VALENTINE GOLD PROJECT

Construction

Environmental Protection Plan

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Acronyms and Abbreviations

µ	micron
µm	micrometer
AEP	annual exceedance probability
ATV	All-terrain vehicles
CDA	Canadian Dam Association
CEPA	*Canadian Environmental Protection Act*, 1999
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CWS	Canadian Wildlife Service
DFO	Fisheries and Oceans Canada
EA	environmental assessment
ECCC	Environment and Climate Change Canada
EEM	environmental effects monitoring
EMP	Environmental Management Plan
EMS	Environmental Management System
EPP	Environmental Protection Plan
GHG	greenhouse gas
GPS	global positioning system
HADD	Harmful Alteration, Disruption or Destruction
km	kilometre
km^2	square kilometres
L	litre
m	metres
MDMER	*Metal and Diamond Mining Effluent Regulations*
the mill	processing facilities
mm	millimetre
N_2O	nitrous oxide
NL	Newfoundland and Labrador
NLDECC	NL Department of Environment and Climate Change

NLDFFA	NL Department of Fisheries, Forestry and Agriculture
NL ESA	Newfoundland and Labrador *Endangered Species Act*
NOx	nitrogen oxides
NRCAN	Natural Resources Canada
PAG	potentially acid generating
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than 2.5 µm
PM_{10}	particulate matter with an aerodynamic diameter less than 10 µm
the Project	Valentine Gold Project
SAR	species at risk
SARA	*Species at Risk Act*
SDS	Safety Data Sheets
SO_2	sulphur dioxide
SOCC	species of conservation concern
TMF	tailings management facility
TSP	total suspended particulate
WHMIS	Workplace Hazardous Materials Information System

1.0 INTRODUCTION

Marathon Gold Corporation (Marathon) is developing an open pit gold mine near Valentine Lake, located in the central region of the Island of Newfoundland, southwest of the Town of Millertown, Newfoundland and Labrador (NL) (Figure 1.1). The Valentine Gold Project (the Project) consists primarily of two open pits, waste rock piles, crushing and stockpiling areas, conventional milling and processing facilities (the mill), a tailings management facility (TMF), personnel accommodations, and supporting infrastructure including roads, on-site power lines, buildings, and water and effluent management facilities (see Figure 1.2).

Following release from the environmental assessment (EA) process and issuance of regulatory permits and authorizations, Project construction is anticipated to begin in early 2022 with upgrading the access road, constructing site roads, removing vegetation for site infrastructure, and pre-stripping the open pits. Civil earthworks including for the TMF, foundations and subsurface utilities, and mill and infrastructure construction will occur over a 16 to 20 -month period, with commissioning and start-up anticipated for mid-2023.

This Environmental Protection Plan (EPP) is applicable to construction activities and a separate EPP will be developed to address operations. This Construction EPP is being issued as a Draft and shall be updated as additional information becomes available through regulatory approval and/or construction planning processes.

1.1 PURPOSE AND SCOPE OF THE EPP

The purpose of the EPP is to outline protection and response measures associated with potential environmental effects related to Project construction activities. This plan also describes practical procedures required of all personnel (i.e., Marathon employees, contractors and suppliers) to reduce or eliminate potential adverse environmental effects, as well as instructions for addressing planned and unplanned activities/events associated with Project construction. To avoid and reduce adverse environmental effects, best management practices will be employed throughout all Project activities.

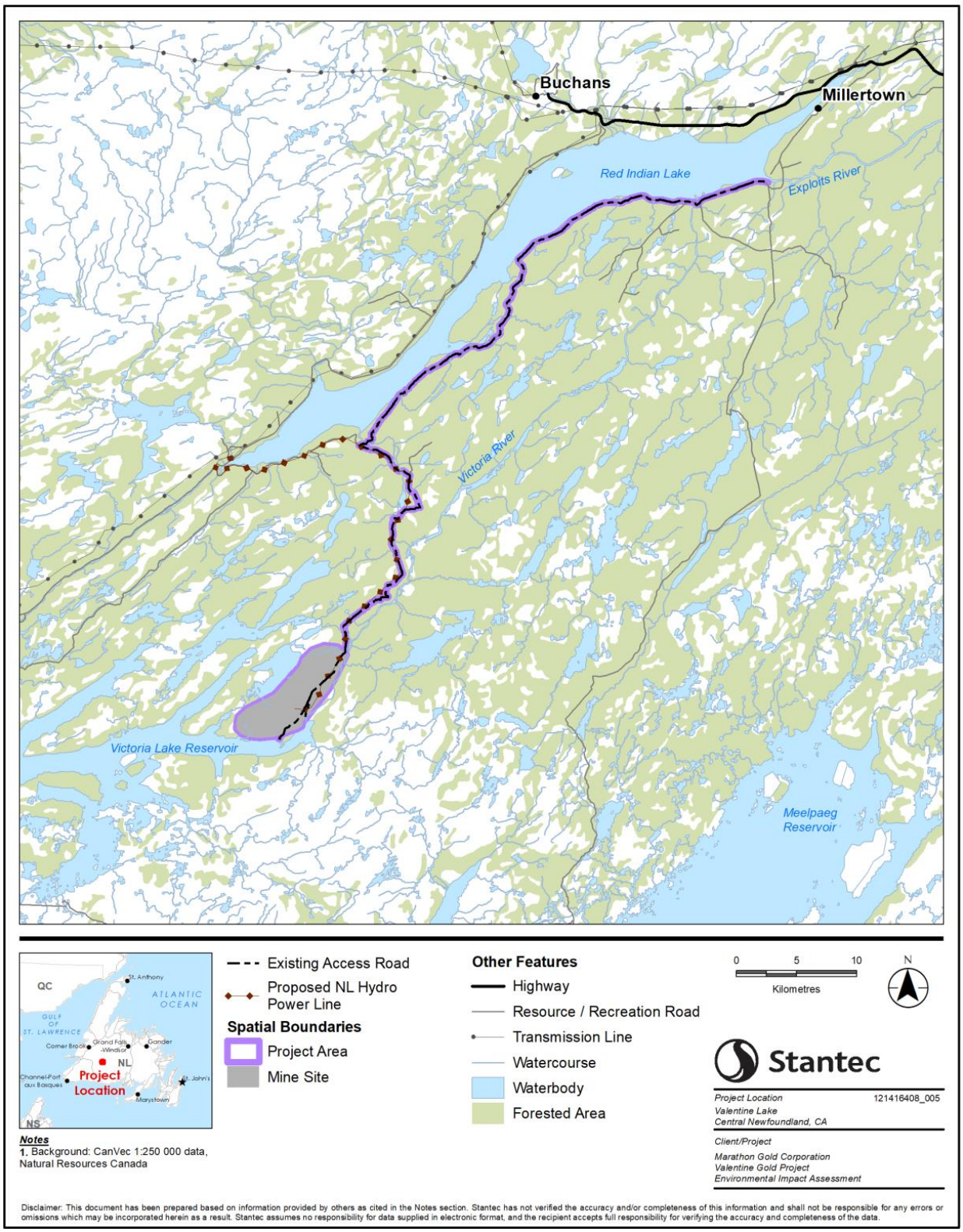

Figure 1.1 Valentine Gold Project – Project Area and Location

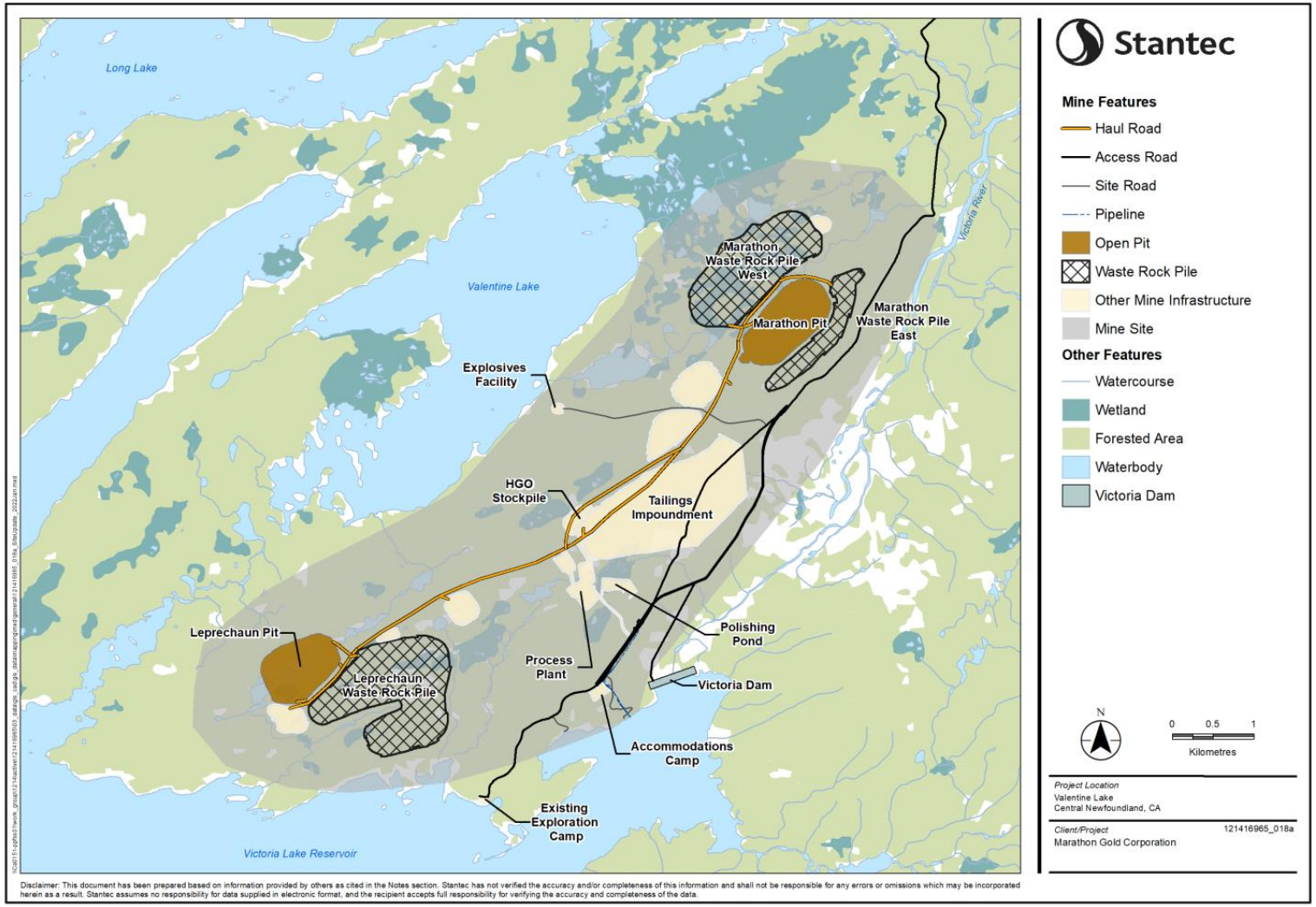

Figure 1.2 Mine Site Layout

1.2 OBJECTIVES OF THE EPP

To support the execution of construction activities in an environmentally responsible manner, this EPP has the following objectives:

- To manage and reduce risks and adverse environmental effects from construction activities
- To identify avoidance and mitigation measures to avoid or reduce adverse construction-related environmental effects
- To identify and document potential environmental concerns and associated protection measures
- To provide a reference document for personnel to guide the planning and/or conduct of specific construction activities
- To provide direction in the event of accidental events or malfunctions
- To communicate changes in the program through the revision process
- To provide a reference to applicable laws, regulations, guidelines and other requirements, including potential permitting
- To provide measures against which to verify that environmental commitments are being met
- To include a quick reference for Marathon and applicable regulators to monitor compliance / conformance and recommend improvements
- To provide direction at the corporate level for enacting, and monitoring conformance with, corporate commitments

Deviation from the procedures and commitments outlined in this EPP must be discussed with, and approved by, Marathon.

1.3 ORGANIZATION OF THE EPP

This EPP contains the following sections:

Section 1.0 introduces the EPP. It outlines the overall purpose, objectives, organization, roles and responsibilities of those involved and environmental orientation requirements.

Section 2.0 provides a description of planned construction activities.

Section 3.0 lists the permits, approvals and authorizations that may be required for the Project and provides an overview of compliance monitoring.

Section 4.0 describes potential environmental concerns and general environmental protection procedures associated with construction activities.

Section 5.0 describes special environmental protection procedures applicable to construction for resources of concern, including wildlife and historic resources.

Section 6.0 outlines the contingency plans for potential unplanned and accidental events that could occur during Project construction.

Section 7.0 outlines the procedures for revising the EPP.

Section 8.0 provides a list of key Project personnel and regulatory contacts.

Section 9.0 lists references cited in the EPP, as well as a number of sources of further information.

Section 10.0 contains a signature page for employee and contractor sign-off.

Supporting information and documents are provided in the appendices:

- Appendix A is Marathon's Environmental Policy
- Appendix B is a Controlled Copy Distribution List
- Appendix C is an Environmental Site Inspection Checklist
- Appendix D is Marathon's Incident Investigation Procedure
- Appendix E is Marathon's Incident and Investigation Report Form
- Appendix F is a Mapbook of Environmental Sensitivities in the Project Area
- Appendix G is a Traffic Management Plan
- Appendix H is a Spill Report Form
- Appendix I is a Revision Request Form
- Appendix J is a Revision History Log

1.4 ENVIRONMENTAL POLICY

Marathon is committed to the sustainable and responsible development of the Project as reflected in its corporate values and Environmental Policy (refer to Appendix A). Environmental management and protection are recognized as a corporate priority, which is critical to the successful construction, operation, and decommissioning, rehabilitation and closure of the Project. The Environmental Policy applies to all Marathon personnel, contractors, subcontractors, suppliers, vendors and visitors.

Consistent with its internal policies and corporate values, Marathon will implement processes and procedures to identify, assess, and avoid or reduce environmental risks during all phases of the Project life cycle. These processes and procedures will be developed and maintained under Marathon's Environmental Management System (EMS), comply with relevant legal requirements and be informed by industry best practices and standards.

The EMS is designed as a conceptual and systematic framework to manage environmental risks, based on principles of adaptive management and continuous improvement. It will guide the development and implementation of Environmental Management Plans (EMPs) required to maintain environmental protection during all Project phases – construction, operation, and decommissioning, rehabilitation and closure. The EMS and associated EMPs will function as a set of standards to guide the environmentally and socially responsible development and operation of the Project through the definition and implementation of the following components:

- Defined objectives informed by Marathon's Environment Policy
- Defined roles, responsibilities and accountabilities

- Risk management processes and operating procedures focused on environmental responsibility
- Monitoring, auditing and reporting processes

This EPP operationalizes Marathon's environmental management commitments, providing a set of standards to guide Project construction in an environmentally and socially responsible manner.

1.5 ROLES AND RESPONSIBILITIES

1.5.1 Marathon Staff

Chief Executive Officer (CEO)

The CEO is responsible for overall project governance.

Chief Operating Officer (COO)

The COO is responsible to ensure the resources and support required are in place for successful implementation and maintenance of the environment and regulatory compliance program. The COO reports to the CEO and coordinates with the VP Projects and VP Regulatory and Government Affairs to ensure that objectives are met.

VP Projects

The VP Projects is responsible for the overall construction and engineering management of the Project including overseeing and taking responsibility for consulting engineering and contracting services relating to the development of the Valentine Gold Project, the formation and oversight of the owner's team to undertake the engineering, procurement, and construction management of project development works performed under the direct scope of the Company, and oversight of, and liaison with, any outside team undertaking the engineering, procurement, and construction management of project development works performed under the scope of any EPC or like contract. The VP Projects, working with the COO, will support the development, formation, and oversight of an owner's team for operational readiness. The VP Projects reports directly to the COO to ensure that objectives are met.

VP Regulatory and Government Affairs

The VP Regulatory and Government Affairs is responsible for the overall management of Project environmental programs and permits, overseeing all aspects pertaining to compliance with respect to environmental issues and community affairs and corporate social responsibility. The VP Regulatory and Government Affairs reports directly to the CEO and coordinates with the VP Projects and COO to ensure that objectives are met.

Construction Manager

The Construction Manager has overall responsibility for the construction of the Project, including oversight of on-site environmental monitoring and compliance relating to construction activities. The Construction Manager reports to the VP Projects and coordinates with the VP Regulatory and Government Affairs to ensure that objectives are met. The Construction Manager will provide support personnel and equipment from applicable departments to assist the Environment Team on an as-needed basis, such as for implementation and maintenance of:

- Environmental procedures outlined in the EPP as well as other stand-alone EMPs, which could require manual labor and /or heavy equipment needs (e.g., installing sediment and erosion control mitigation measures by hand or with a bobcat)
- Environmental SOPs, which could require manual labor and/or heavy equipment needs (e.g., emptying secondary containment of precipitation build-up [into an oil water separator], dredging sedimentation ponds of sediment build-up with an excavator to keep them functioning as designed)
- Contingency procedures outlined in the EPP, EMPs and ERPs, which could require manual labor and/or heavy equipment needs (e.g., deploying spill response materials or removing contaminated soil with an excavator)

Environment Manager

The Environment Manager reports to the VP Regulatory and Government Affairs and is responsible to:

- Oversee the development and implementation of the Environment and Social Management System (ESMS) and associated Environmental Monitoring and Management Plans
- Support the activities of the Environment Team, including liaising between the Environment Team and Management and Executive
- Manage development and submission of regulatory permitting applications, with follow-up through to approval, and associated reporting requirements
- Establish environmental monitoring and management programs and associated reporting procedures
- Monitor and report on regulatory compliance, including with conditions of authorizations and permits
- Liaise with regulators on permit conditions of authorizations/permits, reporting requirements, and environmental incidents
- Manage the periodic review and update of the EPP

Environmental Superintendent / Coordinator

The Environmental Superintendent reports to the Construction Manager (directly) and Environment Manager (indirectly), and the Environmental Coordinator reports to the Environmental Superintendent. The Environmental Superintendent and Environmental Coordinator will:

- Oversee the implementation of the EPP and environmental monitoring and management programs, as part of the overall ESMS
- Gather pertinent information needed for permits and authorizations and prepare associated applications for submission to regulators
- Implement Environmental Management Plans (EMP) and Emergency Response Plans (ERP), required as conditions of authorization
- Prepare and oversee implementation of environment-specific Standard Operating Procedures (SOPs)
- Communicate with the Environment Manager on overall progress, including flagging any environmental risks and hazards, issues and concerns
- Liaise with and support other Marathon department managers and staff on environmental objectives and responsibilities, receive reported concerns and provide guidance, and communicate regarding issues encountered during construction, including corrective actions and follow-up
- Provide training and mentoring to Environment Technicians and Monitors on EPP procedures
- Oversee implementation of environmental sampling regimes including air, water and effluent required as conditions of authorization
- Provide guidance to other departments on their environment-related responsibilities (e.g., waste management including set up and regularly scheduled maintenance of various waste collection streams and recouperation of recyclables; storage, handling and disposal of hazardous wastes and associated reporting; aspects of the sediment and erosion management plan including set up and regularly scheduled maintenance of mitigation measures and infrastructure; wildlife management including implementation of various deterrent including bears to limit human-wildlife interactions)
- Serve as "On-Scene Commander" for environmental emergency response, including supervising/directing cleanups or other works
- Prepare and submit to the Environment Manager follow-up documentation required by regulators on any environmental incidents/emergencies

Environmental Technicians and Monitors

The Environment Technicians and Monitors report to the Environmental Superintendent / Coordinator and will:

- Conduct the various sampling regimes including air, water and effluents as outlined in the permits and authorizations to operate
- Conduct environmental audits and inspections and report on non-compliances to the Environmental Superintendent / Coordinator to bring to the attention of the responsible department or contractor

- Assist with the implementation of the various Environment Management Plans (including the EPP), Environmental Response Plans, Environmental SOPs, and other guidance documents as part of the overall ESMS

All Marathon Personnel, Contractors, Subcontractors and Visitors

All Marathon personnel, contractors, subcontractors and visitors will:

- Review and become familiar with the procedures contained in the EPP, including any revisions
- Adhere to and implement commitments noted in the EPP, including conditions described in approvals, authorizations and permits
- Demonstrate capacity to perform in a manner consistent with Marathon‘s commitments, policies and procedures
- Immediately report concerns to a member of Marathon’s Environment Team of any spills or other accidental events or malfunctions that could have an adverse effect on the environment
- Carry out clean-up, rehabilitation or restoration as directed by Marathon’s Environmental Superintendent / Coordinator or regulatory agencies
- Provide feedback to Marathon’s Environmental Superintendent / Coordinator regarding any changes/comments they believe would improve the EPP

1.6 ENVIRONMENTAL ORIENTATION AND TRAINING

Through ongoing orientation and ongoing awareness training, Marathon will confirm that all Project personnel understand their roles and responsibilities, as well as the potential environmental effects of the Project related to their specific work activities.

Environmental orientation for Marathon employees and contractors will include a review of:

- Environmental management requirements (including this EPP)
- Environmental considerations
- Non-compliance and corrective actions
- Environmental contingency measures
- Incident reporting requirements
- Work subject to regulatory permit requirements
- Construction site rules and regulations
- Bear awareness training

Employees and contractors will be required to sign a form indicating they have reviewed and understand their role and responsibilities regarding this EPP.

All workers will receive an orientation from an immediate supervisor prior to the start of any new activity and thereafter on an as-needed basis.

Spill response training will be provided to front-line personnel (including the Environment Team and representatives from other departments) who may be required to respond to environmental incidents. Environmental personnel responsible for site monitoring during construction will receive training to recognize species of conservation concern (SOCC) that may be present in Project Area. Marathon will also provide training to environmental staff on the identification and appropriate eradication and control measures for potentially invasive plant species, to be developed with input from the NL Department of Fisheries, Forestry and Agriculture (NLDFFA). Site staff will also receive training on active nest disturbance and associated avian response behaviour.

