ENVIRONMENTAL MANAGEMENT PLAN

FARO MINE SITE
FARO, YT

Revision #: 1
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Prepared by:

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SUMMARY OF VERSIONS

Revision Number	Description of Revisions Made	Approval
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ACRONYMS

Acronym	Definition
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
EMP	Environmental Management Plan
EPP	Environmental Protection Plan
FMS	Faro Mine Site
LSA	Local Study Area
MEND	Mine Environment Neutral Drainage
ML/ARD	Metal Leaching (ML) and Acid Rock Drainage (ARD)
PSPC	Public Services and Procurement Canada
RSA	Regional Study Area
VMS	Vangorda Mine Site

TABLE OF CONTENTS

1. CONTEXT OF THIS ENVIRONMENTAL MANAGEMENT PLAN

This Environmental Management Plan (EMP) describes how environmental stewardship at the Faro Mine Site (FMS) is managed. It is a site-specific plan developed to ensure that appropriate environmental management practices are followed during maintenance, operation, monitoring, investigations and construction activities at the FMS.

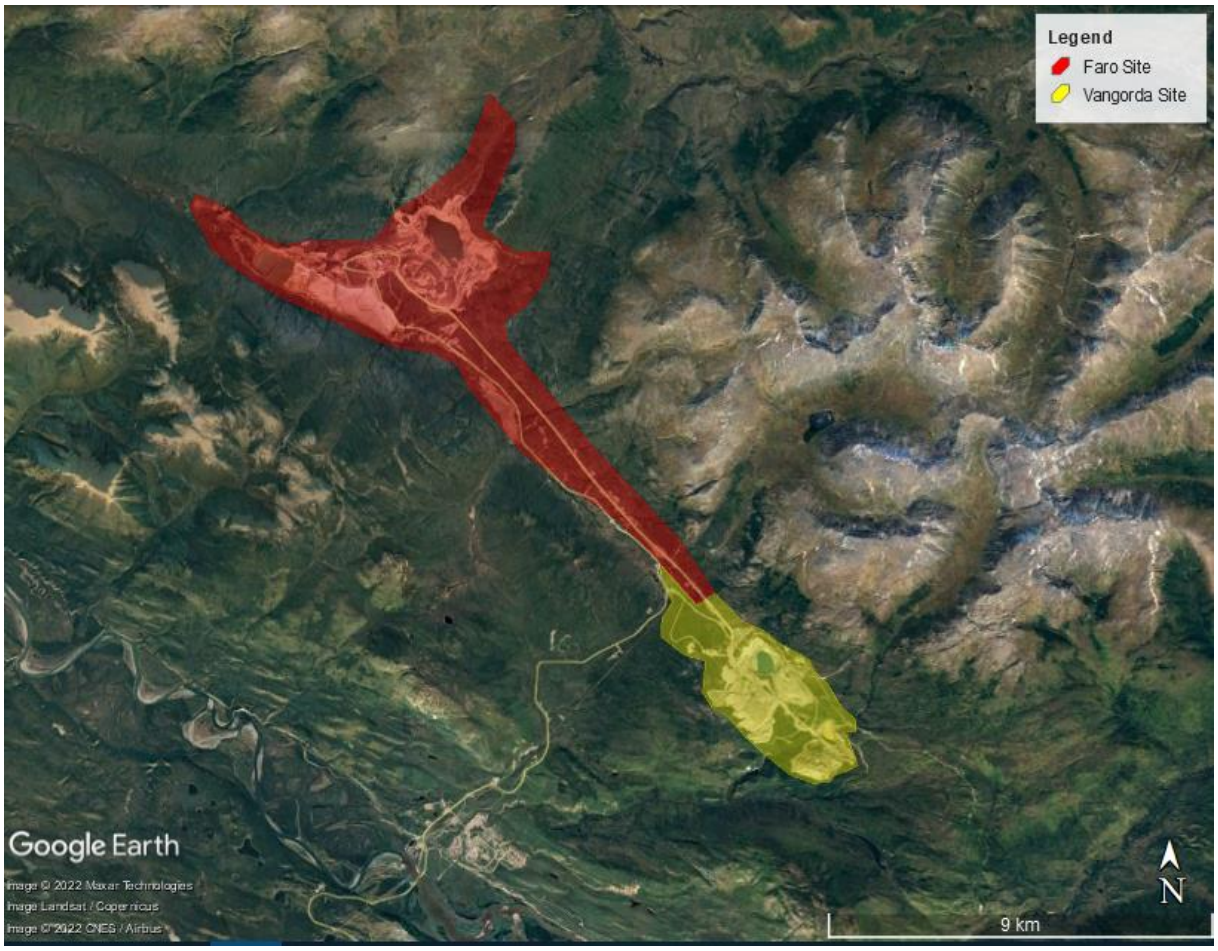
This EMP has been developed to meet the following environmental objectives:

1) Compliance with federal and territorial legislation.
2) Compliance with permits, licences and authorizations tied to FMS related work.
3) Identification of current and potential environmental risks of the activity or site.
4) Monitoring and mitigation of risks associated with the work on the site.
5) Application of best management practices to the activity or site.

To meet these environmental objectives, this EMP includes a ten management plans appended herein, with additional related plans maintained separately (per section 2). These management plans describe relevant legislation, and how work is to be done on the FMS to meet regulatory requirements and project commitments. This document provides summary descriptions of the purpose or content of each management plan.

This EMP does not apply to work on the Vangorda Mine Site (which has its own EMP), nor on the public lands or public access road. Otherwise, it applies to all activities on the FMS (Figure 1). While the EMP is distinct for the FMS, some of the procedures described herein, as well as in applicable Plans, may be common for both FMS and VMS; any distinct procedures or protocols that need to be followed at either VMS or FMS will be clearly stated

Figure 1. Approximate extents of the FMS and Vangorda Mine Site.



The contents of this document are based on two main reference documents:

1) The Main Construction Manager Inc. July 7 2021. The Main Construction Manager Environmental Management Plan - Faro Mine Complex [Revision No. 1]. Submitted to Crown-Indigenous Relations and Northern Affairs Canada.
2) Crown-Indigenous Relations and Northern Affairs Canada. May 2019. Faro Mine Remediation Project - Project Proposal submitted to the Yukon Environmental and Socio-Economic Assessment Board. Yukon Environmental and Socio-Economic Assessment Board File 2019-0149.

This plan applies during the period leading up to receiving a Water Licence for the remediation of the FMS. This plan will be reviewed and updated on an as-needed basis, including when there are significant changes to the site work and conditions.

2. ENVIRONMENTAL, HEALTH AND SAFETY MANAGEMENT SYSTEM

This EMP forms one part of the overarching Faro Mine Environmental, Health and Safety Management System which is built on ISO 14001[i] and 45001[ii] standards.

All site staff and contractors working on the FMS and visitors are to be trained on this EMP and

applicable plans, per Section 5 of this EMP

2.1 Environmental Management Plans

The Environmental Management Plan includes the management plans appended herein, as well as management and monitoring plans that are maintained separately from this document.

The following are management plans that are maintained within this EMP:

- Fish Habitat Protection and Water Quality Management Plan (Appendix A): This plan is to be used by the Main Construction Manager and contractors to guide the work in and around water to protect aquatic life. It outlines how water is to be monitored for construction and maintenance which may impact water. This plan does not include the general site water monitoring plan.
- Dust Management Plan (Appendix B): This plan outlines mitigation measures that will be in place to prevent and reduce the mobilization and transport of dust at the FMS. This plan does not include either the Ambient Air Quality Monitoring Plan nor the Occupational Health and Safety Air Monitoring Plans (which is to be provided by Contractors under the Main Construction Manager).
- Geochemical Management Plan (Appendix C): This plan describes the procedures for sampling and testing the Metal Leaching (ML) and Acid Rock Drainage (ARD) potential of material intended to be at the FMS.
- Heritage Resources Management Plan (Appendix D): This plan outlines practices and mitigation measures that are required to identify and protect heritage resources at the FMS.
- Materials Management Plan (Appendix E): This plan outlines mitigation measures to help reduce the environmental impact from clearing and stockpiling of vegetation, detritus and top soil, and to limit handling of materials multiple times at the FMS.
- Revegetation Plan (Appendix F): This plan outlines revegetation measures focused on waste rock dumps and tailings, although planning information is also provided for associated features, such as potential borrow areas, roads, and infrastructure areas on the FMS.
- Sediment & Erosion Control Plan (Appendix G): The objective of this plan is to provide guidance on controlling run-off, minimizing erosion in exposed areas, and preventing inputs of sediment into water bodies at the FMS.
- Spill Prevention and Response Plan (Appendix H): This plan outlines mitigation measures to help reduce the potential of a spill and to guide the response in the event of a spill at the FMS.
- Waste Management Plan (Appendix I): This plan describes the handling, containment, storage, transportation, recycling, and disposal procedures for different waste streams produced by the work and associated activities at the FMS to be in compliance with applicable Regulations.
- Wildlife and Wildlife Habitat Management Plan (Appendix J): This plan describes the management approaches and best management practices to prevent and/or minimize adverse effects on wildlife and wildlife habitat on the FMS.

The following are management and monitoring plans for scopes of work that are directly related to Environmental Management of the FMS, but are maintained as separate documents from this EMP:

- Water Quality Adaptive Management Plan: This plan provides a structured approach to monitoring, investigating and responding to water quality and chemical loads issues on and downstream of the FMS.
- Aquatic Effects Monitoring Plan: This plan describes the monitoring and reporting process to oversee aquatic effects from the FMS.
- Contaminated Water Release Response Plan: The Contaminated Water Release Response plan describes the management and reporting procedures to be implemented in the event of the release of contaminated water at the FMS.
- Blasting and Explosives Management Plans (To be prepared by contractors who propose to use explosives): These plans describe the requirements to handle, store, transport and use explosives at the FMS.
- Environmental Protection Plans (To be prepared by contractors and consultants who propose to conduct work on the FMS, see section 4): These plans describe the mitigations, legal requirements and monitoring specific to a contractor's scope of work on the FMS. The Environmental Protection Plans will outline how the contractor will ensure that the work being conducted is in alignment/compliance with this EMP and relevant regulations.
- Occupational Air Quality Monitoring Plan (To be prepared by contractors who may be exposed to tailings dust, waste rock dust, contaminated soils, contaminants from demolition activities, and/or significant road dust): The Main Construction Manager will develop and implement an overarching plan for the Project and minimum requirements of each contractor, including any contractor or work package-specific plans that need to be developed. This plan is to outline mitigation measures that will be in place to prevent and reduce the mobilization and transportation of dust at the FMS. It will include a monitoring plan to ensure the workers are protected from exposure.
- Vegetation and Wildlife Monitoring Plan: This plan describes the monitoring activities and reporting processes related to vegetation and wildlife, to support the Wildlife and Wildlife Habitat Management Plan for the FMS.
- Water Monitoring Plan: This plan describes the monitoring, analytical and reporting process to oversee water quality and load on the FMS. It includes both contact and non-contact water monitoring requirements. This Plan includes the monitoring and reporting of hydrology on the site. The data from this plan is used across all Government of Canada contractors to manage and respond to issues to achieve the overarching goals for the Project.
- Borrow Management Plan (not yet available; to be developed): This plan will describe the available materials and what they are planned to be used for at the FMS; it will be developed as part of the submission for the Water Licence.
- Road, Traffic, and Access Management Plan: This plan describes the management of site access and the movement of traffic on the FMS and the management of the traffic per the Regulation.
- Ambient Air Quality and Meteorological Monitoring Plan: This the monitoring of air quality and meteorology at the FMS for use in environmental effects assessments.
- Socio-economic Monitoring Plan (Not yet available; to be developed by the Government of Canada): This plan describes monitoring of socio-economic effects from the FMS.

- Toxicity Monitoring Plan: This plan describes monitoring of toxicity on and downstream of the FMS. Results from it are/will be used for the Adaptive Management Plan, Discharge Protocols for water treatment plans, Fish Habitat Protection and Water Quality Management Plan and Performance Monitoring Plans.

2.3 Related Plans

The following existing plans do not fall under the EMP but include information that is relevant to environmental management and may need to be referenced in conjunction with the EMP and applicable plans in implementing scopes of work. These plans are maintained separately from this EMP:

- Emergency Response Plan: This describes the FMS emergency response protocols, including communications requirements for emergency situations related to occupational health and safety.
- Geotechnical Emergency Response Plan: This describes the FMS geotechnical emergency response protocols, including communications requirements for emergency situations.
- Geotechnical Monitoring Plan: A plan to monitor geotechnical aspects at FMS.
- Occupational Health and Safety Monitoring Plan: This plan is developed and implemented by the Main Construction Manager to monitor the Health and Safety of site workers on the FMS.
- Operations, Maintenance and Surveillance Manual for Dams and Diversions: A manual describing the monitoring, operations, maintenance and surveillance of dams and diversions geotechnical aspects at FMS, including the frequency of the monitoring requirements.
- Performance Monitoring Plans: These plans are developed by the designers of the FMS infrastructure, and outlined how to monitor the performance of a structure after it is constructed on the FMS.
- Site Health and Safety Plan: This plan is developed by the Main Construction Manager to protect the Health and Safety of site workers at the FMS.
- Water Treatment Plant Discharge Protocols: These protocols outline water quality testing, monitoring and chemical requirements at the FMS prior to, and during, discharge from each water treatment system. These protocols are in alignment with applicable guidance and project-specific requirements for water treatment, as well as the Direct Discharge Protocol for untreated water.

3. SITE CONDITIONS

During the operation of the Faro Mine, a 3.8 km long channel was constructed to divert the flow of Rose Creek. While the Faro Mine was operational, 70 million tonnes of tailings were deposited in the Rose Creek Valley. A series of dams were built to retain the tailings and to allow for storage of water prior to its treatment and release into the environment. The FMS has two water treatment plants both anticipated to be decommissioned following planned construction and commissioning of a permanent water treatment plant. The Faro Pit is approximately 1,675 m long and 975 m wide at the crest.

The main components of the FMS include: open pits, waste rock dumps, tailings storage facilities, and associated dams, water treatment facilities, access roads, haul road, stream diversions, water storage areas, and buildings previously used for milling-related activities. The FMS is within the watersheds of Rose creek, which drains into the Pelly River downstream of the Town of Faro.

Some of the waste rock dumps and parts of the Rose Creek Tailings Area are producing acid rock drainage resulting in the deterioration of the surface water quality in the receiving environment, with increasing trends in the concentrations of sulphate and a number of metals, including iron (total and dissolved), manganese, and zinc.

Groundwater under the Rose Creek Tailings Area and waste rock dumps, and water in the Faro Pit is contaminated with metals at concentrations that pose risks to aquatic organisms, wildlife, and people. Over time, site-wide acid rock drainage is expected to occur which would result in increasing contaminant concentrations in groundwater and surface water if left untreated.

Contact water (water that has contacted mine waste and other mine infrastructure, requires collection and treatment prior to discharge to the receiving environment) originates from two major sources, tailings and waste rock, and emerges either as contaminated groundwater or as surface water runoff. Non-contact water includes all surface water and groundwater that does not come into contact with tailings or waste rock.

Existing conveyance structures at the FMS include the Faro Creek Diversion, West Valley Interceptor Ditch, Re-aligned North Fork Rose Creek, Rose Creek Diversion Channel, Upper Guardhouse Creek and the North Wall Interceptor Ditch. Some of these conveyance structures are currently being affected by contaminated groundwater. Additionally, many of the structures conveying non-contact water, including the Rose Creek Diversion, are too small to withstand large scale flood events. If such an event should occur, it could lead to a failure and the release of contaminants into the downstream environment.

The Faro Pit, waste rock dumps, and Rose Creek Tailings Area each have stabilization and contamination challenges. Stability is of concern for the waste rock dumps, the Secondary Dam and Intermediate Dam in the Rose Creek Tailings Area and along the northwest side of the Faro Pit, which has the potential to threaten the Faro Creek Diversion.

3.1 Geographic Context

The FMS is found primarily on National Topographic System Map 105K. Vehicle access to/from Faro is by the Robert Campbell Highway and is an approximate 5-hour drive from Whitehorse, YT. The FMS's high latitude causes a large variation in the duration of both day and night, with daylight ranging from five hours in December to twenty hours in June, and twilight lasts all night from late May to July.

Due to the locations, there is also a great degree of variability in the seasonal temperatures. The Town of Faro, near the FMS has very cold winters, with an average temperature in January of approximately −20 °C, and mild to warm summers with an average temperature of approximately 15 °C in July. The

only months with a mean temperature above zero are May, June, July and August. Furthermore, the snow accumulation at the Faro tailings impoundment typically begins in October and the snow cover is generally melted by the end of April. With respect to wind conditions, the prevailing wind direction in the region is from the southeast.

3.2 Site Extents

The FMS is part of the Faro Mine Complex. This EMP applies to all activities on the FMS (Figure 1). A separate EMP has been prepared for the Vangorda Mine Site..

3.3 Cultural Context

The FMS is located in asserted Kaska Traditional Territory, as claimed by the Kaska Nation. Currently, the Kaska Nation is comprised of five First Nations. This includes Ross River Dena Council and Liard First Nation in the Yukon, and the Daylu Dena Council, Dease River First Nation and Kwadacha First Nation in British Columbia. The FMS is also upstream from Selkirk First Nation.

The following information was provided by the Ross River Dena Council and is included at their request to highlight the history and importance of the area encompassing the FMS and the impact of mining activity to the Ross River Dena:

“Tse Zul (Mt. Mye) lies in a unique ecological setting. Here two major rivers converge in the rain-shadow of the Pelly Mountains, separated by blocks of mountains where changes in elevation yield a variety of habitats. Scattered wetlands add further diversity. Three different caribou types/herds used the area, moose were at densities believed to be the highest in the Yukon, and a unique colour phase of thinhorn sheep, called Fannin sheep, were abundant here. These sheep were of special importance to the Ross River Dena; many wintered along the Pelly River and were accessible to hunters in the winter. The Tintina Trench that runs at the foot of Tse Zul was the migration corridor for thousands of migrating geese, ducks and cranes, and the hills around Blind Creek were home to Blue Grouse. Along the Pelly River, sharp-tailed grouse could be found - the only place in the region where they occurred. The diversity of habitats produced many different medicinal and food plants, and one of few places where birch trees could be harvested (birch was used for many purposes). Salmon were more abundant here than anywhere else in the region - so abundant that “nets had to be checked three times a day”. It is also one of few places where fishing wheels were used. The Tse Zul area was one of the most important breadbaskets to the Ross River Dena, or as Weinstein (1992) remarked, “one of the rare places where, as the elders say, ‘there is everything’ – moose, caribou gophers, whistlers, fresh water fish and salmon”.

As well as being a special place for a variety of animals that lived there, Tse Zul was also special for the unique rocks found there. In fact, even the name Tse Zul is a reference to the “Hollow Rock” on the mountain. Al Kulan got to know some of the local people that lived in the area. In a kind and welcoming gesture, three Ross River Dena - Dena Cho, Joe Ladue and Arthur John Sr. - showed this prospector some of the special rocks at Tse Zul that eventually led to the Anvil Mine. For their part, the three men received no recognition or benefits from the mine.

The importance of the Tse Zul area to Ross River Dena was exemplified by the significant use of the area. At least eight extended families lived here. There were three permanent centers of habitation in the area, and seasonal encampments were scattered everywhere. The area was also a major transportation hub, laced by a network of trails. A number of sacred areas are also found here, signifying a deep reverence to the area, and a long history of occupation. At least 26 archaeological sites found in the area provide further physical evidence of the importance of this place to the Ross

River Dena.

The development of the Faro mine and its infrastructure was one of the most debilitating events in the Ross River Area, causing significant environmental and social impacts. Heavy metal leaching, acid rock drainage, and airborne pollutants poisoned the region. This, combined with habitat destruction, displacement of animals, and an invasion of outside hunters, resulted in declines of most fish and wildlife species. A population of wintering caribou disappeared, as did lake trout and grayling from a number of creeks. The Ross River Dena were displaced, further depriving them of the bush economy. The late Arthur John senior sadly commented; “Now no one goes there. The mine tore up half the mountain now. People from that country try other areas, could not find anything as good.” Racism and bigotry also played a role. As Weinstein (1992) pointed out, “The changes to Ross River which accompanied the mine development affected all band members. The village changed fundamentally and very rapidly, from an isolated Indian community to a mixed- racial regional service center. Indians became a marginalized minority, facing bigotry and discrimination. The traumas that resulted were profound, leading to alcoholism, family breakdowns, and self-inflicted violence”. Indeed, the social and environmental impacts of Faro have been disastrous to the Ross River Dena.”

Environmental Risks

The FMS is one of the largest contaminated sites in Canada, posing risk to human health and safety and the environment. There are 70 million tonnes of tailings, 320 million tonnes of waste rock, areas of contaminated soil, open pits, various types of structures, two water treatment plants, and a highly contaminated abandoned mill. There are ongoing concerns related to the following risk factors: the capacity of the interim water treatment plant to treat additional volumes of water while maintaining discharge standards, the migration of contaminants downstream of the North Fork and the Cross Valley and Rose Creek areas, potential impacts from, contaminated groundwater appearing in wells down gradient of Cross Valley Pond in the Rose Creek Valley, the physical instability of the Faro Pit walls and deteriorating structures on site.

The general hazards at the FMS include, but are not limited to, the following:

- Mine workings: There is one partially flooded open pits containing contact water.
- Dams and diversions: The dams and diversions at the FMS do not have sufficient capacity or are sufficiently robust. The current flood-routing capacity of the major tailings retention structures and associated diversions on the site are insufficient to provide adequate risk mitigations over the long term.
- Acid-generating waste rock and tailings: The tailings impoundment contains approximately 70 million tonnes of acidic lead/zinc tailings. Additionally, much of the 330 million tonnes of waste rock is acid generating and many of the seeps emanating from waste rock piles across the FMS contain elevated levels of metals and sulphate.
- Contaminated water: Certain areas of surface water are contaminated, which is an environmental hazard. The associated risks are being managed through the water monitoring program, diversions, and the operation of the treatment plants. The groundwater underlying the waste rock piles and tailing impoundment area is contaminated, and the movement of contaminant plumes is an environmental hazard. In order to effectively manage and understand the risk presented by this hazard, the movement of the plumes is being monitored. Some of this water is also being captured by groundwater wells and surface water interception systems and is then piped to storage (ponds and pits) and subsequently it is treated and released to the environment.
- Contaminated soil: There is both metal and hydrocarbon contaminated soils on-site. There is an undetermined quantity of lead/zinc contaminated soil throughout the FMS, most noticeably in the vicinity of the former concentrate storage and load-out building. There is an estimated 90,000 cubic meters of un-remediated hydrocarbon contaminated soil at the FMS.
- Hazardous materials: There are many decommissioned buildings and facilities at the FMS that are contaminated with lead-concentrated dust, asbestos and other harmful substances, and are awaiting demolition as part of the remediation effort. Despite previous removal efforts, there is a possibility that hazardous materials may remain in other locations on the FMS.
- Unsafe infrastructure: Aging and deteriorating buildings and other types of built infrastructure are located throughout the FMS and pose a challenge for the protection of the health and safety of people on-site.
- Faro mine road: This road is a public roadway that passes through the FMS adjacent to the tailings impoundments and ends at the Horse Corrals. The Government of Yukon's Department of Highways and Public Works is responsible for maintenance of the road. This can be

challenging due to weather conditions, ice formation, and/or competing maintenance priorities, as the road is classified as secondary. Seasonally, there are hunters and recreational users camping on this road.

- Limited access control: Site security facilities consists primarily of a few sections of fence and lockable gates at key areas. The location of the site has a long-standing history of public access for activities such as hunting and recreational use, though there is no fishing or hunting allowed on the FMS.
- Dust Hazards: The contaminated soils can be disturbed by vehicles or heavy equipment use, and wind blowing on the tailings can also cause and spread contaminated dust. The resulting dust can pose a risk to the environment and human health.
- Wildlife: The FMS is accessible to wildlife, including bears, wolves, foxes, and ungulates.
- Other contractor/Activity hazards: Multiple contractors may be present on the FMS at any time and may be performing hazardous operations.
- Vehicle hazards: Vehicles move around the FMS, both on- and off-road. Road systems include one- and two-way traffic sections.
- Temperature hazards: Extreme cold conditions are frequently encountered.

4. PROJECT OVERVIEW

4.1 Project Goals

The scope of the work required on the FMS is guided by five overarching objectives for the Faro Mine Complex. The objectives were defined by an Oversight Committee which included First Nation Governments, Yukon Government and the Government of Canada, and are as follows:

- Protect human health and safety.
- Protect and, to the extent practicable, restore the environment, including land, air, water, fish and wildlife.
- Return the mine site to an acceptable state of use that reflects pre-mine land use, where practicable.
- Maximize local and Yukon socio-economic benefits.
- Manage long-term site risk in a cost-effective manner.

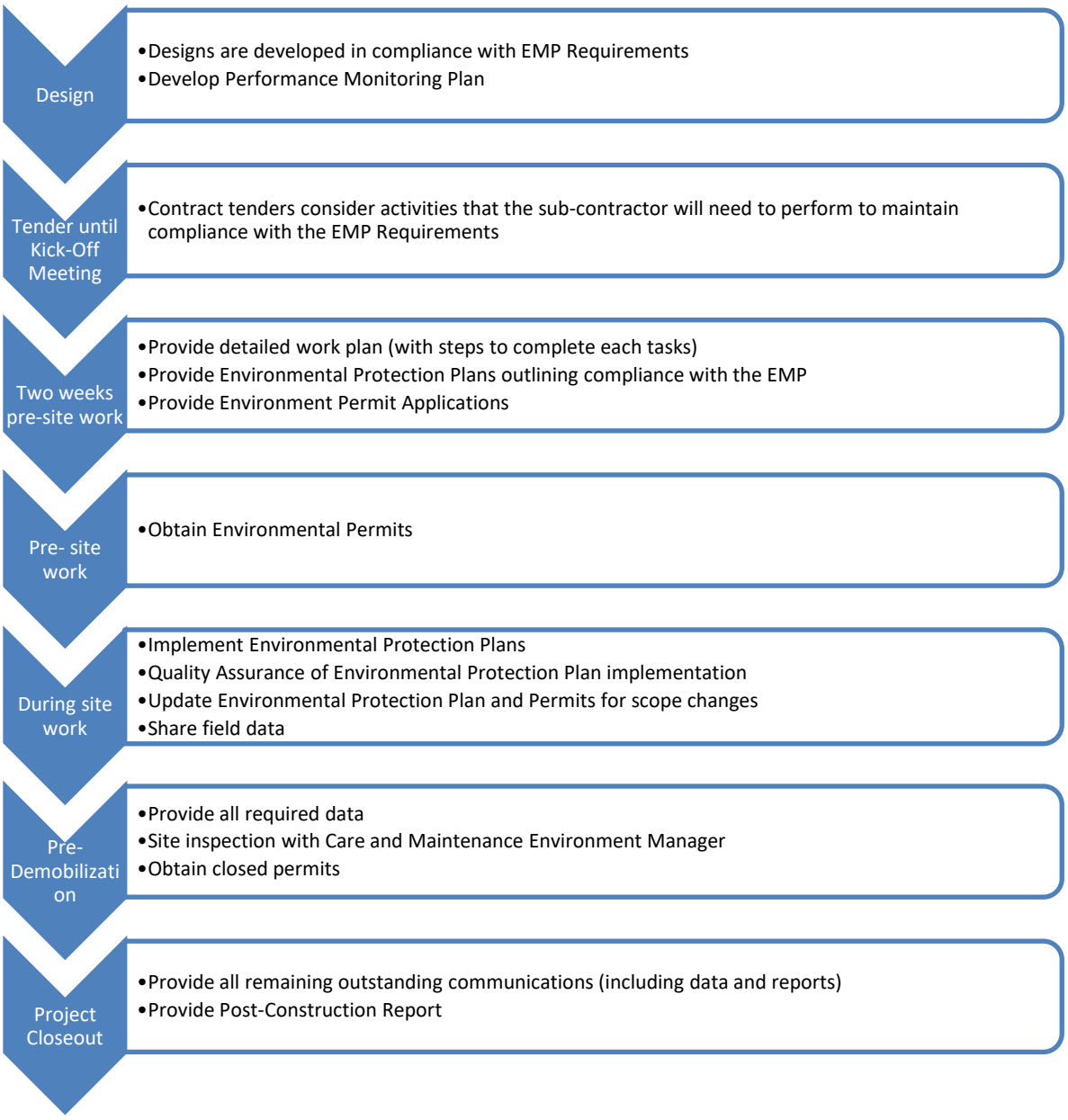
4.2 Project Approach and the EMP

After a number of years of consultation and extensive study, the selected remediation approach emphasized the need to stabilize contaminants in place. The Faro Mine Remediation Project (currently undergoing regulatory reviews) includes an active remediation phase, expected to take approximately 15 years, followed by long-term operations and maintenance for the FMS. The activities on site will fall into the following remediation related phases:

- Care and Maintenance (present to Water Licence permitting and compliance): The FMS is currently operating in this phase, which will conclude when the Remediation Water Licence is obtained (targeted for 2028) and the project meets all of the conditions which may be imposed upon the Project through the licensing process. This phase involves the operation of the water collection, conveyance and treatment systems on site; monitoring of environmental conditions and structures; maintenance of infrastructure required to care for the FMS; and. implement urgent works where required to prevent further degradation of the environment. As the Project moves from the care and maintenance to active remediation, commitments related to management and monitoring made during the Project Approval process with the Yukon Environmental and Socio-economic Assessment Board will be reflected in the Environmental Management Plan.
- Active remediation (beginning once the project obtains a water licence and continuing for an estimated 15 years): This phase involves major construction activities that are required to remediate the FMS, as per the remediation plan and designs. This phase will still include ongoing care and maintenance, including water treatment, monitoring, and adaptive management. The Environmental Management Plan for the remediation phase of the project will include management and monitoring plans that will form part of the Water Licence submission for the project.
- Long-term operation and maintenance (Active remediation): This phase is defined as the period of time in which the efficacy of active remediation and reclamation success is confirmed through performance monitoring, and adaptive management to achieve a predictable steady-state that meets the overarching objectives of the Faro Mine Remediation Project. Once a predictable steady-state is achieved, ongoing water treatment, monitoring, and maintenance will continue on a long-term basis (well beyond 100 years).

