tertiary treatment prior to discharge to the environment. Inert sludge generated as a by-product of the treatment of sewage will be collected and deposited in the TMF.
Mine Waste				
Mine Rock	n/a	✓	n/a	Mine rock will be stored in the Mine Rock Stockpile, which will be located east of Mills Lake (referred to as the Rose South Disposal Area). A PAG and metal leaching management program will be developed to ensure sufficient NP is available to manage AP from the materials and manage potential metal leaching associated with certain rock types as material is extracted and placed in the Mine Rock Stockpile. The rock management program should involve a quality assurance/quality control (QA/QC) sampling program for mined materials to ensure sufficient blending is occurring during construction of the Mine Rock Stockpile, to mitigate the risk of localized acid generation in the stockpile that may result in increased metal release.
Tailings	n/a	✓	n/a	Coarse and fine tailings will be deposited by conventional slurry method into the TMF. Operational and stormwater management within the TMF will be via collection of runoff, transfer of reclaim water and discharge of excess water into processing or treatment plants in following extreme precipitation events.
Overburden	✓	✓	n/a	Excavated overburden material will be deposited at the OB Stockpile located near the northwest side of the Rose Pit
Contact Water		✓		Contact water consists of runoff and infiltration in the pit, runoff and percolation through the stockpiles and wastewater from tailings pond. Except for the tailings water, which will be managed at the TMF, all contact water will be managed in the Rose Pit Collection pond and then directed to the Duley Lake water treatment plant for TSS treatment.

5. Waste Handling and Storage

Champion will ensure that the storage of hazardous waste and non-hazardous waste in respective transfer areas must follow the following requirements:

- Incompatible materials are not stored near each other.
- Appropriate signage is installed.
- Fencing and/or gates are installed if applicable.
- Adequate ventilation is provided via normal airflow (i.e., waste vapor or odor does not become trapped in the structure where the waste is stored.
- Functional fire fighting equipment (e.g., fire extinguisher) or systems are present.
- Heavy containers are stored on lower shelves and sufficient space between containers is maintained to enable removal without knocking down containers.
- All hazardous waste is stored below eye level.
- Waste containers must be inspected at least monthly for labeling, container condition, leaks and/or spills.
- Waste containers must be in good condition, compatible with the waste stored therein, and not in danger of leaking.
- Waste containers must not be opened, handled, or stored in a manner that may rupture the container or cause the containers to leak.
- Waste containers must be always closed during storage, except when waste is being added. In the case of liquid chemical hazardous waste, regulations do not permit funnels to remain in waste containers after filling.
- Waste containers must never be left in areas accessible to the public.
- Secondary containment is required for containers of liquid waste when the waste is stored in quantities greater than 45L or when necessary to separate incompatibles or high hazard waste.
- All waste containers must be labeled.

6. Monitoring and Reporting

6.1 Waste Tracking and Reporting

A waste management log will be created to track the generation and disposal of all waste streams. Hazardous waste manifests will be recorded in the log along with the final disposal location of the waste removed.

Regulators that require waste management logs will be sent annual updates or as required under specific permits. All contractors will also provide any waste manifests to Champion Iron for tracking and reporting purposes.

Up-to-date MSDS must be available on site prior to receipt of any hazardous materials. Prior to bringing hazardous materials on site a Product Approval Form must be submitted to members of the health, safety and environment teams for review and approval.

6.2 Environmental Compliance Monitoring

To ensure appropriate and effective environmental mitigation measures are employed during construction, operation and decommissioning, the Project will have full-time Environmental staff at various work fronts. These individuals will continuously inspect worksites and activities for conformance with the Environmental Protection Plan (EPP), site specific management plans such as the WMP, engineered mitigation measures required by design, and compliance with government regulations and permits. The worksite inspections will be documented in daily field reports and submitted to Project personnel for review and to implement corrective actions as required.

Non-conformance with the WMP and/or non-compliance with permits, approvals, and regulatory requirements will be documented. Corrective action will be identified, target dates will be agreed upon, and responsibilities will be assigned to appropriate Personnel. This documentation will be distributed to other members of the Project's environmental management team and written notice of agreed corrective action will be forwarded to the site supervisor or contractor so that issues are resolved to the satisfaction of the environmental team.

Specific monitoring programs for some of the hazardous waste streams are presented in this section.