All new personnel arriving at the site during construction activities will also receive an environmental orientation.

2.0 PROJECT DESCRIPTION OVERVIEW (CONSTRUCTION)

Following release from the EA process and issuance of regulatory permits and authorizations, Project construction is anticipated to begin in early 2022 with upgrading the access road, constructing site roads, removing vegetation for site infrastructure, and pre-stripping the open pits. Civil earthworks including for the TMF, foundations and subsurface utilities, and mill and infrastructure construction will occur over an approximately 24-month period, with commissioning and start-up anticipated for late 2023. General construction activities for the Project include:

- **Site Preparation:** cutting and clearing of vegetation and removing organic materials and overburden on areas to be developed and developing construction stage water and erosion control (e.g., ditching, temporary / permanent sedimentation ponds) and access roads
- **Earthworks:** facilitating construction of infrastructure development areas by excavating, preparing excavation bases, placing structural fill, and grading; stripping and stockpiling organic and overburden materials from open pits; and use of open pit development rock for earthworks, such as structural fill and road gravels
- **Infrastructure Construction:** placing concrete foundations and constructing buildings and Project infrastructure
- **Equipment Installation:** installing major Project equipment and supporting infrastructure
- **Utilities Installation:** constructing and connecting power, water and fuel supply infrastructure
- **TMF Construction and other Dams:** constructing the first phase of the TMF including the Phase 1 dam, water treatment plant, and polishing pond, as well as water management ponds

Project construction is expected to take place over a period of 24 months as shown in Table 2.1. The schedule is subject to change / revision as the Project advances.

Table 2.1 Anticipated Timeframes, Frequencies and Durations of Construction Activities

Project Activity	Anticipated Timeframe, Frequency, Duration
Mine Site Preparation and Earthworks Clearing and cutting of vegetation, removal of organic materials, development of roads and excavation, preparation of excavation bases within the mine site, grading for infrastructure construction, earthworks for open pits	• Approximately 9-month period commencing early 2022, and again in 2026 (haul road relocation) • Year-round; avoiding breeding bird season for clearing and cutting of vegetation, where feasible
Construction, Installation and Commissioning of Infrastructure and Equipment Placement of concrete foundations, construction of buildings and infrastructure, installation of water control structures, installation and commissioning of utilities on-site	• Commencing 2022 through 2023 • Year-round, continual for approximately 24-month period: - Foundations and subsurface utilities: 6 months - TMF earthworks: 12 months - Mill and infrastructure construction: 18 months - Commissioning and start-up: 6 months
Transportation along Access Road	• Commencing with construction in early 2022, continuing through to closure and rehabilitation and beyond (post-closure and long-term monitoring) • Year-round, continual throughout life of Project

3.0 REGULATORY REQUIREMENTS

3.1 POTENTIAL APPROVALS, AUTHORIZATIONS AND PERMITS

Various regulatory approvals, permits and authorizations are required for Project construction. Project personnel should consult the Environment Team prior to initiating any new work/activity, to confirm that the applicable permits are in place and to understand environmental and regulatory requirements and conditions of authorization.

Conditions and expiry/renewal dates should be considered as elements of this EPP, and all personnel should be familiar with and adhere to all relevant permits and approvals. A general list of approvals, authorizations and permits that may be required for construction activities is presented in Table 3.1. Additional approvals, authorizations and permits may be required before proceeding to the operations phase of the Project.

Table 3.1 Environmental Approvals, Authorizations, and Permits that May Be Required for Project Construction

Environmental Permit, Approval or Authorization Activity	Issuing / Approval Agency
Provincial	
Release from EA Process	NL Department of Environment and Climate Change (NLDECC) – Minister
Approval of Environmental Protection Plan	
Monitoring Plan for Certificate of Approval	NLDECC – Pollution Prevention Division
Certificate of Approval for Construction and Operation (Industrial Processing Works)	
Certificate of Approval for Generators	
Approval of Environmental Contingency Plan / Emergency Spill Response	
Permit to Construct a Non-Domestic Well	NLDECC – Water Resources Management Division
Certificate of Environmental Approval to Alter a Body of Water	
Culvert Installation	
Fording / Bridge	
Pipe Crossing / Water Intake	
Stream Modification or Diversion	
Other Works Within 15 metres (m) of a Body of Water	
Water Use License	
Permit to Construct a Potable Water System	
Permit to Occupy Crown Land	NL Department of Fisheries, Forestry and Agriculture (NLDFFA) –Lands Division

Table 3.1 Environmental Approvals, Authorizations, and Permits that May Be Required for Project Construction

Environmental Permit, Approval or Authorization Activity	Issuing / Approval Agency
Permit to Control Nuisance Animals	NLDFFA – Wildlife Division
Operating Permit to Carry out an Industrial Operation During Forest Fire Season on Crown Land	NLDFFA – Forestry and Agrifoods Agency
Permit to Cut Crown Timber	
Permit to Burn	
Surface and Mining Leases	NL Department of Industry, Energy and Technology – Mineral Development and Mineral Lands Division
Development Plan	
Rehabilitation and Closure Plan*	
Financial Assurance	
Mill License*	
Quarry Development Permit	
Blasters Safety Certificate	Department of Digital Government and Service NL – Government Service Centre
Approval for Storage and Handling of Gasoline and Associated Products	
Fuel Storage Tank Registration	
Approval for Used Oil Storage Tank System (Oil / Water Separator)	
Certificate of Approval for a Waste Management System	
Certificate of Approval for a Sewage / Septic System	
Application to Develop Land for Septic	
National Building Code –Fire, Life Safety and Building Safety	
Buildings Accessibility Registration and Permit	
Food Establishment License	
Federal	
Release from EA Process	Impact Assessment Agency of Canada (IAAC)
Fisheries Act Authorization permitting serious harm to fish	Fisheries and Oceans Canada (DFO)
Tailings Impoundment Area Designation	Environment and Climate Change Canada (ECCC)
Initiate Metal and Diamond Mining Effluent Regulations (MDMER) authorization and reporting processes with Environment and Climate Change Canada (ECCC) including notification, identification of final discharge point, and all required components of effluent monitoring, and environmental effects monitoring (EEM)*	
Approval of MDMER Emergency Response Plan*	
Approval to Interfere with Navigation*	Transport Canada
License to Store, Manufacture, or Handle Explosives (Magazine License)*	Natural Resources Canada (NRCAN)
*May not be required for Project construction	

3.2 ENVIRONMENTAL MONITORING

3.2.1 Site Inspections

Site inspections will be conducted by Marathon personnel before, during, and after any site disturbances related to construction activities performed by Marathon, or contractors on behalf of Marathon. For site inspections conducted prior to construction activity, site details including vegetation, general terrain/topography, and drainage patterns will be recorded. Photographs should be taken during each site inspection. The required frequency of site inspections performed during construction activities will be determined by the Environment Manager, Environmental Superintendent or designate and will depend on the duration and type of activity being performed. The site inspections will be recorded in the Environmental Site Inspection Checklist (Appendix C).

Regular site inspections will aid in the implementation of the environmental protection measures that are specified in this EPP and that will be specified in the applicable contracts and relevant permits, approvals and/or authorizations.

Any environmental issues or concerns should be reported to Marathon's Environmental Superintendent, Environmental Coordinator or designate.

3.2.2 Monitoring

Monitoring is conducted to: confirm that activities comply with applicable regulatory requirements and conditions of permits/authorizations; verify accuracy of environmental effects predictions; assess the effectiveness of mitigation and management measures; and identify Project effects which may require further mitigation. Marathon's Environmental Superintendent, Environmental Coordinator or designate will be responsible for on-site environmental effects and compliance monitoring during construction activities.

Project-specific Monitoring Plans are being developed to monitor Project effects and/or regulatory compliance for the following environmental aspects:

- Air quality
- Greenhouse gas emissions
- Groundwater resources
- Surface water resources
- Fish and fish habitat
- Avifauna
- Caribou
- Other wildlife (e.g., bats, American Marten)
- Country foods
- Outfitters

Compliance monitoring will be required for various activities during construction. Federal and provincial government compliance standards that may apply to construction activities (i.e., for which a permit or authorization is not issued, but with which activities must comply) include but are not limited to those listed in Table 3.2. Marathon personnel and contractors will comply with all relevant permits, approvals, authorizations and legislation while conducting construction-related activities.

Table 3.2 Environmental Regulatory Compliance Standards

Legislation/ Guidelines	Activity Requiring Compliance	Responsible Agency	Comment
Federal			
Fisheries Act	Section 36 - Deleterious Substances - run-off from construction sites receiving waters	DFO	Any deposited substance or discharge must not be deleterious (i.e., must be acutely non-lethal). Liquid effluents that enter freshwater or marine waters must comply with the Act.
	Section 35 – any works affecting fish habitat	DFO	Habitat alteration, disruption or destruction will only occur as permitted by DFO in a *Fisheries Act* Authorization.
	Schedule 2 – placement of mine waste in fish-bearing waters	ECCC	Mine waste will not be placed in fish-bearing waters.
Species at Risk Act (SARA)	Mortality of or harm to species at risk, or damage or destruction of their residences (e.g., nest or den)	ECCC	Species at risk must not be killed, harmed, harassed, captured, taken, possessed, collected, bought, sold or traded. The residences (e.g., nest or den) must not be damaged or destroyed. Measures must be taken to avoid or reduce adverse effects on species at risk (SAR) and monitor effects. Mitigation measures must be consistent with recovery strategies and action plans for species.
Migratory Birds Convention Act, 1994	Mortality of migratory birds and any species under federal authority, or disruption or destruction of nests, eggs, or nest shelters	ECCC - Canadian Wildlife Service (CWS)	ECCC-CWS should be notified about the mortality of any endangered migratory bird in the Project Area, including passerine (songbirds), seabird and waterfowl species. Substances (e.g., oil, wastes, etc.) that are harmful to migratory birds must not be deposited into waters that they frequented. Nests, eggs, nest shelters of migratory birds must not be disturbed or destroyed. ECCC-CWS must also be notified regarding the mortality of any endangered species (under federal regulation).

Table 3.2 Environmental Regulatory Compliance Standards

Legislation/ Guidelines	Activity Requiring Compliance	Responsible Agency	Comment
Transportation of Dangerous Goods Act and Regulations	Handling and transporting dangerous goods	Transport Canada	If the materials are transported and handled fully in compliance with the regulations, a permit is not required. A Permit of Equivalent Level of Safety is required if a variance from the regulations is necessary.
Canadian Environmental Protection Act, 1999 (CEPA)	Activities that have the potential to adversely affect the environment and human health	ECCC	CEPA provides framework for setting environmental quality objectives, guidelines and codes of practice, pollution prevention plans, regulation of toxic substances, controlling pollution of other wastes and environmental emergency plans
			CEPA addresses the prevention of, preparedness for, response to and recovery from environmental emergencies caused by uncontrolled, unplanned or accidental releases. It also addressed the reduction of any foreseeable likelihood of releases of toxic or other hazardous substances listed in Schedule 1 of the Environmental Emergency Regulations, 2019 (E2 Regulations).
Provincial			
Environmental Protection Act	Construction	Pollution Prevention Division, NLDECC	All waste material shall be considered, prior to disposal, for reuse, resale or recycling. All waste materials, associated with construction shall be disposed at an approved waste disposal site.
	Construction	Pollution Prevention Division, NLDECC	All activities associated with construction are subject to the *Air Pollution Control Regulations*. Materials as stipulated in the Regulations cannot be burned in the open.
	Site drainage during construction	Pollution Prevention Division, NLDECC	All waters discharged from construction sites must comply with the *Environmental Control Water and Sewage Regulations*.
	Storage, handling and disposal of gasoline and other fuels	Department of Government Services NL	Petroleum storage and handling is subject to the *Storage and Handling of Gasoline and Associated Products Regulations*. Refer to Section 5.1 of the EPP for the Fuel and Hazardous Material Spills Contingency Plan.
	Disposal of used oil and glycol	Department of Government Services NL	The storage and disposal of used oil and glycol is subject to the *Used Oil and Glycol Control Regulations*.

Table 3.2 Environmental Regulatory Compliance Standards

Legislation/ Guidelines	Activity Requiring Compliance	Responsible Agency	Comment
	Handling and storage of hazardous materials	Department of Government Services NL	Activities involving the use of designated hazardous materials are subject to Workplace Hazardous Materials Information System (WHMIS). WHMIS outlines procedures for handling hazardous materials and provides details on various hazardous materials.
Dangerous Goods Transportation Act and Regulations	Transporting fuel to the site	Department of Transportation and Infrastructure	Transporting goods considered dangerous to public safety must comply with regulations.
Historic Resources Act	General construction activities, particularly clearing and grubbing	Provincial Archaeology Office, Department of Tourism, Culture, Arts and Recreation	All archaeology sites and artifacts are considered the property of the Crown and must not be disturbed. Any archaeology materials encountered must be reported to the Provincial Archaeology Office.
Forestry Act	Clearing, burning	NL Department of Fisheries, Forestry and Agriculture (NLDFFA)	Cutting and burning of trees must comply with the Act.
Minerals Act	Construction	NL Department of Industry, Energy and Technology – Mineral Development and Mineral Lands Division	All work must comply with the *Minerals Act*.
Occupational Health and Safety Act & Regulations	Construction	Digital Government and Service NL	All activities must comply with the *Occupational Health and Safety Act* and Regulations.

3.3 REPORTING AND COMMUNICATIONS OF ENVIRONMENTAL ISSUES / CONCERNS AND INCIDENTS

3.3.1 Internal Communication

Environmental performance or concerns associated with any construction activities will be communicated internally as required. Marathon's Environment Manager is responsible to ensure that policies, procedures, legal, and other requirements are communicated to construction personnel by the Environmental Superintendent and Environmental Coordinator, including any new or additional mitigation measures such as those resulting from incident investigations, regulatory changes/updates, or adaptive management.

Construction personnel and contractors are required to communicate all environmental incidents to Marathon's Environmental Superintendent and/or Environmental Coordinator as per Marathon's Incident Investigation Procedure (see Appendix D). The purpose of the Incident Investigation Policy is to ensure that incidents are investigated in accordance with applicable legislation, which will help identify opportunities to improve safety and environment performance by identifying direct and root causes that led to the incident.

In the event of an environmental incident, the investigation will be conducted by the Environmental Superintendent / Environmental Coordinator (or designate), with corrective actions identified through root cause analysis. Each corrective action identified will be assigned to a person who will be responsible to ensure that the action is carried out within the prescribed timeframe. Marathon's investigation process is summarized below.

1. Initial Verbal and Written Reporting: When an environmental incident occurs, immediate steps must be taken to respond to the scene, in accordance with Marathon's emergency response procedures. The immediate supervisor and other trained authorized personnel will secure the scene, verbally report the incident to the Environmental Superintendent / Coordinator and, in consultation with the Environment Team, take action to avoid/reduce further impact to the environment and ensure the area is made safe. The supervisor will then be responsible to complete the Initial Report (Section 1) portion of the Incident and Investigation Report Form (see Appendix E) and Spill Report Form (if applicable) (Appendix H) and submit these to the Environmental Superintendent or Coordinator.
2. Identification of Direct Cause(s) and Corrective Actions: Corrective actions will be identified and implemented in response to direct cause(s) that are known or suspected as contributing to the incident (e.g., hydraulic hose break leading to a spill). The direct cause(s) and corrective actions are to be identified on the Incident and Investigation Report Form.

3. Investigation Team: A trained and/or qualified supervisor or management representative and, when applicable, a member of the Occupational Health and Safety Committee, will perform an investigation of the incident, which may include others as appropriate to the severity or potential severity and type of incident.
4. Investigation Process: The incident site will be visited and photographs, witness statements and other evidence will to be collected. The investigation team will determine a sequence of events to identify relevant actions and decisions that occurred leading up to, during and immediately following the incident. When all pertinent information has been gathered, a root cause analysis will be conducted to determine the root cause(s) of the incident (for example, did the hose that malfunctioned have the appropriate pressure rating, was there a lack of scheduled inspection / maintenance that led to the eventual malfunction through wear and tear, etc.).
5. Recommended Corrective Actions: The investigation team will develop recommendations for corrective actions in response to the direct and root cause(s) that were identified during the investigation.
6. Investigation Report: The findings of the investigation as well as recommendations for corrective actions will be recorded on the Incident Investigation Form and will include signatures of the investigation team. A copy of the investigation report will be distributed by the investigation team to senior management for review and approval of corrective actions. If required, a copy of the investigation will be provided to Government Regulators covered in Section 3.3.2, External Communication.
7. Corrective Action Implementation and Tracking: The Environmental Superintendent / Coordinator will be responsible for delegating the corrective actions to the corresponding supervisors, who will be responsible for implementing the actions in the specified timeframe and documenting completion. The Environmental Superintendent / Coordinator (or designate) will log this information, along with details from the investigation, into Marathon Environmental Incident Tracker.
8. Follow-up and Lessons Learned: The Environmental Incident Tracker will be used to confirm that corrective actions were implemented and that the report was closed. The tracker will also be used to determine if the actions were effective in prevention of recurrence, to help identify trends, and determine areas for improvement.
9. Communication with Regulator(s): The Environmental Superintendent / Coordinator, in consultation with the Environment Manager, will be responsible for following up with the applicable regulator(s) on progress of the investigation, corrective actions, and following these through to closure.

3.3.2 External Communication

Marathon's Environment Manager or designate will report, as applicable, to the NL Department of Environment and Climate Change (NLDECC) and other applicable regulators on environmental issues relating to construction activities, such as the following:

- Air quality (e.g., dust)
- Erosion and sedimentation
- Historic resources (communication will include Provincial Archaeology Office)
- Wildlife encounters / effects on wildlife (communication may include NL Department of Fisheries, Forestry and Agriculture [NLDFFA] and Canadian Wildlife Service [CWS])
- Fish and fish habitat (communication will include Fisheries and Oceans Canada)
- Conditions of permits and authorizations (other departments as applicable)
- Environmental incidents (e.g., reportable spills)

Wildlife-vehicle collisions, near misses or observations of wildlife (e.g., caribou, moose, black bear) road mortality on site roads and/or involving Project vehicles on the access road will be reported to the on-site Environment Team and the NLDFFA – Wildlife Division. Adaptive management measures will be implemented should locations of high frequency wildlife-vehicle interactions be identified.

If a caribou mortality is observed or discovered on site or reported by Project personnel, Marathon will report this event to NLDFFA – Wildlife Division as soon as possible.

Wildlife (e.g., birds and bats) collisions with Project infrastructure or equipment and the discovery of a nest or hibernaculum will also be reported to the on-site Environment Team and the NLDFFA – Wildlife Division and CWS.

Fires will be reported to NLDFFA's **24-Hour Forest Fire Emergency Line - (800) 898-4528.**

Any spills of petroleum products or other hazardous materials will be reported to the **Environmental Emergencies 24-Hour Report Line** (Coast Guard Traffic Centre, St. John's **(709) 772-2083 or 1-800-563-9089**.

Refer to Section 4.17, Storage, Handling and Transfer of Fuel and Other Hazardous Materials for the definition of reportable spills on-land versus in freshwater environments. Other compliance reporting required by permits or through compliance requirements not listed above will be submitted to the NLDECC and/or the applicable regulator.

4.0 GENERAL ENVIRONMENTAL PROTECTION PROCEDURES

This chapter of the EPP describes sensitive timing windows (Section 4.1) and buffer zones (Section 4.2) to be observed during construction and general environmental protection measures for the following aspects of construction:

- Surveying (Section 4.3)
- Laydown and Storage Areas (Section 4.4)
- Borrow Areas and Quarries (Section 4.5)
- Clearing (Section 4.6)
- Grubbing (Section 4.7)
- Trenching and Excavation (Section 4.8)
- Rock and Soils Management (Section 4.9)
- Erosion and Sediment Control (Section 4.10)
- Blasting (Section 4.11)
- Working in or Near Water (Section 4.12)
- Working in or Near Wetlands (Section 4.13)
- Borehole and Water Well Drilling (Section 4.14)
- Site Water Management (Section 4.15)
- Equipment Use and Maintenance (including Generators) (Section 4.16)
- Storage, Handling and Transfer of Fuels and Other Hazardous Materials (Section 4.17)
- Propane Storage (Section 4.18)
- Waste Management (Section 4.19)
- Sewage Disposal (Section 4.20)
- Vehicle Traffic and Site Access (Section 4.21)
- Dam Construction (including TMF) (Section 4.22)
- Air Emissions Management (Section 4.23)
- Noise Control (Section 4.24)
- Lighting (Section 4.25)
- Progressive Rehabilitation (Section 4.26)

With the exception of dam construction, separate, specific sections on infrastructure construction, including road construction/upgrades, have not been included as these works require compliance with several individual procedures outlined above.

Some of the aspects above will relate to specific management plans which will provide further detail than is necessary to include in the Construction EPP. This Construction EPP will be updated to reflect changes to management plans, as applicable.

4.1 SENSITIVE TIMING WINDOWS

Environmentally sensitive timing windows include:

- Freshwater Fish: October 1 to May 31 (for tributaries and headwaters of scheduled salmon rivers on the island of Newfoundland; DFO 2021)
- Avifauna (Breeding Migratory Birds): April 15 to August 15 (ECCC 2018)
- Avifauna (Migration): March 15-June 7 and July 15-November 31 (ECCC 2022)
- Avifauna (Waterfowl): April 15 to July 31 (ECCC 2018)
- Caribou: Spring Migration (April 1 to May 19); Fall Migration (November 1 to December 15) (Emera Newfoundland and Labrador 2013)
- Newfoundland Marten: Natal and Maternal Denning (April 1 to June 30)
- Myotis (Bat) Species: Maternity Roosting (April 1 to August 31); Hibernation (November 1 to May 31)

Potential Environmental Concerns

Construction activities during sensitive time periods may exacerbate adverse effects on species and are to be avoided where practicable.

