

## 12.0 ENVIRONMENTAL MANAGEMENT PLANS

Environmental Management Plans (EMP) act as a tool to manage adverse environmental effects through well-defined measures and controls that are integral components of environmental stewardship. Treasury Metals has developed a conceptual EMP framework that effectively encompasses all environmental aspects of the Project and incorporates each phase of development. This conceptual framework consists of 21 individual management plans that will help to ensure that the Project activities proceed as planned, and that procedures are in place if unforeseen events occur. The EMP framework will provide authentication of Treasury Metals' ongoing environmental commitments and provide performance results to Indigenous peoples and stakeholders. To best allow open communications, share results and receive input on the EMP and Follow-up Programs between Treasury Metals and Indigenous communities, Treasury Metals proposes to form an Environmental Management Committee (Section 12.22).

The EMP framework has been designed around the central principles stated within the Company's core environmental policy: demonstrate

- Manage our operations to minimize or eliminate impacts on the environment through use of best management practices and appropriate application of technology;
- Adopt and promote policies specific to protecting the environment;
- Implement measures to ensure the efficient use of resources, energy and materials to minimize environmental impacts through all phases of the operation;
- Ensure compliance with all environmental legislation and regulations;
- Set objectives and put processes in place to continually improve our environmental performance; and
- Curtail operation if necessary to prevent or resolve environmental non-compliance conditions.

In preparing the individual EMPs, pertinent legislation and regulations will be used in developing policies and procedures. The EMPs will be finalized through discussions and input from government agencies, Indigenous peoples and stakeholders. The following lists of 21 EMPs were considered significant environmental aspects of the Project and will be developed as the permitting and approval process for the Project is advanced:

- Project Environmental Management Plan;
- Waste Management Plan;
- Water Management Plan;
- Tailings Management Plan;
- Cyanide Management Plan;

- Noise Management Plan;
- Best Management Practices Plan for Dust;
- Greenhouse Gas Management Plan;
- Wildlife Management Plan;
- Fish Management Plan;
- Archaeological and Cultural Heritage Resource Management Plan;
- Socio-Economic Management Plan;
- Emergency and Spill Response Management Plan;
- Dam Safety Management Plan;
- Transportation and Access Management Plan;
- Mine Rock Management Plan;
- Hazardous Materials Management Plan;
- Fuel Handling and Storage Management Plan;
- Explosives Management Plan;
- Health and Safety Management Plan; and
- Communications Management Plan.

A brief description of each of the 21 EMPs is provided below, along with anticipated timing of implementation and the application of each plan. However, as the Project advances and becomes more refined, this list of individual EMPs is subject to refinement to ensure that changes to the Project have been addressed through the EMP framework.

## **12.1 Project Environmental Management Plan**

### **12.1.1 Objectives / Overview**

The Project Environmental Management Plan will act as the overarching plan that sets out the intent of Treasury Metals for managing the potential effects of the Project. The actions of this plan will detail the environmental management framework of the Project during all phases of development and will act as a guide to navigate the environmental management system. This plan will encompass all potential adverse effects of the Project, including any effects that do not lend themselves to fit into the other management plans, as well as identify general reporting requirements. Additionally, the plan will set out the roles and responsibilities of key site and company personnel and will identify general reporting requirements. The Project Environmental Management Plan will be developed prior to the start of construction activities.

### 12.1.2 Applications

Specific elements to be incorporated in the plan to manage project environmental management plan include the following:

- Outline of the environmental management framework;
- Procedures for all Project effects not included in the other management plans;
- Outline general reporting requirements; and
- Responsibilities of key site and company personnel.

## 12.2 Waste Management Plan

### 12.2.1 Objectives / Overview

The Waste Management Plan will detail the material handling, sorting and disposal of solid non-hazardous waste generated by the Project. The plan will clearly outline the roles and responsibilities of key site and company personnel with respects to the management and non-hazardous waste materials. The actions set out in this plan will conform to the *Environmental Protection Act*, specifically the RRO 1990, Regulation 347: General – Waste Management. Detailed policies and procedures will be available in the plan that aim to limit environmental effects from waste produced by the Project by incorporating a reduce, reuse, and recycle mentality. The Waste Management Plan will be developed prior to the start of construction activities.

### 12.2.2 Applications

Specific elements to be incorporated in the plan to manage non-hazardous waste include the following:

- Procedures for handling, sorting and disposal of non-hazardous waste;
- Protocols for waste reduction;
- Policies for non-hazardous waste reduction, reuse, and recycling;
- Outline all reporting requirements for non-hazardous waste management;
- Procedure for the disposal of wildlife attractants such as food waste; and
- Responsibilities of key site and company personnel with respect to the management of non-hazardous waste.