6.2.1 Tailings

The implementation of a systematic performance monitoring program during operations is critical for maintaining the physical integrity of the dams and ancillary structures at the TMF, as recommended by dam safety guidelines and often a facility permitting requirement. This program should comprise environmental monitoring, regular visual inspections of the entire facility and the monitoring of piezometric levels within the containment dams. The details of the program will be documented in an operation, maintenance, and surveillance (OMS) manual that will be developed during the detailed design and construction stage of the Project, and it will be revisited regularly to account for any changes in the performance or operation of the TMF.

Champion will leverage the existing experience obtained from the tailings management system implemented at the Bloom Lake project to develop the performance monitoring program for the Kami operation.

6.2.1.1 Inspection Programs

The various components within the TMF should be regularly inspected by knowledgeable personnel, familiar with their design and operating requirements. The results of the monitoring program will form the basis for determining maintenance and remediation measures that may be required during the life of the facility. The design and as-built construction records for the various components of the TMF are vital to assessing the performance of the facility and should be properly archived at the site and accessible for review when required.

It is common practice to implement inspection programs on three levels; routine observations (daily or weekly, by the operator), detailed inspections (annual dam safety inspection by the Engineer of Record) and formal dam safety reviews (by qualified third party consultant and with frequency recommended based on dam consequence classification). Event-driven inspections should also be conducted following spring runoff and after any unusual events such as heavy rainstorms, windstorms and seismic events. Water levels in the TMF should be recorded daily and a detailed survey of the tailings surface should be completed annually to assist with tailings deposition planning, scheduling and for the detailed design of subsequently embankment raises and water management that includes identification of the subsequent spillway invert and capacity.

The CDA Dam Safety Guidelines (CDA 2013) recommend that formal dam safety reviews be completed at maximum five-year intervals for structures that are classified in the 'Very High' consequence category, such as the dams around the TMF. The first such dam safety review should be completed within five years following commissioning of the TMF.

6.2.1.2 Groundwater Monitoring

Some seepage through and under the dams at the TMF can be anticipated by passing the perimeter seepage collection system. It is expected that embankment seepage from the dams can be collected in ditches and conveyed to small sumps and, if necessary, pumped back into the TMF. The remainder would be lost to the groundwater flow regime.

A network of groundwater monitoring wells should be installed downstream of each of the dams during the initial construction program and will utilize previously established wells, from past geotechnical investigations, that are functional. Additional monitoring wells might be needed based on the performance and results of the initial monitoring wells.

Groundwater is at or close to ground surface over most of the site and a layer of glacial till is present over the bedrock. Apart from flow along discrete structural features in the bedrock (e.g., faults, jointing, etc.), it is anticipated that groundwater flow is likely to occur along any potential sand seams within the overburden, the bedrock/till contact, and within the upper weathered bedrock zone. It is therefore suggested that the monitoring wells be installed to monitor these potential flow pathways. Prior to well installation, the locations and design of the monitoring wells should be reviewed on the basis of information obtained during construction. As necessary, the detected seepage can be directed back into the TMF via pump-back wells.

In addition to groundwater monitoring, it is expected that surface water quality monitoring be done in the creeks downstream and around the TMF.

6.2.2 Contact Water and Treated Sewage

Environmental compliance monitoring requirements for contact water includes assessing the volume and quality of water that may be generated from Project activities and could potentially impact the surrounding environment and waterbodies.

Water volume monitoring typically focuses on determining the amount of water that interacts with the Project components through surface run off or drainage to assess the risk of erosion and the potential for contaminants to spread. Water volume monitoring can be implemented through rainfall and runoff monitoring (installation of flow gauges) and stormwater management (collection basins).

Water quality monitoring ensures that water runoff or seepage from stockpile does not exceed regulatory limits outlined in the Government NL *Environmental Control Water and Sewage Regulations, 2003* and the Metal and Diamond Mining Effluent Regulations (MDMER). Typical monitoring parameters include pH, Total Suspended Solids (TSS) and metals. If regulated limits are not achieved, mitigation measures may be required and may include the installation of erosion sediment controls (hay bales, sediment fencing, etc.), improvements to sediment basin design and the installation of a water treatment system.

Under the MDMER, monthly and quarterly reporting to ECCC is required as well as reporting to the Government of NL, Department of Environment and Climate Change under the operating Certificate of Approval.

7. Adaptive Management and Contingency Plans for Waste Management

Adaptive management is a systematic process for improving environmental knowledge and adjusting management practices based on outcomes. It provides a structured yet flexible approach to decision-making, allowing for adjustments in monitoring and mitigation measures throughout a Project's lifespan.