Environmental Protection Procedures

Sensitive time periods outlined above will be considered in Project planning, where practicable. Where construction activities are to be carried out during sensitive time periods, the following additional mitigations shall be applied, as applicable:

a) A complete schedule of activities will be completed prior to commencement of any construction task and restrictions on timing will be noted on the schedule.

b) While the ideal time of year for construction located near a body of water is typically in early June through to late October, construction may occur outside of this window and additional environmental mitigations may be applicable during this period. Efforts will be made to avoid carrying out in-water works from October 1 to May 31 to limit impacts during the spawning, incubating and hatching period. Consultation and approval by DFO is required prior to conduct in-water work between October 1 and May 31.

c) Sequencing of stripping, grading, excavating and/or rehabilitation activities will be scheduled to reduce the amount of time the soil is exposed to elements.

d) Activities will be conducted in such a way as to reduce the amount of time spent working in or around a stream or waterbody (in-water work should be carried out during periods of low flow).

e) Construction activities will be planned, where possible, to avoid locations associated with fish and wildlife use during sensitive periods as noted above.

f) Where/if the schedule requires vegetation clearing during bird breeding season, experienced biologists / scientists will inspect the area to assess occupancy before clearing vegetation.

Refer to the following sections for additional details and mitigation measures that may apply: 5.2, Caribou; 5.3, Avifauna Management Plan; 5.4, Wildlife Management Plan; and 5.6, Fish and Fish Habitat.

4.2 BUFFER ZONES

Potential Environmental Concerns

Waterbodies and sensitive and/or rare environmental receptors (e.g., raptor nesting sites, denning sites, historic resources) could be adversely affected by construction activities. Buffer zones of natural vegetation or undisturbed areas separate environmental receptors from construction activities. In the absence of other applicable mitigation measures, without adequate buffer zone vegetation adjacent to waterbodies, streams, ponds and lakes can become laden with silt from run-off. Vegetation also provides cover for fish in various aquatic environments. Buffer zones also help reduce sensory disturbance on wildlife and may also provide wildlife habitat and/or travel corridors near work areas.

Environmental Protection Procedures

Sensitive areas (e.g., wetlands, hibernacula, mineral licks, roosts, caribou migration corridors) will be identified prior to construction and appropriate buffers will be flagged and maintained around these areas, where feasible. Appendix F is a Mapbook of Environmental Sensitivities which includes locations of wetlands, watercourses, archaeological sites and areas of archaeological potential, and caribou migration corridors. The intended buffer zones for various activities and receptors are described in Table 4.1. Additional buffer zones may be established in accordance with NLDFFA – Wildlife Division for SOCC.

Table 4.1 Intended Buffer Zones for Construction Activities

Activity	Environmental Receptor	Recommended Buffer Width
Development around watercourses in urban or other developed area	Waterbody	15 m depending upon site specific considerations
Resource roads running adjacent to waterbodies	Waterbody	20 m + 1.5 X slope (%)
Removal of vegetation	Victoria River Other water body	50 m vegetated buffer 30 m vegetated buffer
Piling of wood and slash - grubbing	Waterbody	30 m
Fuel and hazardous materials storage	Waterbody	100 m
Fuelling or servicing of mobile equipment	Waterbody	100 m
Fuel and hazardous materials storage	Salmon river or tributary	200 m
All construction activities	Wetland	30 m
All construction activities	Archaeological site	50 m
Clearing	Black bear denning site (late October – late April)	50 m
Clearing	Active raptor nest	800 m (between May 1 and August 15)
All other construction activities	Active raptor nest	200 m (between May 1 and August 15)
All construction activities	Active waterfowl/waterbird nests	100 m
All construction activities	Active passerine nests (species not of conservation concern)	30 m
All construction activities	Active species at risk (SAR) nests	75 m
Clearing	Waterbody occupied by a beaver	30 m
Blasting	Caribou	500 m
All other construction activities	Caribou	10 km for notification and determination of action

4.3 SURVEYING

Potential Environmental Concerns

Potential environmental concerns with respect to surveying include loss or alteration of habitat, sensory disturbance to wildlife, and disturbance to historic resources.

Environmental Protection Procedures

The following procedures shall be implemented with respect to surveying:

a) Cutting of survey lines will be kept to a minimum. Where possible, alternate areas not requiring cut lines will be used.

b) Width of survey lines will be limited to that necessary for line of sight and unobstructed passage.

c) Whenever possible, cutting lines to the boundary between treed and open areas will be avoided.

d) Trees and shrubs will be cut flush with the ground wherever possible.

e) Trees not intersecting with transit lines shall be left standing.

f) There will be no cutting in areas designated as sensitive without prior approval of the Environment Manager.

g) Any historic resource discoveries will be reported to the Provincial Archaeology Office (PAO) (see Section 6.6, Discovery of Historic Resources).

h) All sites where surface disturbances are planned or may occur will be inspected and monitored prior to, during, and after the work.

i) Use of motorized vehicles (including all-terrain vehicles (ATVs) will be in accordance with Section 4.2.1, Vehicle Traffic and Site Access.

4.4 LAYDOWN AND STORAGE AREAS

Potential Environmental Concerns

Areas will be needed for temporarily storing and maintaining equipment and supplies during construction. Clearing and use of these areas could result in erosion and run-off of sediment and other hazardous substances into nearby waterbodies.

Environmental Protection Procedures

The following procedures shall be implemented with respect to laydown and storage areas:

a) New laydown and storage areas will be kept to a minimum.

b) Establishing a new laydown or storage area will follow the procedures for vegetation clearing and grubbing (Section 4.6 and 4.7) and erosion prevention (Section 4.10).

c) External storage areas will be placed on level terrain and kept free of ponding and run-off as presented in the Water Management Plan.

d) Drainage from areas of exposed soil will be controlled by grade or ditching, with run-off directed away from waterbodies.

e) Laydown and storage areas no longer required for construction activities will be rehabilitated (Section 4.26).

f) Fuel and other hazardous materials will be stored, handled and transported according to Section 4.17, Storage, Handling and Transfer of Fuels and other Hazardous Materials.

4.5 BORROW AREAS AND QUARRIES

Potential Environmental Concerns

It is expected that a relatively small amount of quarried rock will be required to commence construction, prior to larger volumes of waste rock being available from the open pits, to develop temporary access roads and construction laydown areas. Potential environmental concerns associated with borrow pits and quarries include changes to soil quality and vegetation, and adverse effects on surrounding waterbodies from run-off of sediment and other hazardous substances.

Environmental Protection Procedures

As part of the advancing engineering for the Project, Marathon will be investigating several potential quarry sites that exist within the footprints of future mine infrastructure (e.g., the Leprechaun waste rock pile area) in order to minimize environmental impacts overall. Any potential quarry sources will be sampled, and geochemical testing completed as part of this investigation and prior to use in earthworks. Potentially acid generating (PAG) rock will be managed in accordance with the Acid Rock Drainage/Metal Leaching (ARD/ML) Management Plan and will not be used in construction (Section 4.9, Rock and Soils Management Plan).

In addition, the following procedures shall be implemented with respect to borrow areas and quarries:

a) Existing borrow pits or quarries will be used wherever feasible. New borrow pits and quarries will not be located within established buffer zones.

b) Drainage water from borrow pits and quarries will be diverted through vegetated areas or existing drainage ditches, or means of sediment control will be employed prior to entering a water body.

c) Garbage, debris or refuse will not be discarded in borrow pits and quarries.

d) Organic material, topsoil and subsoil within borrow pits and quarries will be stripped and stockpiled for use in future rehabilitation.

e) Vegetated buffer areas will be left in place when borrow pits are cleared in accordance with provincial guidelines.

f) Construction materials (soils and rock) will be sourced locally, when possible, which will reduce the probability of import or spread of potentially invasive plant species.

g) Although new third-party borrow pits and quarries are not anticipated, if required these will be designed, constructed and operated in compliance with provincial legislation and guidelines. This may require registration of the pit or quarry as an undertaking in accordance with the *Environmental Protection Act* and Environmental Assessment Regulations, 2003.

4.6 CLEARING

Potential Environmental Concerns

Vegetation clearing (e.g., trees, shrubs) will be required prior to earthworks, site development, and infrastructure construction. Potential concerns include loss of habitat, stockpiling vegetation in or near watercourses and wildlife disturbance.

Environmental Protection Procedures

The following procedures shall be implemented with respect to clearing:

a) Marathon will consult with NLDFFA – Forestry Division in advance of construction to incorporate the harvesting of forestry resources in the Project Area as part of site preparation.

b) All sites where surface disturbances are planned or may occur will be inspected and monitored prior to, during, and after the work as described in Section 3.2, Environmental Compliance Monitoring.

c) The boundaries of areas to be cleared will be well marked prior to the start of clearing activities.

d) Sensitive areas (e.g., wetlands, hibernacula, mineral licks, roosts, caribou migration corridors) will be identified prior to construction and appropriate buffers (Section 4.2, Buffer Zones) will be flagged and maintained around these areas, where feasible.

e) Clearing and removal of trees will be kept to a minimum. Vegetation will be removed from development areas in accordance with cutting permits.

f) Vegetation will be maintained around high activity areas to the extent practicable, to act as a buffer to reduce sensory (light and noise) disturbance.

g) Clearing for road construction will be limited to the width required for road embankment, drainage requirements, and safe line of sight requirements.

h) Trees will be cut close to ground level, only large tree stumps will be removed, and low ground shrubs left in place for soil stability and erosion protection purposes, where practicable.

i) Clearing will consist of cutting to within 15 cm of the ground or as dictated by permits and removing all standing trees, as well as removing all shrubs, debris and other vegetation from the area indicated on construction drawings. These materials will be stacked clear of on-going construction activities for future rehabilitation. The Environmental Protection Guidelines for Ecologically Based Forest Resource Management (DFRA 1998) will be followed.

j) Merchantable timber (i.e., tree having an outside bark diameter of 9.0 centimetres or greater at a point 1.3 metres above mean ground level) and usable trees will be salvaged for pulpwood or lumber or made available to local communities for fuelwood.

k) There will be no burning of any materials (e.g., slash, cuttings) at site.

l) Slash and any other material or debris related to construction activities will not be permitted to enter a watercourse and, when stacked or piled on the ground, will be above spring flood levels.

m) Chainsaws and other handheld equipment will be used in clearing vegetation except where alternative methods or equipment such as mechanical harvesters are approved by Marathon and applicable permits. The use of mechanical clearing methods, such as excavators, will not be permitted except where it can be demonstrated that there is no merchantable timber (or all merchantable trees have been removed), and where the resulting terrain disturbance and erosion will not result in the loss of topsoil or the sedimentation of nearby waterbodies. Any refuelling of equipment will adhere to the procedures described in Section 4.17, Storage, Handling and Transfer of Fuel and other Hazardous Materials.

n) A minimum 15-metre (m) buffer zone of undisturbed vegetation will be maintained between the development area and all waterbodies (Section 4.2, Buffer Zones) (aside from waterbodies planned to be affected as part of the approved Project).

o) Timber shall be felled inward (toward the work area) to avoid damaging any standing trees within the immediate work area and vegetation adjacent to the work area.

p) Workers will not destroy or disturb any features indicative of a cultural or archaeological site. Such features should be avoided until a report has been made to the Provincial Archaeology Office and clearance to proceed has been received. Refer to Section 5.1 Historic Resources for avoidance and mitigation measures related to cultural and archaeological resources.

q) Where feasible, vegetation clearing will avoid the bird breeding season. Refer to Section 5.3, Avifauna Management Plan for avoidance and mitigation measures related to birds.

r) The disturbance of wetlands will be avoided outside the work area. If required to cross or disturb wetlands appropriate permits/approvals will be in place.

4.7 GRUBBING

Potential Environmental Concerns

Concerns associated with grubbing and disposal of related debris include potential adverse effects on freshwater ecosystems and water quality through the release of sediment into watercourses, as well as the potential for disturbing historic resources.

Environmental Protection Procedures

The following procedures shall be implemented with respect to grubbing:

a) Grubbing of the organic vegetation mat and/or the upper soil horizons will be restricted to the minimum area required.

b) Grubbing will avoid the bird breeding season, where feasible. Refer to Section 5.3, Avifauna Management Plan for avoidance and mitigation measures related to birds.

c) If grubbing or disposal of debris is to occur within 15 m of a waterbody, a permit will be obtained.

d) When working in or near wetlands, ground level cutting / mowing / mulching of wetland vegetation will be conducted instead of grubbing, where practicable.

e) Any surplus of such material will be stored or stockpiled for site rehabilitation and revegetation purposes. Topsoil and organics should be stored in low (1 to 2 m high) stable piles (Gosse et al. 1998). The location of the stockpiles will be recorded and accessible for rehabilitation purposes.

f) Measures will be implemented to reduce and control runoff of sediment-laden water during grubbing, and the re-spreading and stockpiling of grubbed materials. Where grubbed materials are re-spread or stockpiled, as many stumps and roots as possible will be left on the ground surface to maintain soil cohesion, dissipate the energy of runoff and promote natural revegetation. Erosion control measures will be implemented in areas prone to soil loss (Section 4.10, Erosion and Sediment Control).

g) The period of time that inactive grubbed areas will be left exposed to the natural elements will be minimized to prevent unnecessary erosion. Mitigations, such as the placement and maintenance of silt curtains, will be used to prevent erosion from exposed areas.

h) Grubbing activities will adhere to the buffer zone requirements outlined in Section 4.2, Buffer Zones.

i) Monitoring of water quality in run-off may be required by NLDECC Pollution Prevention Division to confirm no adverse effects on the receiving environment.

j) Discovery of historic resources will be managed according to the procedures outlined in Section 6.6, Discovery of Historic Resources.

4.8 TRENCHING AND EXCAVATION

Potential Environmental Concerns

Potential environmental concerns related to trenching and excavation are primarily related to potential runoff of sediment-laden water which could result in effects on freshwater fish and fish habitat, and water quality.

Environmental Protection Procedures

The following procedures shall be implemented with respect to trenching:

a) Topsoil and excavated overburden and bedrock will be managed in accordance with the Rock and Soils Management Plan (see also Section 4.9, Rock and Soils Management), and stored in separate stockpiles for later use during rehabilitation.

b) Material unsuitable for future rehabilitation will be disposed of in an approved area.

c) Effluent from dewatering of trenches will be managed in accordance with the Water Management Plan (see also Section 4.15, Site Water Management).

4.9 ROCK AND SOILS MANAGEMENT

Potential Environmental Issues

Construction of earthworks will include excavation of unsuitable materials (e.g., organic and/or loose soils), preparation of excavation bases, and placement of fill materials (e.g., rockfill, overburden (glacial till)) to develop the access and haul roads, building and stockpile pads, water management infrastructure, tank containment berms, and associated site infrastructure. Unproperly managed, earthworks construction can result in erosion and sedimentation, dust emissions, terrain instability, and degradation of soil quality. Through proper construction planning and rock and soils management, earthworks can be optimized across the site to reduce excavation and rehandling and maximize the reuse of materials. A stand-alone Rock and Soils Management Plan will be developed to include a mass balance estimate and plan for all rock and soil materials that will be excavated and handled over the life of mine.

Environmental Protection Procedures

The following procedures shall be implemented with respect to the use of soils and waste rock for earthworks:

a) Potentially acid generating (PAG) material generated from Project components and activities will be managed in accordance with the Acid Rock Drainage/Metal Leaching (ARD/ML) Management Plan.

b) PAG will not be used in construction. All rock that will be used for site earthworks and grading during construction and operational development will be subject to appropriate sampling and ARD/ML test work prior to excavation and use, in accordance with the measures outlined in the ARD/ML Management Plan.

c) Construction materials (soils and rock) will be sourced locally, when possible, which will reduce the probability of import or further spread of potentially invasive plant species.

d) No waste rock will be placed in fish-bearing waters.

The following procedures shall be implemented with respect to the handling of overburden / soils and associated stockpiles:

a) During excavation, organic and mineral topsoil will be separated from cleared trees and brush and stored for future use during rehabilitation.

b) Care will be taken to reduce topsoil and subsoil mixing during excavation.

c) Soil salvage will occur during appropriate weather conditions (avoiding high winds, dry conditions, and high precipitation events) as practicable.

d) Appropriate machinery will be used for salvage to avoid compaction.

e) Organic and mineral topsoil will be stored and kept separate from subsoil or rock material used for construction.

f) Soil stockpiles will be easily accessible, on well-drained ground, and away from bodies of water (minimum of 30 m) and standing timber. A working space of at least 5 m will be maintained around soil stockpiles.

g) Topsoil and organics will be stored in stable piles to decrease compaction effects.

h) Soil stockpiles will be constructed and maintained in lifts to achieve flatter slopes and to permit terracing, thereby reducing erosion and maintaining moisture within the topsoil. This structure and composition will make the stockpiles less attractive to bank swallows, which are known to construct nesting burrows in soil stockpiles that have steep faces and light soils amenable to burrowing. particularly during the breeding season. In addition, if soil has been removed from a stockpile during the bird breeding season, resulting in a vertical or near-vertical face, the vertical face will be knocked down with an excavator to make it unattractive to swallows.

i) Longer term stockpiles will be seeded to reduce erosion due to wind and precipitation.

j) Sediment control fences will be installed in areas where topsoil is exposed to potential erosion and siltation, such as slopes and embankments and approaches to stream crossings or waterbodies. Sediment control fences will be inspected and maintained over the course of the construction phase until the disturbed area has stabilized and natural revegetation has occurred. Non-biodegradable materials used for sediment control fences will be removed following revegetation.

k) Native seed mix (free of non-native, invasive, and weed species) and native species (where available) will be used as erosion control on exposed soils and overburden stockpiles and during site rehabilitation. If a native seed mix is not commercially available, an appropriate seed mix will be selected based on an evaluation of included species. Seed mixes that include invasive species or non-native species that are not already widely established in the areas around the Project Area will not be used for the Project.

4.10 EROSION AND SEDIMENT CONTROL PLAN

Potential Environmental Concerns

Eroded material could potentially cause siltation in water bodies, adversely affecting habitat for aquatic and terrestrial animals. The prevention of erosion and control of sedimentation is a main objective in all work areas where soil may be transported by water, wind or ice.

Environmental Protection Procedures

A site-specific Water Management Plan has been developed for Project construction. The Water Management Plan provides detail on runoff and seepage collection strategies and systems (e.g., sedimentation ponds, berms, drainage ditches, pumps) to collect and contain surface water runoff and groundwater discharge from major Project components (open pit, waste rock piles, TMF, ore stockpile and overburden stockpiles, process plant) during climate normal and extreme weather conditions.

This section of the EPP outlines general measures to be implemented with respect to erosion and sediment control during construction. The Water Management Plan will be updated as Project planning and design progresses and should be consulted for additional details.

Erosion Control

Avoiding activities that may contribute to erosion is the primary mechanism for erosion control. The following measures will be implemented to control erosion during construction:

a) The disturbance of new areas will be limited to the minimum required.

b) Erosion prevention and drainage control measures will be installed or implemented prior to land disturbance.

c) Construction areas will be routinely monitored to identify areas of potential erosion and to apply appropriate mitigation. Progressive erosion and sediment control measures will be implemented, as required.

d) Erosion control options will be considered as appropriate to improve soil stability and reduce surface water runoff. Erosion control options may include:

   i. **Slope treatments** – involves roughening slopes (e.g., step-grading, grooving, tracking) to improve stability and increase seeding success and vegetation growth thereby reducing runoff velocity and increasing infiltration.

   ii. **Erosion control nets/mats/blankets/fibrous rolls** - typically used on short steep slopes where there is high erosion potential and slow vegetation establishment.

   iii. **Rip-rap** - placement of rocks as an erosion -resistant ground cover; typically used on riverbanks and/or bottoms, roadside ditches and tops of slopes.

iv. **Check dams and dikes** - temporary barriers typically constructed of rocks, gravel bags, sandbags or fibre rolls that are installed across a constructed swale or drainage ditch to reduce water velocity.

v. **Energy dissipators** - devices typically made of rocks, concrete blocks or metal prongs that are installed on the downstream end of a culvert or outlet and are used to reduce scour and the velocity of the water flow.

e) Drainage ditches will be stabilized if required (e.g., lining with vegetation or rock, terracing, interceptor swales, installation of rock check dams) to reduce soil erosion. Such measures will be properly inspected and maintained following installation.

f) Work and laydown and storage areas will be monitored for erosion and appropriate remedial actions taken as necessary.

g) Erosion control measures will be inspected regularly (once per week) by the onsite environmental monitors, and after a significant storm.

h) Erosion control measures will be maintained in good working order. If a repair is necessary, it will be initiated within 24 hours.

Sedimentation Prevention

Sediment barriers are temporary sediment control devices that are used to protect water quality of down gradient rivers, streams and other waterbodies from sediment in water runoff. The most common barriers are silt fences; however other options include straw bales or berms of erosion control mix. Silt fences are typically used in combination with other site water control measures, including sediment traps and basins. Engineering requirements may vary depending on the locations of sediment barriers and shall take such factors into consideration as drainage/surface area of exposed soils and time of year the device is employed.