## **12.3 Water Management Plan**

### **12.3.1 Objectives / Overview**

The Water Management Plan will set out the protocols and procedures that will be implemented at the Project to manage water, as well as the potential effects of the Project on water. Both surface water and groundwater management will be incorporated into this EMP, for water affected by the Project both on-site and off-site. The actions detailed in this plan will be established in accordance with the O. Reg. 387/04: Water Taking and Transfer under the *Ontario Water Resources Act* (MOECC 1990) the Metal Mine Effluent Regulations (SOR/2002-222) (DFO 2002) under the *Fisheries Act* (DFO 1985), as well as any other applicable water management regulations. The roles and responsibilities of key site and company personnel with respects to water management will be clearly stated in the plan, along with measures and controls that aim to limit any adverse environmental effects such as seepage from the tailings storage facility (TSF). The Water Management Plan will be developed prior to the start of construction activities.

### **12.3.2 Applications**

Specific elements to be incorporated in the plan to manage water include the following:

- Protocols for water taking from Thunder Lake Tributaries 2 and 3;
- Protocols for water collection, treatment and discharge from the Project site;
- Outline of all regulatory requirements and required permitting;
- Outline of the groundwater well network prior to construction and site preparation;
- Protocols for all seepage at the site;
- Outline all reporting requirements for water management; and
- Responsibilities of key site and company personnel with respect to water management.

### **12.3.3 Management Triggers and Adaptive Responses**

#### **12.3.3.1 Geochemistry**

- The following is the trigger level to warrant action with respect to water quality of the open pit:
  - Pit lake water quality that does not meet PWQO.

- In the event the monitoring identifies pit lake water quality in excess of the management trigger
  - Start batch treatment to bring the water quality to within PWQO.
- If the water quality in the open pit still does not meet PWQO, increase batch treatment frequency.

#### 12.3.3.2 Surface Water Quality

- The following are the trigger level to warrant action with respect to surface water quality
  - Exceedance of PWQO.
  - Significant changes to water quality from background or the upstream control sites.
- In the event the monitoring identifies levels in excess of the management trigger
  - Contact the lab to rerun the sample to confirm accuracy.
- If trigger is confirmed to be accurate
  - Take another sample at the location as soon as practicable.
  - Review the activities that were occurring at the site.
  - Identify whether other activities were occurring in the area that were not associated with the Project.
  - Review whether mitigation measures were operating correctly.
- If the elevated readings are repeated, Treasury Metals will retain a geochemistry consultant to identify and recommend additional mitigation measures to address the issue.
- Additionally, in the event that noticeable changes or trends are evident in surface water quality at locations within the surface water quality monitoring program, additional sampling locations may be included and sampling frequency may be increased.

#### 12.3.3.3 Surface Water Quantity

- The following are the trigger levels to warrant action with respect to surface water quantity
  - Flow changes in watercourses in excess of the predicted reductions.
  - Water taking from the Thunder Lake Tributaries 2 and 3 irrigation ponds in excess of 5% of the measured inflows.
  - Statistically significant greater than predicted decrease in the flow of Thunder Lake Tributaries 2 and 3.
  - Statistically significant flow changes in Blackwater Creek downstream of the discharge point in excess of those predicted .

- In the event the monitoring identifies changes in surface water flows in excess of the management triggers:
  - Assess the flow level equipment to determine accuracy of measurement.
  - Review the activities that were occurring at the site.
  - Identify whether other activities were occurring in the area that were not associated with the Project.
  - Review whether mitigation measures were operating correctly.
- If statistically significant higher readings persist, Treasury Metals will retain a hydrological consultant to identify and recommend additional mitigation measures to address the issue.

#### **12.3.3.4 Groundwater Quality**

- The following are the trigger levels to warrant action with respect to groundwater quality:
  - A groundwater quality parameter that are statistically elevated from background.
- In the event the monitoring identifies groundwater quality levels in excess of the management trigger:
  - Contact the external lab to rerun the sample to confirm accuracy.
- If trigger is confirmed to be accurate:
  - Take another sample at the location as soon as practicable.
  - Review the activities that were occurring at the site.
  - Identify whether other activities were occurring in the area that were not associated with the Project.
  - Review whether mitigation measures were operating correctly.
- If the elevated readings are repeated, Treasury Metals will retain a hydrogeological consultant to identify and recommend additional mitigation measures to address the issue.