Champion has proposed to manage uncertainty in mine rock and mine effluent through adaptive management. The objective of an adaptive management plan (AMP) is to identify risks and uncertainties that may result in adverse impacts to the environment and develop a management plan that allows for continual improvement through review and analysis of uncertainties and risks for a project. The following framework for implementing adaptive management has been proposed:

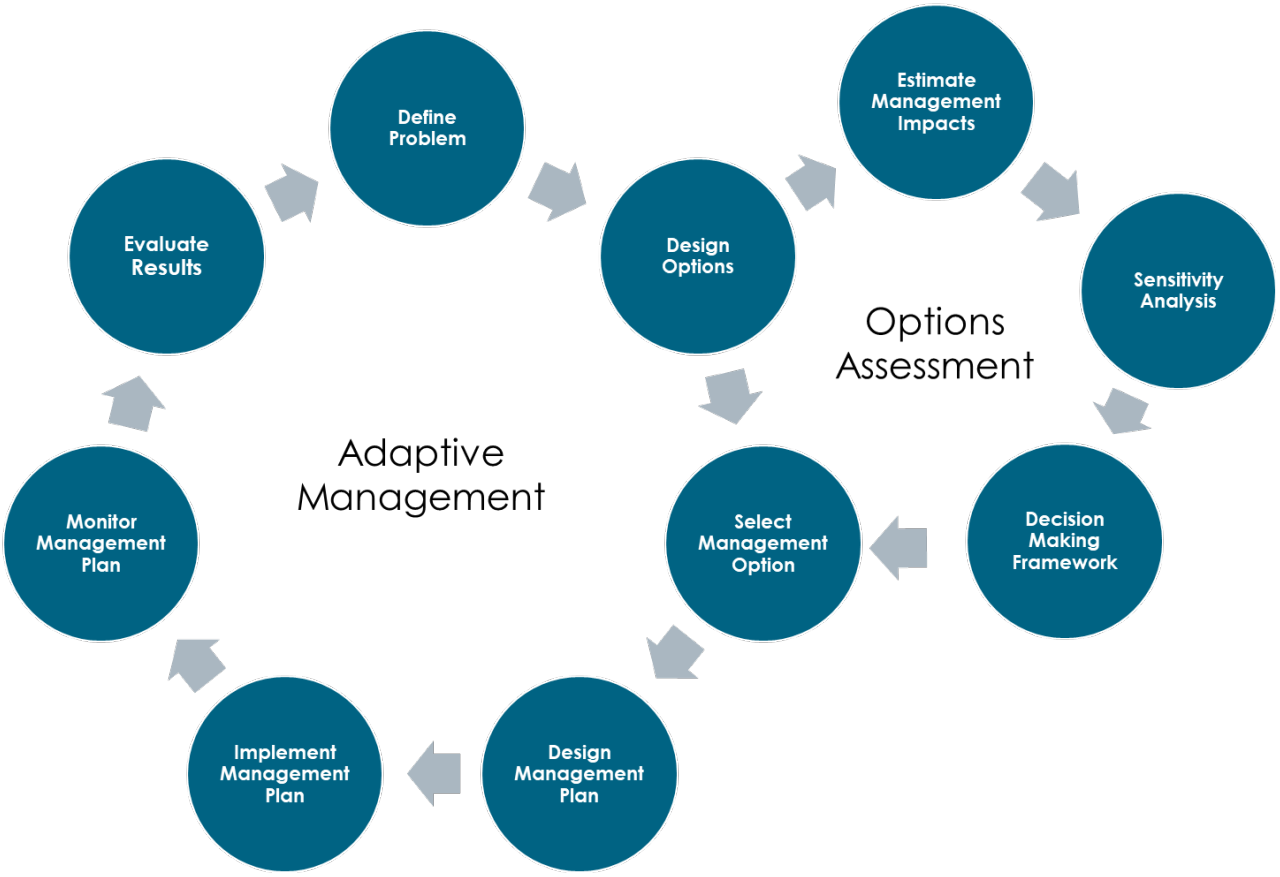

Figure 7-1 : Integrated Adaptive Management Framework

Specifically, Champion has determined that geochemical risks posed by the Project mine waste streams (Section 4.4) will be adaptively managed such that quality of mine effluent meets regulatory guidelines and may be discharged to the environment during the Post-Closure Phase. This will be carried out via the systematic process of assessing potential effluent quality problems, design and implementation of an action plan to address the problem, monitoring effectiveness of action plans, evaluation of outcomes and adjustment of the plan. The entire process is iterative with the main objective of Champion to continuously improve management practices during the Project lifecycle.