The following measures will be implemented to help prevent sedimentation:

a) If an inspection reveals that silt is entering any waterbody, further mitigative measures will be implemented, such as temporary drainage ditches, siltation control (settling) ponds, ditch blocks/check dams or sediment dam traps, to intercept run-off. The necessary or appropriate measures will be determined in the field.

b) Where bales are used for sediment control, these must consist of straw and not hay (i.e., with grain seeds) to avoid introducing potentially invasive species.

c) Existing or new siltation control structures used will be monitored for excessive accumulation of sediment. To maintain effectiveness, accumulated sediment will be removed from control structures when the accumulated sediment reaches 60% of the height/depth of the siltation control structure, or no less than once per month during active accumulation. Effluent from control structures will be released to flow overland for appropriate filtration prior to entering waterbodies.

4.11 BLASTING

Potential Environmental Concerns

Potential environmental concerns associated with blasting include destruction of vegetation; noise disturbance to humans and wildlife; disturbance of archaeological resources; release of chemicals to the environment (explosive mixtures and products); effects on groundwater and surface water flows; and dust generation. Blasting in or near waterbodies can affect fish and other aquatic organisms and introduce sediment into the water column resulting in degradation of surface water quality and effects on aquatic life.

Environmental Protection Procedures

The following procedures shall be implemented with respect to blasting:

a) The explosives storage and production facilities will meet government regulations, including required separation distances as regulated by the Explosives Regulatory Division of Natural Resources Canada (NRCAN). Explosives and accessories will be stored at the planned storage facility, to be approved and permitted by NRCAN.

b) Best practices from Blaster's Handbook (ISEE 2016) and Environmental Code of Practice for Metal Mines (Environment Canada 2009) will be followed to reduce and monitor noise emissions during blasting.

c) Blasting for site development will be conducted by a certified blasting contractor who will develop a conservative Blast Design for engineering review and approval prior to carrying out the work. The Blast Design will be required to meet strict seismic (vibrational) limits at appropriate distances from any existing structures (Victoria Dam), developing infrastructure, and fish habitat.

d) An Explosives and Blasting Management Plan will be developed by the selected licenced blasting contractor and will include direction for the safe storage, handling and use of explosives and explosive components at the Project site, to address the safety of the public and Project personnel, and protection of the environment, Project components and the Victoria Dam. The Explosives and Blasting Management Plan will include requirements for Blast Design vibration limits and seismic monitoring for blasting activities.

e) Blasting activities will be included under a contract service agreement with the explosives' supplier and/or blasting contractor, who will have a valid blasters certificate issued by the NLDECC.

f) Blasting activities during construction will be limited to only those areas required to achieve foundation grades for site development or open pit pioneering.

g) Marathon will engage with NL Hydro regarding blasting requirements, timing, vibration thresholds and monitoring.

h) Use of explosives in or near water will be avoided; however, if required, Fisheries and Oceans Canada (DFO) blasting guidelines (Wright and Hopky 1998) will be followed.

i) During bird breeding season (April 15 to August 15), blasting will occur outside of the prominent bird singing/calling and activity period (i.e., sunrise to approximately 9:30 am).

4.12 WORKING IN OR NEAR WATER

Potential Environmental Concerns

The Mapbook of Environmental Sensitivities (Appendix F) shows planned watercourse crossings. Potential environmental concerns associated with watercourse crossings and culvert installations include potential direct disturbances to and/or mortality of fish, and potential loss of fish habitat resulting from sedimentation and removal of habitat and stream bank vegetation.

Potential environmental concerns related to water withdrawal include potential entrainment of fish and detrimental effects to the habitat in and around the potentially affected waterbody.

Environmental Protection Procedures

Work below the high-water mark of any surface water feature will be conducted as per the provincial and federal approvals. Stream crossings will be constructed in compliance with the required Permit for Culvert Installation from NLDECC- Water Resources Management Division and any approvals required from NLDECC and DFO. If fording is required, a Fording Permit will be obtained from NLDECC, and the conditions of the permit will be strictly followed.

An evaluation of soil erosion potential will be conducted at each of the stream crossings. This assessment of potential erosion risk will assist in the development of specific erosion stabilization methods and effective sedimentation control practices on a site-specific basis.

Work near watercourses will observe the applicable buffer zones as outlined in Section 4.2, Buffer Zones. The following procedures shall be implemented with respect to in-water work in fish bearing waterbodies and watercourses:

a) In-water work will be planned to respect DFO timing windows to protect fish in NL (Section 4.1, Sensitive Timing Windows).

b) Between October 1 and May 31 (sensitive fish life stages) or other times specific to the region, stream crossing during construction activities will be undertaken under the direct supervision of the Environmental Superintendent / Environmental Coordinator or designate. Consultation and approval by DFO is required prior to conducting in-water work between October 1 and May 31.

c) Weather advisories will be followed, and work will be scheduled to avoid high precipitation and runoff events or periods that may result in high flow volumes and/or increase erosion and sedimentation.

d) Use of explosives in or near water will be avoided; however, if required, will follow DFO blasting guidelines (see Section 4.11, Blasting).

e) Materials (i.e., organic waste material, waste rock or construction debris) will be placed above the high water mark, free of fines and stabilized or contained to prevent entry to watercourses and waterbodies.

f) Deleterious substances will not be permitted to enter into watercourses and waterbodies, including, but not limited to, materials such as sediment, waste materials and fuel.

g) The duration of in-water works will be minimized so that it does not diminish the ability of fish to carry out one or more of their life processes (spawning, rearing, feeding, migrating). In-water worksites will be isolated from flowing water (i.e., by using a cofferdam) to contain or reduce suspended sediment where possible.

h) g) Siting of Project infrastructure is designed to avoid fish habitat to the extent practicable. Where in-water work is required in fish habitat, applicable authorizations/permits through NLDECC and DFO will be in place prior to initiating construction. The following measures will also be implemented:

i. Best efforts will be made by a qualified environmental professional (fish biologist or fisheries technician) to relocate fish from areas of in-water works or areas of water drawdown to an appropriate location in the same watershed, as described in the fish rescue plan

ii. Any unanticipated anomalies/ unforeseen circumstances (i.e., fish mortalities) during construction will be reported to NLFAA

iii. the use of heavy equipment will be reduced and restricted in and near watercourses and, where possible, machinery will be operated above the high-water mark or inside of isolated areas, and an excavator will be used from shore rather than a bulldozer in the watercourse; where it is absolutely necessary to do so, instream work will be performed by rubber tired vehicles only (Gosse et al. 1998) and will only be done with prior notification and approval of Marathon's Environmental Superintendent and/or Environmental Coordinator, in consultation with applicable regulatory agencies

iv. unless otherwise indicated, work will take place in dry conditions, either by using cofferdams or by diverting the stream

v. as required, cofferdams made of clean, low permeability and non-erodible material shall be used to separate work areas from the watercourse when excavating for culverts and footings

vi. cofferdams shall be removed upon completion of construction and the streambed returned as closely as possible to its original condition

i) The culverts will be constructed according to all permit specifications and in accordance with the Environmental Guidelines for Culverts from the NLDECC. The following measures will also be implemented:

i. culvert(s) will be installed in accordance with good engineering and environmental practices

ii. installation of cylindrical culverts shall be counter sunk where necessary to protect fish habitat such that the culvert bottom is one-third the diameter below the streambed in the case of culverts less than 750 (mm) outside the diameter; for culverts greater than 750 mm outside diameter, the culvert bottom shall be installed a minimum of 300 mm below the streambed
   - maintain an appropriate depth and flow for the protection of fish and fish habitat (i.e., passage)
   - maintain a minimum water depth of 200 mm should be provided throughout the culvert length
   - culverts up to 2000 mm in diameter should be countersunk a depth of 300 mm below the streambed elevation
   - culverts having a diameter equal to or exceeding 2000 mm should be countersunk a minimum of 15% of the diameter below the streambed elevation

iii. in multiple (gang) culvert installations, one culvert will be installed at an elevation lower than the adjacent culvert

iv. the natural low flow regime of the watercourse will not be altered

v. a culvert will not be installed before site specific information such as localized stream gradient, fish habitat type and species present have been evaluated; culverts will be installed using the guidelines provided in Gosse et al. (1998)

vi. fish passage will be maintained during construction

vii. new culverts will be sized appropriately and designed to be passable to fish to maintain fish passage

viii. outlets and inlets will be riprapped to prevent erosion of fill slopes

ix. culverts will be of sufficient length to extend a short distance beyond the toe of the fill material

x. backfilling material will be a texture that shall support the culvert and limit seepage and subsequent washing out

xi. culverts will be aligned such that the original direction of stream flow is not significantly altered

xii. fill and construction related debris will be removed from the culvert area to a location above the peak flow level to prevent its entry into the stream

xiii. fill material shall not be removed from streambeds or banks, except if necessary for the foundation when installing a culvert

xiv. culverts will be marked to indicate their position under the snow

j) Follow measures to protect fish and fish habitat outlined in Section 3 of the Temporary Cofferdams and Diversion Channels Code of Practice https://www.dfo-mpo.gc.ca/pnw-ppe/codes/cofferdams-batardeaux-eng.html.

   i. cofferdams using sandbags should; contain clean, sediment-free materials as fill, and all bags and materials removed when work is completed; be of sufficient height to prevent overtopping in the event of sudden increase in water levels; sediment-laden water from the work area inside the cofferdam should be treated by discharging to vegetated areas or sediment traps prior to release in waterbody; care should be taken to seal leaks in cofferdams, and if necessary, damaged sandbags replaced; and when removing cofferdams, the downstream cofferdam should be removed first, followed by the upstream cofferdam;

k) Limit impacts on riparian vegetation to those approved for the work, undertaking or activity:

   i. limit access to banks or areas adjacent to waterbodies;

   ii. limit grubbing on watercourse banks to the area required for the footprint of works, undertaking or activity;

   iii. construct access points and approaches perpendicular to the watercourse or waterbody;

   iv. re-vegetate the disturbed area with native species suitable for the site;

l) Watch for Aquatic Invasive Species (AIS) species in the area and take precautions with respect to any equipment and gear used between affected and unaffected areas to prevent introductions and spread

   i. all equipment used in water should be cleaned, drained and dried on land before and after use for the purposes of preventing the introduction or spread of aquatic invasive/non-indigenous species;

   ii. any AIS and non-indigenous species will be reported to DFO at 1-855-862-1815 or AISEAE.XNFL@dfo-mpo.gc.ca.

m) Avoiding fording as much as possible, however, when fording any watercourse, the NLDECC Environmental Guidelines and any applicable permits will be adhered to, along with the following:

   i. areas of spawning habitat will be avoided

   ii. crossings shall be restricted to a single location and made at right angles to the watercourse

   iii. equipment activity within the watercourse shall be reduced by limiting the number of crossings

   iv. all equipment will be mechanically sound and inspected prior to each use to avoid leaks of oil, gasoline and hydraulic fluids

   v. no servicing or washing of heavy equipment will occur adjacent to watercourses; temporary fuelling, servicing or washing of equipment in areas other than the main fuel storage site will not be allowed within 50 m of a watercourse

vi. the entire fording area will be stabilized using vegetation mats, corduroy roads, or coarse material (125 mm diameter or greater), when the ford area is not natural bedrock, or is easily disturbed by fording; when the substrate of the ford area is not subject to easy disturbance by fording, or coarse material is not easily available within the lease boundaries, fording under existing substrate conditions may occur under the direction of the Environmental Superintendent / Environmental Coordinator

vii. fording activities will not decrease the depth of the watercourses to less than 20 cm; where the existing depth is less than 20 cm, that depth shall be maintained

viii. fording activities will be halted during seasonal or precipitation related high flow periods

ix. all bank sections which contain loose or erodible materials will be stabilized; if banks must be sloped for stabilization, no material shall be deposited within the watercourse; sloping shall be accomplished by back-blading and the material removed shall be deposited above the high-water mark of the watercourse

The following procedures shall be implemented with respect to water withdrawal:

a) A Water Use Licence will be obtained prior to water withdrawal.

b) Appropriately sized fish screens and/or other barriers will be installed and maintained to prevent fish from entering water withdrawal intakes.

c) Withdrawal pumps will be placed in secondary containment in the event of equipment malfunction or fuel spillage during refuelling.

4.13 WORKING IN OR NEAR WETLANDS

Potential Environmental Concerns

Wetlands are defined in the federal and provincial policies as land such as bogs, fens, marshes, swamps, and shallow waters that are permanently or temporarily submerged or saturated by water near the soil surface, for long enough that the area maintains aquatic processes (Government of Canada 1991; NLMAE 2001). Wetlands provide important ecological and hydrological functions essential to maintaining the health of natural ecosystems, including the provision of habitat for fish and wildlife. The Newfoundland and Labrador Policy for Development in Wetlands (NLMAE 2001) describes developments that are not permitted within wetlands and defines activities that require permitting under section 48 of the *Water Resources Act*.

Project construction will result in the direct disturbance, alteration and/or loss of wetland habitat through direct disturbance (e.g., infilling, sedimentation), changes in vegetation (clearing, potential introduction of invasive/non-native species) and changes in hydrology.

Environmental Protection Procedures

The following procedures shall be implemented with respect to working in or near wetlands:

a) A permit will be obtained under Section 48 of the *Water Resources Act* prior to wetland development.

b) Where crossing of wetlands beyond the area to be cleared is unavoidable, protective layers such as matting or biodegradable geotextile and clay ramps or other approved materials will be used between wetland root / seed bed and construction equipment if ground conditions are encountered that create potential for rutting, admixing or compaction.

c) Grading will be directed away from wetlands, where possible, and will be reduced within wetland boundaries unless required for site specific purposes.

d) Ground level cutting / mowing / mulching of wetland vegetation will be conducted instead of grubbing, where practicable.

e) Quarried, crushed material will be used for road building in and near wetlands, to reduce the risk of introducing or spreading non-native and/or invasive vascular plant species.

f) As waterfowl species are particularly sensitive to disturbance during critical breeding and brood-raising periods (from April 15 to July 31), personnel will be made aware of the importance of the surrounding wetlands to waterfowl and efforts will be made to reduce potential impacts on them during Project activities, such as adherence to wetland buffers (30 m for construction activities, 100 m when active nesting).

4.14 BOREHOLE AND WATER WELL DRILLING

Potential Environmental Concerns

Potential environmental concerns with drilling relate to possible effects from surface disturbances, disposal of drill fluids and cuttings, siltation, generation of dust and noise. These could have potential adverse effects on terrestrial habitats, air quality, aquatic ecosystems and historic resources.

Environmental Protection Procedures

The following procedures shall be implemented with respect to borehole and water well drilling:

a) Drilling of water wells will be conducted in compliance with the *Water Resources Act* and *Well Drilling Regulations*.

b) Completed exploration drill holes will retain casing and remain open for future probing. If a completed drill hole is producing water, it will be temporarily capped or indefinitely sealed with appropriate material to allow for any necessary future downhole testing. When all test work on the holes has been completed, then the casing will be removed.

c) Potential drilling sites in sensitive areas will be inspected prior to drill site preparation by the Environmental Superintendent, Environmental Coordinator or designate.

d) Vegetation will be cleared following the procedures detailed in Section 4.6, Clearing.

e) Water applications will be used to control dust where necessary. The use of water for dust control or lubrication during drilling will be undertaken in such a manner that runoff will not enter watercourses.

f) A Water Use Licence will be obtained prior to water withdrawal.

g) Water used will remain on the drill site. Every effort will be made to prevent turbid water from entering watercourses.

h) Cuttings from drill activities will not be removed from the site; they will remain in the immediate location of drilling activities, while taking required buffer zones into consideration.

i) Drilling equipment will have muffled exhaust to reduce generated noise.

j) Fuel will be stored, handled and transported according to Section 4.17, Storage, Handling and Transfer of Fuel and Other Hazardous Materials.

k) Waste oil will be removed from the drill site and properly disposed of according to Section 4.17, Storage, Handling and Transfer of Fuel and Other Hazardous Materials.

l) Garbage and solid waste will be removed from the drill site and deposited in an approved waste disposal area.

m) Drip pans will be placed underneath drilling equipment.

n) Hoses and connections on equipment will be inspected routinely for leaks and drips.

o) Due to the nature of drilling activities, oil drops and leaks may occur, and every attempt will be made to clean up the area. Rigs will be equipped with oil absorbent material in case of a leak or spill, and spill kits will be kept available in case of a hydrocarbon spill (see also Section 6.1, Fuel and Hazardous Materials Spills). Any spill will be reported immediately to the Environmental Superintendent and/or Environmental Coordinator.

4.15 SITE WATER MANAGEMENT (CONSTRUCTION)

Potential Environmental Concerns

Surface water is an integral part of the local environment, providing habitat for fish, vegetation and aquatic populations, and contributing to local socio-economic drivers. Uncontrolled surface water runoff and seepage can lead to effects on water quality, potential siltation of wetlands and water bodies, direct fish mortality and/or habitat destruction for freshwater species.

Environmental Protection Procedures

The Water Management Plan will include details for site-specific engineering design measures to manage surface water during construction. The Water Management Plan will also include details on effluent monitoring requirements. In addition, the following procedures shall be implemented with respect to site water management.

Water Inventory

To reduce the site water inventory, non-contact water will be diverted away from developed areas, where possible, through construction of diversion berms, dams, channels or grading. Measures to keep clean water clean and reduce water inventory include the following:

a) Perimeter pile ditching will have a continuous berm to divert non-contact or natural precipitation and surface runoff away from contact with mining operations, where practicable.

b) Diversion channels and dams/berms will be constructed around the crest of the open pits.

c) Pre-development drainage patterns will be maintained where possible.

d) Where possible, contact water will be recycled for use on site (e.g., dust suppression).

Scour and Erosion Management

Scour and erosion risks will be managed through the following measures:

a) The topsoil and overburden piles will be vegetated once formed to reduce erosional runoff.

b) Progressive rehabilitation of piles will be conducted to reduce the time water is in contact with the pile and, thereby, the amount of sediment laden runoff.

c) Areas draining into ditching will be stabilized through grading, silt fencing, toe berms, riprap and/or vegetation.

d) Contact water collection ditches will be installed around the overburden stockpiles, ore stockpiles, waste rock piles, plant pad, explosives area, and accommodation camp to collect surface runoff and toe seepage and convey to downgradient water management ponds for treatment and flood attenuation.

e) Energy dissipation ponds and/or rock check dams will be constructed in ditching to reduce the scour and erosion potential in high gradient areas and promote sedimentation.

f) Snow/ice blockages will be cleared from ditches and culverts prior to the spring thaw, as necessary and practicable, to maintain ability to convey surface runoff.

g) Pond inlet and outlet structures will be configured to reduce inlet velocity and scour, and to meet sedimentation requirements. Pond outlets will be designed with subsurface inlets to mitigate against chemical stratification in ponds, thermal heating of discharge, and ice blockage of outlets.

h) Contact water management ponds are designed to provide onsite storage of local runoff with the size and residence times designed to provide sediment removal to meet the *Metal and Diamond Mining Effluent Regulations* (MDMER) effluent total suspended solids criterion of 15 mg/L (monthly mean concentration limit), with removal of particles down to 5 micron (µ) in size for up to the 1:10 annual exceedance probability (AEP) flows.

i) Sedimentation or filtration measures will be implemented to site runoff or pumped discharge, including sedimentation ponds, filtration bags, silt fences and dykes to meet applicable water quality requirements

Flood Attenuation

Project water storage features (i.e., water management ponds) will be used to attenuate peak discharges to the environment and will be designed as per the following:

a) Water management ponds are designed to contain (without discharge) runoff resulting from storm events up to the 1:100-year AEP with spring snowmelt event and maintain minimum freeboard of 0.5 m above the emergency spillway. The emergency spillways will accommodate flows up to the 1:200 AEP flow to prevent overtopping during a flood event higher than the 1:100-year AEP storm.

b) Contact water collection ditches will be designed to convey the 1:100-year storm event, and with positive gradients to limit standing water and maintain positive flow.

Roadway Drainage

a) Existing drainage patterns will be maintained to the extent feasible with the use of grading, culverts and bridges.

b) Existing culverts along the site access road will be maintained or upgraded as necessary. This will include placement of culverts of the same size/length or larger/longer, at the same inlet and outlet elevations, and in a manner to not cause flooding or ice jams.

c) Standard construction methods, such as seepage cutoff collars, will be used where trenches extend below the water table to mitigate preferential flow paths.

d) Culverts will be inspected periodically to remove accumulated material and debris upstream and downstream of the culverts.

Monitoring

a) Monitoring of site run-off will be conducted as per regulatory requirements following effluent quality standards.

b) If monitoring indicates exceedances of regulated water quality standards, additional sedimentation control measures will be deployed as soon as reasonably practicable and protocols developed in consultation with applicable regulatory agencies.

4.16 EQUIPMENT USE AND MAINTENANCE (INCLUDING GENERATORS)

Potential Environmental Concerns

A variety of vehicles and equipment, including drill rigs, pumps and generators, will be used during construction activities. Potential environmental concerns associated with operating and using such equipment include air emissions, accidental spills, and hydrocarbon leaks that could contaminate on-site waterbodies. Soil and vegetative debris on equipment brought to the site could introduce non-native and/or invasive plant species, adversely affecting wetlands and plant communities.