#### **12.3.3.5 Groundwater Quantity**

- The following are the trigger levels to warrant action with respect to groundwater quantity:
  - Changes in groundwater levels are greater than predicted changes.
- In the event the monitoring identifies groundwater quantity levels in excess of the management trigger:
  - Check against water levels measurements in other wells to determine if data loggers are inconsistent.

- If trigger is confirmed to be accurate:
  - Review the activities that were occurring at the site.
  - Identify whether other activities were occurring in the area that were not associated with the Project.
  - Review whether mitigation measures were operating correctly.
- If the elevated readings are repeated, Treasury Metals will retain a hydrogeologist to identify and recommend additional mitigation measures to address the issue.

## 12.4 Tailings Management Plan

### 12.4.1 Objectives / Overview

The Tailings Management Plan will be designed to contain the production, handling, deposition and long-term storage of tailings produced by the Project. Through acid-base accounting of a composite tailings sample, it was determined that the tailings from the Project will be potentially acid generating (PAG) and will require proper measures be put in place to ensure that the onset of acid rock drainage (ARD) is avoided. The actions set out in this plan will contain the necessary procedures and protocols to limit any adverse environmental effects from ARD produced by the tailings on site and will follow all applicable acts and regulations, including O. Reg. 240/00 Mine Development and Closure under the *Mining Act*. The roles and responsibilities of key site and company personnel with respects to tailings management will be clearly stated in the plan. The Tailings Management Plan will be developed prior to the production of any tailings material at the site.

### 12.4.2 Applications

Specific elements to be incorporated in the plan to manage tailings include the following:

- The management / operating guidelines of the TSF;
- The construction specifications of the TSF including the building materials, dam heights and location;
- Closure and remediation plans for the TSF;
- Inspection schedule and disposal of tailings in the TSF;
- Outline all reporting requirements for tailings management; and
- Responsibilities of key site and company personnel with respect to tailings management.

## **12.5 Cyanide Management Plan**

### **12.5.1 Objectives / Overview**

The Cyanide Management Plan will include all pertinent details on the receipt, handling, storage, use, treatment, and disposal of cyanide, which will all comply with the International Cyanide Code. Additionally, emergency response and contingency plans will be in place in the unlikely event of an accident or spill during cyanide transport that could subsequently affect the receiving environment. The actions of this plan will also detail the roles and responsibilities of key site and company personnel with respect to cyanide management. The Cyanide Management Plan will be developed prior to any cyanide entering the property site.

### **12.5.2 Application**

Specific elements to be incorporated in the plan to manage cyanide include the following:

- Procedure for the receipt, handling, storage and use of cyanide at the site;
- Procedure for the treatment and disposal of cyanide at the site;
- Emergency response and contingency plans in the event of a cyanide spill; and
- Responsibilities of key site and company personnel with respect to cyanide management.

## **12.6 Noise Management Plan**

### **12.6.1 Objectives / Overview**

A Noise Management plan will be developed as a tool to help manage the sound being produced by the Project during all phases of development. The actions of this plan will meet the “Stationary Source” guidelines set out in MOE Publication NPC-300 (MOECC 2013) and will be aimed at the acquisition of an Environmental Compliance Approval (ECA) under the *Environmental Protection Act*. The plan will outline protocols and procedures established by Treasury Metals for recording and investigating noise, as well as the roles and responsibilities of key site and company personnel with respect to noise management. In conjunction with recording and investigation noise, the process will likely include requirements to log complaints, monitor sound levels where warranted and investigate what activities were taking place on site at the time of the complaint. The Noise Management Plan will be developed prior to the start of construction activities.

### **12.6.2 Application**

Specific elements to be incorporated in the plan to manage noise include the following:

- Procedures for recording and investigating blasting and vibration from the Project;



- Procedure for monitoring and managing sound levels at the site;
- Procedure for logging complaints regarding noise coming from the site;
- Outline all reporting requirements for noise; and
- Responsibilities of key site and company personnel with respect to noise management.

### **12.6.3 Management Triggers and Adaptive Responses**

#### **12.6.3.1 Ambient Noise**

- The following is the trigger level to warrant action with respect to ambient noise levels:
  - 40 dBA at identified sensitive receptors.
  - Reasonable complaint to applicable regulatory authority for investigation.
- In the event the monitoring identifies that noise levels in excess of the management trigger:
  - Review the activities that were occurring at the site.
  - Identify whether other activities were occurring in the area that were not associated with the Project.
  - Review whether mitigation measures were operating correctly.
  - Consider repeating the noise measurements at that location.
- If the elevated readings are repeated, Treasury Metals will retain a noise consultant to identify and recommend additional mitigation measures to address the issue.