While the EMP will be applied throughout the Project (in all aspects of work), more detailed information on how the EMP is implemented through work packages is shown in Figure 2.

Figure 2: Work Package Alignment with the EMP



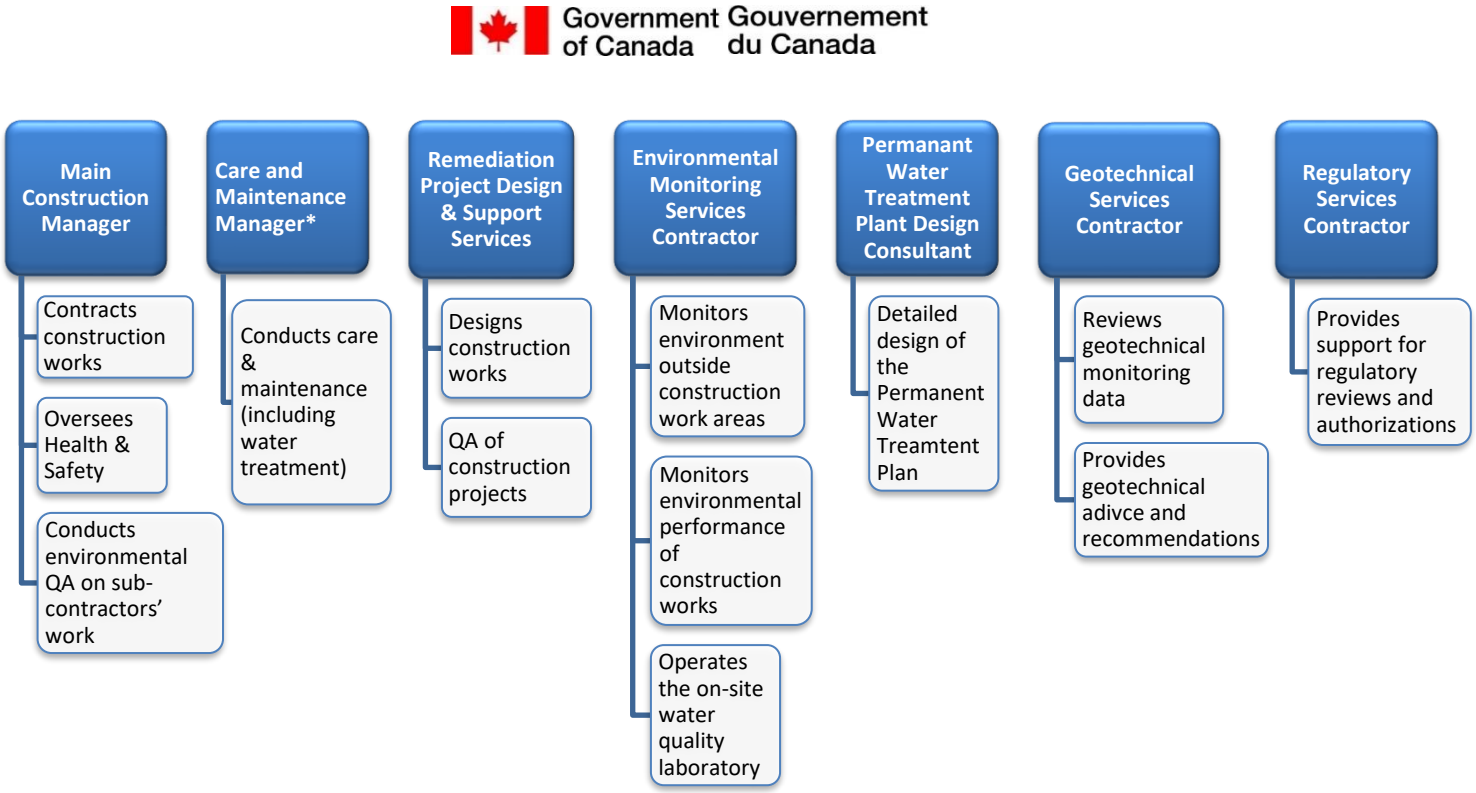
5. ROLES AND RESPONSIBILITIES

The Government of Canada is responsible for the care and maintenance and remediation of the FMS. Public Services and Procurement Canada manages the contracts relating to the FMS, while Crown-Indigenous Relations and Northern Affairs Canada provides the funding and is responsible for the technical decisions relating to the FMS.

Work at the FMS will be completed by a team consisting of multidisciplinary consultants and contractors that report to Canada. They will be required to work collaboratively, as one team, to achieve the objectives of their associated project(s). Their roles and responsibilities are shown in Figure 3 and are outlined herein. While this provides an overview of the primary roles and responsibilities, all

contractors are required to have a comprehensive understanding of the EMP and its application through their work (Section 6).

Figure 3: Faro Mine Remediation Project Contractors and Scope



- Main Construction and Care and Maintenance Manager*: The Main Construction Manager is responsible for procuring and manage contractors to conduct construction works and remediation work works on site and responsible for the care and maintenance works. They oversee sub-contractors' compliance with this EMP as well as with applicable legal and regulatory requirements.
    - Contractors under the Main Construction Manager are responsible for conducting construction and remediation work packages. While conducting these works, they are responsible for implementing, and maintain compliance with, this EMP. These contractors are required to submit an Environmental Protection Plan to the Main Construction Manager at least two weeks prior to site work commencing. The Environmental Protection Plans will include details as to how the contractor will adhere to this EMP for their specific tasks on site. Per this EMP, their scope will include construction monitoring (e.g. water quality monitoring and migratory bird nest surveys and mitigation measures), interpretation, reporting and communication activities. It also includes responding to environmental issues arising from construction and remediation works.
        - *The Care and Maintenance Contractor is a sub-contractor under the Main Construction Manager; however, due to the current contract structure this work is being self-performed by the Main Construction Manager. This work includes the operation of the water treatment plants (including the implementation of their

Direct Discharge Protocols), water collection and conveyance systems, obtaining permits for some of this scope, and geotechnical visual observations. The contractor performing care and maintenance operations is required to submit Environmental Protection Plans. While Care and Maintenance is being self-performed by the Main Construction Manager, the Environmental Protection Plan will be submitted to Canada.

- Remediation Project Design & Support Services: This contractor is responsible for providing designs and consults on those designs for construction and construction and remediation work packages. The designs are to be compliant with this EMP. The design work may require site investigations where they are to follow this EMP and could include monitoring, interpretation, reporting and communication activities to ensure that compliance is maintained. This contractor is also responsible for responding to environmental issues arising from design related works.
- Environmental Monitoring Services Contractor: This contractor is responsible for monitoring, analyze, report and communicate on environmental site conditions including the followings: water quality, quantity/flow, toxicity, aquatic health, ambient air quality, terrestrial (including vegetation), wildlife, meteorological, in compliance with this EMP and its associated management and monitoring , This contractor is responsible for communicating any incidents or exceedances related to this EMP (per Table 1). This contractor implements the Adaptive Management Plan and completes the required reporting (per Table 1). This contractor is also responsible for the operation of the on-site lab, environmental auditing, and regulatory reporting. Additional responsibilities for this contractor are listed throughout the EMP and applicable plans. As part of the monitoring programs that this contractor undertakes, they also collect and share geotechnical instrument monitoring data with the Geotechnical Services Consultant.
- The Permanent Water Treatment Plant Design Consultant: This contractor is responsible for providing detailed design and construction documents for a permanent water treatment plant to be installed at the FMS. The designs are to be compliant with this EMP and applicable plans.
- Geotechnical Services Consultant: This contractor is responsible for overseeing geotechnical conditions on the FMS. They are to receive data from the Environmental Monitoring Services Contractor, and will use that data to interpret, report and communication on geotechnical issues. They may provide designs and consult on construction works and remediation work aspects relating to geotechnical issues. Their designs and consultations are to be compliant with this EMP. Their design work may require site investigations where they are to follow this EMP and could include monitoring, interpretation, reporting and communication activities.
- Regulatory Support Services Contractor: Responsible for providing and supporting applications for the Faro Mine Remediation Project's Regulatory requirements. This work may require site investigations where they are to follow this EMP and could include monitoring, interpretation, reporting and communication activities. It also includes responding to environmental issues that affect regulatory requirements.

Other parties that are routinely involved in work on the FMS include:

- The Oversight Committee is comprised of representatives from Canada, the Government of Yukon and leadership from First Nation partners. The committee provides oversight and guidance for the overall Project, monitors Project performance, ensures all parties' interests are represented, and acts as a mechanism for dispute resolution.
- The Technical Review Committee (TRC) includes members of the First Nation partners, their

consultants and the Government of Yukon. The Committee provides technical support to all works on site through all phases of investigation, planning, design and implementation. This will support alignment with Project objectives and ensure that technical requirements are suitably defined and incorporated. The TRC is also a venue for ongoing regular engagement by the Government of Canada with its partners.

- The Independent Peer Review Panel (IPRP) is a group of independent technical subject matter experts in the areas of Mine waste, contaminants, water treatment, reclamation and associated engineering and environmental requirements. The IPRP provides an unbiased, third party review, assistance, comment and advice on the technical merits of the design, for the purpose of assuring the owner, regulators and/or stakeholders that the design is feasible, appropriate, sound, safe, and will achieve the objectives in a compliant manner.
- The Water Management Committee includes Canada and representatives from consultant teams. This committee provides a forum for team members involved in water management at Faro to work collaboratively to develop and monitor a strategic, holistic, and integrated approach to water management.

6. ENVIRONMENTAL AWARENESS, TRAINING AND COMPETENCY COMMITMENTS

The Main Construction Manager is responsible for providing EMP training and implement competency assessments. The training will summarize and/or reference the relevant procedures to ensure that personnel are qualified and competent. Records for the training program are to be provided to Canada on an annual basis (per Table 1).

All individuals, consultants and contractors that undertake works at the FMS are to be trained and competent in implementing this EMP on an annual basis. This training is to be role specific (i.e. relate to individual's tasks on site) and updated as needed, and/or when there is a significant change to a trainee's role or a change in the scope of work.

7. GENERAL COMMUNICATION AND RECORD KEEPING COMMITMENTS PER THIS EMP

Communications and reporting requirements regarding this EMP are outlined in Table 1. [iii] All reports and communications listed are to be provided to Canada in the specified timelines. For these communications, submission to Canada includes submission to the designated representative of PSPC for each scope of work, and the CIRNAC Environment and Regulatory team.

Table 1 General EMP Communications and Recordkeeping

Topic	Timeline	Method	Deliverable
Training on this EMP and applicable Plans	Annually	Verbal training and written assessments	Record of training
Environmental Incident- Chemical Spill exceeding Reporting Limits[1]	Initial notice- within 24 hours of incident	Written Notice see Appendix H, Section 13 [2]	
	Monthly Reporting	Written Notice	Updated Spill Tracker table
	Report- within 2 months of incident	Incident Report	Spill Response report[2]
Environmental Incident- Chemical Spill below Reporting Limits[1]	Monthly Reporting	Written Notice	Spill Tracker table
Environmental Incident- Non-compliance Monitoring Result	Initial notice- within 24 hours of incident	Written Notice see Appendix A, Section 8	
	1-Month Follow-Up Report	Incident Report see Appendix A, Section 8	
Environmental Incident – Other[6]	Initial notice – within 24 hours of observation	Written Notice	See Section 9
Environmental Protection Plans	2 Weeks prior to site work	Draft for commenting (meeting if required)	Environmental Protection Plans for applicable work is submitted to the Main Construction Manager. For any work that the Main Construction Manager or care and maintenance contractor is self-performing, the Environmental Protection Plan is to be submitted to Canada.
Archeological and Heritage Find[4]	Immediately after incident	Verbal and Written Notice	Notification to CIRNAC See Appendix D
Regulatory communication for permits held/likely to be held by CIRNAC	As needed	Verbal or Written update to Canada, who will communicate with the Regulators	
Regulatory communication for permits held by Contractors[5]	As needed	Verbal and Written Response	Summary of questions and responses

1 Reporting limits per the Federal Environmental Emergency Regulations, Schedule 1 (https://laws-lois.justice.gc.ca/eng/regulations/SOR-2019-51/page-3.html#h-1112778).

2 The responsible party is to notify the regulators after they notify Canada and within the regulatory reporting timeline.
3 This communication to regulators will be led by Crown-Indigenous Relations and Northern Affairs Canada.
4 If an archeological or heritage resource/site is found, notice is to go to Canada and YG's Archaeology Program.
5 Copies of communication are to be made available to Canada.
6 Environmental Incident – Other can include wildlife deaths, dust events, or other events that require attention or would constitute a non-conformance with the EMP.

8. ENVIRONMENTAL PROTECTION PLANS AND EMP CONFORMANCE

The Environmental Protection Plans are a requirement under this EMP for any work being performed on the FMS which are governed by the EMP and/or applicable Plans, including the management plans appended to this EMP. The Environmental Protection Plan should be comprehensive in describing how specific scopes of work will conform with the requirements of the applicable monitoring and management plans, including compliance with Regulations, monitoring activities, environmental risk mitigation activities, and reporting requirements.

The Environmental Protection Plan is to be developed by the contractor or consultant performing the work and submitted to the Main Construction Manager for review at a minimum of two weeks prior to commencing site work. If additional time is required by the Main Construction Manager to review before starting a work package, they may provide specific directions regarding the submission timelines so long as the requirements of this EMP are met.

If the work is being self-performed by the Main Construction Manager or Care and Maintenance Contractor, the Environmental Protection Plans are to be submitted to Canada for review two weeks prior to commencing site work. Similarly, for permits and reporting due at the end of a work package per this EMP, these documents should be submitted to Canada for any work that is self-performed.

The review of the Environmental Protection Plans is key to maintaining compliance with this EMP; all work that is subject to the measures in this EMP is also eligible to be audited as part of the Project's Environmental Audit Program. As such, accurate and complete record-keeping are key requirements when implementing environmental work, so that conformance with the EMP and applicable legislation can be monitored and evaluated.

9. ENVIRONMENTAL INCIDENT REPORTING PROCEDURES

The general reporting procedure is outlined within this section, with additional details for required reporting depending on the nature and severity of the incident contained within the applicable Management Plans (appendices).

9.1 Written Notice

The Written Notice is to include the following information:

- Nature of the incident.
- Approximate magnitude and duration of the incident (i.e. estimate of how much chemical or effluent was released).
- Areas, resources or habitats affected.
- Results of any sample analysis taken in conjunction with the incident.
- Immediate actions taken on-site to mitigate adverse environmental effects.
- Communications held with the Contractor's employees, Environmental Authority, the Departmental Representative and/or the Departmental Representative's Authorized Personnel, and other regulatory agencies (if applicable).

9.2 Incident Reporting

The Environmental Incident written report is to include the following:

- Root cause(s) of the incident.
- Recommended preventive and corrective actions to control or limit the activity or circumstances causing the incident, including a time frame for implementation.
- For chemical spills: analytical results from media collected per the Government of Yukon's Contaminated Sites Regulation Protocols[iv], analyzed for and compared to analyzed for Canadian Soil Quality Guidelines[v] for the Protection of Environmental and Human Health.
- For released water above Effluent Quality Standards (Appendix A, Section 8): full analytical results of the released water compared to Effluent Quality Standards (including bioassay) and receiving environment analytical results of the released water (including bioassay).

10. EMP REVIEW AND REVISION PROCEDURES

Crown-Indigenous Relations and Northern Affairs Canada will maintain the EMP with the most current information and will update on an as-needed basis. Draft revisions will be sent for review and incorporate feedback from various parties working on the project before each version is finalized.

This EMP will be saved as a secured PDF document with the revision number stated on the title page and in the headers of the pages.

ii International Standard Organization. 2015. ISO:14001 Environmental management systems- Requirements with guidance for use 3rd Edition. ISO 14001:2015(E)

ii International Standard Organization. 2018. ISO:4501 Occupational health and safety management systems- Requirements with guidance for use 1st Edition. ISO 45001:2018(E)

[iii] Crown-Indigenous Relations and Northern Affairs Canada. 2020. Northern Contaminated Sites Program Faro Mine Remediation Project Environment, Health and Safety Management System Manual [DRAFT].

[iv] Government of Yukon. O.I.C. 2002/171. Environment Act, Contaminated Sites Regulations. https://laws.yukon.ca/cms/images/LEGISLATION/regs/oic2002_171.pdf

v Protocol no. 3: Soil sampling procedures at contaminated sites (Aug. 2020). https://yukon.ca/en/protocol-no-3-soil-sampling-procedures-contaminated-sites

APPENDIX A FISH HABITAT PROTECTION AND WATER QUALITY MANAGEMENT PLAN

1. Introduction

This plan is to be followed by the any contractor conducting work on site which may directly or indirectly impact aquatic life at the Faro Mine Site (FMS). It applies to water that comes into contact with contamination sources (i.e. Contact Water) as well as water that does not come into contact with contamination sources (i.e. Non-contact Water). It also applies to work that is done in-stream (i.e. within the high water mark of a water body as defined by the *Fisheries Act*), work in the riparian area[1], and where effects from work may impact water. It does not apply to water treatment systems nor to contact water conveyance systems. The Fish Habitat Protection and Water Quality Management Plan provides a summary of how to achieve and maintain compliance with relevant federal and territorial legislation (i.e. Acts and Regulations), permits and licences.

1.1 Purpose

The purpose of this Fish Habitat Protection and Water Quality Management Plan is to describe how work in and around water is to be conducted in order to protect aquatic life. This is done through the following:

- Preventing impacts to water quality,
- Detecting and managing sediment and metal-impacted water that exceeds the standards set for discharge from construction and maintenance areas; and,
- Maintaining accurate records related to this work.

1.2 Application

Where work on site may directly or indirectly impact aquatic life, an Environmental Protection Plan must be developed by the contractor or consultant performing the work to directly address the risks related to the fish, fish habitat, and water quality management, and outline measures to ensure compliance with the Fish Habitat Protection and Water Quality Management Plan. The Environmental Protection Plan must be submitted for review prior to commencing site work (per the Environmental Management Plan). This plan is to be implemented for all releases to surface water that is not fully captured or contained as part of the FMS' contact water system. All work on the FMS that may directly or indirectly impact water quality or aquatic life, requires a Water Permit (Appendix L), to be completed by the contractor or consultant performing the work. For work that is being self-performed by either the Main Construction Manager or the Care and Maintenance Contractor, the permit should still be completed and can be submitted to Canada. The application for the Water Permit requires a description of mitigations to avoid and/or reduce the impacts of the work on water quality and fish.

[1] The exact limits of the riparian area may be defined by a biologist should one be hired to comply with this Plan. Fisheries and Oceans Canada has published the following definition: Riparian Areas, Fish and Wildlife Habitat Riparian areas are located next to streams, rivers, lakes and wetlands, and have direct influence on aquatic and wildlife habitat. These include swampy areas, wetlands, small streams and side channels or intermittently wetted areas. Riparian areas or zones can broadly be described as the areas of the streambank, including side channel and associated banks, and they include upland areas not normally inundated during high water conditions (Source: https://waves-vagues.dfo-mpo.gc.ca/library-bibliotheque/315523.pdf).

1.3 Exclusions

The Fish Habitat Protection and Water Quality Management Plan does not apply to the discharge water from the water treatment systems, which is governed by the Water Treatment Plant Discharge Protocols. In special cases, such as in the event that the backwash overflow is triggered, this would be managed in accordance with protocol which will be defined as part of the Permanent Water Treatment Plant operational guidelines, including the Operations and Maintenance Handbook. In the event of the release of contaminated water, the procedures to be followed are described in the Contaminated Water Release Response Plan. Additional measures to mitigate impacts to water and fish as stated in other plans per the EMP are not restated here.

2. Legislation

Fisheries Act [R.S.C., 1985, c. F-14], 2019

Authorizations Concerning Fish and Fish Habitat Protection Regulations [SOR/2019-286], 2019

Water Licence QZ03-059

3. Summary of Fish Habitat and Fish[i]

Named watercourses in the vicinity of the FMS include Faro Creek, Rose Creek, and Anvil Creek, all of which are contained within the Pelly River watershed. The upstream reaches of Rose Creek are divided into the North Fork Rose Creek and the South Fork Rose Creek. Upstream of the FMS, Faro Creek flows into the North Fork Rose Creek via the Faro Creek Diversion Channel. The North Fork Rose Creek and South Fork Rose Creek converge just upstream of the Rose Creek Tailings Area. Downstream of the Faro Mine Area and Rose Creek Tailings Area, Rose Creek joins Anvil Creek, which then discharges into the Pelly River. Water flows downstream from the Rose Creek Diversion and into Rose Creek. Water quality in Rose Creek is influenced from the upstream sources plus seepage from the Cross Valley Pont, discharge of treated effluent, and flows from the North Wall Interceptor Ditch.

There are impassable barriers to fish movement in the Rose Creek watershed, including:

- South Fork Rose Creek (where it is crossed by the haul road),
- North Wall Interceptor Ditch, just downstream of the Interim Water Treatment Plant's End of Pipe, and
- Faro Creek just upstream of the confluence with the North Fork Rose Creek.

Stream channel widths and stream gradients in Rose Creek, Faro Creek, and downstream in Anvil Creek are variable, with wetted width ranging from 5 m to 80 m and with gradients for the most part less than 2% but ranging up to 20%. Common features among most reaches of the Faro Creek-Rose Creek-Anvil Creek system include erosional riffle and run habitat with boulder and cobble substrate, and with boulders and pools providing instream cover for fish.

The periphyton community is dominated by the diatom *Acnanthes minutissima*. Periphyton samples contained an average of 15 taxa at reference sites and 14 taxa at exposure sites. The median Bray-Curtis Index for reference site comparisons was 0.43 and the median Bray-Cutis Index for reference versus exposure site comparison was 0.44.

The benthic invertebrate community was dominated from 2008 to 2017 by midges and metal-sensitive

Ephemeroptera, Plecoptera and Trichoptera species. In 2017, median relative abundance was 55% for exposure sites and 46% for reference sites. Benthic invertebrate samples contained an average of 31 taxa at reference sites and 30 taxa at exposure sites.

Slimy Sculpin, Arctic Grayling, Chinook Salmon, Burbot (*Lota lota*), Round Whitefish (*Prosopium cylindraceum*), and Longnose Sucker (*Catostomus catostomus*) have been reported in surface waters around and downstream from the FMS. Within the Faro Creek-Rose Creek-Anvil Creek system, Slimy Sculpin tend to be most abundant, followed by Arctic Grayling. Both species appear to utilize surface waters in the local study area year-round. Though, additional investigations indicated that Slimy Sculpin and Arctic Grayling were not present in Faro Creek upstream of the confluence with the North Fork Rose Creek. Juvenile Chinook Salmon have occasionally been observed in the Rose Creek system near the FMS, and there have been infrequent observations of adults and the occasional red within the Rose Creek Diversion Channel and downstream in Rose Creek.

4. Fisheries Act

Any work that may impact aquatic life must be done in accordance with the Fisheries Act, and its Regulations. Per that legislation, if the work is conducted respecting the Department of Fisheries and Oceans measures to protect fish and fish habitat[ii], or Standards and codes of practice[iii], Crown-Indigenous Relations and Northern Affairs Canada is to be contacted to determine next steps regarding the Fisheries Act.

In support of the Fisheries Act, the measures to protect fish and fish habitat, as well as the standards and codes of practice, can be implemented.

Time work to occur **during** the timing windows of reduced risk identified for the Yukon[iv]. When multiple fish species are present, adhere to the most precautionary timing window.

Table A.1 Timing windows for instream works on the FMS

Species	Fish Window Start Date	Fish Window Finish Date
Chinook Salmon	June 10	July 5
Arctic Grayling	July 1	April 15
Lake Trout, Whitefish Species (includes Squanga Whitefish)	April 15	Sept 1

The most precautionary timing window for in-stream works on the FMS is between July 1 – July 5..

5. Water Licence

Currently the FMS is not licenced for activities under the *Yukon Waters Act*. All work on site is following its expired Water Licence: QZ03-059 which permitted Deloitte & Touche Inc. to divert and alter a flow of water, store water, modify the bed and banks of a watercourse and deposit a waste.

The Effluent Quality Standards in Water Licence QZ03-059 apply to any water that is released from contact water collection systems, conveyance systems, containment and water treatment systems. No waste is to be discharged or released with concentrations exceeding the following Effluent Quality Standards (Table A2):

Table A.2 Water Licence Effluent Quality Standards (EQS)

Parameter	Effluent Quality Standard
Suspended Solids	not greater than 15mg/L
pH	not less than 6.5 pH units
Colour	not greater than 20 Pt-Co units
Turbidity	not greater than 15 NTU
Un-Ionized Ammonia (as N)	1.00 mg/L
Antimony (Sb)	0.10 mg/L
Arsenic (As)	0.05 mg/L
Barium (Ba)	1.00 mg/L
Cadmium (Cd)	0.02 mg/L
Copper (Cu)	0.20 mg/L
Cyanide (as CN)	0.05 mg/L
Lead (Pb)	0.20 mg/L
Mercury (Hg)	0.005 mg/L
Molybdenum (Mo)	0.50 mg/L
Nickel (Ni)	0.50 mg/L
Selenium (Se)	0.05 mg/L
Silver (Ag)	0.10 mg/L
Zinc (Zn)	0.50 mg/L

Additionally, no waste discharged or released may:

- Contain floating solids;
- Contain visible, or floating, oils or grease; or,
- Fail a 100% 96-hour LC50 bioassay using Rainbow Trout and/or a 100% 48-hour LC50 Daphnia magna test. The Daphnia test is an additional parameter determined by the Faro Mine Remediation Project Team and is not a requirement of the Licence.

All work on the FMS that may directly or indirectly impact water quality or aquatic life, requires a Water Permit (Appendix L).

6. Operational Requirements

If work is planned or proposed that could impact aquatic life or could deposit or allow the release of water that does not meet the Effluent Quality Standards, contact Crown-Indigenous Relations and Northern Affairs Canada to discuss the need for the work and what mitigations are being considered. Crown-Indigenous Relations and Northern Affairs Canada may contact the Department of Fisheries and

Oceans for advice. Communications regarding the FMS with the Department of Fisheries and Oceans must always go through Crown-Indigenous Relations and Northern Affairs Canada.

6.1 Work within the High Water Mark and/or Riparian Area

When work is to occur within the high water mark of a waterbody or if sedimentation and erosion might impact a waterbody (e.g., work is planned on the banks and/or in the vegetation buffer along water bodies), a Professional Fisheries Biologist (R.P.Bio), retained by the Contractor is to direct fisheries mitigation and fisheries monitoring work during in-stream and riparian area works.