Environmental Protection Procedures

The following procedures shall be implemented with respect to equipment use and maintenance:

a) To reduce the risk of introducing or spreading non-native and/or invasive vascular plant species, equipment will arrive at the Project site clean and free of soil and vegetative debris. Equipment will be inspected by Marathon personnel or designate and, if deemed to be in appropriate condition, will be approved for use. Equipment that does not arrive at the Project site in appropriate condition will not be allowed on the construction footprint until it has been cleaned, reinspected and deemed suitable for use.

b) Equipment maintenance and fuelling activities will be performed at sites designated by the Site Manager, in agreement with the Environmental Superintendent and/or Environmental Coordinator and in compliance with applicable regulations.

c) Drip pans will be placed underneath pumps, fuel storage, generators, and other equipment that could leak or spill fuel, oil or other hazardous materials.

d) Hoses and connections on equipment will be inspected routinely for leaks and drips.

e) Only minor repairs and maintenance (e.g., lubrication) of ‘non-mobile’ equipment will be performed on-site. All major repairs are to be performed at a location outside of the Project Area, where possible, until such time as the onsite maintenance facility is operational.

f) All fuel/oil leaks will be repaired and reported immediately to Marathon’s Environmental Superintendent / Environmental Coordinator.

g) All fuel and other hazardous materials will be handled according to the procedures in Section 4.17, Storage, Handling and Transfer of Fuel and Other Hazardous Materials.

h) Waste oil will be removed and properly disposed of according to Section 4.17, Storage, Handling and Transfer of Fuel and Other Hazardous Materials.

i) In addition to spill kits located at fuel storage tanks, spill kits will be located at designated central storage location(s). Personnel who handle fuelling, fuel transfer and pumps and generators will be trained in the use of the spill kits.

j) Engines and exhaust systems of construction equipment will be subject to a comprehensive equipment preventative maintenance program to maintain fuel efficiency and performance.

k) To reduce emissions, equipment and vehicle idling times and cold starts will be reduced to the extent practicable.

l) Vehicles and heavy equipment will be maintained in good working order and will be equipped with appropriate noise-reducing mufflers.

4.17 STORAGE, HANDLING AND TRANSFER OF FUEL AND OTHER HAZARDOUS MATERIALS

Typical hazardous substances that may be used on site include, but are not limited to:

- Petroleum, oil and lubricants
- Chlorinated and non-chlorinated solvents (e.g., cleaners, degreasers)
- Flammable gases (e.g., acetylene)
- Waste petroleum products (e.g., used engine oil)
- Corrosives (e.g., battery acid)
- Glycol (e.g., antifreeze, waste glycol)

Potential Environmental Concerns

Potential environmental concerns with using hazardous substances relate primarily to a potential uncontrolled release to the environment through spillage, and subsequent adverse effects on terrestrial and aquatic habitat and species, soil, groundwater quality, and human health and safety.

Environmental Protection Procedures

The following procedures shall be implemented with respect to the storage, handling and transfer of fuel and other hazardous materials:

a) The *Workplace Hazardous Materials Information System (WHMIS) Regulations* under the *Occupational Health and Safety Act* apply to all handling and storage of hazardous materials. All relevant current Safety Data Sheets (SDS) will be readily available for the site and kept up to date as required by regulation.

b) All fuel storage systems will be registered and comply with the *Storage and Handling of Gasoline and Associated Products Regulations*.

c) Storage tank systems will be inspected on a regular basis by the operator as per the *Storage and Handling of Gasoline and Associated Products Regulations*. This involves, but is not limited to, gauging or dipping, reconciliation of records and the proper maintenance of reconciliation records for the applicable timeframe noted within permits and regulations. Flowmeters will be installed on all plumbed storage tanks to support proper reconciliation.

d) To reduce fire hazards, fuel will not be stored immediately adjacent to generators, and fuel storage areas will be well ventilated.

e) Fuel storage areas and non-portable transfer lines will be clearly marked or barricaded so that they are not damaged by moving vehicles. The markers will be visible under all weather conditions. Barriers will be constructed in compliance with the *Storage and Handling of Gasoline and Associated Product Regulations*.

f) Fuel and hazardous materials storage on site will be located a minimum of 200 m from a scheduled salmon river or tributary and 100 m from other waterbodies (Gosse et al. 1998).

g) Drums containing hydrocarbons or other hazardous materials will be transported, stored, handled and disposed of such that spillage or leakage does not occur.

h) Small quantities of hazardous materials (drums, cans and other containers under 20-litre (L) volume) will be stored in a secure location protected from weather, freezing, and vehicle traffic.

i) Approval must be sought from the Environmental Superintendent / Environmental Coordinator prior to any outdoor storage of hazardous materials. Any outdoor storage will have specific requirements for design, construction, management, monitoring and maintenance (e.g., in an established, graded designated area with sufficient and appropriate secondary containment or an impervious liner, routine clearing of bermed areas, disposal of accumulated precipitation to an oil-water separator).

j) Waste oils, lubricants, and other used oil will be retained in a tank or closed container and disposed of in accordance with the *Used Oil Control Regulations*. Spill trays will be used, and substances will be stored in a secured area, with sufficient ventilation.

k) Contracted fuel suppliers will, prior to transporting or positioning fuel or oil, provide Marathon with a copy of their fuel and hazardous material spills contingency plan.

l) Transportation of hazardous and dangerous materials shall be conducted in compliance with the federal *Transportation of Dangerous Goods Act* and the provincial *Dangerous Goods Transportation Act* and associated regulations. Transportation documents shall be retained in a retrievable filing system and stored for the duration of the undertaking.

m) For volumes greater than 150kg, or containers weighting more than 30kg, gasoline delivered or transported must use a Transport Canada standardized slip tank or IBC (means of containment) that has been certified by the Canadian General Standards Board and manufactured by an ISO certified company.

   i. Slip tanks or IBCs must be a UN standardized mobile tank/IBC or an equivalent specification permitted by the CAN/CGSB-43.146 standard

   ii. Slip tanks/IBCs are subject to periodic leak tests and inspections by a facility registered with Transport Canada

   iii. Slip tanks/IBCs used to transport gasoline is/are limited to a total maximum combined capacity of 2000 L.

n) Smoking is prohibited within 10 m of a fuel storage area.

o) Only workers who are qualified and trained in handling these materials as stated in the manufacturer's instructions and government laws and regulations will handle fuel and other hazardous materials.

p) Handling and fuelling procedures will comply with the *Storage and Handling of Gasoline and Associated Products Regulations* and any additional requirements put forth by applicable regulators in order to limit potential contamination.

q) Operators will stay present during the entire refuelling operation. At no time is a refuelling operation to be left unattended. All nozzles used for fuelling will be equipped with overflow preventors and any trigger locks will be removed prior to installation.

r) Fuelling or servicing of mobile equipment will be conducted in designated areas and should not occur within 150 m of any body of water (Gosse et al. 1998).

s) All necessary precautions will be taken to prevent and reduce the spillage, misplacement or loss of fuels and other hazardous materials. In the event of a reportable spill on-land or a spill, regardless of size, in the freshwater environment, the **Environmental Emergencies 24-Hour Report Line** will be contacted as noted in the contact list in Section 8.0.

   A spill is defined as reportable, depending on the class and quantity of dangerous goods involved, which varies between applicable regulations:

   A.1.1 Reportable spill quantities for hazardous materials are listed in the *Transportation of Dangerous Goods Act*.

   A.1.2 A reportable hydrocarbon spill is defined as loss of gasoline or associated products in excess of 70 litres in the *Storage and Handling of Gasoline and Associated Products Regulations*.

   A.1.3 A spill, regardless of size, that may enter the freshwater environment, must be reported according to the *Fisheries Act*.

t) A copy of the Contingency Plan (located in Section 6.1) for fuel and hazardous material spills will be readily available.

u) Vehicles transporting fuel will have spill kits, including light vehicles with slip tanks.

   i. Mobile Spill Kit used in mobile equipment contents can be contained in a zippered bag or pail, designed for hydrocarbon based spills of less than 25 liters, The kit contents should include a minimum 20 Liter pail or bag capacity, 10 Universal spill pads; 3 Universal absorbent socks; 2 Pairs nitrile gloves; 2 Disposal bags; Granular absorbent (2-5 lb);

v) Fire and spill response materials will be kept nearby.

w) Any soil contaminated by small leaks of oil or grease from equipment will be disposed of in accordance with the *Environmental Protection Act*.

x) Decommissioning of any temporary storage tank system will be conducted according to the *Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products*.

y) Hazardous waste will be moved to an appropriate hazardous waste storage area (refer to Section 4.19, Waste Management), constructed in compliance with all applicable legislation.

4.18 PROPANE STORAGE

Potential Environmental Concerns

Potential environmental concerns with respect to propane storage and use vary depending on the state (e.g., gas, liquid) of the propane. Propane is a flammable substance and poses potential threat to human and animals. In the liquid form, propane can cause frostbite on skin contact. Propane containers can explode if exposed to heat or fire. Propane is listed in Schedule 1 of the Environmental Emergency Regulations, 2019.

Environmental Protection Procedures

The following procedures shall be implemented with respect to propane storage:

a) Propane storage tanks will be installed, used and maintained as per manufacturers' specifications.

b) Tanks will be free of corrosion and damage.

c) Areas surrounding propane storage tanks will have traffic protection bollards installed and be well ventilated and free of possible ignition sources and combustible materials.

4.19 WASTE MANAGEMENT

4.19.1 Non-Hazardous Waste

Potential Environmental Concerns

Waste (e.g., domestic and industrial wastes, grey water, paper, cardboard and wood), if not properly controlled and disposed of, are unsightly and could pose human safety and health concerns, including by attracting wildlife and leading to the potential for human-wildlife conflicts.

Environmental Protection Procedures

The following procedures shall be implemented with respect to the management of non-hazardous waste:

a) Solid waste will be handled according to the provincial *Environmental Protection Act*.

b) Work areas will be kept clear of waste and litter to reduce the potential for attracting wildlife and reducing potential interactions with wildlife (see procedures in Section 6.5, Wildlife Encounters).

c) Waste accumulated on site prior to disposal will be confined, so that it does not pose an environmental or health hazard.

d) To aid in segregation at the source, several waste disposal containers (i.e., dumpsters) will be available at various locations and labelled with the appropriate waste stream (e.g., Food Waste, Wood Waste, Metal Waste, Recyclable Containers, etc.)

e) Waste that may attract animals (i.e., food) will be stored in covered, wildlife-proof containers.

f) Solid waste materials shall be considered, prior to disposal, for reuse, resale or recycling.

g) Waste will be transported from site to be recycled, reused or disposed of in licensed/approved facilities, in accordance with local statutory requirements. Non-reusable and non-recyclable wastes will be sent to the provincial waste management facility in Norris Arm or another approved registered facility, and reuse/recycling materials will be sent to the nearest approved management facility for each material type. Contractors are responsible for their waste and are required to adhere to these same requirements.

h) There will be no burning of materials at site, including of non-hazardous waste.

4.19.2 Hazardous Waste

Potential Environmental Concerns

Hazardous wastes that could be generated during Project construction include, but are not limited to, used oil, glycol, and oil filters. The primary concern with disposing of hazardous substances is the potential for an uncontrolled release to the environment through leakage or accidental spillage, and subsequent adverse effects on terrestrial and aquatic habitat and species, soil, groundwater quality, and human health and safety.

Environmental Protection Procedures

The following procedures shall be implemented with respect to the management of hazardous waste:

a) All hazardous waste will be handled according to the provincial *Environmental Protection Act*.

b) Hazardous waste materials will only be handled by workers who are qualified and trained in handling these materials as stipulated in government laws and regulations.

c) Hazardous waste accumulated on site prior to disposal will be confined, so that it does not pose an environmental or health hazard.

d) Approval must be sought from the Environmental Superintendent / Environmental Coordinator prior to any outdoor storage of hazardous materials. Any outdoor storage will have specific requirements for design, construction, management, monitoring and maintenance (e.g., in an established, graded designated area with sufficient and appropriate secondary containment or impervious liner, routine clearing of bermed areas, disposal of accumulated precipitation to an oil-water separator).

e) Waste oils, lubricants, and other used oil and glycol will be retained in tanks or closed containers with applicable secondary containment and disposed of in compliance with the *Used Oil and Glycol Control Regulations*.

f) Contractors will be responsible for proper storage, handling and disposal of their own hazardous wastes, in compliance with all applicable legislation and conditions of authorization.

g) All necessary precautions will be taken to prevent and reduce the spillage, misplacement or loss of fuels and other hazardous materials. In the event of a spill on-land or in the freshwater environment, refer to the Contingency Plan (Section 6.1).

h) Any soil contaminated by small leaks of oil or grease from equipment will be disposed of according to the *Environmental Protection Act* and disposed of offsite by the contactor at a licensed waste management facility

i) A copy of Marathon's Contingency Plan (Section 6.1) will be present at hazardous material storage sites and fuel transfer locations.

j) Waste classified as “hazardous” or “special” that cannot be disposed of in regular landfill sites will be sent for disposal with a licensed hazardous waste management company, for example contaminated soil.

k) Hazardous waste material will not be disposed of on site or in a body of water.

l) There will be no burning of materials at site, including of hazardous waste.

4.20 SEWAGE DISPOSAL

Potential Environmental Concerns

Potential environmental concerns with sewage disposal relate to the release of untreated sewage which is a potential concern to human health, drinking water quality, and freshwater ecosystems.

Environmental Protection Procedures

The following procedures shall be implemented with respect to the management of sewage:

a) The existing Marathon exploration camp has an engineered and government approved and inspected septic system. Temporary use of existing sanitary sewage system at the exploration camp will be supplemented with mobile sanitary sewage storage facilities until the mine site system is operational.

b) Sewage effluent will be treated and monitored in accordance with the NL *Environmental Control Water and Sewage Regulations* prior to discharge to the environment. Sludge generated as a by-product of the treatment of sewage will be disposed off-site by a licensed contractor.

c) In the event of a septic system failure, sewage from portable toilets will be delivered to a licensed contractor and disposed of in compliance with the Newfoundland and Labrador Department of Health guidelines, the *Lands Act, Waste Management Regulations, 2003* under the *Environmental Protection Act,* and the *Environmental Control Water and Sewage Regulations, 2003* under the *Environmental Protection Act*.

4.21 VEHICLE TRAFFIC AND SITE ACCESS

Potential Environmental Concerns

Potential environmental concerns with respect to vehicular traffic relate to fugitive dust, emissions and noise which can affect landowners and other land users, wildlife, and wildlife habitat. Vehicular traffic can also bring risk of wildlife injury or mortality through accidental collisions. Marathon is committed to the proper operation and maintenance of its vehicles to reduce environmental impacts.

Environmental Protection Procedures

Marathon has developed a Traffic Management Plan (see Appendix G) which describes key aspects of traffic management and controls to be implemented with respect to employee and contractor transportation during construction, with the goal of protecting the environment, and public, employee and contractor safety. The following procedures shall be implemented with respect to traffic along the access road and at the mine site:

a) Signage will be installed around the mine site to alert the public and land users of the presence of the Project and its facilities.

b) Marathon will implement traffic control measures to restrict public access to the mine site.

c) Project vehicles will be driven by trained and competent drivers who will use approved routes.

d) All vehicle and equipment use, including ATVs and heavy equipment, are restricted to defined work areas and roads and specified corridors between work areas except as dictated by permits.

e) The use of ATVs is restricted to designated trails, thus reducing ground disturbance. ATV use will comply with the Motorized Snow Mobile and All-Terrain Vehicle Regulations, 1996 under the *Motorized Snow Mobile and All-Terrain Vehicle Act* and the Environmental Guidelines for Stream Crossings by ATV issued by the NLDECC.

f) Haul roads, site roads and the access road will be maintained in good condition. This will include periodically regrading and ditching to improve water flow, reduce erosion, and to manage vegetation growth.

g) Project vehicles will be manually inspected on a regular schedule to confirm serviceability.

h) Vehicles and equipment will be properly maintained to meet emission standards.

i) Maintenance and refuelling of vehicles will be restricted to designated areas (See Section 4.17, Storage, Handling and Transfer of Fuel and Other Hazardous Materials).

j) Project vehicles are required to comply with posted speed limits on the access road, site roads and haul roads to limit fugitive dust from vehicle travel on unpaved roads. Speed limits will be set in accordance with provincial regulations and industry standards (e.g., for haul roads). Additional speed restrictions will be implemented during caribou migration periods.

k) All vehicles and equipment will yield to wildlife (see procedures in Section 6.5, Wildlife Encounters) and people, where present, and speed will be reduced accordingly.

l) Chasing and/or harassing wildlife with vehicles and equipment will not be permitted.

m) During dry periods, water will be applied to the access road, site roads and haul roads as needed to mitigate dust emissions (see Section 4.23, Air Emissions Management).

n) Project-related air traffic (helicopter, airplane) will maintain a minimum ferrying altitude of 500 m to the extent feasible.

4.22 CONCRETE HANDLING AND PLACEMENT

Potential Environmental Concerns

Substantial quantities of concrete will be required for the construction phase of the Project. Cement, concrete additives, agents and aggregates will be used in the production of concrete.

The major concern relating to concrete production activities is the effects of wash water released to the environment. Although cured concrete has little effect on water quality, fresh concrete and concrete products may raise the pH in receiving waters to potentially toxic levels (i.e., well above pH 9).

Cement is very alkaline and wash water from spoiled concrete or from the cleaning of the batch plant mixers and mixer trucks, conveyors and pipe delivery systems can be expected to have very high pH, which may even after dilution exceed the acceptable limit, as determined by the provincial regulation of discharges to a body of water. Similarly, spoiled concrete or wash water would contain concrete additives and agents, some of which are toxic to aquatic species. Aggregates, particularly the finer sand fractions, can be expected to be washed from spoiled concrete or discharged in wash water. Uncontrolled release of such wash water, chemicals and sediments can adversely affect aquatic life and aquatic habitat.

Environmental Protection Procedures

The following measures will be implemented to minimize the potential impacts from concrete production or placement:

a) All chemical additives, agents and other potential hazardous materials will be transported, stored and handled in strict accordance with Section 4.17 Storage, Handling and Transfer of Fuel and Other Hazardous Materials.

b) Dust control measures will be adhered to with respect to the stockpiling and storage of aggregates and the handling of cement.

c) All equipment will be equipped with the required dust and emission control filters as specified in Section 4.16 Equipment Use and Maintenance.

d) Dust control measures will be adhered to with respect to the stockpiling and storage of aggregates and the handling of cement.

e) Mixing of concrete will take place at least 100 m from any watercourse.

f) Cement or fresh concrete shall not enter any watercourse or water body.

g) Dumping of concrete or washing of tools and equipment in any body of water is strictly prohibited.

h) Ensure no seepage or spillage of concrete or concrete residues outside of the work site

i) Wash water from the cleaning of mixers and concrete trucks will be discharged either at the concrete manufacturer's place of business, or to a wash water/waste concrete pond constructed on-site, to a design and at a location approved Marathon. This wash water will be managed, treated and discharge in accordance with the regulations by the contractor.

4.23 DAM CONSTRUCTION

Potential Environmental Concerns

Dam structures will be constructed as part of the TMF and several sedimentation ponds. Through its Dam Safety Program, the Province of Newfoundland and Labrador recognizes two definitions of dam. A **Canadian Dam Association (CDA) Dam** is defined as a barrier constructed for the retention of water, water containing any other substance, or tailings that: a) is capable of impounding at least 30,000 m^3 of liquid; b) is 2.5 m or more in height when measured vertically to the top of the barrier; or c) is a dam less than 2.5 m in height or impounding less than 30,000 m^3 where the consequences of dam operation or failure are likely to be unacceptable to the public or demonstrate risk to the public. A **Very Small Dam** is defined as a "barrier constructed for the retention of water, water containing any other substance, or tailings that is greater than 1.0 m and less than 2.5 m in height" (NLDECC undated). Responsibilities, of dam owners, including permitting and monitoring requirements, vary depending on the type of dam.

Dams must be properly designed, constructed and maintained to provide secure confinement of tailings material and/or contact water to reduce adverse environmental effects on groundwater, surface water resources, fish and fish habitat, and terrestrial resources. Mine waste rock will be used as a primary material in dam construction. Use of PAG rock could result in acid rock drainage, contaminate groundwater and surface water, and adversely affect fish and fish habitat.

Environmental Protection Procedures

The following procedures shall be implemented with respect to dam construction:

a) The dams required for the tailings impoundment will be designed, constructed, operated and closed in accordance with the CDA Dam Safety Guidelines, Global Industry Standards on Tailings Management, and Mining Association of Canada guidelines, as well as applicable provincial requirements (e.g., *Water Resources Act*, Dam Safety Program).

b) As required by the CDA, an Operations, Maintenance and Surveillance manual will be developed for the TMF which will dictate the frequency of dam inspections and dam safety reviews.

c) PAG material will not be used in construction. Where waste rock will be used for site earthworks and grading during construction and operational development, necessary test work will be conducted to avoid using PAG materials.

d) No waste rock will be placed in fish-bearing waters.

e) As required by the CDA, a Public (Stakeholder) Safety Plan will be developed prior to operations, which will identify the notifications procedures, warnings and alarms to be implemented in the event of a failure.

f) Vegetation will be cleared within the TMF tailings containment zone prior to filling/flooding to reduce potential generation of methyl mercury (MeHg) water quality concerns.

4.24 AIR EMISSIONS MANAGEMENT PLAN (INCLUDING GREENHOUSE GAS EMISSIONS)

An Air Emissions Management Plan for construction is presented below. A more detailed stand-alone plan will be prepared for the operations phase of the Project and will include monitoring requirements. A Greenhouse Gas Management Plan is also being prepared for the operations phase of the Project. This section of the EPP presents environmental protection procedures to reduce air contaminants and greenhouse gas emissions during Project construction.

Potential Environmental Concerns

Project construction is expected to generate air contaminants and greenhouse gas (GHG) emissions as outlined below:

- Air contaminants will be generated from the combustion of fossil fuels (e.g., diesel and gasoline) by heavy mobile equipment and vehicles and blasting operations (e.g., nitrogen oxides)
- Particulate matter (dust) will be generated by land clearing, earth moving activities, material handling, and blasting
- Particulate matter (dust) will be generated by equipment movements on unpaved roads

Air contaminants that may be released in substantive quantities during construction include particulate matter, selected trace metals and combustion gases (nitrogen oxides [NO_x], sulphur dioxide [SO_2] and carbon monoxide [CO]). Particulate matter includes: total suspended particulate (TSP) matter with an aerodynamic diameter less than 30 micrometres (µm); respirable particulate matter (PM_{10}) with an aerodynamic diameter less than 10 µm; and fine particulate matter ($PM_{2.5}$) with an aerodynamic diameter less than 2.5 µm. GHG emissions to be released during construction primarily include carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O).