#### **12.6.3.2 Wildlife Noise**

- The following is the trigger level to warrant action with respect to wildlife noise levels:
  - 50 dBA at locations beyond those areas where wildlife effects were predicted (Figure 6.4.4.1-1: site preparation and construction phase; Figure 6.4.4.2-1: operations phase; Figure 6.4.4.3-1: closure phase).
- In the event the monitoring identifies that noise levels in excess of the management trigger:
  - Review the activities that were occurring at the site.
  - Identify whether other activities were occurring in the area that were not associated with the Project.
  - Review whether mitigation measures were operating correctly.
  - Consider repeating the noise measurements at that location.
- If the elevated readings are repeated, Treasury Metals will retain a noise consultant to identify and recommend additional mitigation measures to address the issue.

### 12.6.3.3 Blasting Noise and Vibration

- The following is the trigger level to warrant action with respect to blasting noise and vibration:
  - Regulatory limits: 120 dB and 1 cm/s.
- In the event the monitoring identifies that blasting noise and vibration in excess of the management triggers:
  - Confirm the blasting was done in accordance with the procedures set out in the Explosives Management Plan.
  - Record the deviation in accordance with the Explosives Management Plan and re-enforce the need to adhere to blasting procedures.
- In the event the monitoring identifies that blasting noise and vibration in excess of the regulatory triggers:
  - Confirm the blasting was done in accordance with the procedures set out in the Explosives Management Plan.
  - If blasting was in accordance with the plan, retain a blasting and/or vibration consultant to modify the blasting procedures to reduce the blasting noise and vibration appropriately.

## 12.7 Best Management Practices Plan for Dust

### 12.7.1 Objectives / Overview

The Best Management Practices Plan for Dust will detail the actions and activities to be implemented at the Project to manage atmospheric dust emissions during all phases of Project development. This plan will be developed as a step towards the acquisition of an ECA under the *Environmental Protection Act*, and will be developed in accordance with all other applicable acts and regulations. Protocols and procedures will be detailed for the management of dust emission in order to limit the potential adverse environmental effects of dust emissions, such as using water and chemical suppressants on haul roads to reduce dust. The roles and responsibilities of key site and company personnel with respects to dust management will be clearly outlined in this plan. The Best Management Practice Plan for Dust will be developed prior to the start of construction activities.

### 12.7.2 Application

Specific elements to be incorporated in the plan to manage dust include the following:

- Protocols and procedures for managing dust emissions from the Project;
- Outline all reporting requirements for dust management; and

- Responsibilities of key site and company personnel with respect to dust management.

### **12.7.3 Management Triggers and Adaptive Responses for Air Quality**

- The following is the trigger level to warrant action with respect to air quality levels:
  - Air quality exceeding the predicted levels from the Project.
- In the event the monitoring identifies that air quality levels in excess of the management trigger:
  - Review the activities that were occurring at the site.
  - Review the meteorological data from the time of the trigger.
  - Identify whether other activities were occurring in the area that were not associated with the Project.
  - Review whether mitigation measures were operating correctly.
- If the elevated readings are repeated, Treasury Metals will retain an air quality consultant to identify and recommend additional mitigation measures to address the issue.

## **12.8 Greenhouse Gas Management Plan**

### **12.8.1 Objectives / Overview**

The predicted effects of the Project on climate were presented in Section 6.7, and it was identified that the expected total GHG emissions from the Project during the site preparation and construction phase, the operations phase, and the closure phase, will exceed the 10,000 t/year, based primarily on fuel consumption for the Project. The emissions from stationary sources would be restricted to the natural gas heating required when mining underground. The total GHG emissions for the Project exceed the regulatory reporting threshold outlined in Section 46 of the Canadian Environmental Protection Act, which includes emissions from mobile and stationary sources. However, the Project does not meet the Provincial regulatory reporting requirements for the Ontario Cap and Trade Program Regulation 144/16, which also has a 10,000 t/year reporting threshold, but which is applicable to stationary sources only. The proposed monitoring program for climate is consistent with the regulatory reporting requirements for GHG emissions.

### **12.8.2 Application**

Specific elements to be incorporated in the plan to manage GHG emissions include the following:

- Procedures for GHG quantification;
- Outline all reporting requirements for GHG emissions; and
- Responsibilities of key site and company personnel with respect to GHG management.