The Fisheries Biologist will:

a. Prior to the work commencing, provide the Main Construction Manager and Canada the following in writing:

- Advice on whether the proposed work or activities would normally trigger a Fisheries Act Authorization or require a fish salvage and a Fish Salvage/Collection Permit.
- A listing of recommended mitigations.
- A recommendation of whether the presence of a biologist during the implementation of the work or activities is warranted or if an inspection by a biologist, following the work, should be conducted to confirm that the required mitigations were effective.

b. If the biologist recommends an inspection, Main Construction Manager and Canada will be provided with:

- Daily field reports during the instream works — documenting any further mitigation efforts implemented or recommended and observations
- Within 3 months' post instream works — A memo or report describing the inspections conducted, including a discussion of the effectiveness of the mitigation measures and a determination on whether the instream works affected fish.

During these works, water quality is to be monitored by the contractor conducting the works at a minimum as follows:

- A reference station is to be monitored up stream of the works. This should be monitored for at least 3 times (under similar flow conditions) before work commences to understand background conditions. One of the monitoring events should include a full suite of parameters (including, total and dissolved metals, plus hardness, sulphate, dissolved organic carbon and all EQS Parameters except bioassay). This will require off-site analyses, unless that data is being collected by a routine monitoring plan.
- Water quality at the first location of fish-bearing waters downstream of the works. This should be monitored at minimum, daily during works and until the work is complete.
- The monitoring will be done in the field for (at a minimum): turbidity, total suspended solids, temperature, and pH. It should be noted that due to limitations for measuring total suspended solids using field equipment, these samples will require laboratory analysis. For specific areas on site (to be determined prior to starting work in an area), field samples should be collected and run

by the onsite laboratory for additional parameters (e.g. this may include zinc, iron, manganese, etc.). This is dependant on the capacity and resources of the on-site laboratory, and therefore needs to be communicated to Canada in advance of starting the work.

7. If an EQS is Exceeded in Released or Discharged Water to the Environment

7.1 Exceedances Related to Construction/Maintenance Work

These procedures are to be followed if the exceedance identified is related to an identifiable construction or maintenance activity that can be mitigated or stopped to address prevent future releases. If, during field monitoring of an activity, on-site or off-site laboratory testing, an EQS is surpassed, the Contractor will:

a. Collect samples and Mitigate:
    - Collect a sample from the point of release and the first location of fish-bearing waters downstream of the work area to test for all EQS (including trout and daphnia bioassays). Samples must be preserved and shipped according to Standard Methods at a laboratory accredited for the Standard Methods under the Canadian Association for Laboratories Accreditation (CALA). This will require analyses at an off-site, third party laboratory.
    - At the same time, they will implement additional mitigations or stop work which is suspected to be the cause of the exceedance.

b. Provide a report within 24 hours to the Main Construction Manager and Canada. This can be in the form of an email, but it must include the following information:
    - Date, and maximum duration (start and end times) of release;
    - Location of release;
    - Field or on-site lab parameter(s) above EQS;
    - Estimated volume released to the environment;
    - Steps taken to mitigate the release; and,
    - Chain of Custody documents for confirmation on what samples were collected (including confirmation that the bioassay samples were collected) and sent off to an external laboratory.

c. Within one month of the release, provide to Canada a report with the information from the 24-hour report, plus:
    - Any additional understanding or mitigation of cause of the exceedance;
    - External laboratory results compared to EQS;
    - External laboratory reports (i.e. Certificate of Analysis);

7.2 Exceedances Related to Continued Releases or Discharges

These procedures are to be adhered to for continued releases or discharges (those that are not stopped within one day) and are intended to ensure work focuses on mitigating the release as quickly and

effectively as possible.

a. If the process in Section 6.1 indicates a continued release or discharge, the Contractor must contact Canada to obtain a monitoring plan while a mitigation to stop the release or discharge is being implemented. This monitoring plan will depend on the location and nature of the exceedance(s). However, it is to include:

   - Daily monitoring for field (including flow) and on-site laboratory results until Canada has evidence to understand the concentrations and variability of the release or discharge,
   - Weekly monitoring, for field and off-site laboratory results (for all EQS parameters, including bio-assays), until Canada has evidence to understand the concentrations and variability of the release or discharge,
   - If/when Canada has evidence to understand the concentrations and their variability, the monitoring frequency will be modified as determined by Canada, However, if at any time the flow rates or water quality undergoes a significant change, the Contractor is to notify Canada within 24 hours (per section 6.1) and restart daily monitoring.

b. Resumption of Regular Sampling:

   - Canada will continue monitoring the sampling results and will notify the contractor when the sampling at this station can return to the regular sampling program and schedule.

8. Reporting

This section outlines the required reporting under the EMP. Additional reporting and/or record-keeping requirements may be identified and communicated by the Main Construction Manager if it is needed for their oversight of environmental scopes of work.

All work that is subject to the measures in the EMP and the Fish Habitat Protection and Water Quality Management Plan are eligible to be audited as part of the Project's Environmental Audit Program. As such, accurate and complete record-keeping are key requirements to determine conformance with the EMP and compliance with applicable legislation.

8.1 Daily Reports

Daily Reports will be provided to Canada. These reports are to include:

- A summary of field monitoring and sampling conducted that day;
- Field and laboratory results compared to EQS;
- A trend analyses if the samples have been collected from the same location(s) over several days; and,
- Analyses of results and recommendations.

8.2 Database Management and Reporting

All data will be uploaded to Crown-Indigenous Relations and Northern Affairs Canada's EQuIS database by the team collecting the data and will be reviewed for quality assurance/quality control by the collecting agency as per the requirements of their contract.

8.3 Fish Habitat and Water Quality Management Reporting

A Fish Habitat and Water Quality Management Report is due at the end of a work package (prior to closing a water permit), or it is to be submitted annually if the work package spans more than one year. This requirement should be considered in the development of the Environmental Protection Plan for works that will be subject to the measures listed in this Plan. The report is to be completed by the contractor or consultant performing the work and submitted to the Main Construction Manager's Environment Manager. The following information is to be included in this Report:

- Monitoring methods (dates and locations tested, sample collection and analytical methods).
- A summary of field monitoring and sampling conducted.
- Field and laboratory results compared to EQS.
- A trend analyses if the samples have been collected from the same location(s) over several days.
- Analyses of results and recommendations.
- A summary of ongoing monitoring and mitigations and when those can be halted.

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[i] Golder Associates. 2019. Faro Mine Remediation YESAA Project Proposal: Section 7.0 Biophysical Effect Assessment. Prepared for Department of Indian Affairs and Northern Development

[ii] Department of Fisheries and Oceans Canada. 2019. Measures to protect fish and fish habitat. Retrieved November 25, 2021 from: https://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html

[iii] Department of Fisheries and Oceans Canada. 2021. Standards and codes of practice. Retrieved November 25, 2021 from: https://www.dfo-mpo.gc.ca/pnw-ppe/practice-practique-eng.html

[iv] Department of Fisheries and Oceans Canada. Freshwater Timing Windows Identified for the Yukon. Retrieved on April 11,, 2024 from: https://www.dfo-mpo.gc.ca/pnw-ppe/timing-periodes/yk-eng.html. Refer to the timing window for location: Yukon Drainage downstream of Hootalinqua (including Mainstem to border, and Pelly, White, Stewart and all tributaries)

APPENDIX B DUST MANAGEMENT PLAN

1. Introduction

This Dust Management Plan outlines mitigation measures that will be in place to prevent and reduce the mobilization and transport of dust at the Faro Mine Site (FMS). The implementation of this plan will reduce the subsequent contamination of soil, vegetation, and waterways in the area, reducing the potential for transport away from the footprint. Over time, the reduction of additional or continued deposition of dust will result in decreases in metals contamination of surrounding areas. This plan also identifies measures that minimize the potential for contact leading to a toxicological pathway in wildlife.

The Dust Management Plan provides a summary of how to achieve and maintain compliance with relevant federal and territorial legislation (i.e. acts and regulations), permits and licences.

1.1 Application

Where the planned works risk generating dust or impacting existing dust management practices, an Environmental Protection Plan must be developed by the contractor or consultant performing the work to directly address the risks related to these activities. The Environmental Protection Plan must be submitted for review prior to commencing site work (as per the Environmental Management Plan).

Dust monitoring is further described in the Main Construction Manager's Occupational Air Monitoring Programs.

Crown-Indigenous Relations and Northern Affairs Canada maintain the Dust Management Plan with the most current information and will update on an as-needed basis. Draft revisions will be provided for comment to Canada, the Environmental Monitoring Services Contractor and the Main Construction Manager for comment and revision before each version is finalized.

The Dust Management Plan will be updated as follows:

- When there are significant changes in the fugitive dust emission sources;
- When there are verified complaints associated with fugitive dust emissions from the Project; and,
- When there are visible dust emissions occurring more frequently and/or at a higher rate (excluding seasonal conditions) than predicted in the air quality assessment; and,
- In consideration of the results from the air quality monitoring programs, and if the results are greater than predicted in relevant assessments.

2. Applicable Legislation

Air Emissions Regulations [YOIC 1998/207], 2015

Yukon Ambient Air Quality Standards 2019

Occupational Health Regulations [YOIC 1986D/164], 2004

3. Dust Generation Sources

The following potential dust sources influence ambient air quality near the FMS:

- Wind-blown dust emissions from the Rose Creek Tailings Area;
- Airborne dust from vehicle traffic on unpaved roads;
- Fugitive emissions from material handling;
- The release of dusts associated with construction activities and earthworks onsite; and,
- Dust emissions from lime handling at water treatment facilities.

4. Activities Subject to the Dust Management Plan

This Dust Management Plan will apply to the following types of activities:

- Operation, maintenance, repair, and monitoring activities related to tailings storage in the Rose Creek Tailings Area;
- Site road and trail maintenance;
- Operation, maintenance, repair, and monitoring activities related to waste rock storage;
- Excavation and construction works;
- Material sourcing and transportation; and,
- Lime handling activities.

5. Monitoring

Monitoring of dust will be done through the following methods:

- Regular Visual Observation to be done by all personnel working on site; notices of dust events (where dust levels are significant, observable, and exceeds typical levels) must be reported immediately to the Main Construction Manager and suggestions for improvement opportunities can also be noted;
- Occupational Air Monitoring per the Occupational Air Quality Monitoring Plan during any work activities; and,
- Air Quality Monitoring per the Ambient Air Quality Monitoring Plan which will look at overall effects of dust dispersion from the FMS.

6. Primary Mitigation Measures

The following is a description of mitigation measures that will be applied to the largest dust contributors on site.

a. To Reduce Wind-Blown Tailings:

- Application of Tackifier: Tackifier (i.e. a chemical surface adhesive dust suppression compound) will be applied to the Rose Creek Tailings Area at a frequency that will maintain sufficient cover to mitigate wind-blown dust dispersion. Regular inspection (i.e. bi-weekly) of the surface tailings will take place in order to confirm the risk management effectiveness and to identify areas where tailings are being eroded by wind and dusting is occurring so that additional tackifier can be applied.
- Rock Cover of Tailings: As urgent and remediation works are advanced on the FMS, these works will be evaluated for their potential to move non-organic materials onto the tailings as a thin cover in higher wind areas to help reduce wind exposure of tailings.

b. To Reduce Dust Arising from Un-Paved Roads:

- Speed limits on site are to be posted and enforced, roads will be re-graded on a routine basis (i.e. fill pot holes) and the number of vehicles will be minimized whenever possible. Should specific roads be heavily trafficked and/or dry, water or other approved dust suppressant (e.g. calcium chloride) will be sprayed on the surface (i.e. using water trucks with spray bars).

7. General Mitigation Measures

The following general mitigation measures that will be applied during construction and maintenance activities include:

- Vegetation is a dust receptor and will be removed annually and managed in the areas within the immediate vicinity of the Rose Creek Tailings Area and the site's un-paved roads. This will be done to reduce animal food resources and habitat, thereby reducing the contaminant pathway.
- For all clearing work, only the minimum area required to complete the work is to be disturbed.
- Ground will be disturbed as early as possible in the construction season (i.e. so long as the work is not occurring during times and in areas that have the potential to affect wildlife) in order to take advantage of the greater moisture content in the ground.
- Re-slope and revegetate ground after disturbance.
- Minimize the distance material drops from loading equipment (e.g. front-end loaders, excavators, dump trucks).
- Keep finer grained stockpiles and disturbed areas wet (i.e. through fine spray), especially during dry periods. This includes the road watering during dry periods in late spring, summer, and early fall months (i.e., mid-May to mid-October), as necessary.
- Where possible, material stockpiles will be oriented with their length parallel to the prevailing wind. The prevailing winds are generally from the south-southeast and the north-northeast.
- Wash all vehicles and machinery regularly to reduce dust loads.
- When possible, limit the number of vehicles on-site and limit the transport distance of materials

during construction activities (i.e., select borrow source and stockpile locations as close as practical to areas being remediated).

- Implement speed limits of 50 km/h or less throughout the Project footprint on roads controlled by the proponent other than the haul road, which will have a speed limit of 70 km/h.
- Maintain and regrade roads on a regular basis (i.e., fill pot holes).
- As a contingency, limit work that creates dust during high wind events when visible dust migration is evident outside of the direct working area.
- Where necessary, incorporate wind breaks to limit wind erosion.
- When transporting material, avoid over-filling haul trucks to reduce spillage.

8. Reporting

This section outlines the required reporting under the EMP. Additional reporting and/or record-keeping requirements may be identified and communicated by the Main Construction Manager if it is needed for their oversight of environmental scopes of work.

All work that is subject to the measures in the EMP and the Dust Management Plan are eligible to be audited as part of the Project's Environmental Audit Program. As such, accurate and complete record-keeping are key requirements to determine conformance with the EMP and compliance with applicable legislation.

8.1 Incident Reporting

If visual observations identify a dust event, or if the Occupational Air Quality Monitoring identifies a potential risk to individuals, then this is to be reported immediately to the Main Construction Manager so that the risk can be mitigated. This event would be reported as a Health and Safety Incident per the Occupational, Health and Safety Plan, and would follow the same communications procedures including notifications to Canada.

8.2 Database Reporting

The Occupational Air Monitoring (per the Occupational Air Quality Monitoring Plan) and the Ambient Air Monitoring (per the Ambient Air Quality Monitoring Plan) programs both outline requirements for data collection. All monitoring data collected under these programs will be uploaded to Crown-Indigenous Relations and Northern Affairs Canada's EQuIS database by the team collecting the data reviewed for quality assurance and quality control by the collecting agency, as per the requirements of their contract. In circumstances where the data collection team and Canada have agreed that another data management platform may be used instead of EQuIS, full access to the data will be provided to Canada, and access may need to be granted to other project teams and partners depending on the type of data.

8.3 Air Quality Monitoring Report

An air quality monitoring report per the Occupational Air Quality Monitoring Plan is due at the end of each work package (prior to closing a ground disturbance permit), or it is to be submitted if the work annually if the work package spans more than one year. This requirement should be considered in the development of the Environmental Protection Plan for works that will be subject to the measures listed in this Plan. The report is to be completed by the contractor or consultant performing the work and

submitted to the Main Construction Manager's Environment Manager. The following information is to be included in that report:

- Summary of areas and degree of activities on site that could have produced dust;
- Monitoring Methods (dates and locations monitored, monitoring equipment, sample collection and analytical methods);
- Summary of mitigation measures applied;
- Summary of monitoring results (observations, field data and laboratory data);
- Analyses of trends and significant results; and,
- Recommendations

APPENDIX C GEOCHEMICAL MONITORING PLAN

1. Introduction

This Geochemical Monitoring Plan describes the procedures for sampling and testing the Metal Leaching (ML) and Acid Rock Drainage (ARD) potential of material intended to be used at the FMS. Under this plan, materials with potential for ML/ARD should only be used in areas where runoff/seepage reports to the contact water management systems .

The 2009 guidance document titled "Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials," published by Mine Environment Neutral Drainage (MEND), provides the following definitions for ML and ARD in its glossary of terms:

- Metal Leaching (ML): "The extraction of soluble metals by percolating solvents. Leaching may be natural or induced. Primary mineral weathering commonly accelerates metal dissolution and removal in mine site drainage" (MEND[i], 2009, p. 565).
- Acid Rock Drainage (ARD): "Acidic pH drainage derived from materials with an insufficient capacity to neutralize the acidic products of sulphide and elemental sulphur oxidation and the dissolution products of acidic minerals and amorphous materials. ARD is produced when the Neutralization Potential (NP) is no longer capable of maintaining neutral pH conditions in a measurable volume of drainage" (MEND, 2009, p. 547).

1.1 Application

The Geochemical Monitoring Plan provides a summary of how to achieve and maintain compliance with relevant federal and territorial legislation (i.e. acts and regulations), permits and licences when sourcing rock from borrows.

The Geochemical Monitoring Plan applies to any material that is within a surface or groundwater catchment area that enters or has the potential to enter non-contact water bodies, including from runoff from covers within the mine area or Rose Creek Tailings Area. Geochemical testing and characterization needs to be undertaken for any material that meets these criteria.

Where work is planned that has requirements specific to the Geochemical Monitoring Plan, an Environmental Protection Plan must be developed by the contractor or consultant performing the work how the work will conform with the Geochemical Monitoring Plan. The Environmental Protection Plan must be submitted for review prior to commencing site work (per the Environmental Management Plan).

Crown-Indigenous Relations and Northern Affairs Canada maintain the Geochemical Monitoring Plan with the most current information and will be updated on an as-needed basis. Draft revisions will be provided for comment to Public Services and Procurement Canada, the Environmental Monitoring Services Contractor and the Main Construction Manager for comment and revision before each version is finalized.

2. Applicable Legislation

Contaminated Sites Regulation [YOIC 2002/171], 2021

Fisheries Act [R.S.C., 1985, c. F-14], 2019

3. Sampling

If no previous testing has been completed and documented sufficiently to meet the requirements of this Plan and the MEND 2009 guidance, then the procedures described herein are to be followed.

The following section describes the general sampling approach that will be used at the FMS. A geologist and/or engineer will develop a more detailed and specific sampling plan for the areas that are identified as being potential borrow sources for materials to be used for construction outside of the contact water management system. The sampling plan will ensure the collection representative samples of all potential borrow sources.

Geological mapping is the first step of the sample site selection process. In this step the lithology and rock types of potential borrow sources are mapped to ensure that sufficient and representative samples of the different material types are collected and characterized. Some geochemical mapping has been completed previously to support the Project Proposal and can be used as reference[2].

During this stage, an initial visual survey of the rock types in different areas is conducted. The visual survey will be used to delineate areas of similar rock types based on lithological characteristics (i.e. colour, texture, grain size, and composition). Once the areas of different rock types are delineated, then the number of composite samples and the sampling locations can be determined. Composite samples will be taken from the different areas of similar geologic composition/rock type (i.e. from geologic mapping exercise). The composites selected will not represent large areas. Some visual surveys have been previously recorded; contractors planning work should first check with the Main Construction Manager to see if this work has been sufficiently documented previously.

The 2009 MEND guidance document[ii] suggests that the minimum number of samples to be collected to determine ML/ARD should be based the rock type and tonnage of material that will be used (Table C.1).

Table C.1: Suggested Minimum Sample Quantities – MEND 2009

Tonnage per Rock Type (metric)	Minimum # of Samples
<10,000	3
<100,000	8
<1,000,000	26
<10,000,000	80

[2] The Project Proposal (accessible online here) includes geochemical information, Section 3.4 Geochemical Characterization of Waste Materials, and Appendices 3A-1 Geochemical Characterization of Waste Rock Dumps, Ore and Oxide Fine Stockpiles and Pit Walls – Faro Mine Complex, 3A-2 Geochemical Characterization of Tailings – Faro Mine Site.

Additional specifications regarding the methodology used, such as the required sample mass, preservation and storage techniques, and holding times, will be determined by the geologist and the specifications provided by the laboratory for the intended tests. These specifications will be outlined in the sampling plan developed by the geologist.

The geologist responsible for collecting samples will record the following information for all samples:

- Sampling date;
- Sampler's name;
- Sampling location (GPS coordinates);
- Sample weight;
- Weathered surface colour (e.g. using Munsell colour chart);
- Fresh surface colour (e.g. using Munsell colour chart);
- Geologic composition/rock type;
- Texture (i.e. grain type/size); and,
- Type of material sampled (e.g. drill core).

4. Testing and Evaluation

The following standard geochemical static tests will be conducted to characterize the ML/ARD potential of the different material types intended to be used for construction outside of the contact water management system at the FMS:

- Whole rock element composition.
- Trace metal: Trace metal composition of rock will be determined through inductively coupled plasma-mass spectroscopy (ICP-MS). This test will provide an understanding of the elemental composition of the material and will help identify any parameters of potential concern. The sample preparation and digestion technique will be determined by the geologist and/or laboratory and will be identified in the specific sampling plan. The results of this test will be compared to normal trace element concentrations of each rock type in the earth's continental crust (i.e. as identified in Appendix 3 of William A. Price's 1997 "Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Mine sites in British Columbia[iii]). High concentrations of particular metals will help determine if there is metal leaching potential. Price (1997) suggests that elemental concentrations can be considered to be significantly high if they are at concentrations 10 times that of earth's average crustal abundance.
- Metal leaching: Metal leaching tests simulate interactions between water and solids. The Shake Flask Extraction method, as described in MEND 2009, will be used to determine the potential of a sampled rock to release soluble metals to the receiving environment. Through this process a sample is mixed with water (at 3:1 ratio) and then agitated for 24 hours. Thereafter, the leachate is filtered and analyzed for dissolved metal concentrations. The dissolved metal concentrations will be evaluated against Metal and Diamond Mining Effluent Regulations (MDMER) Discharge Limits and the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life (2007).. It is possible that the SFE test could overemphasize the metal leaching potential of sampled rock given that it represents metal leached

water derived from finely ground rock samples (i.e. the rate of release of metals may be exaggerated in comparison to coarser material size which will be used for construction outside of the contact water management system at the FMS). It is also possible that the SFE test could underestimate ML potential depending on the water/rock ratios in the specific deposition scenario. As such, due diligence should be applied in interpreting the results of the SFE test, considering the volumes of materials, particle size distribution, amount of contact water, available assimilative capacity in the downgradient environment etc.

- Acid rock drainage (ARD) through Acid Base Accounting (ABA): The potential for geologic material to oxidize and generate ARD is evaluated through acid-base accounting (ABA). This includes the following analysis:
  - Paste pH: Paste pH consist of crushing a rock sample and putting it into a solution (typically a solid/solution ratio of 1:1) and testing its pH to gain an initial understanding of the acid potential of a sample. Price (1997) suggests that a pH of 5. 5 be used as a screening criterion to identify samples with a potential for acid generation (i.e. pH of >5 is not likely to be acid generating).
  - Total Sulphur, sulphide and sulphate sulphur content.
  - Total carbon, carbonate and organic carbon content.
  - Neutralization potential (NP): The NP is the measurement of the acid-buffering capacity/ neutralizing potential of a sample (i.e. it measures the amount of acid that the sample can neutralize). It is typically measured by the digestion of a sample through a strong acid (e.g. sulphuric acid) where the amount of acid that is consumed during the test period is determined by titration. The measured quantities are then converted to NP which is reported as a "per tonne equivalent" of the Calcium Carbonate (CaCO3). There are many methods to determining NP; at the FMS, the method that is intended to be used is the Modified Sobek NP Method as presented in Lawrence and Wang (1996).
  - Acid potential (AP): The AP represents the potential acidity of a sample if all the sulphides were oxidized to generate acid. AP is calculated based on the total sulphide sulphur concentration within the sample where the concentration (percentage of sulphide sulphur in sample) is multiplied by a conversion factor (i.e. AP= wt% Sulphide Sulphur x 31. 25). The conversion factor is derived from the neutralizing weight equivalency between sulphur and Calcium Carbonate (MEND, 2009). AP is reported as a "per tonne equivalent" of the Calcium Carbonate (CaCO3).
  - Neutralization Potential Ratio (NPR) (i.e. NPR=NP/AP): The NPR is a ratio of NP to AP (i.e. NPR = NP/AP) and is used to determine if a sampled rock has the ARD potential or not. The ARD potential will be interpreted using the evaluation criteria identified in the 2009 MEND manual titled "Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials" (See Table C.2 below).

Table C.2: ARD Evaluation Criteria – MEND (2009)

NPR Value	ARD Potential
<1	Potentially Acid Generating
1-2	Uncertain Potential to Generate Acid
>2	Non-potentially acid generating

5. Reporting

This section outlines the required reporting under the EMP. Additional reporting and/or record-keeping requirements may be identified and communicated by the Main Construction Manager if it is needed for their oversight of environmental scopes of work.

All work that is subject to the measures in the EMP and the Geochemical Monitoring Plan are eligible to be audited as part of the Project's Environmental Audit Program. As such, accurate and complete record-keeping are key requirements to determine conformance with the EMP and compliance with applicable legislation.

5.1 Database Management and Reporting

All data collected per the Geochemical Monitoring Plan will be uploaded to Crown-Indigenous Relations and Northern Affairs Canada's EQuIS database by the team collecting the data and reviewed for quality assurance and quality control by the collecting agency, as per the requirements of their contract.

5.2 Geochemical Monitoring Report

A Geochemical Monitoring Report is due at the end of a work package (prior to closing a ground disturbance permit) or is to be submitted annually if the work package spans more than one year. This requirement should be considered in the development of the Environmental Protection Plan for works that will be subject to the measures listed in this Plan. The report is to be completed by the contractor or consultant performing the work and submitted to the Main Construction Manager's Environment Manager. The following information is to be included in that report:

- Areas assessed for ML/ARD;
- Material used for construction outside of the contact water management system, or in the riparian area (volumes and sources);
- Sampling methods (dates and locations tested, sample collection and analytical methods);
- Summary of monitoring results (observations, field data and laboratory data);
- Comparison and interpretation of analytical results to MEND Guidance;
- Summary of altered or new ARD/ML tested stockpiles on site (including volumes and representative ARD/ML samples); and,
- Recommendations.

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i Mine Environment Neutral Drainage [MEND] (2009). Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials. Retrieved on November 9, 2021 from: http://mend-nedem.org/wp-content/uploads/1.20.1_PredictionManual.pdf
ii Price, W. A. (1997). Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia. Retrieved on November 9, 2021 from: http://mend-nedem.org/wp-content/uploads/2013/01/1.20.1-Ref.pdf
iii Lawrence, R. W. & Wang, Y. (1996).) Determination of neutralization potential in the prediction of acid rock drainage. Retrieved on Retrieved on November 9, 2021 from: http://mend-nedem.org/wp-content/uploads/2013/01/1.16.3.pdf

APPENDIX D HERITAGE RESOURCES MANAGEMENT PLAN

1. Introduction

This Heritage Resources Management Plan outlines practices and mitigation measures that are required to identify and protect heritage resources at the Faro Mine Site (FMS).

This plan draws upon heritage assessments previously conducted by Ecofor Consulting Ltd. (Ecofor 2012, 2013, 2014, and 2016) and Stantec Consulting Ltd. (Stantec 2016, 2018) for the Assessment and Abandoned Mines Branch at the Government of Yukon, Department of Energy, Mines and Resources. Protocols for the management of heritage resources presented within this document are an amalgamation of those developed by Stantec (2016, 2018), Ecofor (2012, 2013, 2014, and 2016), and the Department of Indian Affairs and Northern Development (2017).

1.1 Application

The Heritage Resources Management Plan provides a summary of how to achieve and maintain compliance with relevant federal and territorial legislation (i.e. acts and regulations), permits and licences. Where a ground is planned to be disturbed, the Environmental Protection Plan must be developed by the contractor or consultant performing the work and describe how the work will conform with the Heritage Resources Management Plan. The Environmental Protection Plan must be submitted for review prior to commencing site work (per the Environmental Management Plan).

Crown-Indigenous Relations and Northern Affairs Canada will maintain the Heritage Resource Management Plan with the most current information and will be updated on an as-needed basis.

Heritage Resources on First Nation Settlement lands are owned and managed by the First Nation. The FMS area does overlap with some of the First Nation Interim Protected lands, Ross River Dena Council Block S-11B falls within the Order-in-Council 2008/168 boundary, and the southeast corner of the Study Area is close to the Ross River Dena Council Interim Protected Land Block R-11A.

Heritage resources (with the exception of heritage sites identified in First Nation Final Agreements, and ethnographic objects) on non-settlement Yukon lands are considered the property of all Yukoners and are held in trust for all Yukoners, managed by the Yukon Government.

2. Applicable Legislation

Yukon First Nations Umbrella Final Agreement, Chapter 13

Historic Resources Act [RSY 2002, c 109], 2012

Yukon Archaeological Sites Regulation [YOIC 2003/73], 2004

3. Definitions

Archaeological or Prehistoric Sites generally represent use before European contact and are found on or under the ground surface, and may consist of the remains of ancient camps, including hearths, animal bone and stone tools and debris. In this usage, an Archaeological Site equates to a Prehistoric Site (a site that dates to the period before written history).