Air contaminants can cause potential human health effects and potential effects on aquatic ecosystems and vegetation. GHGs absorb and re-emit infrared radiation from the planetary surface, thereby introducing the potential effect of warming the lower levels of the atmosphere and acting as a thermal blanket for the planet.

Environmental Protection Procedures

A GHG Management Plan will be developed for Project operation. The following procedures shall be implemented with respect to air contaminant and GHG management during construction:

a) Engines and exhaust systems of construction equipment will be subject to a comprehensive equipment preventative maintenance program to maintain fuel efficiency and performance.

b) Emission control technologies will be implanted where necessary to reduce air contaminant emissions, including the use of diesel exhaust fluid in diesel engines.

c) To reduce emissions, equipment and vehicle idling times and cold starts will be reduced to the extent practicable.

Measures to reduce and control dust (particulate matter) emissions include the following:

a) Dust from construction activities will be controlled using water.

b) During dry periods, water will be applied to the access road, site roads and haul roads as needed to mitigate dust emissions.

c) Watering is most effective immediately after application, and repeated watering several times a day might be required, depending on surface and meteorological conditions.

d) The application of water will be limited to non-freezing temperatures to avoid icing.

e) Water used for dust suppression will be sourced from site contact water, not natural waterbodies.

f) The application of dust suppressants other than water (e.g., calcium chloride) as an alternative option to watering will be considered in consultation with NLDECC.

g) The chosen dust suppressant will be approved by the NLDECC prior to application. These suppressants, if required, will be applied as per the manufacturer's recommendations.

h) Dust suppression are to be applied on an as-needed basis during high wind conditions or if measured ambient particulate matter concentrations exceed the Newfoundland and Labrador Ambient Air Quality Standards, and if an increase of watering is determined ineffective or unfeasible at the time.

i) Under no circumstances will oil (waste or otherwise) be used for dust control.

j) When loading stockpiles, drop heights will be reduced to be as close to the pile as possible.

k) Surfaces of topsoil and overburden stockpiles will be stabilized during extended periods between usage by means of vegetating or covering the exposed surfaces.

4.25 NOISE CONTROL

Potential Environmental Concerns

A variety of noises associated with construction activities can cause adverse effects on wildlife distribution and abundance. Noises associated with heavy equipment use are temporary in nature and noises associated with drilling are considered long term but localized.

Environmental Protection Procedures

The following procedures shall be implemented with respect to noise control:

a) Adherence to all permits, approvals and/or authorizations.

b) All vehicles and generators will have exhaust systems regularly inspected and mufflers will be operating properly. Enclosures will be used where feasible to further muffle stationary equipment.

c) Where practicable in accessible areas (e.g., along cleared rights-of-way), trees and other vegetation will be left in place or encouraged to grow to obstruct the view of Project facilities, reducing the change in viewshed and muffling noise.

4.26 LIGHTING

Potential Environmental Concerns

Project-related lighting during construction will be limited but may include use of mobile artificial lighting to provide a secure and safe work environment for construction workers. Artificial lighting can result in light trespass and glare, affecting the visual aesthetics of the area and creating a nuisance for nearby land users. Artificial lighting may also cause sensory disturbance to wildlife, particularly migratory birds.

Environmental Protection Procedures

The following procedures shall be implemented with respect to Project-related lighting during construction:

a) Project lighting will be limited to that which is necessary for safe and efficient construction activities. Lighting design guidelines such as the Commission Internationale de L'Éclairage, International Dark Sky Association, Illuminating Engineering Society, and lighting requirements for workspaces will be followed, as applicable.

b) Only the amount of lighting required for safe construction and operation activities will be installed; exterior lights will be shielded from above where required.

c) To the extent feasible without affecting safe mine operations, exterior lighting will be reduced and/or have limited time of operation during sensitive wildlife periods, such as migration.

d) Lighting will be located so that the lights are not directed toward oncoming traffic on nearby roads on or off site.

e) Lights will be designed to avoid excessive use of mobile flood lighting units and will be turned off when they are not required.

f) Mobile and permanent lighting will be located such that unavoidable light spill off the working area is not directed toward receptors outside of the Project Area, to the extent practicable.

g) Full cut-off luminaires will be used wherever practicable to reduce glare, light trespass and sky glow from Project lighting.

h) Where practicable in accessible areas, trees and other vegetation will be left in place or encouraged to grow to obstruct the lighting from Project facilities.

4.27 PROGRESSIVE REHABILITATION

Potential Environmental Issues

Rehabilitation is defined as measures taken to restore a property as close to its former use or condition as practicable, or to an alternate use or condition that is deemed appropriate and acceptable by applicable regulatory agencies. The Rehabilitation and Closure Plan will include progressive rehabilitation, closure rehabilitation, and post-closure monitoring. Progressive rehabilitation involves rehabilitation that is completed throughout the life of the mine prior to closure wherever practicable to do so. This includes activities that contribute to the overall rehabilitation effort and that would otherwise be carried out as part of the closure rehabilitation at the end of mining life.

Progressive rehabilitation during construction may include removal and rehabilitation of temporary works, including temporary roads, stream crossings, laydown areas, camps, construction-related infrastructure, and quarry and borrow areas (as applicable).

Environmental Protection Procedures

Consideration will be given to progressive rehabilitation throughout the construction period, rather than waiting for the end of construction to begin rehabilitation. The following procedures shall be implemented with respect to progressive rehabilitation during construction:

a) Any solid wastes, including petroleum, oil and lubricant containers, will be removed from site and disposed of according to Section 4.19, Waste Management.

b) Pre/post site inspections will be completed as per Section 3.2.1 of this EPP.

c) Project components will be progressively rehabilitated (including revegetation) to reduce dust emissions, including waste rock piles and overburden/topsoil stockpiles.

d) Disturbed areas will be graded and/or scarified and covered with overburden and organic materials, where required.

e) As site conditions dictate, vegetation or other cover materials may be established on slopes to control erosion and dust.

f) Native plant (including seed mix) and soil material will be used for rehabilitation and re-vegetation.

g) If a native seed mix is not commercially available, an appropriate seed mix will be selected based on an evaluation of included species. Seed mixes that include invasive species or non-native species that are not already widely established in the areas around the Project Area will not be used for the Project.

h) Where local plants are not available or do not meet rehabilitation objectives, only species that are non-aggressive and non-persistent will be used.

i) Trees will be planted to manage line of sight to reduce visual and noise disturbance.

j) Efforts will be made to locate open boreholes within the footprints of construction activity prior to construction and decommission them to eliminate pathways for contaminants from these features to enter groundwater.

k) Temporary bridges and culverts will be removed and disposed of appropriately once no longer required.

5.0 RESOURCE-SPECIFIC PROTECTION PROCEDURES

5.1 HISTORIC RESOURCES

Potential Environmental Concerns

Historic resources include sites, materials and, in certain instances, landscapes and/or places of historical, archaeological, cultural / spiritual, paleontological, and architectural importance. Such resources can date to the distant past or to the precontact, historic or contemporary periods, and are valued for their cultural, spiritual, natural, and scientific importance.

Historic resources are located on or immediately beneath the ground surface. Construction activities involving ground disturbance can result in the loss or disturbance of historic and cultural resources. No known historic resources are present within the Project Area. However, several registered archaeological sites have been recorded in proximity to the Project Area and areas of high archaeological potential have been identified (see Mapbook in Appendix F). The potential therefore exists during construction for chance discovery of previously unidentified historic resources (see Section 6.6, Discovery of Historic Resources).

Environmental Protection Procedures

In the fall of 2021, Marathon conducted an archaeological field program to investigate areas of high potential for archaeological resources (see Mapbook in Appendix F). If specific protection measures are required based on the findings of this study, this section of the EPP will be updated accordingly.

[MITIGATION TO BE UPDATED BASED ON FALL 2021 SURVEYS]

a) In the event of an accidental discovery of a historic resource during construction activities, contingency measures will be followed as outlined in the contingency plan for the Discovery of Historic Resources (Section 6.6).

5.2 CARIBOU

Potential Environmental Concerns

Project construction will result in direct habitat loss for caribou during site preparation activities. Sensory disturbance (e.g., noise and light emissions) may also reduce habitat suitability and result in habitat avoidance. Caribou and their habitat may also be affected by Project-related changes to air and water quality. Loss of habitat and/or habitat avoidance could adversely affect caribou, causing a change in foraging behaviour and movement paths or patterns (e.g., alteration of the Buchans herd migration corridor). Caribou population health may be adversely affected by these changes and individual mortality risk may be increased due to predation and potential collision with Project-related traffic.

Environmental Protection Procedures

Marathon is preparing a Caribou Protection and Environmental Effects Monitoring Plan (CPEEMP) which will present baseline data, list all mitigations associated with caribou and caribou habitat, provide detailed monitoring and assessment programs, include provisions for external and regulatory review of monitoring data and assessment reports, identify thresholds whereby further mitigations will be implemented, and provide other pertinent information. The CPEEMP will be revised regularly and will be the primary source for all current mitigation measures and protection procedures.

The following procedures shall be implemented to protect caribou during construction, further detailed guidance is provided in the CPEEMP:

a) Caribou activities during the migratory periods will be monitored in the vicinity of the Project through visual observation, aerial surveys, and telemetry data from GPS (global positioning system) collars.

b) Activities (e.g., construction related blasting, loading or hauling) in the Marathon pit area that may result in sensory disturbance to migrating caribou will be reduced or ceased while caribou are migrating through the corridor and within a set distance from the site (e.g., 10 kilometres (km) north or south). The NLDFFA – Wildlife Division to be consulted on the extent of activity reduction and conditions regarding caribou proximity.

c) The Environment Team will be notified if caribou are observed within 500 m of Project activities such as vegetation clearing, construction, or heavy equipment use. The Environment Manager will notify the NLDFFA – Wildlife Division and determine (in consultation with NLDFFA – Wildlife Division, as applicable) if the activity will be reduced or delayed (this is in addition to the temporal reduction or suspension of activities in the Marathon pit area while caribou are migrating along the path and within a set distance from the site).

   i. If caribou are within 500 m of clearing activities, all clearing will cease until caribou have moved outside of the buffer zone. If delays are recurring, Wildlife Division will be consulted on paths forward, such as monitoring to the response of caribou to a vegetation clearing and potentially reducing a buffer.

   ii. If caribou are within 500 m of construction activities, these activities will cease until caribou have moved outside of the buffer zone. If delays are recurring, Wildlife Division will be consulted on paths forward, such as monitoring to the response of caribou to construction related activities and potentially reducing a buffer.

   iii. If caribou are observed in areas of active heavy equipment during, activities will cease until caribou have moved beyond the buffer, if delays are recurring, Wildlife Divison will be consulted on paths forward, such as monitoring to the response of caribou to activities and potentially reducing the buffer.

d) A visual survey will be conducted for caribou prior to blasting. During pit development, which includes near-surface blasting, the search zone will be 1 km from the blast. Observations will be conducted prior to blasting from heights of land vantage points to scan for caribou present in the area. When practicable aerial drones may be used for searches. Additionally, collar data will be reviewed regularly to identify if there are collared caribou in the blasting areas. After the pit perimeter is developed and blasting is more than 30 m below the pit crest (whereby noise and vibrations will be reduced for receptors) the clearance zone will be 500 m buffer from the final pit perimeter. If caribou are observed within the applicable 1 km or 500 m blasting radius buffer zone, blasting will be delayed until animals have left the buffer zone (this is in addition to the temporal reduction or suspension of activities in the Marathon pit area while caribou are migrating along the path and within a set distance from the site).

e) Berms or barricades will be installed as needed around the crest of the pits and may be installed around the TMF or other Project features to limit interactions with specific components at the mine site and reduce risks to caribou (e.g., rock berms, wire fences, or snow fencing). Note that a barrier (usually large rock) is required to be installed adjacent to the pit crest for closure and is usually completed as part of progressive rehabilitation activities – this barrier may be erected during construction to achieve both purposes. Marathon will consult with NLDFFA – Wildlife Division in this regard.

f) Existing riparian vegetation will be maintained to the extent practicable.

g) Where crossing of wetlands beyond the area to be cleared is unavoidable, protective layers such as matting or biodegradable geotextile or other approved materials will be used between wetland root / seed bed and construction equipment if ground conditions are encountered that create potential for rutting, admixing or compaction.

h) As part of progressive rehabilitation during construction, disturbed areas will be graded and/or scarified and covered with overburden and organic materials, where required. Areas will be seeded to promote natural revegetation with native species. Trees will be planted to manage line of sight to reduce visual and noise disturbance.

Measures to be implemented to reduce sensory disturbance and risk of collisions associated with Project traffic include the following:

a) Vegetation will be maintained around high activity areas to the extent practicable, to serve as a buffer to reduce sensory disturbance.

b) Air (particularly dust) emissions will be reduced through the implementation of applicable procedures outlined in Section 4.23, Air Emissions Management Plan.

c) Light emissions will be reduced through the implementation of applicable procedures outlined in Section 4.25, Lighting.

d) Applicable equipment will have exhaust systems which will be regularly inspected and maintained so mufflers remain operating in accordance with manufacturers' recommendations.

e) Emission control technologies will be employed where necessary to reduce air contaminant emissions.

f) Vehicle traffic transporting workers and materials to/from the site will be managed through a Traffic Management Plan (see Appendix G).

g) Vehicles (including off-highway vehicles) used by Marathon personnel and contractors are restricted to roads, trails and corridors to the extent practicable.

h) Project vehicles are required to comply with posted speed limits in all areas. Additional speed restrictions will be posted and communicated during the caribou migration periods (CPEEMP CM009, CM010 and CM011)..

i) Traffic along the access road will be further reduced during migration periods – supplies will be stockpiled and/or delayed and shift changes will be altered to the degree possible to reduce traffic during these periods. In addition, speed limits will be reduced, and nighttime driving avoided to the extent practicable, to further reduce sensory disturbance and risk of collisions.

j) Road signage warning of caribou crossing areas will be posted at regular intervals.

k) To reduce the risk of caribou-vehicle collisions, caribou will have the right-of-way except where deemed unsafe to site personnel. If wildlife is on a road, speed is to be reduced and vehicles stopped, if necessary, until wildlife have left road.

l) Any caribou mortality observed or discovered on site is to be immediately reported to the Environment Team, who will report this event to NLDFFA-Wildlife Division without delay.

m) Wildlife-vehicle collisions, near misses, or observations of wildlife (e.g., caribou, moose) road mortality on site roads and/or involving Project vehicles on the access road are to be reported to the Environment Team, who will report to the NLDFFA – Wildlife Division. Further adaptive management measures (e.g., speed limit reductions for site roads, night driving will be limited along the access road except for emergencies, convoys will be utilized to the extent possible, increased traffic control signage within the migration corridor and at known crossing locations – CPEEMP CM011) will be implemented should locations of high frequency wildlife-vehicle interactions be identified.

n) Caribou crossing on roads / features are to be facilitated where they occur (e.g., crossing point across ditch) within the caribou migration corridor. The access road, site roads and haul roads are designed for provision of low areas in the plowed snowbanks, where practicable, to facilitate wildlife movements.

o) Snowbanks on roads east of the plant site, and on the main access road between the site and the Roebucks turn-off will have breaks at approximately 200 m intervals, to the extent practicable, to provide caribou crossing opportunities; where feasible, breaks will be aligned on opposing sides and with existing wildlife trails, where they occur, to facilitate caribou crossing.

p) Snow berms will typically be less than 1 m tall to facilitate caribou crossing during spring and fall migration.

q) Project-related air traffic (helicopters) will maintain a minimum altitude of 500 m to the extent feasible at all times of the year. Where caribou are observed along the flight path, the path will be altered by 1 km to avoid passing directly overhead of caribou where safe or possible to do so. Air traffic is expected to be limited and low altitude flying is only expected to be required adjacent to a site landing area. Protocols will be reviewed with the helicopter contractor prior to flights.

r) Air traffic (helicopters) will be limited or suspended during caribou migration and calving periods except when used for caribou studies. If air travel is required during the migration period, air traffic will avoid traveling within 5 km of the primary migratory corridor, except on approach/departure from the site. Protocols will be reviewed with the helicopter contractor prior to flights.

5.3 AVIFAUNA MANAGEMENT PLAN

Potential Environmental Issues

Construction activities can adversely affect avifauna through the loss or alteration of habitat (including direct removal of vegetation and sensory disturbance), as well as cause mortality from vegetation clearing and vehicular collisions, and indirect mortality risk from increased predation or other habitat changes.

Avifauna species at risk (SAR) may be particularly vulnerable to potential adverse effects. An avifauna SAR is defined as a bird species that is Extirpated, Endangered, Threatened, Vulnerable or of Special Concern under the Newfoundland and Labrador *Endangered Species Act* (NL ESA) and/or *Species at Risk Act* (SARA). Table 5.1 lists avifauna SAR that may be present in the Project Area and could be affected by Project construction.

Table 5.1 Avifauna Species at Risk

Common Name	Scientific Name	Conservation Status
Olive-sided Flycatcher	*Contopus cooperi*	Threatened (SARA & NL ESA); Special Concern (COSEWIC)
Common Nighthawk	*Chordeiles minor*	Threatened (SARA & NL ESA); Special Concern (COSEWIC)
Rusty Blackbird	*Euphagus carolinus*	Special Concern (SARA & COSEWIC); Vulnerable (NL ESA)
Bank Swallow	*Riparia riparia*	Threatened (SARA & COSEWIC)
Gray-cheeked Thrush	*Catharus minimus*	Threatened (NL ESA)
Red Crossbill	*Loxia curvirostra*	Threatened (SARA & COSEWIC); Endangered (NL ESA)
SARA – *Species at Risk Act* NL ESA – NL *Endangered Species Act* COSEWIC – Committee on the Status of Endangered Wildlife in Canada		

Environmental Protection Procedures

This Avifauna Management Plan includes such measures as reducing potential effects to birds through scheduling of activities that could pose potential harm (e.g., grubbing and tree clearing), applying various mitigation measures if vegetation clearing is required within the breeding bird season, and applying buffer / set-back distances from active nests.

The following procedures shall be implemented to protect avifauna during construction:

a) Where practicable, clearing and grubbing will be avoided during the breeding season (April 15 to August 15; ECCC 2018).

b) When the bird breeding season timeframe cannot be avoided, the following measures will be implemented:

   i. Conduct a survey (by a qualified biologist / scientist) for migratory and resident bird nests and birds displaying nesting behaviours, not more than five days prior to clearing and grubbing during the nesting season.

   ii. Survey for sensitive habitat that typically supports nests.

   iii. Establish an appropriate buffer zone around identified active nests or areas of active nesting behaviours (see part b) below) until fledging has occurred.

   iv. Employ on-site support of qualified biologists during construction, as required.

   v. Be as selective as possible when cutting.

   vi. Using the most efficient and appropriate clearing techniques and equipment (e.g., pruning tools or chain saws when appropriate vs larger harvesters).

c) Trees that provide actual or potential habitat will be retained where safe to do so and technically feasible. Removal activities, where required, will be scheduled to the extent practicable, outside the migratory bird breeding season. If tree clearing is required during the migratory bird breeding season, experienced biologist / scientist will inspect the trees to assess occupancy before tree removal.

d) Site staff will receive training on active nest disturbance and associated avian response behaviour and will be required to check facilities, equipment and vehicles for evidence of nesting prior to use.

   i. As waterfowl species are particularly sensitive to disturbance during critical breeding and brood-raising periods (April 15 to July 31; ECCC 2018), personnel will be aware of the importance to waterfowl of surrounding wetlands and efforts will be made to reduce adverse effects during Project activities such as adherence to wetland buffers (30 m for construction activities, 100 m when active nesting).

   ii. If an active nest is found, or evidence of nesting behaviours observed, work in the area is to be suspended until the Environmental Superintendent and/or Environmental Coordinator has been notified, and any applicable mitigations have been implemented.

e) Appropriate buffer zones/setbacks from nests will be established and remain in place until fledging has occurred. The following setbacks will be used (see also Section 4.2, Buffer Zones):

   i. 30 m for passerine nests

   ii. 100 m for waterfowl/waterbird nests

   iii. 75 m for SAR nests

   iv. Restricted activities within 200 m of active raptor nests to create a “breeding season quiet buffer” (i.e., buffer where land contouring, construction or any unusual or sudden loud activities is to take place [e.g., large trucks, blasting, banging devices, concrete cutters])

   v. Restrict clearing activities within 800 meters of an active bald eagle or osprey nest during the nesting season and 200 meters of all other active raptor nests (e.g. Northern Goshawk, Sharp-shinned Hawk, Merlin, American Kestrel, Great-horned Owl, Boreal Owl, Northern Saw-whet Owl).

   vi. The location of raptor nest sites will be reported to the Wildlife Division. Vegetation clearing can occur outside a 200m radius around any nests either outside the breeding season or if a nest is confirmed to be not occupied.

f) Bank swallows are known to construct nesting burrows in soil stockpiles with steep faces, particularly in light soils amenable to burrowing. Soil stockpiles will be constructed and maintained in lifts to achieve flatter slopes and to permit terracing, thereby reducing erosion and maintaining moisture within the topsoil. This structure and composition will make the stockpiles less attractive to these birds, particularly during the breeding season. In addition, if soil has been removed from a stockpile during the breeding season, resulting in a vertical or near-vertical face, the vertical face will be knocked down with an excavator to make it unattractive to swallows.

g) If a nest is found during soil stockpile development, this area (plus buffer) of the stockpile will be avoided until fledging has occurred; drawing down of soil stockpiles for progressive and ultimate rehabilitation will occur outside of breeding bird season, to the extent practicable.

h) Embankments of the TMF and of sedimentation ponds will be maintained free of vegetation. This will also limit the attraction of waterfowl and/or wildlife to these ponds for foraging or breeding.

i) During bird breeding season (April 15 to August 15), blasting will occur outside of the prominent bird singing/calling and activity period (i.e., sunrise to approximately 9:30 am).

j) Injured or dead birds found at the site, as well as observations of bird collisions with Project infrastructure or equipment, are to be reported to the on-site environmental team and the NLDFFA – Wildlife Division and Environment and Climate Change Canada – Canadian Wildlife Service (ECCC-CWS), as applicable.