## 12.9 Wildlife Management Plan

### 12.9.1 Objectives / Overview

The Wildlife Management Plan will be the primary document to manage the potential effects of the Project on wildlife and wildlife habitat during all phases of development. This plan will include detailed protocols and procedures on how these potential effects will be managed, along with the roles and responsibilities of key personnel in the management of potential effects to wildlife. Protocols and procedures will also be incorporated into this plan to ensure compliance with the *Endangered Species Act*, the *Species at Risk Act*, and *Migratory Birds Convention Act*, as well as all other applicable acts and regulations. The actions of this plan will aim to limit adverse environmental effects to wildlife and wildlife habitat such as vehicle collisions with wildlife. The Wildlife Management Plan will be developed prior to the start of construction activities.

### 12.9.2 Application

Specific elements to be incorporated in the plan to manage wildlife include the following:

- Procedures on wildlife encounters;
- Procedures for dealing with nuisance wildlife;
- Protocols to limit effects to SAR species identified in the area;
- Outline all reporting requirements for wildlife management; and
- Responsibilities of key site and company personnel with respect to wildlife management.

### 12.9.3 Management Triggers and Adaptive Responses

- The following are the trigger levels to warrant action with respect to wildlife and wildlife habitat:
  - Monitoring indicates a notable decrease in species composition around the LSA and RSA.
  - Increased instance of wildlife collisions with site equipment.
  - Habitat offset not being utilized by SAR species.
  - Operations area having significantly less species composition following closure and rehabilitation.
- In the event the monitoring identifies a wildlife and wildlife habitat management triggers; Treasury Metals will retain a biologist to identify and recommend additional mitigation measures to address the issue.

## **12.10 Fish Management Plan**

### **12.10.1 Objectives / Overview**

The Fish Management Plan will apply to all aspects of the Project that could affect fish or fish habitat and will include detailed protocols and procedures on how these potential effects will be managed during all phases of Project development. This plan will be developed in accordance with the Metal Mine Effluent Regulations (MMER) (DFO 2002) under the *Fisheries Act*, along with all other applicable permit, regulation, or act. The actions of this plan will detail the roles and responsibilities of key personnel with regards to the management of potential effects to fish and fish habitat. Additionally, this plan will be equipped with procedures that will clearly identify the ways in which Treasury Metals' will limit adverse environmental effects to fish and fish habitat, including fish habitat offset required under the *MMER*. The Fish Management Plan will be developed prior to the start of construction activities.

### **12.10.2 Application**

Specific elements to be incorporated in the plan to manage fish include the following:

- Outlines of all applicable acts and regulations with respect to fish or fish habitat, along with any required permits;
- A detailed description of the fish habitat compensation planned for the Project;
- Emergency response procedures and action plans that could impact fish or fish habitat;
- Outline all reporting requirements for fish and fish habitat management; and
- Responsibilities of key site and company personnel with respect to fish and fish habitat management.

### **12.10.3 Management Triggers and Adaptive Responses**

- The following are the trigger levels to warrant action with respect to fish and fish habitat:
  - Effluent or water quality is worse than predictions in the EIS and which may have harmful effects to fish and fish habitat.
  - The sample taking from the discharge location fails the sub-lethal toxicity testing (>50% mortality)

## **12.11 Archaeological and Cultural Heritage Resource Management Plan**

### **12.11.1 Objectives / Overview**

The Archaeological and Cultural Heritage Resource Management Plan will apply to all areas of the Project that could affect archaeological and cultural heritage resources located within the

Project site and will include detailed protocols and procedures on how these potential effects will be managed during all phases of Project development. Additionally, the plan will conform to the *Ontario Heritage Act*, *Coroners Act*, and the *Funeral, Burial and Cremation Services Act*, along with all other applicable permits, acts and regulations. The roles and responsibilities of key site and company personnel, with regards to the management of potential archaeological and cultural heritage resources within the Project area will be clearly outlined in this plan along with contact information in the event heritage resources are discovered on site. The Archaeological and Cultural Heritage Resource Management Plan will be developed prior to the start of construction.

### 12.11.2 Application

Specific elements to be incorporated in the plan to manage archaeological and cultural heritage resources include the following:

- Detail objectives in mitigating archaeological and cultural heritage site effects during the life of the Project;
- Measures and controls in place to ensure archaeological and cultural heritage resources and sites are properly managed (e. g. Outline the restrictions on development within 300 m of major water courses and within 300 m of historical travel routes, without completing an archaeological assessment);
- Protocols and procedures on the management and handling of heritage resources if they were to be discovered on site;
- Outline all required reporting for archaeological and cultural heritage resources including contact information;
- Detail the applicable permits, regulations and acts that apply to this plan; and
- Responsibilities of key site and company personnel with respect to archaeological and cultural heritage resource management.