Ethnographic objects refer to an item of material culture relating to the history and traditional culture of an ethnic group.

Ground Disturbance means any work, operation or activity that results in a disturbance of the earth including: excavating, digging, trenching, plowing, drilling, tunneling, auguring, backfilling, blasting, topsoil stripping, land leveling, peak removing, quarrying, clearing and grading.

Historic Sites are areas which contain Heritage Resources that are greater than 45 years in age and poses significant heritage value. By convention, historic sites date to the period for which written records are available.

Heritage Resource are both human and natural objects created by activities from the past that remain to inform present and future societies of that past.

Human remains means non-fossilized remains of human bodies that are found outside a recognized cemetery or burial site.

Limited Ground Disturbance Area means an area where work that falls within the definition of a ground disturbance is limited due to the presence of Heritage Resources.

"No Work Zone" is a legislated buffer around a Site wherein no ground disturbance can be conducted.

Paleontological Resources include the fossilized, mummified, or skeletal remains of previous life forms. These resources may be found in sedimentary rock formations, or eroding streams and creeks and contain a great deal of information concerning past environments.

Proto-historic Sites can be viewed as prehistoric sites from a time period which includes the effects of foreign historic cultures but lacks the first hand written descriptions of that area.

Site is an area or a place, or; a parcel of land which contains heritage resources or objects.

4. Information Management

Heritage Resources have cultural, spiritual and/or scientific importance to First Nations as well as to other Canadians. These are non-renewable resources which, if altered, can often cause permanent and irreversible damage.

Based on this understanding, Heritage Resources, and access to information about them, are protected by the *Historic Resources Act* [RSY 2002, c.109]. Employees, contractors and consultants may be granted access to Heritage Resource data, however they may not:

> *"(a) display, duplicate or reproduce, in whole or in part, the Inventory Subset in any form or format whatsoever; or*
>
> *(b) sell, loan, lease, distribute, transfer, grant, licence, sub-licence or assign the Inventory Subset or any of the rights granted to the Licensee pursuant to this Licence Agreement to any third party." Yukon Government. Site Access Licence Agreement.*

"62 …search or excavate for historic objects or human remains except in accordance with a historic resources permit." Historic Resources Act [RSY 2002, c.109]"

Additionally, Government of Yukon's Heritage Branch has requested that the Project team significantly limit the personnel with access to Heritage Resources data at the Faro Mine Complex. To this end, the Crown-Indigenous Relations and Northern Affairs' Environmental Health and Safety Lead will apply for a Licence Agreement annually to gain and maintain access to Yukon's Archaeological Sites Inventory. This Licence Agreement will include key contacts responsible for the protection of Heritage Resources on the Faro Mine Complex.

Crown-Indigenous Relations and Northern Affairs Canada and senior staff from the Main Construction Management Contractor have access to all locations of currently identified sites. Detailed information on sites cannot be shared per Yukon Government's Licence Agreement to Access the Archaeological Sites Inventory, under the *Historic Resources Act*.

As agreed with the Yukon Government's Heritage Branch, the exact location of heritage resources found within the limit of the Faro Mine Complex will be disclosed only to those who are licensed to access the Yukon's Archaeological Site Inventory through the Licence Agreement. Instead, figures showing generalized and high level areas that are off limits to any ground disturbance work are attached in Appendix M. These figures includes all areas that are not approved for ground disturbance for numerous reasons (not limited to Heritage and Archeological sites).

5. Flagging Known Sites

Much of the area on and around the FMS has been assessed for Heritage Resources. The flagging and signage is to be installed and maintained around all known sites by the Main Construction Manager. This is to mark in the field by flagging (strips of 1" wide yellow flagging tape with black printing that states "No Work Zone") in a 30 m buffer around the identified feature and marked by durable signage that states "No Disturbance Zone".

6. Site Work Preparation and Execution

In order to protect Heritage Resource data and sites at the FMS, all those planning to do ground disturbance work on site (including the Main Construction Manager and the Care and Maintenance Contractor) will follow the process outlined below:

6.1 Conceptual Design or Site Visit Plan (>2 weeks prior to site work)

a. Contractors planning any ground disturbance at the Faro Mine Complex are to refer to Appendix M- Areas potentially prohibited from ground disturbance to determine whether the work they are planning falls into a Limited Ground Disturbance Area.

b. If, during the project planning phase, the contractors or consultants identify a need to disturb ground in a Limited Ground Disturbance Area, they are to contact the Main Construction Manager's Environmental Manager. That party will review the planned ground disturbance locations. If they find that the planned area of ground disturbance is designated as a Limited Ground Disturbance Area, then they will inform the contractor which of the following conditions apply:

- Proposed disturbances within areas that have been previously field assessed for Heritage Resources

- The planned ground disturbance is permissible with mitigations in areas between 30 m and 100 m from known Heritage Resources if the surrounding area has been previously field investigated with negative heritage results or is modelled as low potential.
- The area remains restricted (≤30 m from a heritage site). In this case, Canada will review the contractor's work plan to determine whether the planned ground disturbance should proceed, if this work is within the 30m buffer, but won't disturb the known Heritage Resource then mitigations and monitoring will be set up by an Archaeologist in consultation with Yukon Government's Heritage Unit to prevent disturbance or damage to the Heritage Resource. If the work requires the removal of the known Heritage Resources, then Canada will instruct the Main Construction Manager, contractor and consultant to obtain a Class 2 Permit application under the Archaeological Sites Regulation [O.I.C. 2003/73].

- Proposed disturbances within areas that have Not been previously field assessed for Heritage Resources:
  - The planned ground disturbance is outside the area that has been investigated in the field for Heritage Resources but within the area that has been assessed in a desktop model as: I. Low Heritage Potential: The planned ground disturbance is permitted with mitigations; II. Moderate or High Potential: A field assessment will be required. This will need to be completed when the ground is thawed and clear of snow. It will need to be done under a Heritage Act permit and approval from Yukon Government and the results will be required prior to initiating ground disturbance *this process may require >1 year.
  - The planned ground disturbance is in an Impacted Area (including limited to an elevation above an un-Impacted Area): the ground disturbance is permitted as long as it remains in the impacted area.
  - The planned ground disturbance is outside the area that has been investigated in the field for Heritage Resources and outside the area that has been assessed in a desktop model. In this case, Canada will review the contractor's work plan to determine whether the planned ground disturbance should proceed; if so, Canada will retain a qualified consultant to update and potentially modify the desktop model to include this area. Once the model is updated, condition 2i) will apply.
  - It should be noted <u>that if you are planning work outside of the area assessed per the figures in Appendix M, contact Crown-Indigenous Relations and Northern Affairs Canada and note that, if approved, a valid Yukon Archaeological Sites Regulations Permit will be required, and the subsequent field report will need to be accepted by the Yukon Government's Heritage Unit prior to disturbing ground. This process can require up to one calendar year to complete</u>.

6.2 At least 2 weeks prior to site work

The Contractor will submit a work plan along with an Environmental Protection Plan and a Ground Disturbance Permit Application (Appendix K). Main Construction Manager's Environment Manager reviews all these documents for alignment with the site's Environmental Management Plan. If they identify ground disturbance is proposed, in a Limited Ground Disturbance Area where the area is limited due to Heritage Resources, the Main Construction Manager will report to the contractor per the process followed for the planning phase.

During Main Construction Manager's review of the Ground Disturbance Permit they will ensure that the 30 m buffers around heritage sites within 100 m of the planned work are flagged with "No Work Zone" flagging tape, and "No Disturbance Zone" signage unless a permit has been issued by YG to disturb the Heritage Resource.

6.3 Site kick off meeting

Ground disturbance work shall not commence prior to obtaining an approved Ground Disturbance Permit (form in Appendix K).

Once the contracting or consulting team is on site, they are to meet with the Main Construction Manager to review the work plan and Ground Disturbance Permit application during project kick off meeting (meeting is to be booked by the Main Construction Manager). At that time, the Main Construction Manager will issue a ground disturbance permit if the application meets the site requirements.

If the planned ground disturbance is ≤100 m from the known Heritage Resource(s), the Main Construction Manager, Environment team will walk the proposed ground disturbance area with the contractor or consultants and they will provide them with a map showing the 30 m buffer around the known Heritage Resource(s), which will also be flagged in the field with "No Work Zone" flagging tape by the Main Construction Manager.

6.4 During ground disturbance work

The party completing ground disturbance work will apply the mitigations outlined in the Ground Disturbance Permit and in this document. In the event that previously unknown Heritage Resources are identified during construction, the contractor will implement the Chance Find Procedure (Section 7 of this Plan).

6.5 After ground disturbance, prior to contractor/consultant demobilization

The Main Construction Manager's Environmental Monitoring Team will survey the ground disturbance area to ensure that it complied with the submitted plans and the approved site plans. This review is triggered through the closing section of the Ground Disturbance Permit (Appendix K). Once they have the information they require, they will close the permit. After the Ground Disturbance Permit is closed, the contractor may demobilize from site and/or the work package.

7. Chance Find Procedure

It is possible that a Heritage Resource may be accidentally discovered during site work. These resources may range in size from small flakes and chips of debitage remaining from stone tool manufacturing, up to large historic structures such as cabins. Other possible heritage resources include culturally modified trees, fire cracked rock, historic adits, cache pits, house pits, paleontological remains, isolated prehistoric tools of wood, bone, antler, and isolated historic items. If exposed burial or human remains are encountered, the finder must implement the following actions.

If a Heritage Resources is found by chance, during site work, the following procedure is to be followed.

a. All work in the immediate area will cease.

b. Radio communications will be used to ensure that the work stoppage is communicated immediately to other site personnel.

c. The Heritage Resource will be left in place, and the area of the find will be protected from further impacts[i] by flagging and providing signage around the buffer area, this may be done by the contractor who identified the chance find and/or the Main Construction Manager.

d. Information collected and passed on regarding the chance find is to include:

- GPS location of the find;
- Date and time when the find was identified;
- Approximate size of find and type of materials present;
- Description of setting and access to the location of the find; and
- Digital photographs of the find(s) and general area of the find.

e. Crown-Indigenous Relations and Northern Affairs Canada is to be notified of the type, amount, and location of the find. Crown-Indigenous Relations and Northern Affairs Canada will then contact the Yukon Government's Heritage Resources Unit[ii] (and work with them to inform the Ross River Dena Council) to discuss further management options and notify the appropriate First Nation contacts.

- If the area can be protected a resource specific or site specific mitigation plan may be developed to recover data and information as per direction of the Yukon Government's Heritage Resources Unit and the appropriate First Nation.
- If immediate salvage is required, as directed by the Yukon Government's Heritage Resources Unit to ensure safety (personnel or of the artifact(s)), the Main Construction Manager will record the information noted above, collect the artifact(s), and temporarily stored them on site.

f. If directed by the Yukon Government's Heritage Resources Unit, the Main Construction Manager will retain an Archaeological and Heritage expert to prepare required written reports, and if necessary to collect and prepare the artifacts and materials collected for record keeping and artifact curation. The retained heritage contractors will submit interim and final reporting as well as collected materials to the Yukon Government's Heritage Resources Unit to review.

g. After the permit reporting and artifact curation preparation requirements are met, then the Yukon Government's Heritage Resources Unit would submit materials to Ross River Dena Council as requested for further management or would continue to hold the materials at the direction of Ross River Dena Council.

Below are key contacts details for chance finds:

- Government of Yukon - Yukon Archaeology Program. 133A Industrial Road, Whitehorse, YT Y1A 2C6. Ph. (867) 667-3771.
- RCMP - Faro Detachment PO Box 310, Faro, YT Y0B 1K0. Phone: 867-994-2677
- Government of Yukon - Yukon Paleontology Program. 133A Industrial Road, Whitehorse, YT, Y1A 2C6. Ph. (867) 667-8089.

8. Requiring the Removal of a Resource

Some heritage sites may be planned to be impacted prior to construction. If these sites are planned to be impacted, then approval for impact must be granted by the Heritage Resources Unit and Ross River Dena Council prior to final approval for the site to be impacted. Until such approval, each site area will remain flagged and signed to avoid additional impacts. Only after approval for impact has been granted may the site be impacted.

Under these circumstances Crown-Indigenous Relations and Northern Affairs Canada will be notified immediately and if an approval for removal is warranted, the Main Construction Manager will retain an Archaeological and Heritage expert to assist with the permitting process.

In most cases, sites to be impacted will be subjected to a data recovery mitigation plan and fieldwork efforts. In the case of prehistoric archaeological sites, detailed block excavation of a significant sample of the site is often used to collect and record information from the site prior to site impact. In the case of other resources more detailed photographic, ethnographic, informational, and archival research may also be used to document a resource before it is impacted.

9. Ongoing Efforts

As part of the ongoing and continuing efforts to increase awareness of the possible heritage resources that may be found in the area, the booklet entitled Handbook for the Identification of Heritage Sites and Features (Gotthardt and Thomas 2007) should be made available to all personnel on the FMS.

It is imperative that communications regarding newly recorded heritage sites and resources or impacts to heritage sites or resources be passed along in a timely manner. These are to be reported to Canada, and then to Yukon Government's Heritage Resources Unit and applicable First Nations. All results from the heritage assessments and mitigation efforts must also be shared in a timely manner with the Heritage Resources Unit and the applicable First Nations.

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i If human remains are identified during operations, all work in the area will immediately cease and further impacts to the area will be prevented, and the R.C.M.P will be notified. If the R.C.M.P. and Coroner determine that the remains were from a historic burial, the First Nation(s) and Yukon Heritage Resources Unit will be notified, as per Yukon Governments 2014 Best Management Practices for Burial Sites and Human Remains in Yukon.
ii If the remains include paleontological remains, then the Yukon Paleontologist will also be contacted.

APPENDIX E MATERIALS MANAGEMENT PLAN

1. Introduction

This Materials Management Plan outlines mitigation measures to help reduce the environmental impact from clearing and stockpiling and to limit handling of materials multiple times at the Faro Mine Site (FMS) and to ensure we understand what/where materials we have available for re-use. The implementation of this plan will reduce the subsequent contamination of soil, vegetation and waterways through erosion, and sedimentation, reducing the potential for transport away from the footprint.

Cleared vegetation and topsoil are valuable for the management and reclamation of developed areas. The organic matter in the detritus layer (i.e. plant debris, microorganisms, sticks, slash and root masses) and the topsoil provide needed nutrients and habitat for reclamation. Some cleared vegetation should be used for protecting the detritus and topsoil layer from erosion.

1.1 Application

The Materials Management Plan provides a summary of how to achieve and maintain compliance with relevant federal and territorial legislation (i.e. acts and regulations), permits and licences. Where vegetation is planned to be disturbed and soils/materials are planned to be handled, an Environmental Protection Plan must be developed by the contractor or consultant performing the work to directly address the requirements of the Materials Management Plan. The Environmental Protection Plan must be submitted for review prior to commencing site work (per the Environmental Management Plan).

Crown-Indigenous Relations and Northern Affairs Canada will maintain the Materials Management Plan with the most current information and will be updated on an as-needed basis. Draft revisions will be provided to Public Services and Procurement Canada, the Environmental Monitoring Services Contractor and the Main Construction Manager for comment and revision before each version is finalized.

It should also be noted that no wetlands are to be cleared at this time.

Additional procedures and risk mitigation activities related to ground disturbance work is outlined in the Heritage Resources Management Plan and are not restated here (please see Appendix D of the EMP).

1.2 Exclusions

This Plan does not apply to contaminated soils or materials (e.g. waste rock tailings, hydrocarbon contaminated soils, etc.).

2. Applicable Legislation

Contaminated Sites Regulation [YOIC 2002/171], 2021

Fisheries Act [R.S.C., 1985, c. F-14], 2019

Migratory Birds Convention Act [SC 1994, c 22], 2017

Migratory Birds Regulations [CRC c1035], 2020

3. Requirements

Depending on the circumstances of the Ground Disturbance, one of three potential paths will be followed by the contractor conducting ground clearing works. These paths are described herein, and the process for each are summarized in Table E1.

Path A should be followed for activities requiring ground disturbance equal to or over 1 hectare, in areas that are scheduled to be remediated in the future or in areas that will be actively used in the long-term.

Path B should be followed for activities requiring ground disturbance equal to or over 1 hectare, in areas which will not be cleared during the remediation of the FMS and that are no longer needed for additional works or activities.

Path C should be followed for activities requiring ground disturbance less than 1 hectare (in areas that are scheduled to be remediated in the future, in areas that will be actively used in the long- term, in areas which will not be cleared during the remediation of the and areas no longer needed for additional works or activities).

Table E.1 Summary of Requirements for Vegetation, Detritus and Topsoil Clearing and Reclamation

<table>
<tr><th rowspan="2">Path</th><th rowspan="2">Description</th><th colspan="5">Process</th></tr>
<tr><th>Planning</th><th>Clearing</th><th>Sediment & Erosion Control</th><th>Reclamation</th><th>Monitoring</th></tr>
<tr><td>A</td><td>≥1 ha*, in area of eventual reclamation</td><td rowspan="3">Provide the Main Construction Manager Contactor with the:
- location of clearing,
- process to clear,
- mitigation measures,
- mitigation measures monitoring, care and maintenance
- Path B requires a Reclamation Plan</td><td rowspan="2">- Salvage trees and place in a pile designated by Main Construction Manager
- Stockpile or windrow detritus and topsoil
- Document stockpiles</td><td rowspan="3">- Place and document measures to control sediment and erosion from cleared areas and stockpiles
- Monitor and maintain until turn over to Care and Maintenance Contractor</td><td>N/A</td><td rowspan="3">All stockpiles, and cleared areas are to be monitored for: Dust, Sedimentation and Erosion.

All organic stockpiles are to be monitored for fires.</td></tr>
<tr><td>B</td><td>≥1 ha*, not in area planned for eventual reclamation</td><td>Remediate per a Crown-Indigenous Relations and Northern Affairs Canada approved Reclamation Plan from Contractor.</td></tr>
<tr><td>C</td><td><1 ha*</td><td>-Windrow or stockpile material
- Document windrows and stockpiles</td><td>N/A</td></tr>
</table>

*Area includes the sum of all areas to be cleared under a work package or work scope.

The Main Construction Manager will be responsible for ensuring contractors conducting ground disturbance outside Areas potentially prohibited from ground disturbance (Appendix M). The Care and Maintenance Contractor will be responsible for maintaining all cleared areas until remediation is

proven to be successful.

The disturbed area is to include the sum of all areas under one work package for which one contractor is responsible for. For example, if a contractor were drilling in several areas, the disturbed area would include all the drilling pad areas plus the roads constructed to access the drill pads. Crown-Indigenous Relations and Northern Affairs Canada can help those doing ground disturbance with determining which path needs to be followed.

All ground disturbance on site should follow the steps that are specified for the Path that has been assigned (Paths A, B and C).

4. Planning to Clear Vegetation, Detritus and Top Soil

4.1 Permitting

For Paths A, B and C, contractors/consultants will be required to submit a Ground Disturbance Permit application (Appendix K), at least two weeks prior to clearing a new area. The permit will include a description of the following information:

- Location of the clearing;
- Process to complete the clearing;
- Planned stockpile location and size, including estimates of length, width, and height;
- Mitigation measures (per this Plan) to implement upon commencement of clearing in a given area; and,
- Information on the mitigation measures that are expected to require ongoing care and maintenance and/or monitoring:
    - The care and maintenance work required to maintain the mitigation measures;
    - The inspection frequency recommended to ensure the mitigation measures are functional; and,
    - An estimation on the duration that the maintenance and/or monitoring is required (to be determined in discussion with Crown-Indigenous Relations and Northern Affairs Canada).

It should be noted that two weeks is the minimum time required to submit this information in the Ground Disturbance Permit. If there are concerns regarding heritage potential or impacts to vegetation and/or wildlife, the Main Construction Manager can be contacted earlier in order to discuss any potential issues and mitigations. The Main Construction Manager will also review the planned locations to verify that no work is planned in an area that would overlap a no-go zone. More detailed information on the process for the submission and review of proposed ground disturbance locations is included in the Heritage Resources Management Plan (please refer to Appendix D, Section 6, and Appendix K).

4.2 Planning Considerations

The following should be considered when planning and implementing groundwork:

- Test construction materials per the Geochemical Monitoring Plan and avoid using contaminated construction materials as surface material;
- To the extent practical, limit the area of freshly exposed waste rock by sequencing works such that cover materials are placed and revegetation occurs quickly;
- Limit the number of times soil materials are handled (i.e., direct placement rather than intermediate storage), when practical, to reduce soil degradation and loss;
- Preserve adequate volumes of overburden and topsoil for use during remediation for cover material and for borrow reclamation;
- As required, add soil ameliorants (e.g., fertilizer, organic matter) to soil placed after long-term storage;
- Use clean materials or stabilize/isolate areas of potential contamination during road decommissioning;
- Conduct monitoring and inspections during waste relocation and consolidation activity;
- Prevent mixing of different quality materials, where practicable or unless required to implement designs;
- Limit physical, chemical, and biological changes to soil during soil salvage, transport, and stockpiling;
- Place cover over consolidated tailings and metal impacted soils as soon as practicable; and,
- Manage risk arising from hydrocarbon contaminated soils by placing adequate cover or other appropriate measures.

Contractors and consultants planning clearing activities should refer to the provisions listed in Appendix J in order to effectively plan for activities that need to occur before clearing starts, such as bird nest surveys (Appendix J, section 6). These activities and the required reporting should also be included in the EPP.

4.3 Stockpile Setback Distances for Combustible Material

The Yukon Regional Fire Protection Manager has made recommendations to related to setback distances for combustible material to reduce the risks related to forest fires, as follows:

- Stockpiles of combustible debris should not be placed on steep hills/inclines.
- Stockpiles of combustible debris should be 50m setback from ignition sources with radiant heat (convective or conductive).
- Stockpiles of combustible debris should be at least 100m setback from ignition sources that generate embers.
- Stockpiles of combustible debris should be 30m setback from other combustible sources (e.g., the forest).

5. Process to Clear Vegetation, Detritus and Top Soil

The clearing process is dependant upon the size of the area. While the processes are summarized in Table E.1. more detail is provided within this section. This section also includes information on how to manage stockpiles of the cleared materials.

For all circumstances where topsoil is to be cleared, efforts should be made to re-use topsoil immediately (i.e. topsoil stockpiles should be avoided where possible). If the material cannot be re-used immediately, the resulting topsoil stockpile(s) should be no greater than 1m deep. If the stockpile is to remain in place for 1 year or more, it needs to be seeded with a non-propagating seed mix (contractor to request this mix from CIRNAC). If there is no reasonable location available that would accommodate a stockpile of that depth/size, then this matter should be discussed with CIRNAC.

5.1 Clearing ≥ 1 Hectare

For Paths A and B, when it is necessary to clear vegetation, trees more than 10 cm in diameter (at the butt of the tree) must be salvaged. The salvaged trees must not be wasted; they may be used as lumber, firewood or they are to be stored or chipped, at the discretion of the Main Construction Manager and Crown-Indigenous Relations and Northern Affairs Canada and/or per the approved Environmental Protection Plan (EMP Section 2.1). If the material is not being used in the Plan's mitigation measures, then the contractor completing clearing work is to relocate the trees to a predetermined location for future use on site or as firewood or as chips under a separate contract.

To reduce the risk of fire from the storage of trees or chips, the Main Construction Manager will:

- Instruct contractors to place piles with a minimum 50 m[i] firebreak/set back from combustible materials and ignition sources, stockpiles of combustible materials should be placed per the distances listed in Section 4.3;
- Limit the compaction of any chipped piles;
- Wet the piles, especially during dry conditions; and will,
- Perform regular checks on the piles (at minimum once per week) for any signs of hotspots, smoldering or unusual odour that could indicate the onset of a fire.

When it is necessary to clear the detritus and topsoil layer, the topsoil will be stockpiled to allow a minimum of 15 cm of soil to be spread across the final surface[ii] during reclamation. Noting that the 15 cm of topsoil can include detritus. If a 15 cm cover cannot be achieved, then prior to clearing, the Main Construction Manager will need to document the depth of existing topsoil in the area. This will be done by documenting the depth of soil with at least two samples per hectare[iii]. The Main Construction Manager will check to ensure that most of the available detritus and topsoil will be stockpiled separately for re-use. If the disturbed area is on exposed bedrock originally, the area will be considered reclaimed if the contouring matches that of the surrounding area as determined by the Main Construction Manager.

If the topsoil is placed in stockpiles, the slope of the piles should not exceed 2:1 and the maximum height should not exceed 1m, this will help prevent erosion as well as to improve the usability of the topsoil for future scopes of work.

5.2 Clearing <1 Hectare

For Path C, any resources required for eventual reclamation (i.e. large woody debris, detritus, and topsoil) of the disturbance will be salvaged and stored locally (e.g., in piles or windrows directly adjacent to the clearing) as determined by the Main Construction Manager. These materials can be stored as a single material if convenient (i.e. they do not require segregation and separate storage).

Stored resources are to be placed in a stockpile or windrow. The placement should not block the view near traffic areas, nor may it block traffic areas or access to infrastructure in place (e.g. pipes, sea cans, etc.). If the material is placed in stockpiles, the slope of the piles should not exceed 2:1 and the top should be flattened to limit dust dispersion. If the material is placed on windrows, the maximum height should not exceed 1m. Frozen and un-frozen materials should be managed and piled separately.

6. Dust, Sediment and Erosion Control

For Paths A, B and C, areas that are cleared of vegetation and topsoil need to be stabilized in place to prevent sedimentation, erosion and excessive dust at all times. Stabilizing measures are to be implemented by the party who disturbed the ground, per this EMP's Sediment and Erosion Control Plan and the Dust Management Plan. Areas that have inadequate dust or sediment and erosion control will require further work before they are accepted. These measures are to be maintained by that party until they are fully transferred to the Care and Maintenance Contractor through the closure of the Environmental Permit – Ground Disturbance Work. The stabilized areas are to be monitored by the Care and Maintenance Contractor after to the departure of the party who disturbed the ground.

For Paths A and C, where mitigation measures need to be maintained and/or monitored on the cleared area to prevent sediment and erosion issues, this task will be formally transferred to the Care and Maintenance Contractor. For this type of scenario, discussions with the Contractor, Crown-Indigenous Relations and Northern Affairs Canada, the Main Construction Manager, and the Care and Maintenance Contractor will be necessary prior to beginning work, and all maintenance and monitoring requirements must be clearly documented in the Ground Disturbance Permit application. The maintenance and monitoring requirements are to include the monitoring of all exposed areas and stockpiles for the potential of excessive dust, sedimentation and erosion and fire (for stockpiled organic materials). The location of disturbed ground, sediment and erosion control measures and stockpiles will need to be provided to the Main Construction Manager contractor in UTM coordinates (per Section 9).

7. Reclamation

For Path B, areas will be reclaimed if they are not scheduled to be cleared during the final remediation of the FMS and if they are not likely to be used again. For these areas, a site stabilization plan and reclamation plan will be required. The reclamation plan must be aligned with the Revegetation Plan in this EMP and the Faro Mine Remediation Plan, and both plans must be reviewed and approved by Crown-Indigenous Relations and Northern Affairs Canada (and their sub-contractors) and the Main Construction Manager (as part of the site's Ground Disturbance Permit application) prior to ground disturbance. The ongoing monitoring and care and maintenance of the proposed reclamation measures will need to be negotiated between the Contractor/Consultant, Crown-Indigenous Relations and Northern Affairs Canada and the Care and Maintenance Contractor.

The reclamation plan should consider:

- Re-grading of the ground to match the general contours of land surrounding the disturbed area. This should be done to prevent people on the site from injuring themselves on obstacles and to promote natural propagation of vegetation from surrounding areas.
- When planning the slope of the reclaimed area, measures to prevent ponding of water should be considered where possible.
- Evaluating soil compaction levels to determine the possibility of root penetration and plant establishment in the area, or the need for mechanical loosening of soils (i.e. using a plough, disk harrow, ripping teeth on a tracked vehicle, or hand tools). Noting that rows should be positioned perpendicular to the slope of the area to allow for increased surface water infiltration into the soil, reduced erosion and the incorporation of organic materials[iv], with no large furrows to be left in the material.
- Placing a minimum depth of 15 cm of detritus and topsoil on top of prepared ground[ii], and where possible on top of 5-10 cm of detritus and top soils mixed into a base layer[iv].
- Planting and seeding in accordance with this EMP's Revegetation Plan.
- Monitoring of planted or seeded areas in in accordance with this EMP's Revegetation Plan.