Geochemical risk is present due to the metal leaching / acid rock drainage (ML/ARD) classification of a portion of the mine rock, for instance. Collection ponds are located at the north and west sides of the MRS to collect any seepage or runoff that may occur. The ultimate receptors, if the collection ponds were to fail, are Mills Lake and Waldorf River through runoff and groundwater flow paths.

Champion have assessed and bound the problem by developing the management objective above, developing a conceptual model of the MRS, and identification of risks and uncertainties related to the mine rock stockpile geochemical loading. Several mitigations (or management actions) to achieve the management objective have also been identified, and a preferred management option for the mine rock has been identified (i.e. blending and in-pit discharge in closure). Champion would develop an adaptive management plan for Operations that could provides:

- Critical thresholds for the remaining uncertainties;
- Monitoring plans to indicate locations, methodology, and frequency or testing or investigations required; and
- Anticipated timelines for the plan.

The adaptive management plan will also include descriptions of how monitoring data will be collected, stored, and analyzed, and will describe who is responsible for validating the results. Scheduled reviews of the data will be outlined to ensure threshold exceedances do no go undetected.

8. Training and Awareness

A Project environmental awareness training will be developed and presented to all personnel conducting work on the site (i.e., Champion staff, contractors, sub-contractors) and visitors. The training is a prerequisite to entering the Kami site and it will include a section pertaining to waste management practices.

Kami employees and contractors who handle hazardous solid and liquid waste streams at the Project site will receive specific waste management training. The waste management training will be conducted on an annual basis and will cover the following topics:

- Definition of hazardous wastes;
- Emergency contacts and muster points;
- Waste Disposal Forms (WDF);
- Identification and categorization of Hazardous waste;
- Hazardous waste storage and secondary containment; and
- Transportation requirements for hazardous waste from the generation point to the waste transfer area.

Those involved with handling and of shipping hazardous materials will be provided with TDG training and will maintain a valid TDG certificate. Contractors will be required to provide trained, qualified, and experienced personnel for waste management duties.

As part of the management of the risks associated with the operation of the TSF and mine rock stockpiles, Champion personnel will receive specialised internal or third-party trainings which may cover the following areas:

- Overview of TSF/mine rock stockpile design features including understanding design process and identification of potential deformities;
- Potential environmental impacts from TSF/mine rock stockpiles;
- Review of Champion TSF/mine rock operations manual and supporting documentation;
- Identification of safety triggers during routine inspections;
- Demonstration of completion of monitoring and validation of instrumentation; and
- Identification, assessment and reporting of environmental issues, risk and hazards.

The highest volume of wastes associated with the Project operation are anticipated to include tailings, mine rock and mine water waste streams which could potentially contaminate soil and water resources in the area and raise health concerns within the community and interested stakeholders. Champion will initiate and sustain community awareness initiatives on the wastes generated during the various phases of the Project to address perceived environmental concerns and build trust with local communities. Sensitization programs will be frequently organised within the community and will include opportunities, where feasible, for delegated members of the community to collaborate with Champion on environmental compliance monitoring exercises.

9. Conclusion

The WMP has been prepared to meet the requirements of Section 7.2.2 of the provincial EIS guidelines for the Kami Mining Project. It demonstrates Champion's commitment to managing the hazardous and non-hazardous solid and liquid waste streams generated throughout the Project lifecycle including construction, operation, and closure, with the objective of reducing offsite impacts to the people and the environment to as low as reasonably possible. The structure of the WMP includes the following:

- Characterization of the wastes based on inherent risk and indication of Project phase in which the wastes are likely to be generated;
- Waste management strategies adopted by Champion to ensure the safe handling, treatment and disposal of the wastes;
- Monitoring and reporting requirements;
- Adaptive management and Contingency plans; and
- Recommended training and community awareness initiatives.

The WMP will continue to evolve to capture management of unforeseen wastes that may arise at any of the Project phases to ensure that environmental and sustainability objectives continue to be sustained throughout the lifecycle of the Project. Champion waste management personnel will periodically review the WMP and determine efficiency of procedures based on results of scheduled environmental audits and feedback from the members of the public. The frequency of review will be determined by key personnel and approved by Management staff. Newly identified waste streams will be characterized and management procedures updated accordingly to ensure the plan continues to remain effective. On request, notification of updates to the WMP may be transmitted to the Newfoundland and Labrador Department of Industry, Energy and Technology to demonstrate Champion's ongoing commitment to environmental sustainability.

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