## 12.12 Socio-Economic Management Plan

### 12.12.1 Objectives / Overview

The Socio-Economic Management Plan will apply to all areas of the Project that could have social or economic effects to local Indigenous peoples or stakeholders and will provide detailed protocols and procedures on how these potential effects will be managed during all phases of Project development. Protocols and procedures will be developed within this plan in order to minimize adverse socio-economic effects of the Project on local communities, as well as maximize the positive socio-economic effects such as employment opportunities. Additionally, the roles and responsibilities of key site and company personnel with respect to managing socio-economic effects from the Project will be clearly outlined in this plan. The Socio-Economic Management Plan will be developed prior to the start of construction activities.

### 12.12.2 Application

Specific elements to be incorporated in the plan to manage socio-economic include the following:

- Procedures for socio-economic commitment implementation;
- Procedures to minimized negative and maximize positive socio-economic effects from the Project;
- Outline all reporting requirements for socio-economic management; and
- Responsibilities of key site and company personnel with respect to socio-economic management.

### 12.13 Emergency and Spill Response Management Plan

#### 12.13.1 Objectives / Overview

The Emergency and Spill Response Management Plan will detail the actions and activities to be implemented at the Project to help avoid spills and leaks, as well as actions to identify, report on and remediate spills and leaks should they occur. Additionally, this plan will describe the actions to be carried out in the event of an accident or malfunction to the standards of the *Environmental Emergency Regulations (SOR/2003-307)* (Environment Canada 2003) under the *Canadian Environmental Protection Act*, along with contact details of the Spill Action Centre in the event that notification of a spill is required. The roles and responsibilities of key site and company personnel with respect to avoiding, responding to, and reporting on, potential spills and leaks will be clearly outlined in this plan. The Emergency and Spill Response Management Plan will be developed prior to the start of construction activities.

#### 12.13.2 Application

Specific elements to be incorporated in the plan to manage emergency and spill response include the following:

- Procedures on spill criteria to ensure that proper reporting is sent to government agencies;
- Procedures on spill clean-up in the event;
- Outline all reporting requirements for emergencies and spills; and
- Responsibilities of key site and company personnel with respect to emergency and spill response.

## **12.14 Dam Safety Management Plan**

### **12.14.1 Objectives / Overview**

The Dam Safety Management Plan will detail the actions and activities to be implemented for the safe construction, operation, maintenance and surveillance of dams within the Project site during all phases of development. This management plan is synonymous with, and is often referred to as the Operation, Maintenance, and Surveillance (OMS) Manual. The construction, operation, maintenance and surveillance of the dams will be developed in accordance with the *Lakes and Rivers Improvement Act* (MOECC 1990) technical bulletins and the Canadian Dam Association (CDA), which will help to reduce any potential adverse environmental effects from dams at the site. This plan will detail the roles and responsibilities of key site and company personnel with respect to dam safety management. The Dam Safety Management Plan will be developed prior to the start of the first dam construction.

### **12.14.2 Application**

- Procedures for the operation, maintenance and surveillance of dams at the site;
- Controls and measures to mitigate against adverse environmental effects from dams at the site;
- Procedures in the event a dam has a flaw during an inspection; and
- Responsibilities of key site and company personnel with respect to dam safety.

## **12.15 Transportation and Access Management Plan**

### **12.15.1 Objectives / Overview**

The Transportation and Access Management Plan will detail the actions and activities to be implemented at the Project with regards to safe transportation within and to the site, as well as site access restrictions and enforcement. The protocols and procedures that will be detailed in this plan will help to prevent accidents and collisions across the Project site through traffic safety protocols, regulatory and cautionary signage, road maintenance and emergency response plans. The actions of the plan will also outline the proper measures and controls Treasury Metals will implement in order to restrict site access in the operations area, as well as procedures to allow accompanied access to Indigenous peoples looking to practice traditional land uses within the Project boundary. The roles and responsibilities of key site and company personnel with respects to transportation and access will be included in this plan. The Transportation and Access Management Plan will be developed prior to the start of construction activities.



### 12.15.2 Application

Specific elements to be incorporated in the plan to manage transportation and access include the following:

- Measures and controls for enforcing site access;
- Protocols and procedures to ensure transportation safety; and
- Responsibilities of key site and company personnel with respect to transportation and access.