There is no reclamation requirement for ground disturbances that fall under Paths A or C.

8. Use of Stockpiled Materials

The stockpiles of materials on site may be used for urgent works and/or care and maintenance activities.

Plans to proceed with chipping of vegetation from clearing or stockpiles for re-use in projects should be communicated to CIRNAC for consideration, to assess the risks of using contaminated stockpiled material in the cleared location on a case-by-case basis. Canada will communicate the decision to the parties planning the work.

Any party that uses a stockpile will ensure that the stockpile location (i.e. UTMs), volume used and location of re-use (i.e. UTMs) will be provided to the Main Construction Manager, who will keep these records for reporting purposes (see section 9 of this Plan).

9. Reporting and Deliverables

This section outlines the required reporting under the EMP. Additional reporting and/or record-keeping requirements may be identified and communicated by the Main Construction Manager if it is needed for their oversight of environmental scopes of work.

All work that is subject to the measures in the EMP and the Materials Management Plan are eligible to be audited as part of the Project's Environmental Audit Program. As such, accurate and complete record-keeping are key requirements to determine conformance with the EMP and compliance with applicable legislation.

9.1 Stockpile Location and Inspections

The Main Construction Manager is responsible for keeping records of all stockpiles and their volumes at the FMS. This should be compiled in a map that is kept current and can be shared with contractors/consultants and Canada when necessary.

Records of visual inspections should be kept by the Main Construction Manager and made available to Canada when necessary, including as part of the audit requests.

9.2 Database Management and Reporting

For stockpiled material that requires analysis of monitoring samples (such as soil testing, etc.), all monitoring data will be uploaded to Crown-Indigenous Relations and Northern Affairs Canada's EQuIS database by the team collecting the data and will be reviewed for quality assurance and quality control by the collecting agency, as per the requirements of their contract. When entering monitoring data into EQuIS, this information should be geolocated so that the results can be clearly linked to specific stockpiles, and descriptions included where applicable. In circumstances where the data collection team and Canada have agreed that another data management platform may be used instead of EQuIS, full access to the data will be provided to Canada, and access may need to be granted to other project teams and partners depending on the type of data.

9.3 Materials Management Report

A materials management report is due at the end of a work package (prior to closing a ground disturbance permit), or if the work package spans more than one year, annually. This requirement should be considered in the development of the Environmental Protection Plan for works that will be subject to the measures listed in this Plan. The report is to be completed by the contractor or consultant performing the work and submitted to the Main Construction Manager, Environment Manager. The following information is to be included in that report:

- Summary of areas and degree of activities on site that produced or used materials;
- Summary of mitigation measures applied when producing or using materials;
- Monitoring methods (dates and locations monitored);
- Summary of monitoring results (observations, field data and laboratory data);
- A figure showing material produced and used; and,
- Recommendations.

i Partners in Protection. 2003. FireSmart: protecting your community from wildfire. Second Edition. Retrieved from https://firesmartcanada.ca/wp-content/uploads/2018/10/FireSmart-Protecting-Your-Community.pdf%20, November 2021
ii Regulations Governing the Management and Operation of Pits and Quarries on Yukon Lands (O. I. C. 1983/205 Lands Act), Clause 31. Retrieved from: https://laws.yukon.ca/cms/images/LEGISLATION/regs/oic1983_205.pdf, November 2021
iii Sample locations must be representative of the area to be cleared
iv Matheus, P. and Omtzigt, T. 2011. Yukon Revegetation Manual: Practical Approaches and Methods [Beta]. Retrieved from: https://www.yukonu.ca/research/projects/yukon-revegetation-manual, November 2021

APPENDIX F REVEGETATION PLAN

1. Introduction

The Faro Mine Remediation Project Revegetation Plan[i] is the basis from which, detailed revegetation plans are being developed for the site. The main goal of the plan is to return the mine site to an acceptable state of use that reflects pre-mining land use where practicable. This goal will be achieved by re-establishing natural ecosystems using locally common plants.

1.1 Purpose

The Revegetation Plan is intended to provide more context related to the following mitigations:

- Develop appropriate soil prescriptions designed to encourage vegetation communities;
- Control soil permeability in non-root zones to limit water movement/infiltration when necessary; and,
- Re-slope and re-contour terrain to achieve variation of slope steepness, length, aspect, and shape, which will encourage diverse vegetation communities

1.2 Application

For the purposes of compliance and guiding progressive revegetation in areas of the site that are cleared during operational works, excerpts of the current plan are included here. For all construction activities that disturb vegetation (according to the Materials Management Plan) – in areas that will not be subject to ongoing site operations – the Environmental Protection Plan must directly address the requirements of the Revegetation Plan. The Environmental Protection Plan is to be developed by the contractor or consultant performing the work and must be submitted prior to commencing site work (per the Environmental Management Plan).

In accordance with the Materials Management Plan (Appendix E), no wetlands are to be cleared at this time.

Crown-Indigenous Relations and Northern Affairs Canada will ensure that the Revegetation Plan is maintained with the most current information and will be updated on an as-needed basis. Additional details regarding wetland compensation planning, habitat requirements and guidance on traditional-use species are expected, as revegetation planning evolves. Draft revisions will be provided for comment to Public Services and Procurement Canada, the Environmental Monitoring Services Contractor and the Main Construction Manager for comment and revision before each version is finalized.

2. Seeding

Seeding with native grass species will be used throughout the reclaimed landscape, primarily to rapidly re-establish vegetation on slopes and to provide erosion control. Selected seed types will depend on the commercial availability of grass species and provenances native to the Yukon at the start of operational reclamation. To date, reclamation at the Grum Sulphide Cell has indicated that northern fescue (*Festuca saximontana*) and slender wheatgrass (*Elymus trachycaulus*) have successfully established from broadcast seeding. This work has also indicated that grass re-establishment on till covers materials will likely require co-fertilization.[ii]

3. Planting

Planting of both woody and herbaceous seedlings will likely be necessary to re-establish a diversity of native plant species across the reclaimed landscape. As with seeding, the specifics of these treatments will depend partly on the available Yukon seed and cutting supply that is available on an operational-scale, at the start of active site reclamation. Species selection will be broadly based on natural occurrence of species in the local environment. Planting is likely to be used to re-establish conifer components of forested ecosystems, and dwarf birch (*Betula* spp.[iii]), due to limited natural regeneration of these species on mine disturbances at the FMS to date.

4. Natural Regeneration

Reclamation monitoring on the Grum Sulphide Cell has shown that over the longer-term, control (non-planted) areas have woody stem densities similar to planted areas (for willow (*Salix* species) and poplar (*Populus balsamifera*)), meaning that natural revegetation can likely be relied upon for level and gently sloping areas that are located close to intact native seed sources. However, for other areas, a targeted planting strategy may be required to accelerate the rate at which woody species are established (by 1-2 years). A strategic approach to planting is being considered for the following locations:

- Areas at a greater distance to native-seed sources;
- Areas identified as dispersion islands, that might be used to establish patches of structure and seed source that will influence adjacent areas;
- Any areas identified for particular wildlife-habitat needs such as visual and/or thermal cover areas/corridors; and,
- Areas where there is a goal of maximizing removal of water from cover systems through evapotranspiration, and thus where maximizing the rate of vegetation re-establishment is important.

Planting will also be used to establish species not observed to be naturally regenerating, such as white spruce (*Picea glauca*), lodge pole pine (*Pinus contorta*), dwarf birch, and potentially trembling aspen (*Populus tremuloides*). Planting may also be required to accelerate recovery of any identified traditional-use species, such as crowberry (*Empetrum nigrum*).

5. Lowland/wetland areas

No wetlands are to be cleared at this time. There are some zones on the FMS that are likely to be wetter than the dominant ecosite groups described in the Revegetation Plan, because they are riparian areas in constructed drainage channels, littoral areas around permanent water bodies, or opportunistic wetlands. Active revegetation of these areas is likely, and planning is ongoing. Prescribed treatments are likely to include seeding of native grasses, planting or seeding of sedges, and planting of dwarf birch and willow species.

6. Intentional Inclusion of Non-Native Plant Species

In general, revegetation will focus on re-establishment of native plant species, (which are generally slow to establish, especially at higher elevations). However, the use of non-invasive agronomic ground-cover species may be considered for any identified areas where erosion control and rapid vegetation establishment is a primary reclamation objective (for example, steeper slopes covered with erosion-susceptible till materials).

The revegetation plan is not advocating the widespread use of agronomic species for reclamation at the FMS but does recognize that the targeted inclusion of a small number of agronomic species in seed mixes dominated by native species may be re required in some areas. The agronomic species that would be included is alfalfa (*Medicago* species), as it is the only agronomic legume included in the Yukon Revegetation Manual[iv]. Alfalfa will have minimal ecological impact but will likely be able to substantially increase the rate of revegetation in key areas.

7. Avoidance of Revegetation

Avoiding revegetation may be necessary for certain site features. Canada's Geotechnical Consultant will work to establish where vegetation removal is required. Additional details regarding the protocols for clearing are include the Materials Management Plan (EMP Appendix E).

8. Monitoring

Reclamation monitoring will be conducted by the Environmental Monitoring Services Contractor and the Remediation Planning Design and Support Services Contractor, to assess the success of revegetation programs in re-establishing plant species and communities, including the ecosite groups. This information will be used both for adaptive-management purposes (to adjust revegetation treatments as necessary as the Faro Mine Remediation Project progresses, based on monitoring results), and to assess and document fulfillment of revegetation objectives.

Details of the Reclamation Monitoring program may be subject to change as the Faro Mine Remediation Project evolves and in response to the Revegetation Plans that are submitted with the EMP, but in general monitoring will consist of the following elements:

- Assessment of the ability of surficial materials to support ecosystem redevelopment (based on key physical characteristics);
- Assessment of cover and composition of plant re-establishment, including presence and abundance of individual species;
- Assessment of functional aspects of vegetation-community re-establishment and development, including indicators of re-established water and carbon cycles in reclaimed ecosystems; and,
- Assessment of re-establishment of vegetation-related land-use (primarily by indigenous land users) and wildlife-habitat requisites of reclaimed ecosystems.

Monitoring will initially be conducted on an annual basis on all reclaimed areas. Initially, monitoring will be spatially intensive in a small number of revegetated areas. This intensity will be reduced as the number of reclaimed areas increases, and as aging vegetation communities are observed to be on stable developmental trajectories.

9. Reporting

This section outlines the required reporting under the EMP. Additional reporting and/or record-keeping requirements may be identified and communicated by the Main Construction and Manager if it is needed for their oversight of environmental scopes of work.

All work that is subject to the measures in the EMP and the Materials Management Plan are eligible to be audited as part of the Project's Environmental Audit Program. As such, accurate and complete record-keeping are key requirements to determine conformance with the EMP and compliance with applicable legislation.

9.1 Revegetation Report

A Revegetation Monitoring Report will be due at the end of each work package (prior to closing a ground disturbance permit), or annually, if the work package spans more than one year. This requirement should be considered in the development of the Environmental Protection Plan for works that will be subject to the measures listed in this Plan. The report is to be completed by the contractor or consultant performing the work and submitted to the Main Construction Manager, Environment Manager. The following information must be included in the report:

- Areas of cleared vegetation;
- Areas which were re-vegetated;
- Monitoring Methods;
- Summary of monitoring results (observations, field data and laboratory data);
- Interpretation of results; and,
- Recommendations.

9.2 Monitoring Reporting

Reporting related to the reclamation monitoring for revegetation activities, as described in Section 8, will be completed in accordance with the established and corresponding revegetation program.

Reporting on additional monitoring activities described in the Vegetation and Wildlife Monitoring Plan (2023) will be completed in accordance with that Plan.

9.3 Data Management and Database Reporting

Where revegetation and/or monitoring activities require analytical samples be taken, such as testing of soil samples, this information should be stored in Crown-Indigenous Relations and Northern Affairs Canada's EQuIS database, per the Materials Management Plan (Appendix E, Section 9.2). In circumstances where the data collection team and Canada have agreed that another data management platform may be used instead of EQuIS, full access to the data will be provided to Canada, and access may need to be granted to other project teams and partners depending on the type of data.

i Integral Ecology Group Ltd. March 2019. Faro 2018 Conceptual Revegetation Plan, Appendix 7L of the Faro Mine Remediation Project's Yukon Environmental and Socio-Economic Assessment Act Project Proposal Remediation. Integral Ecology Group

Ltd. File #SRKFMR-17.

[ii] EDI Environmental Dynamics Inc. 2017. Faro Mine Complex: 2016 Grum Sulphide Cell revegetation – draft. Prepared for Yukon Government, Assessment and Abandoned Mines Branch, Yukon Government, Whitehorse, Yukon

[iii] It is not clear whether birch on site is B. nana (as reported by EDI Environmental Dynamics Inc. 2017) or *B. glandulosa* (as reported by CH2MHill 2015c), or both. This will be clarified during planned revegetation surveys.

[iv] Matheus, P. and Omtzigt, T. 2011. Yukon Revegetation Manual: Practical Approaches and Methods [Beta].

APPENDIX G SEDIMENT & EROSION CONTROL PLAN

1. Introduction

The objective of the Sediment and Erosion Control Plan is to provide guidance on controlling run-off, minimizing erosion in exposed areas, and preventing inputs of sediment into water bodies at the Faro Mine Site (FMS). This plan describes detailed measures derived from Best Management Practices to prevent, minimize and control erosion of exposed erodible materials and sediment mobilization.

1.1 Purpose

The implementation of this Sediment and Erosion Control Plan helps ensure that the following risks are appropriately mitigated:

- Potential impacts to surface water quality and aquatic habitat (i.e. including water chemistry and watercourse function); and,
- Potential effects on the stability of infrastructure.

1.2 Application

The Sediment and Erosion Control Plan provides a summary of how to achieve and maintain compliance with relevant federal and territorial legislation (i.e. acts and regulations), permits and licences. Where vegetation is planned to be disturbed or soils/materials are planned to be handled the Environmental Protection Plan must directly address the requirements of the Sediment and Erosion Control Plan. The Environmental Protection Plan is to be developed by the contractor or consultant performing the work and must be submitted for review prior to commencing site work (per the Environmental Management Plan).

Crown-Indigenous Relations and Northern Affairs Canada will ensure that the Sediment and Erosion Control Plan is maintained with the most current information and will be updated on an as-needed basis. Draft revisions will be provided for comment to Public Services and Procurement Canada, the Environmental Monitoring Services Contractor and the Main Construction Manager for comment and revision before each version is finalized.

2. Legislation

Contaminated Sites Regulation [YOIC 2002/171], 2021

Fisheries Act [R.S.C., 1985, c. F-14], 2019

Authorizations Concerning Fish and Fish Habitat Protection Regulations [SOR/2019-286], 2019

3. Activities Subject to the Sediment and Erosion Control Plan

The Sediment and Erosion Control plan applies to the following types of activities:

- Maintenance of waste rock storage facilities
- Maintenance of diversions and site drainage containment system maintenance (dams, spillways, dikes, berms, collection ponds)
- Test pitting
- Soil/rock sampling
- Equipment installation including wells, thermistors, and flow measurement facilities
- Aquifer and pump testing
- Field trials of remedial measures
- Access route development (may include stream crossings)
- Surface geophysics
- Material sourcing and transport
- Facility construction and repairs
- Vegetation removal
- Snow clearing and stockpiling
- Site road and trail maintenance

4. Planning Work

4.1 Planning Process

Prior to conducting work that could result in sedimentation and erosion, the following steps are to be followed:

a. Assess the activity/site for its potential to cause the mobilization of sediments and erosion. During this, consider:

- Potential water quality contaminants of concern generated by the activities/sites;
- Work site areas that are more susceptible to erosion and sedimentation (e.g. silty soils, permafrost, steep and long slopes);
- Stream and drainage control points, and areas where vegetation should remain for erosion prevention purposes; and,
- Prevailing wind directions.

b. Prepare a Sediment and Erosion Control Plan for the Environmental Protection Plan, include a:

- Summary of the work and site, focusing on elements of erosional and sedimentation concern;
- Detailed description of the sediment and erosion control measures that will be employed, including the location of control measures and the timing of installation, inspection and maintenance of

these measures;

- Monitoring plan which includes a description of sampling methods, locations, frequency, and thresholds for taking further sediment and erosion control measures; and,
- Inspection, maintenance and adaptive management details.

c. Apply and obtain a Ground Disturbance Permit

d. Obtain approval from Main Construction Manager to commence work

4.2 Planning Considerations

The selection and implementation of sediment and erosion control measures will consider the following factors:

- The size of work site
- The grade of the work site
- The type of activity and resulting disturbance
- The duration and intensity of the disturbance
- The time-of-year of the work
- Potential sources and volume of water into the work site
- The activity/site's proximity to a water body
- Potential climate impacts
- The nature of the disturbed material (i.e. texture and percolation characteristics)

4.3 Planning Resources

The following documents will be used to assist in developing activity/site specific plans:

- EDI Environmental Dynamics Inc. 2003. Runoff, Erosion and Sediment Control Best Management Practices for Yukon Placer Mining Operations. Retrieved November 24, 2021.
- Yukon Government. 2019. Preferred practices for works affecting Yukon waters. Retrieved November 24, 2021.

5. General Erosion and Sedimentation Risk Factors and Prevention Measures

5.1 Risk Factors

Erosion and sedimentation are more likely to occur under the following conditions:

- Exposed steep slopes e.g. waste rock dumps, stockpiles and excavation walls
- Exposed soils including cover trials, areas of vegetation removal and areas of thawing permafrost
- High traffic areas which have resulted in compacted surfaces

- Construction and/or disturbance areas close to water bodies and/or slopes
- Heavy precipitation events
- High wind events

5.2 Prevention and Mitigation Measures

The following measures are to be implemented to reduce or prevent the effects of erosion and sedimentation:

- Identify areas susceptible to erosion
- Limit areas of vegetation and soil disturbance (i.e. delineate area for clearing and grading using flagging tape)
- Limit water flow entering and flowing through work areas
- Limit the length of time that erodible materials are exposed (e.g. stage/sequence ground disturbance to minimize the area of exposed material at any given time)
- Limit steepness and length of slopes of disturbed areas and stockpiled material
- Limit vehicle access routes and vehicle traffic in work areas
- Avoid placing material stockpiles on slopes, near watercourses, and near drainage features
- Avoid work during periods of high precipitation
- Avoid work during high wind events
- Avoid work in sensitive areas during the time-of-year when erosion is more likely (e.g. freshet)
- Avoid areas that are susceptible to erosion (e.g. silty soils, permafrost, steep and long slopes); areas susceptible to erosion cannot be avoided, identify any additional measures to be implemented to avoid erosion and sedimentation
- Avoid the disruption of vegetation buffers near sensitive areas (e.g. erosion prone areas, streams)
- Ensure the installation of erosion control measures before the commencement of works
- Ensure that materials required for sediment and erosion control measures are available on-site
- Ensure that the installation of stream stabilization and erosion protection measures avoid flow areas in stream
- Stabilize erodible materials as soon as practical through erosion and sedimentation control measures.
- Limit the length of time soil is disturbed through prompt revegetation, when possible
- Install sediment barriers (e.g. straw bales, bio filter, brush barrier, prefabricated barrier, silt fence, berms) around disturbed areas and stockpiled material to capture and retain sediment
- Install sediment/silt fences downgradient of work area and/or berms around stockpiled material or disturbed areas; remove fences and upgradient controls once vegetation is successfully mitigating slope erosion

- Install rock, log or straw check dams where warranted to reduce the velocity of water flow (i.e. typically installed in a series), protecting the channel from erosion
- Install geotextile sediment/silt fence to capture sediment in channels thereby protecting downslope areas and preventing further movement of sediments (i.e. sediment settles upstream of the fence)
- Install sediment traps and/or dewatering basins to pond sediment laden water in order to allow sediment to precipitate and clean water to either percolate or discharge through a passive overflow outlet
- Install diversion ditches/berms/swales to divert sediment laden water towards, sediment/silt fence, sediment traps and/or dewatering basins
- Install interception ditches/berms/swales to intercept and divert clean water away from disturbed areas (i.e. direct clean water to less sensitive areas)
- Install rolled erosion control products (i.e. sheets of permeable fibrous material) where warranted (i.e. directly adjacent to streams or on highly erodible/sloped disturbed areas)
- Stabilize disturbed areas with vegetation where practicable after initial disturbance
- Apply a multi-barrier approach where warranted
- Apply clean aggregate to trafficked areas to stabilize and prevent further exposure of erodible material
- Cover erodible material, where possible, with impermeable material (e.g. tarp). Temporary control measure only
- Lightly roughen the surface on flat to moderately sloped disturbed areas to trap runoff and allow water to infiltrate
- Re-contour sloped areas to reduce the potential of erosion
- Land forming to limit erosions, where practical
- Temporary sediment control features will focus on diverting non-contact water away from working areas and intercepting surface runoff flows from disturbed areas to limit discharge of suspended solids
- Promote rapid ground cover establishment to limit erosion and promote revegetation following cover construction
- Where necessary to limit erosion, install protection (such as rock aprons) at inlets and outlets of culverts to provide erosion protection and prevent localized erosion from high velocity flow

6. Inspection

Inspections by the Main Construction Manager will be conducted to ensure that activity/site specific sediment and erosion plans are adhered to, are effective (i.e. ensure that mitigation measures are appropriate/successful), and to verify if maintenance is required. The frequency of inspections of erosion control measures should be based on risk and sensitivity of the area. At a minimum, inspections should occur at all control measures after installation and, before and after all significant precipitation events to ensure they will remain effective and/or have functioned adequately during the event. The

focus, extent and frequency of the inspections of erosion and sediment control measures will be dependent upon the activities, the measures being used, weather, and site conditions. Should it be identified that sediment and erosion control measures are not being implemented as planned or that maintenance is required (e.g. cleaning or replacement), corrective actions will be taken without delay. The activity/site specific plan will be revisited should it be identified that measures not adequately address sedimentation and erosion concerns or should there be changes to the activity/site conditions.

7. Monitoring

Erosion and sedimentation effects will be evaluated at individual sites by visual observations and, in case there is an impact to water quality, by comparing water quality in the work area to an upstream/reference sample. This will be done per the Fish Habitat Protection and Water Quality Management Plan. Should monitoring results indicate an exceedance of site specific thresholds, the Contract is to notify the Main Construction Manager and the Environmental Monitoring Services Contractor immediately. The Contractor will collect a full suite of water quality samples from the impacted water body and apply additional sediment and erosion control measures (i.e. adaptive management will be used to correct measures which are unsuccessful at addressing erosion and sedimentation concerns).

8. Maintenance

As a result of inspection and monitoring activities, maintenance may be required such as cleaning, repair, and replacement of erosion and sediment control measures. Maintenance may also occur on scheduled intervals. More frequent or intensive maintenance may be required during periods of increased material handling activities, increased precipitation or increased wind.

Erosion and sedimentation mitigation measures will remain in place and will be maintained until all disturbed areas in the work area have stabilized; as approved by the Main Construction Manager.

9. Prior to closing the ground disturbance permit

Remove all installed control measures once the area is stabilized. If that is not achievable, provide a plan to the Main Construction Manager for what monitoring, maintenance and removal work is to be completed until the area is stabilized. The Main Construction Manager is responsible for closing out the ground disturbance permit, but additional monitoring required after the work package may be transferred to the Care and Maintenance Contractor.

10. Reporting

This section outlines the required reporting under the EMP. Additional reporting and/or record-keeping requirements may be identified and communicated by the Main Construction Manager if it is needed for their oversight of environmental scopes of work.

All work that is subject to the measures in the EMP and the Materials Management Plan are eligible to be audited as part of the Project's Environmental Audit Program. As such, accurate and complete record-keeping are key requirements to determine conformance with the EMP and compliance with applicable legislation.

10.1 Data Management and Reporting

Where work undertaken in accordance with this Plan requires analysis of samples, this data will be uploaded to Crown-Indigenous Relations and Northern Affairs Canada's EQuIS database by the team collecting the data and reviewed for quality assurance and quality control by the collecting agency, as per the requirements of their contract. In circumstances where the data collection team and Canada have agreed that another data management platform may be used instead of EQuIS, full access to the data will be provided to Canada, and access may need to be granted to other project teams and partners depending on the type of data.

10.2 Sediment and Erosion Control Report

A sediment and erosion control report is due at the end of a work package (prior to closing a ground disturbance permit), or annually if the work package spans more than one year. This requirement should be considered in the development of the Environmental Protection Plan for works that will be subject to the measures listed in this Plan. The report is to be completed by the contractor or consultant performing the work and submitted to the Main Construction Manager's Environment Manager. The following information is to be included in that report:

- Areas assessed for sediment and erosion control;
- Material used in-stream or in the riparian area (volumes and sources);
- Monitoring methods (dates and locations tested, sample collection and analytical methods);
- Summary of monitoring results (observations, field data and laboratory data);
- Summary of sediment and erosion control materials in-situ being monitored and maintained (include a figure); and,
- Recommendations.

APPENDIX H SPILL PREVENTION AND RESPONSE PLAN

1. Introduction

This Spill Prevention and Response Plan outlines mitigation measures to help reduce the potential of a spill and to guide the response in the event of a spill at the Faro Mine Site (FMS). The implementation of this plan will reduce the potential of spills to contaminate the soil, vegetation and waterways. For any releases to surface water that is not fully captured or contained as part of the FMS' contact water system, refer to Appendix A Fish Habitat Protection and Water Quality Management Plan.

1.1 Application

This plan provides a summary of how to achieve and maintain compliance with relevant federal and territorial legislation (i.e. acts and regulations), permits and licences. Where hazardous materials are planned to be used or where contaminated materials have the potential to reach the soil, vegetation and waterways, the Environmental Protection Plan must directly address the requirements of the Spill Prevention and Response Plan. The Environmental Protection Plan is to be developed by the contractor or consultant performing the work and must be submitted for review prior to commencing site work (per the Environmental Management Plan).

Crown-Indigenous Relations and Northern Affairs Canada will ensure that the Spill Prevention and Response Plan is maintained with the most current information and will be updated on an as-needed basis. Draft revisions will be provided for comment to Public Services and Procurement Canada, the Environmental Monitoring Services Contractor and the Main Construction Manager for comment and revision before each version is finalized.

2. Legislation

Currently the FMS is on Yukon land and for this reason, the Territorial *Environment Act* and its Regulations apply. It is anticipated that the administration and control of the land will be transferred from the Commissioner of Yukon back to Canada pursuant to the *Yukon Act*. Once the transfer of administration and control is complete, several pieces of territorial legislation will cease to have application the FMS. This includes the Contaminated Sites Regulations under the *Environment Act* which only applies to lands under the administration and control of Yukon. Despite this, even when the FMS is on federal land, the Territorial Environment Act will apply when contaminated material is to be relocated off the FMS.

Hazardous Products Act [R.S.C., 1985, c. H-3], 2018

Canada Labour Code [R.S.C. 1985,c.L-2], 2021

Controlled Products Regulations [SOR/88-66], 2015

Workplace Hazardous Materials Information System Regulation [YOIC 2015/151], 2015

Transportation of Dangerous Goods [SOR/2001-286], 2021

Environmental Emergency Regulations [SOR/2019-51], 2019

Yukon Government Spills Regulations [YOIC 2002/171], 2021

Yukon Government Special Waste Regulations [YOIC 1995/47], 2015

Storage Tank Regulations [YOIC 1996/194], 2015

3. Hazardous Substances

Part II of the Canada Labour Code defines "hazardous substance includes a controlled product and a chemical, biological or physical agent that, by reason of a property that the agent possesses, is hazardous to the safety or health of a person exposed to it".

Section 2 of the *Hazardous Products Act* defines a controlled product as any product, material or substance included in any of the classes listed in Schedule II of the Controlled Products Regulations.

When working with or around Hazardous Substances, all workers are to be trained on them, in accordance with Occupational, Health and Safety Plan.

A full list of hazardous substances onsite can be found in the Occupational Health and Safety Plan. The locations for known chemicals, fuel and other hydrocarbon products are also shown in that plan.

Copies of the Safety Data Sheets for these hazardous substances will be maintained at the FMS Security building, Guardhouse, water treatment plants. Additional copies are also held at the Main Construction Manager's office in Calgary, Alberta.

4. Ties to Occupational, Health and Safety Plan

This Spill Prevention and Response Plan is tied closely with the FMS Occupational, Health and Safety Plan., which includes more detailed information on the following:

- Incident control hierarchy and framework.
- Medical and First Aid Response
- Fire Response Training
- Training on Hazardous substances, including:
    - Recognizing hazardous substances;
    - Understanding the risks associated with hazardous substances;
    - How to activate alarms to report a release; and,
    - How to contain a hazardous substance.