5.4 WILDLIFE MANAGEMENT PLAN

This Wildlife Management Plan contains general wildlife protection measures (Section 5.4.1), as well as additional specific environmental protection procedures for bat (Myotis) species (Section 5.4.2) and American marten (*Martes americana atrata*) (Newfoundland population) (Section 5.4.3). Specific measures for caribou and avifauna are presented in Section 5.2 and Section 5.3 of this EPP, respectively.

5.4.1 General Wildlife

Potential Environmental Issues

Potential environmental issues associated with Project construction on wildlife include changes in habitat and mortality risk. Construction can result in habitat loss or alteration due to vegetation clearing, sensory disturbance, and edge habitat effects. Edge effects can include changes in microclimate, vegetation structure, wildlife presence and/or abundance, and behavioral responses of wildlife. Species that are dependent on interior and mature forests as core habitat, such as marten and lynx, may be most adversely affected, as these may avoid edge habitats. Other species (e.g., moose, black bears) preferentially choose edge habitats for foraging or travelling. Wildlife mortality risk may be increased due to habitat loss or alteration as well as though risk of vehicular collisions and increased predation pressures.

Environmental Protection Procedures

The following procedures shall be implemented to protect wildlife during construction:

a) Marathon will observe changes to species' status prior to and/or during proposed Project activities and review its Project activities in consideration of applicable species/habitat restrictions and species at risk (SAR) recovery strategies.

b) Environmental personnel responsible for site monitoring during construction will receive training to recognize SOCC that may be present in Project Area.

c) Construction activities shall be scheduled considering sensitive wildlife habitat and critical periods of wildlife cycles, and additional mitigation measures will be considered, as required. Annual timing of migration and calving in the vicinity of the Site shall be considered at all times (refer to Section 4.1, Sensitive Time Periods).

d) Hunting / fishing / harvesting of wildlife is strictly prohibited on the mine site. Workers are not permitted to hunt / fish / harvest while staying at the accommodations camp and are not permitted to bring firearms or angling gear to site.

e) Pets are prohibited on site.

f) The discovery of roosts, hibernacula, or dens by on-site personnel or contractors will be reported to the Environmental Superintendent and/or Environmental Coordinator, and appropriate action or follow-up will be guided by consultation with a qualified biologist and/or the applicable federal / provincial regulators.

g) Equipment and vehicles shall yield the right-of-way to wildlife and adhere to construction site speed limits.

h) Wildlife-vehicle collisions, near misses, or observations of wildlife road mortality on site roads and/or involving Project vehicles on the access road are to be reported to the Environment Team, who will report to the NLDFFA – Wildlife Division. Adaptive management measures will be implemented should locations of high frequency wildlife-vehicle interactions be identified.

5.4.2 Bats (Myotis)

Potential Environmental Issues

Two species of myotis, the little brown myotis (*Myotis lucifugus*) and northern myotis (*Myotis septentrionalis*), have historically been abundant on the Island of Newfoundland. However, in 2014, both these species were emergency listed as Endangered under SARA, due to sudden population declines resulting from white-nose syndrome. A recovery strategy for these species was released in 2015 (ECCC 2015). In May 2021, both species were also listed as Endangered under the NL ESA.

Project construction can result in myotis habitat loss or alteration due to vegetation clearing, sensory disturbance, and edge habitat effects. Edge effects can include changes in microclimate, vegetation structure, wildlife presence and/or abundance, and behavioral responses of wildlife. Mortality risk may be increased through habitat loss or alteration, as well as through vehicular collisions and increased predation pressure.

Environmental Protection Procedures

The following procedures shall be implemented to protect bats during construction:

a) Observations of bat roosts, colonies, potential hibernacula sites, or sick or dead bats will be reported to the Environmental Superintendent / Environmental Coordinator, who will consult with the provincial Wildlife Division at 709-637-2025. Activities in the immediate vicinity of a roost, colony or hibernaculum are to be stopped and the site is to be vacated until further notice. Appropriate action or follow-up will be guided by consultation with a qualified biologist and federal and/or provincial regulators.

b) Bat collisions with Project infrastructure or equipment will also be reported to the Environmental Superintendent / Environmental Coordinator and the NLDFFA – Wildlife Division.

c) During the construction of buildings or other structures, bats will be discouraged from establishing roost sites by sealing off openings of 15 mm in diameter or larger. Chutes and ducts will be sealed at the outside / top, prevent entry by bats. Structures will be assessed to identify and address potential entry points.

d) If a bat colony is found to exist within a Project structure, bats can remain in place when it is safe for people and where there is no chance of contact with people. If it is not safe for bats to remain, NLDFFA – Wildlife Division will be contacted to develop an approved removal plan.

e) Open buckets, garbage bins, tubs and containers will be kept covered, where practicable. Bats may fly into these open containers and may be attracted to standing water within them. Bats cannot climb slippery surfaces and are unable to fly straight up into the air, so can easily become trapped in such containers.

f) Use of sticky traps for problem rodents will be avoided, as bats are often attracted to these.

g) Large-diameter trees will be maintained to the extent possible; especially those that are old, dead, or dying. These types of trees typically have the peeling bark, crevices and cavities that provide important natural roosting habitats for bats.

h) Vegetation clearing will be avoided during the bird breeding season, if feasible, which will also protect other breeding wildlife species by preventing the destruction of small mammal nests and bat maternity roosts. If avoidance is not practicable, Marathon will work with FFA - WD to develop seasonally appropriate techniques to reduce potential harm to bats, including the identification of potential maternal roost trees (i.e., >30cm dbh). Buffers / set back distances will be established if maternity roosts are identified. Setback buffers for bats (e.g., roosting sites) may be specified in future, based on Recovery Team's recommendation. When the buffers are established, Marathon will update this plan and associated practices.

5.4.3 American Marten

Potential Environmental Issues

American marten (*Martes americana atrata*) (Newfoundland population) (referred to as marten) is considered Threatened under SARA and the NL ESA; the Atlantic Canada Conservation Data Centre ranks marten as S3 (or Vulnerable) (AC CDC 2020). Based on marten occurrences and habitat suitability, an area of critical habitat (of approximately 6,200 square kilometres [km^2]) was identified in the Recovery Plan for marten on the Island of Newfoundland (The Newfoundland Marten Recovery Team 2010), a portion of which overlaps the Project Area.

Project construction can result in marten habitat loss or alteration due to vegetation clearing, sensory disturbance, and edge habitat effects. Marten are dependent on interior and mature forests as core habitat and may avoid edge habitats. Mortality risk of marten may be increased through habitat loss or alteration, as well as through vehicular collisions and increased predation.

Environmental Protection Procedures

The following procedures shall be implemented to protect American marten during construction:

a) If marten or suspected denning locations are encountered during construction activities, work in the area is to be suspended until the Environmental Superintendent and/or Environmental Coordinator has been notified, the Environment Manager has contacted NLDFFA – Wildlife Division, and any applicable mitigation has been implemented.

b) Adaptive management measures will be implemented should locations of high-frequency wildlife-vehicle interactions be identified for American marten.

5.5 VEGETATION

Potential Environmental Issues

Project construction (particularly clearing and grubbing) will include clearing / removal of vegetation, resulting in loss of plants that are species of conservation concern (SOCC), and changes in species and/or community diversity. Use of equipment and machinery and importing soils and (inadvertently) seeds from other areas can also introduce non-native invasive plant species, affecting ecological communities.

Environmental Protection Procedures

The following procedures shall be implemented to protect vegetation and habitat during construction:

a) Marathon will observe changes to species' status prior to and/or during proposed Project activities and review its Project activities in consideration of applicable species/habitat restrictions and species at risk (SAR) recovery strategies.

b) Environmental personnel responsible for site monitoring during construction will receive training to recognize SOCC that may be present in Project Area.

c) Known occurrences of plant SOCC will be avoided. If avoidance of plant SOCC is not possible, seed collection or transplant of the plant will be considered in consultation with applicable regulators.

d) Quarried, crushed material will be used for road building in and near wetlands, to reduce the risk of introducing or spreading non-native and/or invasive vascular plant species.

e) Construction materials (soils and rock) will be sourced locally, when possible, which will reduce the probability of import or further spread of potentially invasive plant species. To reduce the risk of introducing or spreading non-native and/or invasive vascular plant species, equipment will arrive at the Project site clean and free of soil and vegetative debris. Equipment will be inspected by Marathon personnel or designate and, if deemed to be in appropriate condition, will be approved for use. Equipment that does not arrive at the Project site in appropriate condition will not be allowed on the construction footprint until it has been cleaned, re-inspected, and deemed suitable for use.

5.6 FISH AND FISH HABITAT

Potential Environmental Issues

Fish and fish habitat have the potential to be affected by Project-related changes to groundwater resources, surface water resources, and vegetation and wetlands, through effects such as the direct removal of riparian vegetation (affecting water quality via reduced shade or increased nutrient/energy inputs), alterations to stream flow, introduction of sediments and contaminants, direct injury or death from the presence of equipment, excavation of waste rock and subsequent alteration of groundwater, and water management activities that result in changes in water levels in surrounding waterbodies. Should unanticipated events arise that may affect fish and fish habitat, regulators will be immediately informed.

Environmental Protection Procedures

a) Construction activities will be planned, where possible, to avoid locations associated with fish during environmentally sensitive timing windows (i.e., Avoid carrying out in-water works from October 1 to May 31 to limit impacts during the spawning, incubating and hatching period for tributaries and headwaters of scheduled salmon rivers).

b) Buffer zones for construction activities will be implemented as per Table 4.1 in Section 4.2, Buffer Zones. See Appendix F for a Mapbook of Environmental Sensitivities including fish-bearing waters.

c) Environmental protection procedures presented in the following sections of this EPP shall be implemented to help protect fish and fish habitat:

   i. 4.10, Erosion and Sediment Control

   ii. 4.12, Working in or Near Water

   iii. 4.13, Working in or near Wetlands

   iv. 4.15, Site Water Management

5.7 VICTORIA DAM

Potential Environmental Issues

The mine site is located directly adjacent to, and could potentially affect, the Victoria Lake Reservoir and the Victoria Dam, which form the headwater of a major hydroelectric system draining to Bay d'Espoir. Ground vibration from Project blasting could potentially affect the stability of Victoria Dam.

Environmental Protection Procedures

The following procedures shall be implemented to protect Victoria Dam during Project construction (see also Section 4.11, Blasting):

a) Blasting for site development will be conducted by a certified blasting contractor who will develop a conservative Blast Design for engineering review and approval prior to carrying out the work. The Blast Design will be required to meet strict seismic (vibrational) limits at appropriate distances from Victoria Dam (as well as developing infrastructure, and fish habitat).

b) An Explosives and Blasting Management Plan will be developed by the selected licenced blasting contractor and will include direction for the safe storage, handling and use of explosives and explosive components at the Project site, to address the safety of the public and Project personnel, and protection of the environment, Project components and the Victoria Dam. The Explosives and Blasting Management Plan will include requirements for Blast Design vibration limits and seismic monitoring for blasting activities.

c) The Construction Manager and the Environmental Department will communicate with NL Hydro regarding blasting requirements, timing, vibration thresholds and monitoring.

d) Dam construction as part of the TMF will be conducted as per Section 4.22, Dam Construction.

6.0 CONTINGENCY PLANS

6.1 FUEL AND HAZARDOUS MATERIALS SPILLS

Potential Environmental Concerns

Fuel and hazardous materials can damage or harm vegetation, soil, surface water, ground water, wildlife, aquatic organisms, historic resources, and human health and safety.

Environmental Protection and Response Procedures

The following procedures shall be implemented in the event of a fuel or hazardous material spill:

a) The individual who causes or discovers a leak or spill will make reasonable attempts to immediately stop the leakage and contain the flow, if safe to do so. Spill kits are located at fuel storage tanks and at designated central storage location(s). Digital photographs of the spill are to be taken at the earliest opportunity.

b) A spill or leak of any volume is to be verbally reported immediately to the Environmental Superintendent / Environmental Coordinator, with details including the spill location, type of fuel or hazardous material (if known), approximate volume, and terrain condition at the spill site. As soon as possible following verbal reporting, the Spill Report Form (Appendix H) is to be completed and submitted to the Environment Department.

c) The Environmental Superintendent / Environmental Coordinator will immediately report a reportable spill on land, or any spill regardless of size that may enter a waterbody frequented by fish, to the **Environmental Emergencies 24-Hour Report Line 709-772-2083 or 800-563-9089**. Refer to Section 4.17 for the definition of reportable spills on land versus in freshwater environments.

   Required information may include:

   i. name of reporter and phone number
   ii. time of spill or leak
   iii. time of detection of spill or leak
   iv. type of product spilled or leaked
   v. amount of product spilled or leaked
   vi. location of spill or leak
   vii. source of spill or leak
   viii. type of accident - collision, rupture, overflow, other

ix. owner of product and phone number

x. if the spill or leak is still occurring

xi. if the spill or leaked product is contained, and if not, where it is flowing

xii. wind velocity and direction

xiii. temperature

xiv. proximity to waterbodies, water intakes, and facilities

xv. snow cover and depth, terrain, and soil conditions

d) The Environmental Superintendent / Environmental Coordinator will act as the "On-Scene Commander" for the purposes of cleaning up a fuel or hazardous materials spill. The Environmental Superintendent and Environmental Coordinator will be trained in spill response and clean-up procedures and will have full authority to take necessary and appropriate action without undue delay.

e) The overall responsibility of coordinating a clean-up and adapting response procedures to changing conditions and circumstances will be the Environmental Superintendent / Environmental Coordinator.

f) Personnel will be trained on the procedures to follow in case of fuel and hazardous material spills, as well as lines of communication.

g) A complete list of spill response equipment will be generated and distributed onsite before the start of construction activities, and will have associated inventory minimums that, when reached, trigger the procurement process for resupply.

h) In reaching decisions on containment and clean-up procedures, the following criteria will be applied:

i. minimize danger to workers and public

ii. protect water supplies

iii. minimize pollution of watercourses

iv. minimize area affected by spill

v. minimize the degree of disturbance to the area and watercourses during clean-up

i) The Environmental Superintendent / Environmental Coordinator will act in consultation with the Site Manager, the Environment Manager, and the regulating authorities to:

   i. assess site conditions, ensure that the source of the spill has been isolated and stemmed, and determine the appropriate cleanup procedure in consideration of potential environmental effects of various cleanup procedures

   ii. deploy on-site staff to mobilize pumps and empty 215-L drums or other appropriate storage containers to the spill site

   iii. deploy on-site staff to build containment dykes and commence pumping contaminant into drums

   iv. apply absorbent as necessary

   v. dispose of all contaminated debris, soil, cleaning materials and absorbent by placing in an ISO-approved container for shipment and disposal offsite in a licensed disposal facility

   vi. take all necessary precautions to avoid the incident in the future, including through identification of immediate and root causes and corrective actions, communicating these to personnel/contractors as applicable, and following through corrective actions to closure

j) The Environmental Superintendent / Environmental Coordinator will be responsible for the preparation of a written incident investigation, identifying root cause and corrective actions in communication with the applicable personnel/contractor(s). The report will be submitted to the Marathon Environment Manager without delay and, from there, to the applicable regulatory agencies (as soon as possible and no later than 30 days after the spill).

6.2 EXTREME WEATHER

Potential Environmental Concerns

Extreme weather can include severe storms, hurricanes, tornadoes, and drought. Winter storm events can consist of high winds, snow, ice, and freezing rain. During the summer and fall months, the Island is prone to hurricanes and tropical storms, which can bring strong winds and heavy rains. Other forms of severe weather can develop during warmer months including thunder, lightning, and hail, and occasionally tornadoes.

Extreme weather can create unsafe working conditions, causing delays in construction activity and transport of materials, supplies and workers, and can also affect the environment. Extreme precipitation and associated surface water runoff from snowmelt, rainfall and freezing rain events have the potential to cause flooding, erosion, and washout of roads. These events could lead to the failure of erosion or sedimentation control structures which, in turn, could result in the release of sediment to surface waterbodies (see Section 6.3, Failure of Erosion and Sediment Control and/or Dams). Extreme snow and ice also have the potential to increase loadings on buildings and other Project infrastructure and result in damage if the accumulated loading exceeds design loads. Ice accumulation on power lines and associated infrastructure could cause power outages and delays to operational activities. Extreme snow and ice could also increase the risk of vehicle accidents on Project and access roads.

Environmental Protection and Response Procedures

The following procedures shall be implemented to mitigate effects of extreme weather:

a) The Project will be designed and constructed to meet applicable engineering codes, standards, and best management practices, such as the National Building Code of Canada, the National Fire Code of Canada, and the CDA Guidelines. The codes and standards account for weather variables, including extreme conditions, that could affect the structural integrity of buildings and infrastructure. Designs will also consider projected climate change over the life of the Project.

b) The potential effects of extreme weather including storms, precipitation, flooding/ice jams, and drought will be considered in Project planning, design and construction, including the selection of materials and equipment, and design of components, such as water management infrastructure.

c) Marathon will regularly inspect and monitor Project infrastructure and equipment that could be affected by the environment (in addition to its normal function) and take required action to maintain, repair and upgrade infrastructure / equipment as needed.

d) Work activities will include allowances / procedures for delays due to poor weather.

e) Weather forecasts will be considered when planning construction activities that could be affected by adverse conditions, such as dam construction, receipt of materials and supplies, and product deliveries, particularly deliveries of chemicals, reagents, and diesel fuel. Where required, these activities will be scheduled for periods of favourable weather conditions.

f) Weather forecasts will be regularly monitored and, prior to anticipated extreme weather events, appropriate preventative measures will be taken to reduce the risk of damage to the Project. This will include site inspection by staff to identify and secure loose items, materials and equipment that could be susceptible to wind events, and inspection and maintenance of sediment and erosion control measures prior to and following precipitation events.

6.3 FAILURE OF EROSION AND SEDIMENT CONTROL MEASURES AND/OR DAMS

Potential Environmental Concerns

Malfunction or failure of erosion and sediment control measures and/or dams (e.g., TMF, sediment ponds) could lead to erosion and sedimentation and/or the unplanned release of contact water into the receiving environment.

Environmental Protection and Response Procedures

The Water Management Plan provides detail on runoff and seepage collection strategies and systems (e.g., sedimentation ponds, berms, drainage ditches, pumps) to collect and contain surface water runoff and groundwater discharge from major Project components (open pit, waste rock piles, TMF, ore stockpile and overburden stockpiles, process plant) during climate normal and extreme weather conditions. See also Section 4.10, Erosion and Sediment Control Plan and Section 4.15, Site Water Management for more information on erosion and sediment control measures.

As required by the MDMER, a tailings / effluent emergency response plan will be developed, which will outline how a failure or malfunction of the TMF during mine operations resulting in a release of tailings or tailings effluent will be managed. As required by the CDA, a Public (Stakeholder) Safety Plan will also be developed, which will identify the notifications procedures, warnings and alarms to be implemented in the event of a failure.

Marathon is committed to working with provincial regulators and conforming with applicable guidelines (incorporating updates as applicable) such that the TMF is designed, constructed, operated and ultimately rehabilitated in a safe and responsible manner.

The following procedures shall be implemented in the event of a failure of erosion and sediment controls and/or dams during construction:

a) Sediment fencing and other sedimentation control measures (e.g., check dams) will be deployed, inspected and maintained as needed adjacent to wetlands and slow-moving watercourses.

b) Where feasible, contact water will be pumped back into the collection system.

c) The water management structure will be repaired and/or improved as required to avoid reoccurrence.

d) Affected waterbodies will be monitored, and remedial actions and reporting, if required, will take place in consultation with regulators and in accordance with the tailings / effluent emergency response plan.

6.4 FOREST FIRES

Potential Environmental Concerns

Activities related to construction could result in a fire, which could spread to the surrounding area. Such events could damage vegetation and wildlife, air and water quality, human health and safety, and Project facilities.

Environmental Protection and Response Procedures

All Marathon personnel and contractors will take all precautions necessary to prevent fire hazards when working at the site, The following procedures shall be implemented in the event of a forest fire:

a) Flammable waste will be disposed of in accordance with regulatory requirements and on a regular basis.

b) On-site fire prevention and response equipment will be provided and maintained, and Marathon will have employees / teams that will be trained in safe fire response. The purpose of this response training and equipment is to respond to fire scenarios on the mine site, as NLDFFA would be responsible for responding to a forest fire in the area not related to the Project.

c) Marathon will actively monitor wildfires that could affect the mine site and/or access road and coordinate with provincial authorities with respect to response, including the need for potential shutdown and evacuation of employees.

d) In the event of a fire on site, Marathon or the contractor will take immediate steps to contain or extinguish the fire, if safe to do so.

e) Marathon's Environmental Superintendent or Environmental Coordinator will appoint a supervisory staff member as "On-Scene-Commander" for fighting fires, if safe to do so.

f) Fires should be reported immediately to:

   i. the Environmental Superintendent or Environmental Coordinator; and

   ii. NLDFFA's **24-Hour Forest Fire Emergency Line - (800) 898-4528**

g) The following information will be provided:

   i. name and phone number of the reporter

   ii. time of detection of the fire

   iii. size of the fire

   iv. location of the fire

6.5 WILDLIFE ENCOUNTERS

Potential Environmental Concerns

Wildlife encounters pose a potential risk for stress or injury to both the wildlife and site personnel. Control measures and environmental protection procedures have been put in place to reduce this potential risk to wildlife and humans.