## 12.16 Mine Rock Management Plan

### 12.16.1 Objectives / Overview

The Mine Rock Management Plan will outline the actions to be taken to manage and store the different forms of mine rock excavated at the Project during all phases of Project development. Through acid base accounting of core samples, it was determined that the waste rock from the Project will be PAG and will require proper measures to be put in place to ensure that the onset of ARD is avoided. Different mine rock types including PAG waste rock, non-acid generating (NAG) waste rock, overburden, and low-grade ore will require different management and storage strategies, which will be detailed in this management plan. The roles and responsibilities of key site and company personnel with respect to the management of mine rock will be addressed in this management plan, along with protocols and procedures that aim to limit any adverse environmental effects that could result from the excavation and storage of mine rock. This plan will conform to all applicable acts and regulations, including O. Reg. 240/00 Mine Development and Closure under the *Mining Act*. The Mine Rock Management Plan will be developed prior to the start of any excavations.

### 12.16.2 Application

Specific elements to be incorporated in the plan to manage mine rock include the following:

- Procedure for mine rock material segregation and storage at the site;
- Procedure for mine rock material removal or remediation at closure;
- Construction and management of mine rock storage, including managing the height and slope that will minimize the effects of these structure;
- Outline all reporting requirements for mine rock management; and
- Responsibilities of key site and company personnel with respect to mine rock management.

## **12.17 Hazardous Materials Management Plan**

### **12.17.1 Objectives / Overview**

The Hazardous Materials Management Plan will detail the management strategies for the safe delivery, handling, storage, distribution, use and disposal of hazardous materials within the Project site during all phases of Project development. The actions set out in this plan will adhere to the *Transportation of Dangerous Goods Act*, the *Environmental Protection Act*, along with any other applicable acts and regulations. Responsibilities of key site and company personnel with respects to the management and handling of hazardous materials will be clearly stated. Detailed protocols and procedures will be available in the plan that aims to limit adverse environmental effects from the Project, including spill events into the environment. The hazardous materials including cyanide, explosives and fuel will each have their own respective management plans, which will be referred to from the Hazardous Materials Management Plan. The Hazardous Materials Management Plan will be developed prior to any hazardous materials entering the site.

### **12.17.2 Application**

Specific elements to be incorporated in the plan to manage hazardous materials include the following:

- Procedures for the receipt, handling and storage of hazardous materials at the site;
- Procedures for dispensing and use of hazardous materials at the site;
- Outline all reporting requirements for hazardous materials; and
- Responsibilities of key site and company personnel with respect to the management and handling of hazardous materials.

## **12.18 Fuel Handling and Storage Management Plan**

### **12.18.1 Objectives / Overview**

The Fuel Handling and Storage Management Plan will outline the safe delivery, handling, storage and dispensing of fuel for the Project during all phases of Project development. The actions set out in this plan will help to prevent spills and leaks of fuel from occurring, as well as minimize environmental effects in the event a spill were to occur. This plan will be developed in accordance with the *Transportation of Dangerous Goods Act* and the *Environmental Protection Act*, along with any other applicable acts and regulations. A detailed description of the roles and responsibilities of key site and company personnel with regards to the management of fuel handling and storage will be provided. The Fuel Handling and Storage Management Plan will be developed prior to the start of construction activities.

## 12.18.2 Application

- Procedure for the receipt, handling, storage and dispensing of fuel at the site;
- Fuel delivery, storage and dispensing locations on site;
- Procedures and protocols for fueling of equipment;
- Procedures for a spill event;
- Outline all reporting requirements for fuel handling and storage; and
- Responsibilities of key site and company personnel with respect to fuel management.

## 12.19 Explosives Management Plan

### 12.19.1 Objectives / Overview

The Explosives Management Plan will detail the actions and activities to be implemented at the Project with regards to the safe delivery, handling, storage, dispensing and use of explosives for the Project. The actions set out in this plan will conform to the *Federal Explosives Act* and *Quantity Distance Principles User's Manual* (NRCan 2013) and will set out the roles and responsibilities of key site and company personnel with respect to the management and handling of explosives. A blasting plan detailing protocols and procedures will also be included in the Explosives Management Plan, along with mitigation measures that aim to limit adverse environmental effects such as noise and vibration off-site. The Explosives Management Plan will be developed prior to the start of construction activities that require the use of explosives.

### 12.19.2 Application

Specific elements to be incorporated in the plan to manage explosives include the following:

- Procedures for the receipt, handling and storage of explosives at the site;
- Procedures for the dispensing and use of explosives at the site;
- Procedures for blast timing including time of day, frequency and notification; and
- Responsibilities of key site and company personnel with respect to the management and handling of explosives.