This training will be documented and updated per the Occupational, Health and Safety Plan. It will include training on the Workplace Hazardous Materials Information System (WHMIS), Transportation of Dangerous Goods, and hazardous material-specific training based on their anticipated work tasks.

5. Types of Spills On the FMS

Petroleum products on site may leak or spill. Environmental impacts from spills of petroleum products onto ground should be localized, however leaks to waterways could have a potentially severe environmental effect. Additional threats to onsite workers, buildings or equipment could exist if a possibility of fire or explosion exists.

Hazardous waste will accumulate onsite from waste generated site activities and from any spill cleanup activities. Examples of waste containers to be maintained on site include dumpsters for municipal waste, lined woven fabric bags for empty hydraulic oil containers, and bins for recyclable materials. Leaks from these containers should be localized, leading to minimal environmental effect and no significant threat to workers, the public, or buildings or equipment on site.

Lime is stored at each water treatment plant in silos. It is in dry form but is blended with water in a slaker to create a 21% density product and then transferred to a third tank where it Is diluted down to 4% and injected into the water treatment process same process at each plant. Environmental impacts from spills of lime onto ground should be localized, however leaks to waterways could have a potentially severe environmental effect.

Contaminated water management failure has the potential to be a significant environmental risk. This could be caused by:

- Potential failure and/or overtopping of the dams in the Rose Creek tailings area.
- Potential failure of the many dam-like structures on site because of the lack of an engineered design, improper construction quality control, inadequate freeboard and spillways.
- Significant failure in the water treatment plants.
- Water levels in any of the pits rising uncontrollably or unexpectedly could cause significant issues related to water balance, and errors in water analysis causing improper release with all other systems intact).

These risks are magnified in light of uncontrollable events such as freshet causing high water flows over short periods. The consequence is environmental damage, issues related to key stakeholders, and ultimately failure of the site. In the worst case, the damage could be significant and permanent.

Failure of the clean water ways; or contamination of them from other sources is a risk for the site. Specific elements of this risk include the following:

- Rose Creek, with its length in close proximity to the tailings facilities and hydraulic communication occurs between them. The elevation of Rose Creek varies along its run. In some locations, the gradient is from Rose Creek into the tailing facility; in other locations, the gradient is from the tailings to the creek.
- Faro Creek Diversion, with its location north of the Faro Pit, is susceptible to leakage or overflow into the Faro pit. Seasonal variations coupled with ice jams, ice formation, or pit wall instability will increase this risk.
- The Cross Valley Pond and Dam, as the storage area for treated water waiting for discharge, could become contaminated by the up-gradient tailings facilities. Again, seasonal changes could exasperate the risk.

The likelihood of these risks occurring increased as factors could contribute to them, including: freezing

of the water diversions, creeks, and ditches during the winter months and ice blockage in the during seasonal freshet. Additionally, debris could block the diversions, waterways and culverts. The consequence of this occurring would be high, as the water balance store on site would increase significantly and cause the water contamination risk failure to increase.

The potential of a propane tank leak exits on site, however, due to the volatile nature of propane, emergency response by site personnel will be limited to securing the location from access in order to protect the safety of onsite workers and the public, and eliminate sources of ignition (as safe to do so).

Fire or explosion from flammable liquids or combustible solids is a potential emergency for this site, causing risk to personnel and materials.

6. Spill Prevention

This section outlines the site systems that handle or store hazardous substances and the procedures used to prevent releases or detect and mitigate releases at an early stage.

Water Management

- Close and continuous monitoring of the dams and structures, especially during the spring thaw. Conditions need to be responded to in a proactive way (these structures are the last line of defense).
- Close monitoring of external factors (snow pack, long-term forecasts, etc.) to ensure contingency plans are in place in case of upset conditions.
- Close monitoring of the diversions, particular during times of high flow and under freezing conditions.
- Continued groundwater monitoring to ensure what is unseen is understood.
- Continuous vigilance on inspection and maintenance of the tailings dams.
- Ensure that the most rigorous standards related to water sampling are adhered to. Technical work needs to be treated with respect and diligence.
- Proactive review of the reliability of the water treatment plants, including drawing on expected mean time-to-failure data and historical data.
- Specific plans with contingencies to deal with ice formation and debris, especially at times of high flow.
- Wastewater treatment systems include emergency shut-down controls (e.g. float switches). The systems will be visually inspected for worn or broken components on a daily basis while in operation.
- For the purposes of this EMP, a release of 500 L or greater of water with parameters above the Effluent Quality Standards (Appendix A Fish Habitat Protection and Water Quality Management Plan) is associated with a Major Spill.

Propane Tank Management

- A release of any amount of gas from a container larger than 100 L or where the spill results from equipment failure, error or deliberate action or inaction.
- Propane tanks will be inspected regularly; the inspection schedule, when established, will be included in the Occupational Health and Safety Plan.

Lime

- A release of 5 kg or 5 L of lime is associated with a Major Spill.
- Spills are controlled by a) only transferring dry lime when there is sufficient space to do so and it can be done 'in a controlled fashion; b) using a meter in slaked lime via an instrument-controlled process; and, c) using the appropriate containers and equipment.

Petroleum Products

- A release of 200 L or greater of gas or diesel is associated with a Major Spill.
- Used oil tanks, fuel tanks, generators, heavy equipment, vehicles, and other equipment onsite that contain or use petroleum products will be inspected regularly. The inspection schedule, when established, will be included in the Occupational Health and Safety Plan.
- Any equipment needing repair will be tagged out of service. If leaks are identified, adsorbent pads or materials will be positioned to constrain or minimize the spread of contamination.
- Any heavy equipment parked or stored on site for more than 8 hours will have a spill tray placed to catch oil drips.

Accumulation and Storage of Hazardous Waste

- Hazardous Waste will be stored and handled per the Waste Management Plan, applicable Permits, and per the Safety Data Sheet for each substance.

7. Requirements regarding heavy equipment

7.1 Potential Heavy Equipment Usage/Storage Area

Where an area is proposed to be used to stage heavy equipment, the following steps are to be followed before the area is approved for that use:

- Prior to commencing any assessment, ensure the work is being led by someone who understands and implements the Yukon Contaminated Sites Regulation and its most recent Protocols.
- To assess the existing presence of contamination in the soil, follow Protocol no. 3: Soil sampling procedures at contaminated sites.
- All samples collected are to be analyzed at an off-site, commercial laboratory, in compliance with Protocol no. 2: Analysis of samples taken and Protocol no. 5: Petroleum hydrocarbon analytical methods and standards; and,
- Analytical results are to be compared to Yukon Contaminated Sites Regulation standards.

If the area is found to be contaminated with hydrocarbons above the Yukon Contaminated Sites Regulation Standards, it cannot be used to stage heavy equipment.

7.2 Operational Procedures

If the area is approved to be used as a staging area, then this EMP is to be followed during its use. Prior to the contractor demobilization from site, they must confirm that the area was not contaminated by their activities. They are to follow these steps:

- Prior to commencing any assessment, ensure the work is being led by someone who understands and implements the Yukon Contaminated Sites Regulation and its most recent Protocols;
- To assess the existing presence of contamination in the soil, follow Protocol no. 3: Soil sampling procedures at contaminated sites;
- All samples collected are to be analyzed at an off-site, commercial laboratory, in compliance with Protocol no. 2: Analysis of samples taken and Protocol no. 5: Petroleum hydrocarbon analytical methods and standards; and,
- Analytical results are to be compared to Yukon Contaminated Sites Regulation standards.

If the results indicate the presence of a spill, they are to follow the spill response methods outlined in the following section.

7.3 Reporting Requirements

A report is to be provided to Canada and the contractor using the area. That report is to include:

- Photos of the area;
- Methods of the assessment, including: sample locations (including a description and GPS coordinates), field and laboratory results, and results compared to applicable standards (either the background standard (as established per the Contaminated Sites Regulations) or the Standards in Schedules 1, 2, and 3 of the Contaminated Sites Regulation); and,
- Methods of the spill remediation, including: Spill remediation sample locations, field and laboratory results, and results compared to applicable standards (either the background standard (as

established per the Contaminated Sites Regulations) or the Standards in Schedules 1, 2, and 3 of the Contaminated Sites Regulation).

8. Spill Response Resources

The spill kits are to be maintained on site in locations, as shown on Drawings No 5 through 7. They include respirators, nitrile gloves, disposable coveralls, absorbent socks, pillows and pads, disposable bags, and caution tape.

Spill Kits are stationed and maintained near Fuel Tanks and at equipment fueling areas. These include: 10 Oil Absorbent Pads (17” × 19”), 3 Oil Absorbent booms (3” × 48”), 5 Pair of vinyl / latex gloves, 1—-kg bag of dichotamous earth (or acceptable substitute); and, Garbage bags.

8.1 General On-Site Supplies

The Main Construction Manager’s job site storage container includes the following supplies at all times:

- All required personal protective equipment for site work (i.e. gloves (nitrile and heavy duty), disposable coveralls (Tyvek), CSA safety glasses, CSA hard hats, CSA boots, Respirators complete with cartridges for particulate/organic vapor/acid gas);
- At least 10 bags (100 pads per bag) of Oil Absorbent Pads (17” ×19”);
- 5 bags of Oil Absorbent booms (3” ×48”);
- Hazardous waste storage bags;
- Safety equipment: first aid kit, fire extinguishers, reflective vests, safety triangles, eye wash kit;
- Containment equipment: 20 bags of dichotomous earth (floor dry), salvage drums, oil booms and pads, bulk bags, 6 ml polyethylene sheeting, rags;
- Decontamination equipment: spray bottles, brushes, wash basins, tarps;
- Tool box: wrenches, pliers, wire cutters, vice grips, screwdrivers, knives;
- Hand tools: jack all, wrecking bar, chains, shovel, spade, broom, sledge hammer, bolt cutters, hand pump;
- Electrical equipment: generators, emergency lighting, extension cords, flashlights, booster cables, grounding cables and bars; and,
- Other miscellaneous supplies: garbage bags, duct tape, paper towels, funnels.

8.2 Emergency On-Site Supplies

Emergency equipment that the Main Construction Manager is to maintain and make available:

- Two 1,000 L water tanks with dust control water (to manage dust);
- Water truck (12,000 L) (to manage dust);
- 2 Vacuum trucks (to manage dust);
- Hose and nozzles equipped to spray large areas (to manage dust);
- A CAT 330;
- A CAT 305 or equivalent small excavator;
- Skid Steer (model type to be verified); and,
- Gravel trucks are also available in the event of a large spill.

8.3 Contact Information

Site hazards and emergency procedures will be communicated to the Town of Faro, the regional Mine Inspector and the Department of Transportation through a presentation to be provided prior to the commencement of work.

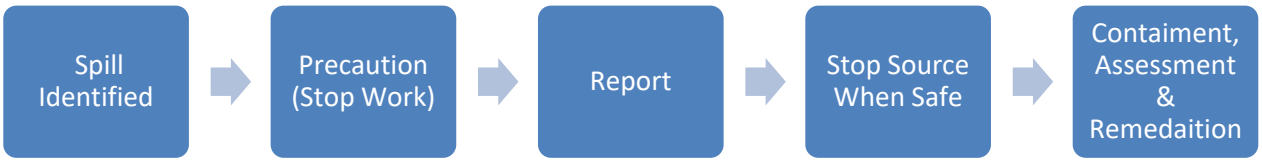
The Main Construction Manager personnel will commence the initial spill response. A third party contractor response team may be mobilized to assist or give guidance with the spill response if the spill is beyond the capabilities of the onsite personnel.

Table H.1 Emergency contacts

CONTACT	PHONE NUMBER
Faro Ambulance Service and Nursing Station	867-994-4444
Poison Control	867-393-8700
Police (RCMP)	867-994-5555/ 867-994-2862
Fire Department (limited resources)	867-994-2222
Wildland Fire Management Line (Reporting Wildfires)	1-888-798-3473
Yukon's 24-Hour Spill Line	867-667-7244
Yukon Search and Rescue	867-667-5555
Yukon Government Highways and Public Works- Transportation of Dangerous Goods General Inquiries	867-667-5920/ 1-800-661-0408 Ext. 5920
Main Construction Manager- Site Security	867-994-2600 Ext. 0000
Main Construction Manager- Site Manager	867-994-2600 Ext. 0001
• Cellular	250-702-5272
Main Construction Manager- Site Superintendent	867-994-2600 Ext. 0002
• Home	867-994- 3344
Main Construction Manager- Health & Safety Manager	867-994-2600 Ext. 0012
• Cellular	867-689-1806
Main Construction Manager- Environment Manager	867-994-2600 Ext. TBD
• Cellular	250-877-9511 or 867-332-4156
Main Construction Manager- Project Manager	403-294-4243

9. Spill Response Sequence of Events

The normal course of action to be followed in the event that a spill of any hazardous material is identified onsite is described below:



9.1 Precaution (Stop Work)

- Once a spill is identified, precaution should always be maintained as discharges may pose serious hazards to personnel health and safety.
- All site work should be stopped as soon as safe to do so while the spill response requirements are determined.
- Identify the hazardous substance(s) spilled or potentially impacted by the spill:
  - Spilled contaminated water constitutes a threat to human health, and both contaminated and clean water pose a threat to property and may create additional hazards onsite (e.g. slippery conditions, unstable structures).
  - Spilled fuel constitutes a hazard of fire and explosion with associated threats to human life and property. Even before explosive levels, petroleum or solvent vapours can be hazardous to personnel due to anesthetic and toxic effects that result in vertigo, loss of consciousness and death. If anyone is injured, appropriate emergency responders should be called immediately. Personnel should remain upwind of the spill site.
- Assess the hazard- remember that safety and protection of life and limb take precedence over environmental protection. If there is a threat to personnel safety, evacuate the area immediately. Otherwise, mark the area as a hazardous work area, account for all personnel and keep them outside and upwind from the hazardous work area.

9.2 Report

- Report the spill to the immediate supervisor verbally by radio or telephone. If possible, identify the spilled product so that the information can be relayed to the supervisor. The supervisor will alert the Mine Manager and Crown-Indigenous Relations and Northern Affairs Canada's Environment and Compliance Manager. The Mine Manager will alert authorities (including Police, Fire and Ambulance, if required).
- Review the Safety Data Sheet for the substance(s).
- If the quantity or volume of material spilled is considered reportable, the Mine Manager will report to the Yukon's 24-hour spill report line. Immediately reportable spill quantities for various substances. Immediate reportable quantities in accordance with Transportation of Dangerous Goods Regulations. Volumes greater than the reportable quantities outlined within legislation as reportable is considered a Major Spill. Anything spilled below those quantities is a Minor Spill.
- Additional details on reporting requirements are described in section 13.

9.3 Stop the Source

- Review the Safety Data Sheet for the substance(s). and don all PPE recommended by the SDS. Take all reasonable and practical action, as long as it is safe to do so, to stop, contain and minimize the effects of the spill.
- Spill Containment, Assessment and Remediation will focus on containing and cleaning up the discharge. The Site Manager will mobilize the Incident Command Team and draw in additional subject matter experts to assist with clean up as required.
- Provide appropriate and fast help to reduce risks and damage (i.e. first aid to workers, extinguish fire, shut off valves, provide traffic control, stop product flow, etc.).

10. Spill Containment, Assessment and Remediation–- Major Spill

A Major Spill is where a volume of contaminated material or hazardous substance is released that is equal to or greater than a reportable limit under the Contaminated Sites Regulations and/or the Environmental Emergency Regulation. The procedures to manage a major spill are outlined herein.

a. Identify the character, exact source, amount, and extent of the release, as well as the other items needed for notification.

b. Eliminate the risks and incident consequences by appropriate actions (including inspecting the work area for hazards, ensure all staff are appropriately trained to respond to the hazardous substance, ensure all staff working on the spill are wearing the appropriate PPE, have a fire extinguisher handy (if appropriate for work), review the SDS with all staff working on the spill).

c. Isolate and contain the spill with available equipment, if possible. Initiate containment strategies and prevent the spilled material from entering watercourses (ex. streams, creeks and ditches), catch basins and/or sewers by diking ditches, if necessary.

    - If the spill involves liquids, spread absorbent materials from the spill kit to stop percolation of spilled substances. Block the spill's pathway to any waterways. If necessary, provide temporary curbing using sorbent booms, diking or sandbags to limit the spread of spilled materials. If spill is a dust like material, use water to stop the dust from spreading.
    - For spills into a surface water body, containment procedures will vary on the type of contaminant, and whether it is standing or flowing water. For contaminants that float, a surface boom may be utilized. In flowing water, the boom must be placed across the flow, downstream of the release, in an area of decreased water velocity. For contaminants that are heavier than water, a containment dyke should be constructed if possible. For contaminants that mix thoroughly with water, spill response efforts are to focus on stopping the release and containing it for re-capture.
    - If the material is a dust or airborne contaminant, shut off air intake valves, spray the area with water – preferably as mist.

d. Prior to commencing any assessment and/or remediation, ensure the work is being led by someone who understands and implements the Yukon Contaminated Sites Regulation and its most recent Protocols.

e. To assess the extent of the spill in soil, follow Protocol no. 3: Soil sampling procedures at contaminated sites and/or Protocol no. 7. Groundwater monitoring well installation, sampling &

decommissioning and Technical guidance for contaminated sites: Groundwater investigation and characterization.

f. All samples collected are to be analyzed at an off-site, commercial laboratory, in compliance with Protocol no. 2: Analysis of samples taken and Protocol no. 5: Petroleum hydrocarbon analytical methods and standards.

g. Analytical results are to be compared to Yukon Contaminated Sites Regulation standards.

h. Waste that is generated in the form of spilled product, contaminated soil, or absorbents used to contain and clean up the spill, will be disposed of in accordance with the Yukon Environment Act and Special Waste Regulation, where the hazardous waste will be disposed of at an appropriately registered hazardous waste management facility by the Yukon Government. When necessary, the waste will be characterized prior to disposal.

i. If the spill cannot be fully remediated, agreement must be reached on monitoring, mitigation measures and an adaptive monitoring plan with Canada.

11. Spill Containment, Assessment and Remediation–- Minor Spill

A Minor Spill is where a volume of contaminated material or hazardous substance is released that is less than a major spill but more than a negligible spill. The procedures to manage a minor spill are outlined herein.

a. Follow steps a–- c from the Major Spills section (Section 10).

b. Prior to commencing any assessment and/or remediation, ensure the work is being led by someone who understands how to collect and request the analyses of media samples for the spilled substance.

c. To assess the extent of the spill in soil, outline the stained area in paint. If safe to do so, use scent as a rough indicator of the extent of contamination.

d. Excavate the outlined area as soon as possible. Collect the following soil samples:

- Grab sample from the base of the remediated excavation (below where the spill migrated deepest; and,
- Composite sample from the four walls of the excavation.

e. All samples collected are to be analyzed at an off-site, commercial laboratory, in compliance with Protocol no. 2: Analysis of samples taken and Protocol no. 5: Petroleum hydrocarbon analytical methods and standards.

f. Waste that is generated in the form of spilled product, contaminated soil, or absorbents used to contain and clean up the spill, will be disposed of in accordance with the Yukon Environment Act's Special Waste Regulation, where the hazardous waste will be disposed of at an appropriately registered hazardous waste management facility by the Yukon Government. When necessary, per the Special Waste Regulation, the waste will be characterized prior to disposal.

12. Spill Containment, Assessment and Remediation–- Negligible Spills

A Negligible Spill is where a volume of contaminated material or hazardous substance is released that is less than a What the Transportation of Dangerous Goods Regulations permits in a Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index. The procedures to manage a negligible spill are outlined herein.

- Follow steps a–- c from the Major Spills section (Section 10).
- To assess the extent of the spill in soil, outline the stained area in paint. If safe to do so, use scent as a rough indicator of the extent of contamination.
- Excavate the outlined area as soon as possible.
- Waste that is generated in the form of spilled product, contaminated soil, or absorbents used to contain and clean up the spill, will be disposed of in accordance with the Yukon Environment Act and Special Waste Regulation, where the hazardous waste will be disposed of at an appropriately registered hazardous waste management facility by the Yukon Government. When necessary, the waste will be characterized prior to disposal.
- If the spill cannot be fully remediated, agreement must be reached on monitoring, mitigation measures and an adaptive monitoring plan with Canada.

13. Reporting

This section outlines the required reporting under the EMP. Additional reporting and/or record-keeping requirements may be identified and communicated by the Main Construction Manager if it is needed for their oversight of environmental scopes of work.

All work that is subject to the measures in the EMP and the Materials Management Plan are eligible to be audited as part of the Project's Environmental Audit Program. As such, accurate and complete record-keeping are key requirements to determine conformance with the EMP and compliance with applicable legislation.

All spills are to be recorded in the spill tracker table (per the EMP, Section 7).

13.1 Incident Reporting

All major and minor spills will be recorded with the Main Construction Manager as an incident. A summary of this will be provided to Canada in the monthly environment reports submitted by the Main Construction Manager, as well as in the detailed incident reporting tracker submitted to Canada on a monthly basis.

13.2 Spill Reports

This section describes the information that must be collected for all spills at the FMS (Negligible, Minor, and Major).

For Negligible and Minor spills, this information will be provided to Canada, at minimum annually. For Major spills, this information will be provided to Canada, and subsequently, to the Regulatory Body (either Yukon Government, or, for spills above the Environmental Emergency thresholds, Environment and Climate Change Canada) in the time allotted.

The information that must be collected is as follows:

- A summary of the events that lead to the spill (including root-cause and contributing factors), hazardous substance spilled (type, volume, duration of spill, steps taken to control the spill, etc.)
- Photos of the spill pre-remediation, during remediation and post remediation.
- Methods of the spill assessment, including: Spill assessment sample locations (including a description and GPS coordinates), field and laboratory results, and results compared to applicable standards (either the background standard (as established per the Contaminated Sites Regulations) or the Standards in Schedules 1, 2, and 3 of the Contaminated Sites Regulation).
- Methods of the spill remediation, including: Spill remediation sample locations, field and laboratory results, and results compared to applicable standards (either the background standard (as established per the Contaminated Sites Regulations) or the Standards in Schedules 1, 2, and 3 of the Contaminated Sites Regulation), volume of material removed and proof of proper disposal of that material off site.

13.3 Data and Data Management Reporting

Where work undertaken in accordance with this Plan requires analysis of samples (e.g. soil sampling at spill location), this data will be uploaded to Crown-Indigenous Relations and Northern Affairs Canada's EQuIS database by the team collecting the data and reviewed for quality assurance and quality control by the collecting agency on at least a monthly basis. In circumstances where the data collection team and Canada have agreed that another data management platform may be used instead of EQuIS, full access to the data will be provided to Canada, and access may need to be granted to other project teams and partners depending on the type of data.

APPENDIX I WASTE MANAGEMENT PLAN

1. Introduction

This plan is to be followed by anyone conducting work on site that may produce waste on the Faro Mine Site (FMS).

The Waste Management Plan provides a summary of how to achieve and maintain compliance with relevant federal and territorial legislation (i.e. acts and regulations), permits and licences. This plan describes the handling, containment, storage, transportation, recycling, and disposal procedures for different waste streams produced by the activities and associated activities at the FMS.

1.1 Application

Where activities are planned that will generate waste, the Environmental Protection Plan must directly address the requirements of the Waste Management Plan. The Environmental Protection Plan is to be developed by the contractor or consultant performing the work and must be submitted for review prior to commencing site work (per the Environmental Management Plan).

Crown-Indigenous Relations and Northern Affairs Canada will ensure that the Waste Management Plan is maintained with the most current information and will be updated on an as-needed basis. Draft revisions will be provided for comment to Public Services and Procurement Canada, the Environmental Monitoring Services Contractor and the Main Construction Manager for comment and revision before each version is finalized.

Cleared vegetation and soils are to be managed per the Materials Management Plan.

2. Legislation

Environment Act [RSY 2002, c.76] 2020

Air Emissions Regulation [O.I.C. 1998/207], 2015

Contaminated Sites Regulation [O.I.C. 2002/17], 2021

Solid Waste Regulations [O.I.C. 2000/011], 2015

Special Waste Regulations [O.I.C. 1995/047], 2015

Designated Materials Regulation [YOIC 2003/184], 2018

Storage Tank Regulations [YOIC 1996/194], 2015

Transportation of Dangerous Goods Act [1992, SC 1992, c 34], 2019

Transportation of Dangerous Goods Regulations [SOR/2001-286], 2021

3. Waste Mitigation Measures

Implement the following practices to mitigate the effects of waste generation and management:

- Use materials efficiently to limit waste generation;
- When possible, use materials that are less harmful to the environment;
- Separate waste materials as recyclable and non-recyclable;
- Store all waste inside buildings until removal from site to an approved area for those waste requiring off-site disposal;
- Handle and store waste to avoid attracting wildlife;
- If herbicides are used, follow best practices for storage, transport, use, and disposal of hazardous substances; and,
- Train staff and contractors in the safe handling, storage, and disposal of waste materials.

4. Commercial Dump Permit #81-001

Management of FMS waste is authorized under Commercial Waste Dump Permit No. 81-001 (Permit, expiry date December 31, 2025), which authorizes the following activities.

- Operate a dump for the disposal of solid waste generated by the commercial activities of the permittee.
- Generate or store: waste oil, waste batteries, waste antifreeze, and waste solvents.
- Operate equipment for the incineration of waste oil.

Special wastes that are petroleum products may not be stored on the FMS in a storage tank with a capacity greater than 4000 L nor may non-petroleum special wastes be stored in a tank with a capacity greater than 2000 L unless specifically authorized by a permit issued pursuant to the Storage Tank Regulations.

5. Non-Hazardous Waste Management

The majority of waste generated for the FMS will be non-hazardous solid waste, and may include:

- Various pieces of equipment that requires dismantling.
- Packaging material such as plastics, cardboard and scrap metal.
- Waste wood such as pallets, container framing or other sources of scrap lumber.
- Human and household waste produced at camp facilities.

5.1 Disposal of Non-Hazardous Waste

Disposal of some non-hazardous waste is permitted in the following on-site facilities (Figure I.1):

- Demolition Dump: temporary storage of equipment that requires dismantling.
- Operations Dump: for disposal of non-hazardous, non-putrescible waste.

These facilities are not permitted to receive domestic-type waste and material containing contaminants in excess of the industrial land use standards in the Contaminated Sites Regulation, which

requires off-site disposal and/or processing. Burial of solid waste in designated areas must comply with Section 6 of the Permit.

5.2 Used Battery Management

Handle and dispose of used batteries in the following manner:

- Place in a secondary containment;
- Layer on wooden pallets (i.e., no more than three layers thick with plywood separating the layers);
- Wrap in plastic and strap to pallets; and,
- Transport by a carrier licenced in Yukon to a facility permitted to recycle the batteries.

6. Management of a Dump

Any exposed solid waste in a cell is to be covered with soil or other comparable material to a depth of at least 0.1 meters after every 0.5 meters of solid waste is deposited (unless between November 15 and April 15 of each year if soil or other comparable cover material cannot be obtained at the site).

If a new waste disposal cell is required, it shall be constructed in compliance with the siting and construction requirements outlined in the up to date "Requirements for Commercial Dumps" guidelines and the Yukon Government will be informer per the Permit Requirements.

Designated Materials (as defined by the Designated Materials Regulation) may not be placed in the cell. Special wastes or materials containing contaminants in excess of the industrial land use standards in the Contaminated Sites Regulation may not be deposited into a cell.

7. Designated Materials

All materials listed in the schedules of the Designated Materials Regulation, are to be taken periodically to a depot for those materials. These include:

- Industrial and off-road tires (those not licensed for highway use);
- Truck tires;
- Computers and computer accessories;
- Printers, fax machines and copiers;
- Electronic display devices;
- Phones and cellular devices;
- Image, audio or video systems; and,
- Electric appliances and products (including toasters, kettles, fans, microwaves, clocks, scales, heaters, vacuums, etc.).