## 12.20 Occupational Health and Safety Plan

### 12.20.1 Objectives / Overview

The Occupational Health and Safety Plan will encompass all aspects of the Project relating to health and safety for personnel on site and will conform to applicable occupational health and

safety legislation standards including the *Occupational Health and Safety Act*, Regulation 854 – Mines and Mining Plants. This plan will set out the roles and responsibilities of key site and company personnel with respect to the health and safety of Treasury Metals employees as well as visitors at the Project site. The goal of this plan is to provide the framework for a safe work environment for all people entering the site, and aims to provide a work place with zero injuries. The Occupational Health and Safety Plan will be developed prior to the start of the construction phase, and will be review annually.

### **12.20.2 Application**

Specific elements to be incorporated in the plan to manage communications include the following:

- Recognize, reward and support excellent safety performance;
- Alcohol and other drugs of abuse policies;
- Outline all reporting requirements for occupational health and safety; and
- Responsibilities of key site and company personnel with respect to occupational health and safety.

## **12.21 Communications Management Plan**

### **12.21.1 Objectives / Overview**

The Communications Management Plan will address ongoing engagement with potentially affected stakeholders and Indigenous peoples and will outline the transparent grievance process Treasury Metals intends to implement for addressing concerns about the Project. This plan will be developed through Treasury Metals commitment to continue engagement with Indigenous communities through the life of the Project, as well as the commitment to document all comments, issues, or concerns raised by stakeholder groups. All input Treasury Metals receives will be duly considered and acted upon according to the nature of the input received. A detailed description of the roles and responsibilities of key site and company personnel with regards to communications with stakeholders and Indigenous peoples will be clearly stated. The Communications Management Plan will be developed prior to the start of construction activities.

### **12.21.2 Application**

Specific elements to be incorporated in the plan to manage communications include the following:

- Procedures for documenting comments and concerns about the Project from stakeholders and Indigenous communities;
- Detailed description of a transparent grievance process for concerns raised by stakeholders and Indigenous communities; and

- Responsibilities of key site and company personnel with respect to the communications management.

## 12.22 Environmental Management Committee

To ensure that Indigenous communities most affected by the Project have input into the effectiveness of the Environmental Management Plans and Follow-up Programs, Treasury Metals proposes to form an Environmental Management Committee. This committee would be made up of members from Indigenous communities and would meet with representatives from Treasury Metals on a to-be-determined basis, possibly quarterly or semi-annually. Treasury Metals would present any reportable information on the management plans as well as the results of the follow-up programs. If exceedances or issues arise that show mitigation measures have not been as effective as expected, the potential for further actions would be discussed with the committee. The Environmental Management Committee would also provide a forum for discussing other environmental matters with the potentially affected Indigenous communities such as upcoming permits, additional TK that might have been collected since completion of the EA process, and any other environmental matters of relevance to the committee including financial support for operation of the committee.

## 12.23 Applicability of Management Plans to Disciplines

To validate the inclusivity of the conceptual EMP framework, Table 12.22-1 provides a cross reference between the management plans outlined above and the disciplines evaluated in the revised EIS. The shaded cells indicate the disciplines that are affected by each of the management plans. Due to the importance of the Dam Management Plan, it was included in this section of the EIS, even though it is not tied to a specific EIS discipline.

**Table 12.22-1 Cross Reference of EMPs to Project Disciplines**

Environmental Management Plans	Disciplines																		
	Terrain and Soils	Geology and Geochemistry	Noise	Light	Air Quality	Climate	Surface Water Quality	Surface Water Quantity	Groundwater Quality	Groundwater Quantity	Wildlife and Wildlife Habitat	Fish and Fish Habitat	Wetlands and Vegetation	Land Use	Social	Economic	Human Health	Heritage Resources	Indigenous Peoples
Project Environmental Management Plan																			
Waste Management Plan																			
Water Management Plan																			
Tailings Management Plan																			
Cyanide Management Plan																			
Noise Management Plan																			
Best Management Practices Plan for Dust																			
Greenhouse Gas Management Plan																			
Wildlife Management Plan																			
Fish Management Plan																			
Archaeological and Cultural Heritage Resource Management Plan																			
Socio-Economic Management Plan																			
Emergency and Spill Response Management Plan																			
Dam Safety Management Plan																			
Transportation and Access Management Plan																			
Mine Rock Management Plan																			
Hazardous Materials Management Plan																			
Fuel Handling and Storage Management Plan																			
Explosives Management Plan																			
Occupational Health and Safety Plan																			
Communications Plan																			