8. Special Waste Management

Special waste will be stored as follows:

- Special waste will be segregated.
- Material Safety Data Sheets will be available and referred to for information on the appropriate handling, transport and disposal of a special waste substance.
- All containers used for the storage of special waste are clearly marked to identify what special waste is stored in the container.
- All containers and drums containing special wastes will be appropriately closed/sealed at all times and stored temporarily in a lined and bermed containment area.
- All portable containers containing special wastes are covered or stored out of inclement weather.
- All portable containers containing special wastes are stored off the ground.
- Containers used for the storage of special waste are made of materials that will not adversely react with the special waste.
- Only the same type of special waste may be stored in the same container and different containers storing incompatible substances may not be stored in the same immediate location (due to the risk of fires, explosions and/or other hazards).
- Special wastes are stored in a manner that will prevent incompatible substances from reacting adversely with each other.
- Special wastes stored in leaking containers are immediately transferred to intact containers.
- Temporary storage areas for special waste substances must have secondary containment with 110% of the total volume capacity compared to the hazardous waste being stored and must further be clearly labelled to indicate the type of special waste being stored.
- Used batteries must be enclosed in a continuous sheet of plastic, strapped to a wooden pallet. Stacking of these pallets cannot be over three meters high (and no more than two pallets on top of one another) additionally, plywood is to be placed between layers.
- Portable fire extinguishing equipment will be provided at accessible, marked locations at all storage areas. These will be placed so that maximum travel distance to the nearest unit does not exceed 100 feet.
- Substances will be stored in a planned and orderly manner to avoid endangering the safety of personnel or release to the environment.
- Combustible substances will be stored separately and not within 3 m of a building or structure.
- Driveways between and around combustible storage piles will give clearance of at least 5 m wide and are maintained free of accumulations of material or rubbish.
- Stacks, tiers, and piles will be securely stored to facilitate safe handling and loading.
- Bagged materials will be stored by stepping back the layers and cross-keying the bags at least every 10 bags high, except when restrained by walls or partitions of adequate strength.

- Special waste storage areas will be regularly inspected (with inspections documented) by the Main Construction Manager to verify that containers, drums and lined containment area are not leaking.

- The residue at the bottom of special waste containers will be segregated and treated as a special waste.

9. Special Waste Transportation

The permittee is not authorized to transport or transfer special waste other than within the FMS. All transportation off-site is to be managed by a third-party carrier authorized to transport special waste according to the federal *Transportation of Dangerous Goods Regulations*. When decommissioning and disposing of materials, stabilize materials and transfer (if appropriate) to an appropriate disposal facility.

Depending on the type and quantity of material being transported, the requirements of the Regulation regarding approved container types and labeling may be applicable. Additionally, consult the Yukon's "Special Waste Transportation" document for more information on special waste transportation requirements.

10. Special Waste Access Control

Special wastes should be stored and handled in a location where public access is prevented, except as may be required during regular operating hours. Consult the Permit for specific permit conditions regarding access control.

11. Waste Management Location

No new on-site landfills are to be added. Any existing on-site landfills are required to be located to avoid interactions with groundwater or surface water or lined if potential interactions exist.

Table I.1 Matrix of Waste storage locations, storage methods, and disposal methods for FMS.

Type of Waste	Waste Storage Location	Disposal Methods
Non-Hazardous Waste		
Domestic Waste (all camp waste, including all food waste and garbage)	Not stored onsite	Transported and disposed of in the Town of Faro municipal dump.
Recyclable Items material that can be recycled at the facility it is transported to)	a. Guardhouse	Recyclable materials are transported once a week to the Town of Faro for recycling (i.e. the Faro Bottle Depot).
Industrial Construction Waste (all non-hazardous construction waste, including drywall, glass, insulation, electrical wire, etc.)	b. Operations Dump	n/a
Used equipment (e.g. heavy equipment, old vehicles, etc.)	c. Demolition Dump	Dismantled equipment will be salvaged accordingly
Hazardous Waste		
Used Batteries	d. Norcan shop (in secondary containment).	Transported by a carrier authorized as a permit holder under the Transportation of Dangerous Goods Act in the Yukon to a facility permitted to accept this type of waste.
Used antifreeze		
Solvents		

Figure I.1 Waste Disposal Locations on Site

12. Waste Oil Incineration

Waste oil incineration is authorized under the Permit. Incinerators are located in the welding shop and maintenance buildings and are certified to burn waste oil by the Canadian Standards Association (CSA), the Underwriters' Laboratories (UL), or the Underwriters' Laboratories of Canada (UCL).

Waste oil used for heating will not exceed the contaminant levels identified in the Permit, nor will contaminated waste oil be permitted for incineration. Refer to Section 10 of the Permit for all compliance measures required for waste oil incineration.

13. Inspections and Record Keeping

The permittee shall inspect (and document inspections of) special waste storage containers, at minimum:

- Weekly in terms of visual inspections for leaks;
- Monthly in terms of the volume of special wastes stored on site;
- Annually in terms of tank/container quality, piping, and auxiliary equipment; and,
- Upon request from an environmental protection officer

Refer to the Permit for reference to appropriate record keeping requirements.

14. Record Maintenance

The following records shall be maintained in a format acceptable to Canada and an environmental protection officer for a minimum of three years and make them available for inspection by Canada and an environmental protection officer upon request:

- A current site plan showing the location of the solid and special waste storage and handling locations, and active and closed cells;
- Inspections conducted by the permittee in accordance with this permit (including the name of the person conducting the inspection, the date of each inspection, any observations recorded during the inspection, actions taken as a result of those observations, and the date each action was taken);
- Any and all deficiencies remedied in accordance with part 2.8 of the Permit, and how and when they were remedied;
- The types of special wastes generated or stored at the site, their estimated volumes, and their storage location(s);
- A copy of any waste manifests used to transport special wastes to or from the site;
- Notes concerning any release, spill, unauthorized emission, discharge, or escape that occurred at the site, including the substance involved and estimated quantity, the date of observation, any spill reports made, and clean-up procedures implemented;
- An estimate, in kilograms or tonnes, of the amount of solid waste disposed of each month the site is in operation and on an annual basis;
- The size and locations of all cells;
- Before and after photographs and a detailed description of any activities undertaken to construct or close any cell;
- Written authorization from the operator of any municipal or Yukon government solid waste disposal facility authorizing the transfer of waste to that facility, if any waste is to be transferred off-site; and,
- A log of offsite transfers and disposals of solid waste.

15. Reporting

This section outlines the required reporting under the EMP. Additional reporting and/or record-keeping requirements may be identified and communicated by the Main Construction Manager if it is needed for their oversight of environmental scopes of work.

All work that is subject to the measures in the EMP and the Materials Management Plan are eligible to be audited as part of the Project's Environmental Audit Program. As such, accurate and complete record-keeping are key requirements to determine conformance with the EMP and compliance with applicable legislation.

A Waste Management Report is due at the end of a work package (prior to closing a ground disturbance permit), or annually if the work package spans more than one year. This requirement should be considered in the development of the Environmental Protection Plan for works that will be subject to

the measures listed in this Plan. The report is to be completed by the contractor or consultant performing the work and submitted to the Main Construction Manager's , Environment Manager. The following information is to be included in that report:

- Inspection reports consistent with the Permit (including the name of the person conducting the inspection, the date of each inspection, any observations recorded during the inspection, actions taken as a result of those observations, and the date each action was taken);
- Notes concerning any release, spill, unauthorized emission, discharge, or escape that occurred at the site, including the substance involved and estimated quantity, the date of observation, any spill reports made, and clean-up procedures implemented;
- An estimate, in kilograms or tonnes, of the amount of solid waste disposed of each month the site is in operation, and on an annual basis for work packages that span more than one year;
- The size and locations of all cells;
- Before and after photographs and a detailed description of any activities undertaken to construct or close any cell;
- Written authorization from the operator of any municipal or Yukon government solid waste disposal facility authorizing the transfer of waste to that facility, if any waste is to be transferred off-site; and,
- A log of offsite transfers and disposals of solid waste.

APPENDIX J WILDLIFE AND WILDLIFE HABITAT MANAGEMENT PLAN

1. Introduction

This Wildlife and Wildlife Habitat Management Plan describes the management approaches and best management practices to prevent and/or minimize adverse effects on wildlife and wildlife habitat. The Wildlife and Habitat Management Plan provides considerations for all terrestrial, aquatic and riparian wildlife values.

1.1 Purpose

The objectives of this Wildlife and Habitat Management Plan include the following:

- Identify any activities that have the potential to result in adverse effects to wildlife and wildlife habitat, and that will be mitigated;
- Provide focused attention on risks to valued, rare and endangered species;
- Identify mitigation measures to avoid and/or minimize potential adverse effects;
- Ensure effects are monitored and management strategies are adapted so as to ensure that mitigation measures are applied and are efficient; and,
- Ensure that management of wildlife and wildlife habitat are in compliance with territorial and federal legislation.

1.2 Application

The Wildlife and Habitat Management Plan provides a summary of how to achieve and maintain compliance with relevant federal and territorial legislation (i.e. acts and regulations), permits and licences. Where wildlife or wildlife habitat may be disturbed by work, and the Environmental Protection Plan must directly address the requirements of the Wildlife and Wildlife Habitat Protection Plan. The Environmental Protection Plan is to be developed by the contractor or consultant performing the work and must be submitted for review prior to commencing site work (per the Environmental Management Plan).

Crown-Indigenous Relations and Northern Affairs Canada will ensure that the Wildlife and Wildlife Habitat Management Plan is maintained with the most current information and will be updated on an as-needed basis. Draft revisions will be provided for comment to Public Services and Procurement Canada, the Environmental Monitoring Services Contractor and the Main Construction Manager for comment and revision before each version is finalized.

Note that this document includes content from the Terrestrial Management and Effects Monitoring Plan included in the Faro Mine Remediation Project Proposal submitted to YESAB in 2019.

2. Legislation

Migratory Birds Convention Act [SC 1994, c 22], 2017

Migratory Birds Regulations [CRC c1035], 2020

Environment Act [RSY 2002, c 76], 2020

Yukon Wildlife Act [RSY 2002, c 229], 2019

Wildlife Regulation [YOIC 2012/84],

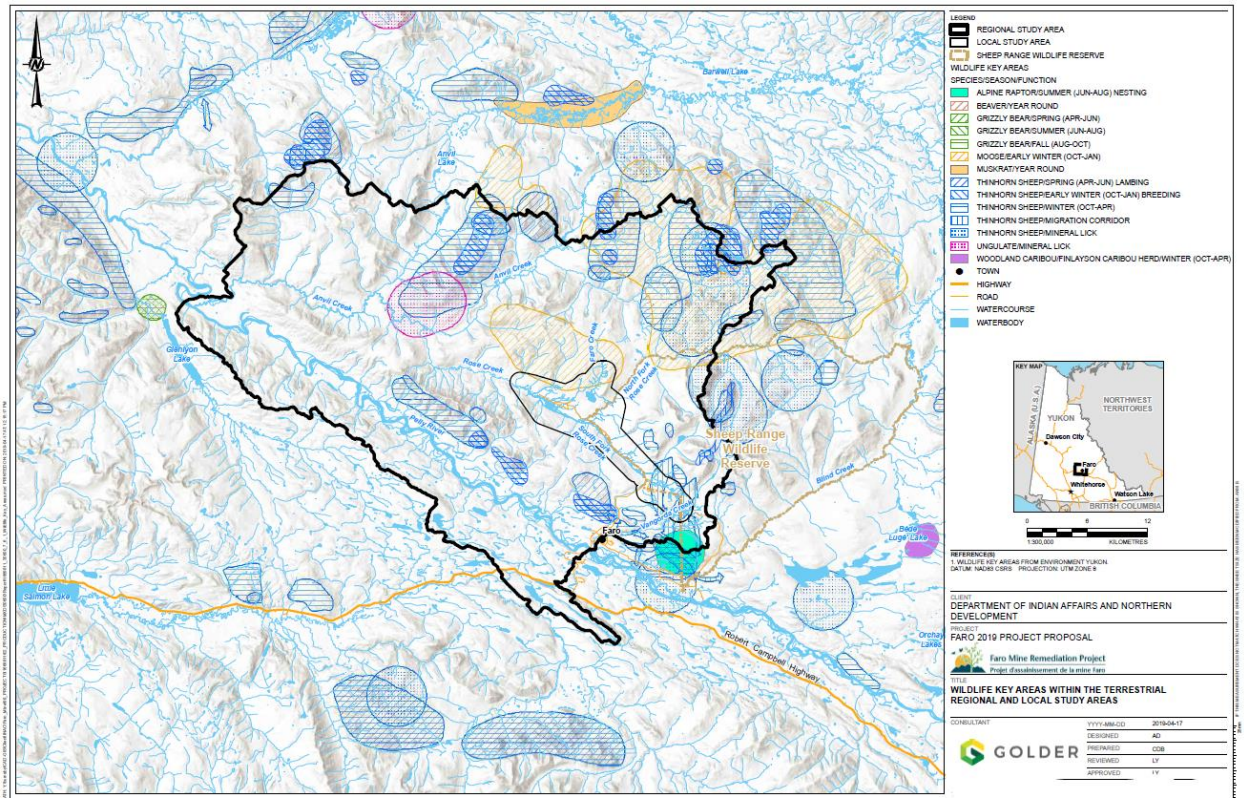
Species at Risk Act [SC 2202, C29], 2021

3. Wildlife Present

The wildlife Local Study Area (LSA) encompasses the area defined by the existing disturbance footprint, with the addition of a 1-km buffer, which represents an immediate zone of potential activity effects. The Faro Mine Site (FMS) footprint area is characterized by roads, mine infrastructure, engineered waterbodies (i.e., pits and ponds), and patches of regenerating vegetation communities (Figure J1).

The wildlife Regional Study Area (RSA) was delineated to better describe wildlife populations and assess potential effects at a broader geographical scale. The RSA was defined as an area extending 15 km beyond the FMS footprint (Figure J1).

Figure J 1: Wildlife Key Areas



The FMS occurs primarily within mid- to high-elevation boreal forest, which is dominated by white spruce with isolated stands of lodge pole pine and with shrub species in the understory. Subalpine vegetation communities are dominated by scrub birch, subalpine fir, white spruce, some lodge pole pine, and lichen. Above the tree line, alpine areas are characterized by rock and bluffs, low ericaceous and willow shrubs, and an abundance of terrestrial lichen. These ecosystems surround the FMS and are in contrast to the footprint area, which is characterized by roads, mine infrastructure, engineered or altered waterbodies, and patches of regenerating vegetation communities.

Despite the altered state of the FMS, many wildlife species have been observed using LSA habitats to breed, migrate (e.g., waterfowl rest on pits and ponds), and forage (e.g. moose feed on shrubs in riparian

areas). Waterfowl and shorebird habitats within the LSA are dominated by man-made pits and ponds at the FMS; waterfowl use these habitats during migration periods and, to a lesser extent, through the summer.

Moose use a variety of habitats from valley bottoms to the subalpine zone within the LSA and RSA. Within the LSA, moose have been observed predominantly in the western portion of the FMS and in riparian draws of the Rose Creek system.

Woodland caribou feed primarily on ground lichens in alpine and subalpine habitat and infrequently pass through the site. Along with other wide-ranging species such as wolverine and grizzly bear, caribou may travel through the FMS as part of larger range that includes neighbouring mountains and valleys traveled to fulfill a range of life requisites. The FMS woodlands provide year-round habitat for some mustelid species, including American marten, ermine, and mink, as well as small mammals and upland game birds. Canids have been observed at the FMS and make use of both disturbed and undisturbed areas.

The disturbed nature of the FMS footprint limits the presence of key avian and wildlife habitats within the LSA to the sand cliffs such as those north of the Intermediate Dam Pond (that could be used by bank swallows), the thinhorn sheep Wildlife Key Area movement corridors that traverse the Vangorda/Grum Area, and the portion of a thinhorn sheep Wildlife Key Area winter range that extends into the LSA from the slopes of Mount Mye. Within the RSA, Wildlife Key Area have only been identified for thinhorn sheep (also representative of the alpine raptor range) and include winter range, spring lambing, and early winter rut areas and movement corridors.

4. Species at Risk

Several Species at Risk have been identified as occurring or having the potential to occur within the LSA and/or RSA. These species are listed under the *Species at Risk Act (SARA)* or the Territorial *Wildlife Act* or are designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Measures to protect listed wildlife species per the *Species at Risk Act* must be followed. Table J.1 summarizes Species at Risk that are either confirmed or potentially occurring in the LSA and RSA.

Table J.1: Species at Risk that are Confirmed or Potentially Occurring in the LSA and RSA (as of 2016)

Species	Confirmed or Potentially Occurring in LSA	Confirmed or Potentially Occurring in RSA	Yukon Wildlife Act Status	SARA Status	COSEWIC Status
Mammals					
Woodland caribou	Confirmed	Confirmed	-	Special Concern	Special Concern
Grizzly bear	Confirmed	Confirmed	-	Special Concern	Special Concern
Wolverine	Confirmed	Confirmed	-	Special Concern	Special Concern
Little brown myotis	Potential	Potential	-	Endangered	Endangered
Avifauna					
Bank swallow	Confirmed	Confirmed	-	Threatened	Threatened
Barn Swallow	Confirmed	Confirmed	-	Threatened	Threatened
Harlequin duck	Confirmed	Confirmed	-	Special Concern	Special Concern
Horned grebe	Confirmed	Confirmed	-	-	Special Concern
Trumpeter swan	Confirmed	Confirmed	Specially Protected	-	-
Olive-sided flycatcher	Potential	Confirmed	-	Threatened	Threatened
Peregrine Falcon[3]	Potential	Potential	-	Special Concern	Not at Risk
Common Nighthawk	Potential	Potential	-	Threatened	Threatened
Rusty Blackbird	Potential	Potential	-	Special Concern	Special Concern

[3] The 2014 Wildlife Baseline Studies Summary Report for the Project suggests a peregrine falcon (Falco peregrinus) nest survey because a potential falcon nest was reported in the Faro Pit in June 2014. There are two genetically distinct subspecies of peregrine falcon in Canada: the *Falco peregrinus peale,* whose range is only along the Pacific Coast and is listed under COSEWIC as “special concern”, and *the Falco peregrinus anatum/tundrius*, whose range is within interior Canada and is listed under COSEWIC as “not at risk”. For the purposes of this management plan, it is assumed that the potential for peregrine falcon presence on-site would be the *Falco peregrinus anatum/tundrius.* Sources: Peregrine Falcon (Falco peregrinus) : COSEWIC assessment and status reports 2017.

5. General Mitigation Measures

The following are some of the general mitigation measures and best management practices which will be applied at the FMS:

- Immediate on-site communication of wildlife sightings to advise other personnel (i.e. radio communication to guardhouse).
- Assess, delineate and avoid disturbance of habitats of ecological importance.
- Reduce footprint of works to the greatest extent possible (e.g. minimize vegetation clearing area).
- Wildlife will have the right-of-way (e.g. if wildlife encountered on road, the driver would stay as far back as possible and will wait for wildlife to cross the road).
- Remediate all newly disturbed areas to the extent practicable (e.g. re- sloping and revegetation).
- Remediate drilling and test pitting areas:
    - Test pits will be backfilled or re-contoured to original topography or a 2:1 slope ratio.
    - Compacted soil at abandoned drill pads will be scarified to promote natural revegetation.
- Manage waste as per the Waste Management.
- Manage dust as per the Dust Management Plan.
- Aircraft will avoid and maintain the greatest distance possible from wildlife and Wildlife Key Areas by following the mitigations listed in the Government of Yukon's guidance document "Flying in Sheep Country" (2018), which include the following:
    - Wherever possible, avoid flying within 3.5 km of known sheep ranges;
    - Avoid known lambing areas (Wildlife Key Areas) and mineral licks during the lambing period (May 1 to June 15);
    - Avoid known caribou calving areas;
    - Avoid flying directly toward, following, hovering over and/or circling wildlife e.g. If flying near sheep fly below the level of the sheep and at an angle (not directly towards the sheep). Ascend or veer away from wildlife if startle responses are observed;
    - Always maintain flight altitudes of >300 m above ground level;
    - During sensitive times for ungulates (May 1 to July 31 and from October 1 to January 31) maintain altitudes of >600 m above ground level, where practicable;
    - Minimize the number of and length of flights where possible; and
    - Where possible, avoid flying in sheep country between 11:00 and 15:00.
- New trails and roads will be designed to minimize sight- lines for predators (e.g. wolves) wherever practicable while still maintaining general road safety.
- In wildlife corridors, snowbanks created by snow clearing activities will be less than 2 m high and gaps will be maintained in the banks to facilitate wildlife crossing and escape.
- Educate on-site personnel and contractors about potential wildlife issues and mitigation.

- Posting and adherence to speed limits to minimize dust and noise and reduce collisions.
- Implementation of work that considers sensitive time periods (i.e. during the day and periods of the year) and sensitive areas (i.e. migratory routes, breeding periods).
- Prohibition against littering.
- Prohibition against harassing, approaching and feeding wildlife species.
- Control of vegetation in the vicinity of tailings and in the riparian zone of ponds to discourage wildlife use and remove potential pathways.
- Implement work that considers sensitive time periods (i.e. during the day and periods of the year) and sensitive areas (i.e. migratory routes).
- Advise staff, contractors, and visitors to take all reasonable precautions to avoid wildlife collisions.
- Identify wildlife use areas and migration corridors/crossings along the road and provide appropriate signage in high wildlife use areas.
- Maintain gaps in the banks to facilitate wildlife crossing and escape routes.
- Stop and report/communicate when wildlife is observed on or adjacent to the road and allow animals to move away before continuing to drive.
- Provide and maintain signage where wildlife encounters are most likely to occur.
- Report any collisions observed along any access road immediately.
- Adjust speed limit in accordance with conditions (e.g., wildlife use of road, road conditions, grade, weather, and loads on vehicle).

6. Avian Nesting Habitat

6.1 Mitigation Measures

Given their higher likelihood of a potentially being affected by FMS activities, avian nesting habitat specific mitigation measures are to be implemented. These include best management practices directed at preventing avian mortality during the bird nesting season, as regulated by the *Migratory Bird Convention Act* and the *Yukon Wildlife Act*. These will focus on scheduling construction activities to fall outside of the migratory bird nesting window (i.e. from May 4 to August 22), or pre- clearing of vegetation from construction areas during the non- nesting season. The bird nesting window identified here aligns with the guidance published by Environment and Climate Change Canada for general nesting periods of migratory birds, and uses the timeframes associated with the “open” habitat for the B8 nesting zone. The following additional mitigation measures are recommended:

- If vegetation or ground clearing is required during the avian nesting period (i.e. from May 4 to August 22), this is to be coordinated by the Contractor conducting the work under the Main Construction Manager and in consultation with Canada. Nest searches will be conducted, led by a professional avian biologist (R.P. Bio.) within proposed clearing areas prior to commencing works if work is planned to take place within the bird window. Avian nest search would be conducted according to non-intrusive passive standard nest search protocols and would include slow paced and two surveys in forest areas conducted by a crew of skilled and experienced observers to ensure adequate opportunity for nest detection. Surveys must be performed between the period of

sunrise and 09:30 when birds are most active. Active nests will be flagged using an appropriate buffer distance within which no clearing is to occur until after the close of the bird nesting window. Clearing activities must commence no more than 24 hours following the completion of the final survey pass to ensure no new nests are initiated after that time.

- Where active work is ongoing and will overlap with the bird nesting window (i.e. from May 4 to August 22), a survey of key footprint area nesting sites will be conducted, and any areas identified are to be marked and identified to reduce the risk of conflicts. Any footprint areas in the vicinity of active works would be surveyed during the bird nesting window and between the hours of sunrise and 09:30. Protective measures (e.g. area flagged and barricaded) are to be implemented if evidence of active nesting is observed, in order to limit disturbance and prevent mechanical damage to the bank thereby preventing any mortality of brooding adults, eggs, nestlings or fledglings.
- Use of bird deterrents, as necessary, per the guidance as described in Section 7.

6.2 Reporting Requirements for Clearing

Where avian nest surveys are required, Canada is to receive:

- Daily field reports documenting any further mitigation efforts implemented and observations;
- Following the survey and prior to ground or vegetation disturbance, a summary of the findings and recommendations; and,
- Within 1 month of field survey, a memo or report on the results of the bird survey, discussing the effectiveness of the mitigation measures and a determination on whether the works were likely to have affected migratory birds.

7. Waterfowl

Given their higher likelihood of a potentially being affected by FMS activities, specific mitigation measures will be implemented to minimize the potential and degree of contaminant pathways, and to limit the accessibility and time spent on contaminated habitats in the FMS.

Based on current data regarding waterfowl habitat use and behaviors at pits and ponds in the FMS, it is likely that the FMS is primarily used as a stop-over point during migration; therefore, reducing the availability or attractiveness of the habitats during that time will help to reduce waterfowl use and therefore the potential for contaminant exposure. Migrating waterfowl look for large bodies of open water for stop-over habitats, such as those provided by the Faro Pit, the Cross Valley Pond and Intermediate Pond. The steep walls of the pits provide shelter from high winds, and the large expanses of open water allow for suitable space for easy landing and takeoff by diving ducks and larger species such as swans and geese. Employing the following mitigation measures either in combination or individually, will assist in reducing waterfowl use of pond and pit habitats in the FMS:

- Riparian vegetation around the perimeter of pond habitats will be managed to reduce vegetative cover which can provide nesting, loafing and foraging habitats for various species of waterfowl.
- Shore or bank restoration at the FMS will be limited to only that which is required to stabilize the features for erosion. If planting occurs, alternative ground covers such as unpalatable mulches or geotextile are to be used rather than vegetation.
- Pyrotechnics, air cannons, or report shells should be deployed by site staff during key migratory periods, particularly during peak migratory periods in April, May, August, and September to create an inhospitable environment and deter establishment or temporary stop- over.
- Other deterrents (e.g., BirdBalls or a Goosenator robot) will be deployed, if necessary, to assist in deterring waterfowl from landing, foraging, or breeding in the pits and ponds.
- Wildlife patrols will be conducted during key migratory periods to monitor the effectiveness of deterrents and supplement deterrent effectiveness, if required, with non-lethal shooting Additional patrols during migration season to employ deterrents should also be conducted per the Vegetation and Wildlife Monitoring Plan). Riparian areas associated with many of the pond habitats, provide suitable foraging, nesting and stop-over habitats for both resident and migratory waterfowl species. Grasses and sedges provide attractive nesting habitat for many species of ducks, swans and other shorebird species. Taller shrub and treed riparian areas provide cover and protection for nesting and rearing of young. Many of the plant species recorded in these areas are suitable food for many waterfowl species. Removal or trimming of the riparian vegetation prior to the breeding and nesting seasons will reduce the suitability for nesting, encouraging waterfowl to seek habitats in less-disturbed areas outside of the FMS footprint.

8. Small Mammals

The deposition of fugitive dust generated from the Rose Creek Tailing Area (e.g., traffic on unpaved roads, material handling, construction and earthworks are identified to be a key potential contaminant pathway for small mammals. Given their higher likelihood of a potentially being affected by FMS activities, the small mammal specific mitigation measures are required. The implementation of the following mitigation measures will serve to reduce the deposition of contaminated dust and minimize the potential for contact leading to a toxicological pathway in small mammals:

- Vegetation will be managed in the areas immediately within the Rose Creek Tailings Area where vegetation metal concentrations are significantly elevated;
- Regular application of tackifier will minimize the generation and subsequent deposition of fugitive dust on vegetation within the LSA and the RSA;
- Use the Rose Creek tailings area sprinkler system to reduce generation and deposition of fugitive dust, when required.

Consistent with the removal and management of riparian vegetation for waterfowl, the management of grasses and other seed-producing plants and the reduction of structural diversity in riparian areas adjacent to the Rose Creek Tailings Area will reduce the value of habitat for small mammals in the critical deposition areas. Without sufficient food resources and suitable habitat, the potential for a contaminant pathway can be reduced.

9. Reporting

Reporting of incidental wildlife observations are the responsibility of all personnel working at or visiting the FMS. Incidental wildlife observations that are called in are to be recorded by the Main Construction Manager in a log that is updated regularly, this information is to be summarized in the monthly report that is provided to the Government of Canada and the spreadsheet log is to be made available to the Government of Canada on SharePoint.

An annual report is required under the related Vegetation and Wildlife Monitoring Plan and is to be prepared by the Environmental Monitoring Services Contractor and submitted to Canada.

Reporting requirements related to the pre-construction surveys are detailed in section 6.2 of this Plan.

Additional reporting and/or record-keeping requirements may be identified and communicated by the Main Construction Manager if it is needed for their oversight of environmental scopes of work.

All work that is subject to the measures in the EMP and the Wildlife and Wildlife Habitat Management Plan are eligible to be audited as part of the Project's Environmental Audit Program. As such, accurate and complete record-keeping are key requirements to determine conformance with the EMP and compliance with applicable legislation.

9.1 Wildlife Management Report

A Wildlife Management Report is due at the end of a work package (prior to closing a ground disturbance permit), or if the work package spans more than one year, annually. This requirement should be considered in the development of the Environmental Protection Plan for works that will be subject to the measures listed in this Plan. The report is to be completed by the contractor or consultant performing the work and submitted to the Main Construction Manager's Environment Manager. The following information is to be included in that report:

- Monitoring methods and parameters, including dates and locations;
- A summary of field monitoring conducted and results; and,
- Analyses of results and recommendations.

9.2 Incident Notification

Incidents involving migratory birds or species at risk should be communicated to Canada within 24 hours, so that CIRNAC can send the required notifications to Environment and Climate Change Canada. In this context "incident" includes instances where actions have resulted in the harm or death of migratory birds or species at risk without the required permits under the Migratory Birds Act or the Species at Risk Act.

APPENDIX K ENVIRONMENT PERMIT - GROUND DISTURBANCE WORK

Permit

Blue Italicized sections are to be completed by the Main Construction Manager's Environment Manager.

Pre- Site Work Documentation *(completed prior to Contractor coming to site):*

The following Documents are required, reviewed and approved for the Ground Disturbance Work (as a part of the Contractor's Environmental Protection Plan):

Requirement (Y, N, N/A)	***Document***	***Trigger for Requirement***	***Reviewed & Approved (Y, N, N/A)***
	Dust Management plan	*Disturbing soils and materials that could produce dust*	
	Geochemical Management Plan	*Using materials for construction within 30 m of a non-contact waterbody*	
	Materials Management Plan	*Using or producing materials*	
	Revegetation Plan	*Disturbing vegetation where Care and Maintenance is not planning to do ongoing maintenance*	
	Wildlife Management Plan -Avian Nest Survey	*Disturbing vegetation or materials during the Bird Nesting Season (May 4-August 22)*	

The work area is >100 m from a heritage resources (Y, N, N/A)?

If N, consult Main Construction Manager. Confirm that a 30 m boundary around the site has current flagging (Y, N, N/A)?

Permit No.:

The Main Construction Manager's Environment Manager: _____

Print *Signature* *Date*

Pre-Work Confirmation *(required for work between May 4 and August 22; completed a Maximum of 24 hours prior to vegetation and /or Material disturbance):*

The Main Construction Manager has received bird nesting survey results from an avian biologist for the proposed work area and has confirmed that either no nesting birds were identified in the work area, or all bird nesting areas are marked, and the Contractor and its staff understand and agree to abide by the recommended set back. This information has been shared with Canada.

The Main Construction Manager's Environment Manager: _____

Print *Signature* *Date*

Work Completion Survey *(completed prior to Contractor leaving site)*

The Main Construction Manager has inspected the site and the completion documents and confirms that all the work related to Ground Disturbance has been done according to the Environmental Management Plan and applicable Plans. This include the following requirements:

Requirement	***Reviewed & Approved (Y, N, N/A)***
Stockpiles placed away from infrastructure, sorted and shaped per the Dust and Materials Management Plans?	
Stockpile locations and types are surveyed? and the survey data is with the Main Construction Manager	
The Chain of Custody for all monitoring samples taken are provided to the Main Construction Manager. The Chain of Custody documents need to specify that results in the form of an Electronic Data Deliverable (EDD) are provided to cirnac@equisonline.com	
Revegetation complete (if required)?	
Flagging for Avian Nests is removed?	
Plan submitted by the contractor detailing the recommended ongoing environmental monitoring and mitigation maintenance for work areas (i.e. revegetation monitoring, erosion monitoring, water monitoring etc.) and stockpiles (i.e. erosion monitoring, watering and monitoring, etc.)	

The Main Construction Manager's Environment Manager:* _____

Print *Signature* *Date*

**Activity Supervisor and equipment cannot leave site prior to Work Completion Requirements being met.*

Work Completion Requirements *(Completed prior to Permit Close-out)*

The following Ground Disturbance related requirements in the Environmental Management Plan and applicable Plans must be met before Final Completion:

	Required (Y, N, N/A)	***Provided (Y, N, N/A)***
Data into Crown-Indigenous Relations and Northern Affairs Canada's EQuIS database, Surveys and Reports Provided per:		
• *Dust Management plan*		
• *Geochemical Management Plan*		
• *Materials Management Plan*		
• *Revegetation Plan*		
• *Wildlife Management Plan-Avian Nest Surveys*		
Performance and Monitoring Plans for:		
• *Materials Management Plan*		
• *Revegetation Plan*		

The Main Construction Manager's Environment Manager:

Print	*Signature*	*Date*

Permit Application

To be filled out by Contractor's Program Supervisor

Once the Main Construction Manager's Environment Manager signs the Approval in the Section for Pre-Site Work Documentation, the work area maintenance is the responsibility of the Activity Supervisor and remains with the Activity Supervisor until the Work Completion Survey is approved by the Main Construction Manager's Environment Manager.

Contract/Work Order Name:

Date Requested:

Requested by (Name and Company):

Description of Proposed Ground Disturbance work

Are each of the following provided (Yes, No, N/A):

	Work area is outside areas potentially prohibited from ground disturbance (Appendix M)		Map(s) for location of disturbance
	Revegetation Plan[1]		Submitted/Approved Dust Mitigation[2]
	Stockpile Placement Plan[3]		Wildlife Management Plan[4]

1-Revegetation Plan required when area disturbed is outside of the Faro Mine Remediation Project Footprint (as determined by the Main Construction Manager)
2-Dust Mitigation Plan required if disturbed area and/or remaining stockpiles are in a location with significant human activity and is likely to result in dust dispersion Footprint (determined by Permit approver).
3-Stockpiles less than 500m^3 may be left in place if they do not block roads, trails or access to existing and/or planned site infrastructure. For stockpiles greater than 500m^3, consult the Main Construction Manager for stockpile locations. Any stockpiles created must be a minimum of 3m from any crest/bank. Stockpiles must also be stable within themselves, and not cause instability in the area surrounding.
4-Wildlife Management Plan including, Avian Nest Survey Plan for work within the migratory bird nesting window (May 4 to August 22)

Authorized* by:_____ _____ _____

Print Signature Date

*Activity supervisor has reviewed the ground disturbance and associated hazards with all involved equipment operators.

Reviewed and agreed to by:

Print	Signature	Date
Operator Sign-off:		
Operator Sign-off:		
Operator Sign-off:		
Operator Sign-off:		
Operator Sign-off:		
Operator Sign-off:		
Operator Sign-off:		
Operator Sign-off:		
Operator Sign-off:		
Operator Sign-off:		
Operator Sign-off:		

APPENDIX L ENVIRONMENT PERMIT - WORK WITH OR NEAR WATER

Permit Application

Blue Italicized sections are to be completed by the Main Construction Manager's Environment Manager

Pre- Site Work Documentation *(completed prior to Contractor coming to site)*

Document	***Trigger for Requirement***	***Requirement (Y, N, N/A)***	***Reviewed & Approved (Y, N, N/A)***
Fish Habitat Protection and Water Quality Management Plan	*Required if work is proposed within 30 m of a non-contact water body or if work requires handing of non-contact water (i.e. pumping and work in the wetted channel).*		
Sediment and Erosion Control Plan	*Disturbing soils and materials within 30 m of a waterbody*		
Wildlife Management plan - Fish and Fish Habitat Protection	*Required if work is proposed within 30 m of a non-contact water body with fish habitat or fish*		

Permit No.:

The Main Construction Manager's Environment Manager: _____

Print *Signature* *Date*

Pre-Work Confirmation *(completed prior commencement of work within 30 m of non-contact waterbody with fish habitat or fish)*

The Main Construction Manager has received a fish survey or fisheries mitigation measures from a fisheries biologist for the proposed work area and has confirmed that either no fish/fish habitats were identified in the work area, or the fisheries biologist has approved of the mitigation measures in place by the Contractor. This information has been shared with Canada:

The Main Construction Manager's Environment Manager: _____

Print *Signature* *Date*

Work Completion Survey *(completed prior to Contractor leaving site)*

The Environment Lead with the Main Construction Manager has inspected the site and the completion documents and confirms that all the work related to Water has been done according to the Environmental Management Plan and applicable Plans. This include the following requirements:

Requirement	***Reviewed & Approved (Y, N, N/A)***
Water monitoring results indicate stabilized conditions?	
Sediment and erosion control measures which can be removed are removed?	
Fisheries biologist recommendations and observations are documented?	

The Main Construction Manager's Environment Manager: _____

Print *Signature* *Date*

Work Completion Requirements *(Completed prior to Permit Close-out)*

The following Water related requirements in the Environmental Management Plan and applicable Plans must be met before Final Completion:

	Required (Y, N, N/A)	***Provided (Y, N, N/A)***
Data into Crown-Indigenous Relations and Northern Affairs Canada's EQuIS database, Surveys and Reports Provided per:		
• *Fish Habitat Protection and Water Quality Management Plan*		
• *Sediment and Erosion Control Plan*		
• *Wildlife Management Plan- Fish and Fish Habitat assessment and mitigations*		
Performance and Monitoring Plans for:		
• *Fish Habitat Protection and Water Quality Management Plan- performance monitoring*		
• *Any remaining Sediment and Erosion Control Measures*		

The Main Construction Manager's Environment Manager: _____

Print *Signature* *Date*

Permit Application

To be filled out by Contractor's Program Supervisor

Once the Main Construction Manager's Environment Manager signs the Approval in the Section for Pre-Site Work Documentation, the work area maintenance is the responsibility of the Activity Supervisor and remains with the Activity Supervisor until the Work Completion Survey is approved by the Main Construction Manager's Environment Manager.

Contract/Work Order Name:

Date Requested:

Requested by (Name and Company):

Description of Proposed Work Near Water or with Water

_____

_____

_____

_____

Are each of the following provided (Yes, No, N/A):

☐	Fish Habitat Protection and Water Quality Management Plan[1]	☐	Map(s) for location of works
☐	Sediment and Erosion Control Plan[2]	☐	Wildlife Management Plan- Fish and Fish Habitat[3]

1- Fish Habitat Protection and Water Quality Management Plan Required if area being disturbed is within 30m of an un-captured waterbody or if handling (pumping and work in the wetted channel) contact water.
2- Sediment and Erosion Control Plan required if area being disturbed is within 30m of a waterbody.
3- Wildlife Management Plan- Fish and Fish Habitat required if work is within 30 m of a waterbody containing fish or fish habitat

Authorized* by:_____ _____ _____

Print Signature Date

*Activity supervisor has reviewed the ground disturbance and associated hazards with all involved equipment operators.

Reviewed and agreed to by:

	Print	Signature	Date
Operator Sign-off:			
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APPENDIX M AREAS POTENTIALLY PROHIBITED FROM GROUND DISTURBANCE

This set of maps can e used to determine the approximate areas where further assessment work needs to be considered prior to disturbing the ground. The maps are not precise, and confirmation of which areas can be disturbed must be obtained from the Parsons Environment Manager or Mine Manager. This can be done through direct and early communications, as well as with the ground disturbance permit. The Environmental Management Plan, including the Chance Find Procedure in the Heritage Resources Management Plan applies wherever ground disturbance occurs.

The orange areas in the maps below represent the areas that have been assessed for heritage potential. Any work proposed outside of these areas requires assessment prior to ground disturbance and should be discussed with Parsons' Environmental Manager.

The yellow areas in the maps below may be prohibited from ground disturbance and should also be discussed with the Parsons Environment Manager.

Figure 1: Areas Potentially Prohibited from Ground Disturbance – August 2024
Overview Map, Faro Mine Site

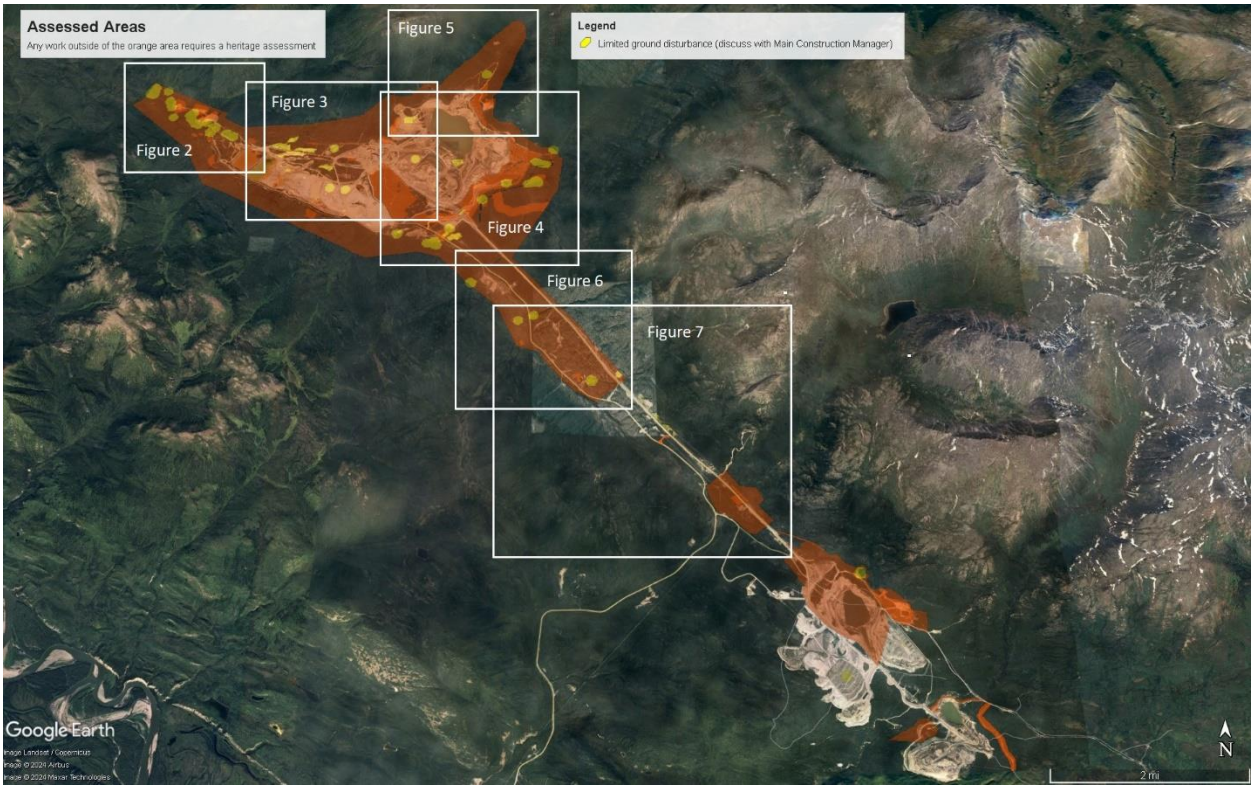

Figure 2: Areas Potentially Prohibited from Ground Disturbance – August 2024
Down Valley Area, Faro Mine Site

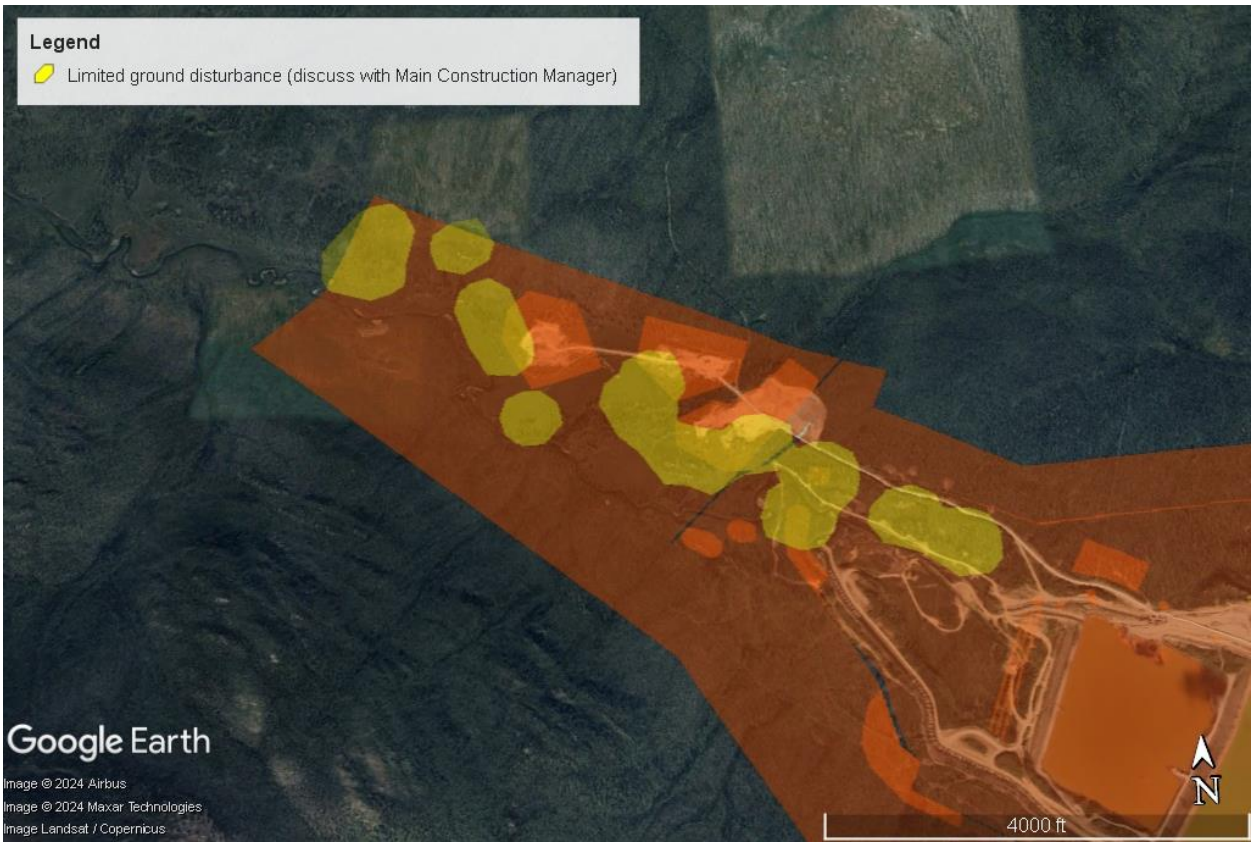

Figure 3: Areas Potentially Prohibited from Ground Disturbance – August 2024
Rose Creek Tailings Area, Faro Mine Site

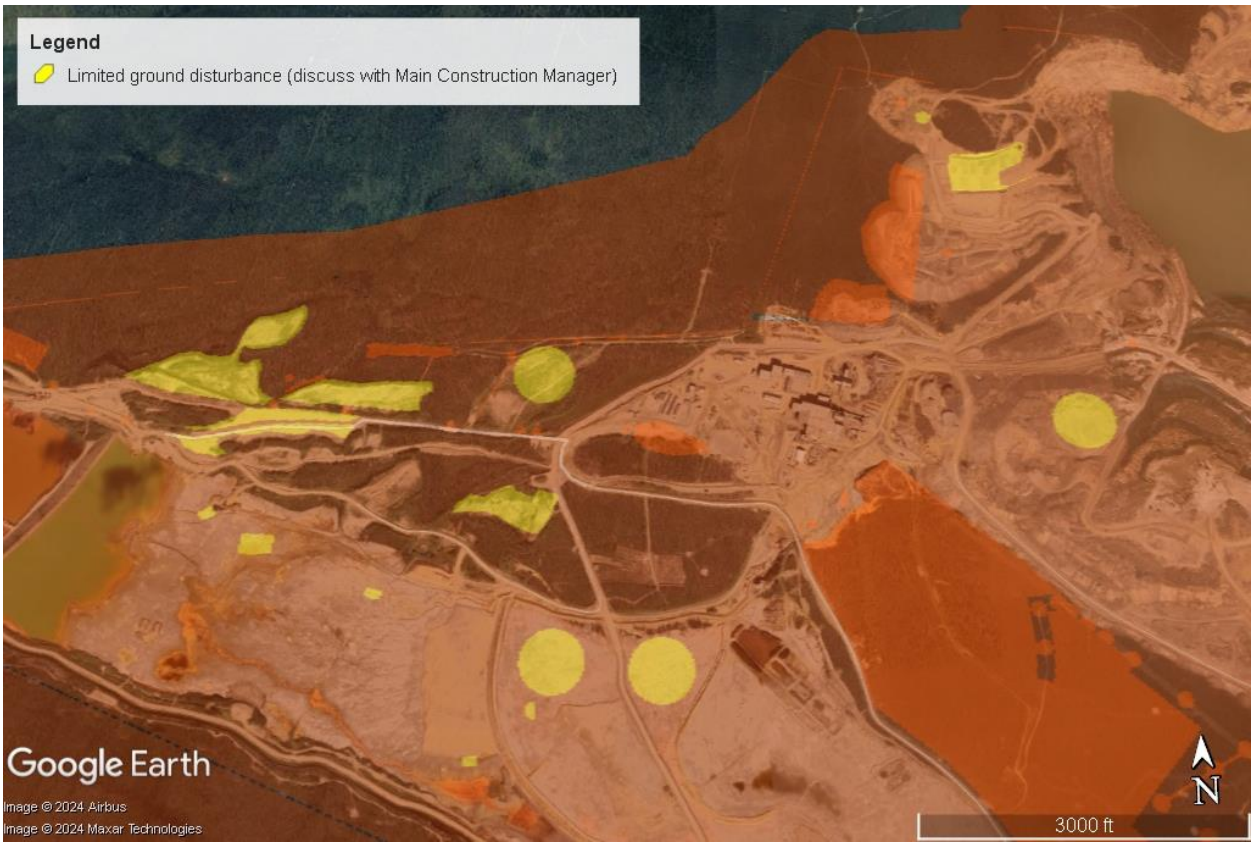

Figure 4: Areas Potentially Prohibited from Ground Disturbance – August 2024
Pumphouse Pond and Waste Rock Areas, Faro Mine Site

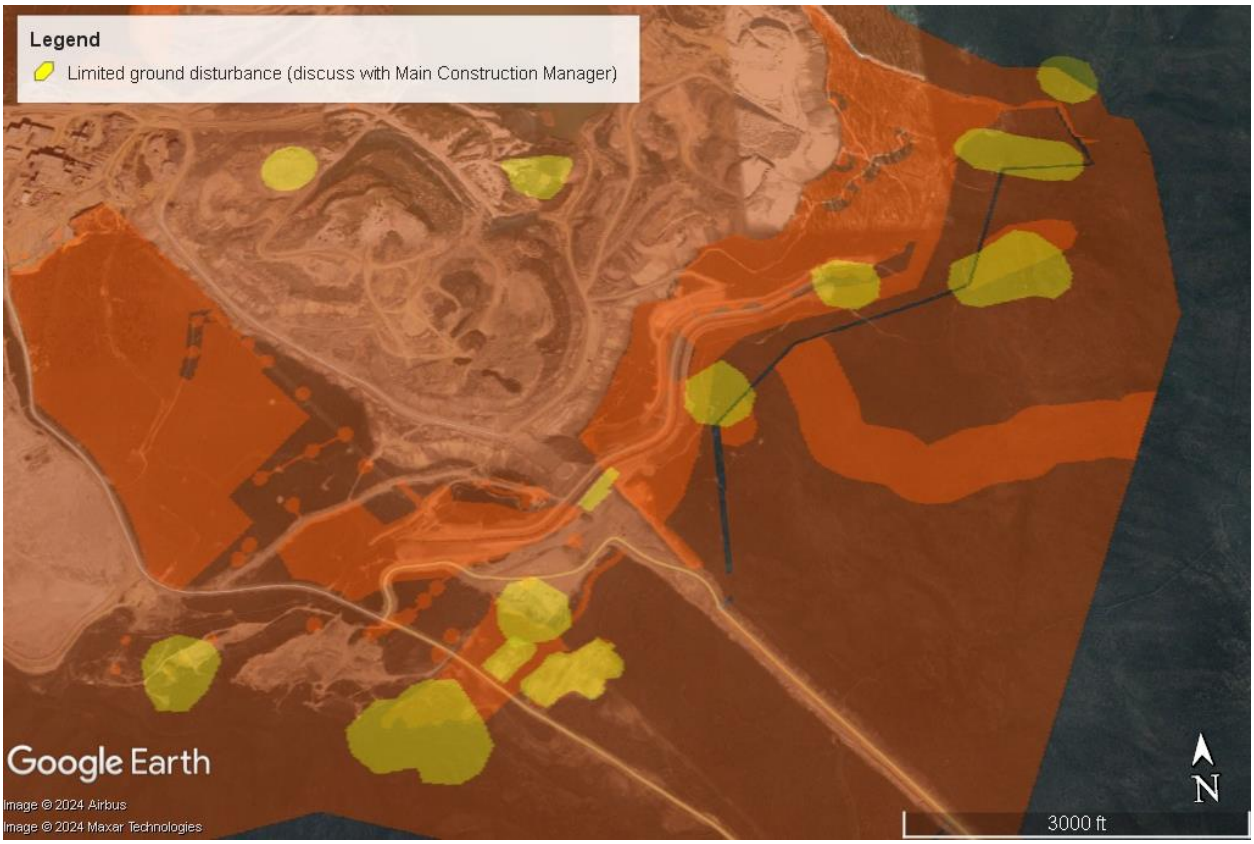

Figure 5: Areas Potentially Prohibited from Ground Disturbance – August 2024
Faro Creek Diversion Area, Faro Mine Site

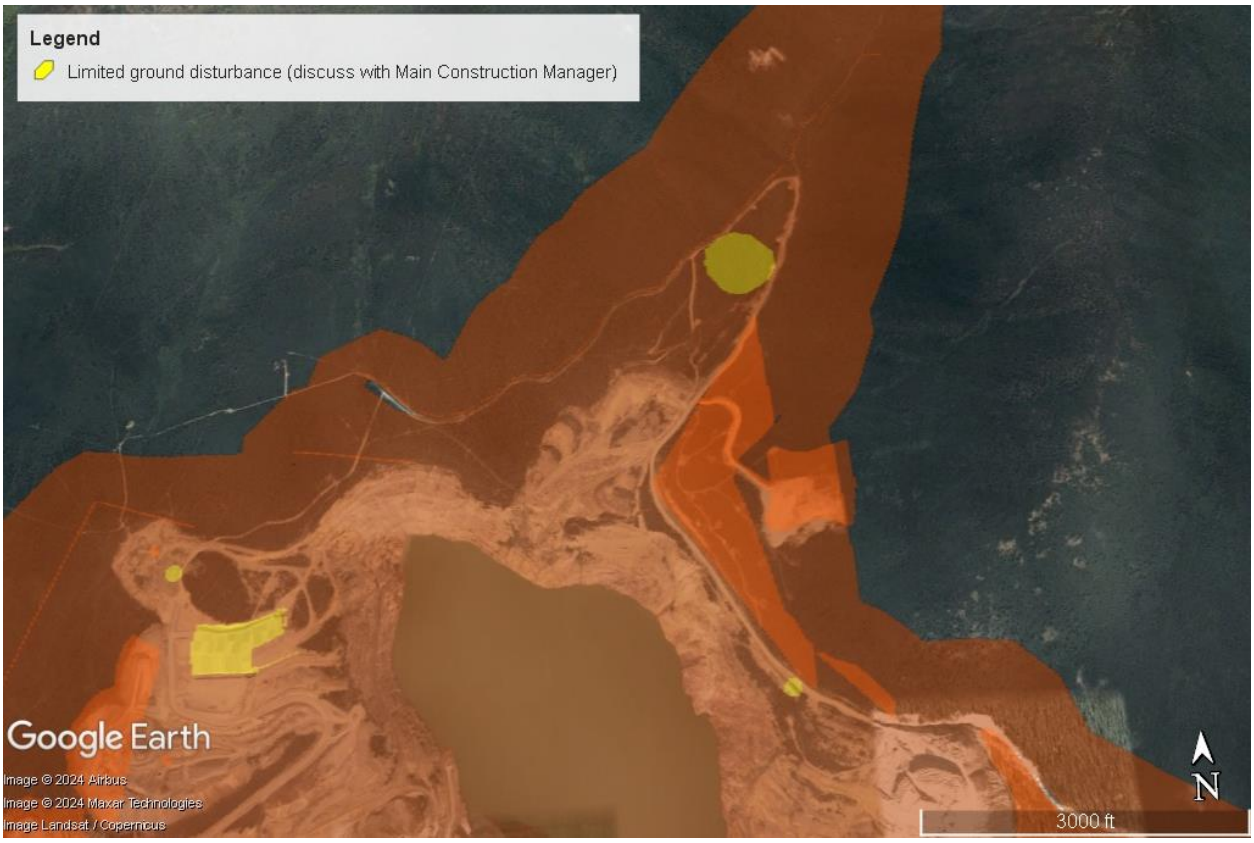

Figure 6: Areas Potentially Prohibited from Ground Disturbance – August 2024
Clean Water Reservoir Area, Faro Mine Site

Figure 7: Areas Potentially Prohibited from Ground Disturbance – August 2024
Gate 10 Area, Faro Mine Site