Environmental Protection and Response Procedures

The following procedures shall be implemented with respect to wildlife encounters:

a) Site and working areas will be kept clean of food scraps and garbage.

b) Waste will be collected for disposal in appropriate containers and routinely transferred to the approved location or facility.

c) No attempt will be made by any worker at the Project site to chase, catch, divert, follow, or otherwise harass wildlife by vehicle or on foot, unless specifically authorized and requested to do so by NLDFFA – Wildlife Division.

d) Equipment and vehicles will yield the right-of-way to wildlife.

e) All personnel will be aware of the potential for encounters with bears, coyotes, caribou, moose, NL marten, etc. Wildlife sightings are to be reported to a member of the Environment Team. For bear or NL marten sightings, the Environmental Superintendent / Environmental Coordinator will assess actions for follow-up.

f) The Environmental Superintendent / Environmental Coordinator, with support from on-site security, will be responsible for all actions in response to nuisance animals (e.g., bears) in the Project Area.

g) Black bear deterrent measures such as bear bangers and bear spray may be used, and translocation of bears shall be undertaken before any lethal means are considered. Under provincial wildlife regulations, the displacement and release of any animal is the sole jurisdiction of the NLDECC and is to be undertaken only as directed by NLDFFA – Wildlife Division and under appropriate supervision.

h) Wildlife-vehicle collisions, near misses, or observations of wildlife road mortality on site roads and/or involving Project vehicles on the access road are to be reported to the Environment Team, who will report to the NLDFFA – Wildlife Division. Adaptive management measures will be implemented should locations of high frequency wildlife-vehicle interactions be identified.

6.6 DISCOVERY OF HISTORIC RESOURCES

Potential Environmental Concerns

Historic resource material that is disturbed, destroyed, or improperly removed from a site represents a potential cultural loss of information and history that could otherwise be handled and interpreted in an efficient, informative, and appropriate manner.

Environmental Protection and Response Procedures

The following procedures shall be implemented in the event of a discovery of historic resources:

a) If suspected archaeological material is encountered, all work in the immediate area of the discovery will be stopped until authorized personnel from Marathon, having consulted with the Provincial Archaeologist, permit resumption of the work.

b) The site's visible boundaries will be marked with the applicable buffer (Section 4.2, Buffer Zones). Personnel will not move or remove any artifacts or associated material unless the integrity of the material is threatened.

c) The Environment Manager and / or Manager of Stakeholder Engagement will report the find with the following information to the Provincial Archaeology Office, Department of Tourism, Culture, Arts and Recreation, St. John's, and comply with the instruction provided:

   i. nature of the find

   ii. precise descriptive and map location and the time of the find

   iii. nature of the activity resulting in the find

   iv. identity of the worker(s) making the find

   v. present location of the material, if moved, and any protective measures initiated for the material and the site

   vi. extenuating circumstances

7.0 EPP CONTROL REVISIONS

This EPP will be revised as necessary to reflect site-specific environmental protection requirements and allow updates as work progresses or changes. All EPP holders may initiate revisions by forwarding proposed revisions to the Environment Manager, Environmental Superintendent and/or Environmental Coordinator. The following information will be provided on the Revision Request Form (see Appendix I) for all revision requests:

a) section to be revised

b) nature of the revision

c) rationale for the revision (e.g., environment/worker safety)

d) name of the revision requestor

Approval for revisions will be required from Marathon. When the Environment Manager approves a revision request, details of the revision will be distributed to all EPP holders and will be documented in the Revision History Log (Appendix J). Each revision will be accompanied by:

a) revision instructions

b) list of sections being superseded

c) an updated Table of Contents indicating the status of each section in the EPP

When EPP holders receive a revision, they will, in a timely manner:

a) read the text of the revision

b) check the control sheet to confirm that all the listed pages have been received

c) remove and destroy the superseded pages from their copy of the EPP

d) insert the revised pages in the proper place in their copy of the EPP

e) page check the EPP, using the updated table of contents to confirm the EPP is complete and current

f) enter the revision number and date entered on the Revision History Log

g) incorporate the revision into the area of responsibility, as applicable

h) confirm that personnel in their purview are informed of and familiar with the revisions

8.0 CONTACT LIST

Department	Contact	Telephone
Marathon Gold Corporation	James Powell, VP Regulatory and Government Affairs Tara Oak, Environment Manager Scott Finlay, Environmental Coordinator	(709) 730-5046 (902) 266-3157 (709) 899-4200
Canadian Coast Guard-Environmental Emergencies	24-Hour Environmental Emergencies Report Line	(709) 772-2083 1-800-563-9089
Environment and Climate Change Canada - Environmental Emergencies	Senior Compliance Promotion Officer for the E2 Regulations ue-atl-e2@canada.ca	(709) 772-4285
Environment and Climate Change Canada – Canadian Wildlife Service	Rob Ronconi, Wildlife Emergency Response Coordinator	902-266-9864
Fisheries and Oceans Canada (DFO)	Ryan Pugh (Fish and Fish Habitat)	709 330-7963
Digital Government and Service NL, Occupational Health and Safety Division	Loyola Power, Director 24-Hour Accident Reporting Line	(709) 729-3275 1-800-729-4444
NL Department of Environment, Climate Change – Water Resource Management Division	Haseen Khan, Director	(709) 729-2563
NL Department of Environment, Climate Change – Pollution Prevention Division	Robert Locke, Director	(709) 729-2556
NL Department of Fisheries, Forestry and Agriculture – Forestry and Wildlife	Bishops Falls District Office After Hours Emergency	709-258-5334 709-290-0364
NL Department of Fisheries, Forestry and Agriculture	24-Hour Forest Fire Emergency Line	(800) 898-4528
NL Department of Tourism, Culture, Arts and Recreation	Provincial Archaeology Office	(709) 729-2462
NL Department of Industry, Energy and Technology -Mines-Mineral Lands	Kevin Sheppard, Director	(709) 729-6425
NL Department of Fisheries, Forestry and Agriculture – Land Management Division	Richard Carey, Director	(709) 637-2081 1-833-891-3249
Royal Newfoundland Constabulary	Emergency Non-emergency (Corner Brook)	9-1-1 (709) 637-4100
Royal Canadian Mounted Police	Grand Falls Detachment	(709) 489-2121

9.0 REFERENCES

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10.0 SIGNATURE PAGE

Marathon Gold Corporation

The undersigned certify that, as part of their Environmental Orientation, they have reviewed and understand their role and responsibilities regarding:

Valentine Gold Project

CONSTRUCTION
ENVIRONMENTAL PROTECTION PLAN

Name (printed)	Representing	Company
Signature		Date
Name of Manager or Supervisor		
Manager or Supervisor Signature		Date

APPENDIX A

ENVIRONMENTAL POLICY

Environment Policy

Marathon Gold Corporation ("Marathon" or the "Corporation") is committed to the successful development and operation of the Valentine Gold Project (the "Project"). Our vision is an enterprise balancing commercial success with a safe working environment, effective environmental management, and the creation of lasting social benefit.

Marathon shall implement high standards of environmental performance in all aspects of our work as part of our commitment to safe and responsible environmental, social and economic development. Marathon's Environment Policy has been developed with a view to preventing and reducing the adverse effects of our activities and maximizing the positive benefits and impacts upon people, communities and the biophysical environment.

Scope of the Policy

As part of our ongoing exploration activities and throughout all phases of the development, construction, operation and rehabilitation of the Valentine Gold Project, Marathon will implement a responsible approach to social, economic and environmental performance that is aligned with the evolving priorities of Indigenous groups, stakeholders and regulators, and which complies with standards established by law, regulation, and the Company's operating permits for the Project.

Our actions will be consistent with Marathon's Values that will inform and guide the development of measures to protect the natural environment and enhance socio-economic benefits. Marathon will proactively engage with Indigenous groups, communities, stakeholders and regulators to identify and manage environmental risks and opportunities as part of Project planning and execution.

Marathon's Environment Policy is a living document, subject to review and modification as our business evolves and based on evolving best-practice standard for environmental performance in the Canadian mining industry.

Marathon's Environment Policy should be read in conjunction with individual operating standards for specific site-activities established for the Project.

Compliance with Laws, Rules and Regulations

Marathon will comply with all applicable environmental laws, regulations and standards and ensure that effective systems, practices and plans, based on industry best practices, are in place to prevent, mitigate and manage environmental risks. This policy should be read in conjunction with Marathon's Code of Business Conduct and Ethics.

Communication and Compliance

This Environment Policy shall be clearly communicated to both internal and external stakeholders, including employees, 3rd party suppliers of goods and services, Indigenous groups, local communities, regulators and civil society groups, and published on Marathon's website.

Training and orientation on this Policy, as well as individual operating standards for specific site-activities, will be provided for all employees and on-site contractors. Completing such training and orientation will be a condition for on-site access.

All employees and 3rd party suppliers of goods and services at the Project will be required to adhere to Marathon's Environment Policy. Notices of expected compliance will be made at the time of employment and in tender documents for supply and service contracts. On-site contractors may be required to demonstrate their compliance with this policy through regular reporting and adherence to Marathon's Environmental Management System. Non-compliance with this policy, and any associated operating standards operating standards for specific site-activities, may result in employee termination, or the termination of supply and service contracts.

Marathon welcomes and encourages dialogue to enhance our understanding of environmental concerns or risks throughout all phases of the Project.

Environmental Management System

Marathon will develop, implement, document and maintain a comprehensive environmental management system which will be integrated into all aspects of our activities. We will employ a graduated approach to the management of environmental risks, which emphasizes avoidance of adverse effects as the first priority, followed by reduction / mitigation measures, with remediation as the last option.

Consistent with this focus, we will develop, design and operate our facilities in a manner that promotes the best and most efficient use of energy, technology, resources and materials. Our environmental management plans will include processes to avoid unnecessary uses of energy and water, control emissions including those linked with climate change, reduce waste, and structure activities to reduce our environmental footprint to the extent possible.

Marathon places a high priority on the avoidance or reduction of lasting adverse effects on the environment, including to fish and fish habitat, wildlife and land use. We will employ a progressive approach to rehabilitation and reclamation to avoid or reduce adverse legacy environmental consequences and will integrate rehabilitation and reclamation requirements into Project planning.

Continuous Improvement

Marathon is committed to continuous improvement of its environmental performance, measures and practices, through employing the continuous improvement cycle (plan, do, check, act). To achieve this, Marathon will continually strive to improve environmental performance based on defined targets, performance indicators and objectives for monitoring, measuring and reporting. Marathon will monitor activities through each phase of the Project with timely and effective follow-up, and will report openly, honestly and in a timely manner on our progress to achieving responsible development.

APPENDIX B

CONTROLLED COPY DISTRIBUTION LIST

CONTROLLED COPY DISTRIBUTION LIST

Marathon	Individual or Location

APPENDIX C

ENVIRONMENTAL SITE INSPECTION CHECKLIST

ENVIRONMENTAL SITE INSPECTION CHECKLIST

Activity: _____ Site Location: _____

Inspection Date: _____ Inspection Time: _____ Inspected By:_____

Weather: _____

Inspection Items	Yes	No*	N/A	Remarks (i.e., specify location, good practices, problems / issues / risks observed, possible cause(s) of nonconformity and/or proposed corrective actions)
1. Air Pollution Control				
1.1. Are the construction sites watered when needed to minimize dust generated?				
1.2. Are stockpiles of dusty materials covered or watered?				
1.3. Are roads watered when needed to minimize dust generated?				
1.4. Is equipment well maintained (any black smoke observed, please indicate equipment and location)?				
1.5. Others (please specify)				
2. Water Pollution Control				
2.1. Are contact waters being collected and treated properly before release to the environment (retention in sediment ponds/plunge pools, use of straw bales, sediment fencing, etc.)?				
2.2. Are contact water treatment systems being used and maintained properly (removal of built-up sediment, replacement of damaged measures)?				
2.3. Are non-contact waters being directed away from developed areas where possible?				
2.4. Are site ditches well maintained (any slumping, or buildup of sediment)?				
2.5. Are culverts free of sediment and debris and working as designed?				
2.6. Are fuel and hazardous materials stored at least 200m from a salmon river or tributary and 100m from all other waterbodies?				
2.7. Are culverts and ditches clear of snow and ice prior to Spring thaw?				
2.8. Is domestic water directed to septic tanks?				
2.9. Others (please specify)				

3. Noise Control					
3.1. Are air compressors and generators being operate with doors closed?					
3.2. Are equipment mufflers well maintained and working as designed?					
3.3. Is equipment (not in use) turned off or throttled down?					
3.4. Have any additional noise mitigation measures been put in place (e.g., noise barriers/enclosures)?					
3.5. Others (please specify)					
4. Waste Management					
4.1. Is the site kept clean and tidy (e.g., free of litter, good housekeeping)?					
4.2. Are separated labelled containers/areas provided for facilitating recycling and waste segregation and are these being used properly?					
4.3. Are construction wastes/recyclable wastes and general refuse removed off site regularly?					
4.4. Are wastes collected and disposed of properly by licensed collectors?					
4.5. Are food wastes separated and placed in appropriate containers to avoid wildlife encounters?					
4.6. Are hazardous wastes properly stored and labelled?					
4.7. Are hazardous wastes collected and disposed of properly by licensed collectors?					
4.8. Are hazardous waste containers and stationary equipment provided with drip trays and/or secondary containment, as applicable (e.g., used oil and glycol)?					
4.9. Are drip trays free of oil and water/snow/ice such that design capacity is retained?					
4.10. Is equipment in the area free of leaks, and laydowns free of staining?					
4.11. Are proper measures in place to control oil / fuel / lubricant spillage during maintenance and to control other chemical spillage, as applicable?					
4.12. Are spill kits and/or spill response materials readily available?					
4.13. Are above ground gasoline and associated product storage tanks registered (GAP # present)?					
4.14. Are storage tanks free of leaks (if double walled, ensure the inner wall is without leaks by checking the vacuum on the pressure gauge)?					

4.15. Others (please specify)				
5. Protection of Flora and Fauna				
5.1. Is the area free of wildlife (or sign of wildlife)?				
5.2. Is the area free of open containers that could collect standing water and attract/trap bats?				
5.3. Are laydowns free of unused equipment, materials, infrastructure or steep slopes that could attract nesting birds?				
5.4. Are any active nests demarcated with the appropriate buffer until fledging can occur?				
5.5. Are embankments of sedimentation ponds free of vegetation to limit attraction from waterfowl?				
5.6. Is disturbance to vegetation minimized (e.g., clearing / grubbing does not extend beyond the area required)?				
5.7. Is equipment travelling to and from Site clean of mud and debris as to not transport invasive species?				
5.8. Is the area free of invasive plant species?				
5.9. Has protection of fish and fish habitat been considered prior to any in-water work?				
5.10. Are fish screens and/or other barriers installed and maintained to prevent fish from entering water withdrawal intakes?				
5.11. Others (please specify)				
6. Soil Management				
6.1. Are organics and topsoil being separated from cleared trees and brush and stored for future use during rehabilitation?				
6.2. Are organics and topsoil stored and kept separate from subsoil and rock material?				
6.3. Are stockpiles easily accessible, on well drained ground, and away from bodies of water and standing timber?				
6.4. Are stockpile slopes constructed and maintained in lifts to achieve flatter slopes to reduce erosion?				
6.5. Are sediment control fences installed in areas where topsoil is exposed to erosion and siltation?				
6.6. Are stockpiles free of vertical or near vertical faces that could attract nesting swallows?				
6.7. Others (please specify)				

7. Resource Conservation					
7.1. Is water used for dust suppression from recycled sources wherever possible?					
7.2. Are water pipes free of leaks?					
7.3. Are materials stored in good condition to prevent deterioration and wastage (e.g., covered, separated)?					
7.4. Others (please specify)					
8. Emergency Preparedness and Response					
8.1. Are spill drums located nearby and fully stocked?					
8.2. Are vehicles equipped with a spill kit?					
8.3. Are absorbent booms located near waterbodies where potential spills from construction activities could occur?					
8.4. Others (please specify)					

** Any "No" recorded represents a potential breach of regulation and details of nonconformity (NC) shall be recorded in the* **Remarks**.

Any nonconformities (NC) shall be reported on the following page. Each NC should refer to the checklist as coded. The responsible personnel shall identify the root cause of the NC and adopt appropriate corrective actions (CA) for mitigation within an agreed time. Following implementation of CAs, the effectiveness of the CA shall be verified by the Environmental Superintendent or Coordinator.

Site Inspector: _____ Date: _____

Site Supervisor (CA Implementor): _____ Date: _____

Environmental Superintendent/Coordinator: _____ Date: _____

Root Cause Analysis and Corrective Actions

NC Reference	
Description of NC	
Root Cause of NC	
CA Adopted Target Completion Date	
Verified by Environment (Date)	

NC Reference	
Description of NC	
Root Cause of NC	
CA Adopted Target Completion Date	
Verified by Environment (Date)	

NC Reference	
Description of NC	
Root Cause of NC	
CA Adopted Target Completion Date	
Verified by Environment (Date)	

NC Reference	
Description of NC	
Root Cause of NC	
CA Adopted Target Completion Date	
Verified by Environment (Date)	

APPENDIX D

INCIDENT INVESTIGATION PROCEDURE

Incident Investigation Procedure

A trained and/or qualified supervisor or management representative and, when applicable, a member of the Occupational Health and Safety (OHS) Committee, will perform an investigation of the incident. The Incident and Investigation Form will be used to identify the causal factors, direct causes, root causes and corrective actions aimed at preventing recurrences. The corrective actions will identify the person(s) responsible for taking each action within a prescribed time period.

Copies of the investigation report will be forwarded to management and the OHS Committee for the recommended control plan to be reviewed and approved. If required, a copy will be sent to the OHS Division of ServiceNL.

Corrective action items resulting from the investigation, will be documented and tracked for completion. Each corrective action will be assigned to a person who will be responsible to ensure that the action is carried out within a prescribed time period. Implementation of action items will be monitored and reviewed by the OHS Committee. Safe work procedures will be reviewed by the OHS Committee after an incident to ensure that changes required by the investigation findings are implemented and that they meet or exceed jurisdictional requirements.

Part 1: Responsibilities

1.1 Management

- Participate in an investigation of an incident if the severity or potential severity requires action appropriate to the manager's authority.
- Investigate an incident reported by a supervisor or worker, if the severity or potential severity requires action appropriate to the manager's level of authority.
- Notify the OHS Division of Service NL of any incident required to be reported in accordance with the OHS Act and Regulations or any other applicable legislation.
- Attend investigations requiring immediate notification to the OHS Division of Service NL.
- Provide copies of investigation reports to the OHS Division of Service NL, where required.
- Review and sign off on all incident investigation reports.
- Review and approve and implement controls measures to prevent reoccurrence.
- Distribute the investigation report to appropriate levels of management and the Occupational Health and Safety Committee.
- Monitor and evaluate the effectiveness of controls

1.2 Supervisor

- Advise new and returning workers of the requirement to report all incidents.
- Complete the initial incident report.
- Investigate incidents, appropriate to their level of training and authority in a manner that is timely and appropriate to the circumstances and severity of the incident.
- Review and sign off on all incident investigation reports.
- Monitor and evaluate the effectiveness of controls.
- Communicate investigation findings and corrections to workers.

1.3 Worker

- Report all incidents to the supervisor.
- Participate in the investigation process, as appropriate.
- Provide any information that may assist in the investigation process.

1.4 Occupational Health and Safety Committee

- Ensure incident investigation procedures are followed.
- Ensure root causes are identified.
- Ensure recommendations for controls are appropriate.
- Recommend additional controls, if appropriate.
- Monitor implementation timelines.
- Monitor and evaluate corrective actions.
- Ensure communication procedures are followed.
- Monitor for trends.
- Participate in the investigation process as appropriate or were required by the OHS Division of Service NL.

1.5 OH&S Coordinator

- Ensure the Incident Investigation Procedure is followed
- Ensure that incidents and ‘near hits’ are properly recorded and reported

Part 2: Investigation Process

2.1 Initial Reporting

When an incident is reported, immediate steps must be taken to respond to the scene, in accordance with the company's emergency response procedures. Appropriate management personnel will notify the respective authorities, as required (i.e. OHS Division of Service NL, local police, utility company, site security, etc.). The immediate supervisor and other trained and authorized personnel will be responsible for securing the scene, in accordance with s.55 of the OHS Act. The direct supervisor is responsible for completing the initial incident report portion of the Incident and Investigation Report Form.

2.2 Corrective Actions in response to Direct Causes

It is often prudent following the initial reporting of an incident to take corrective actions immediately, prior to a full investigation being completed. The area of the incident must be made safe immediately. These actions will be in response to direct causes (unsafe acts and/or unsafe conditions) that are known or suspected as contributing to the incident. The direct causes and corrective actions are to be identified on the Incident and Investigation Report Form.

2.3 Incident Classification

The employer, with input from the OH&S Committee, will classify the incident based on the incident types, descriptions and definitions provided below. The investigative response to each incident will be proportional to the seriousness of the incident or the potential seriousness of the incident if it was a 'near hit'.

Incident Type	Description
Near Hit Minor (Potential FAI)	Maximum, reasonable, likely outcome if person was impacted is first aid injury
Near Hit Medium (Potential MTI)	Maximum, reasonable, likely outcome if person was impacted is Medical Treatment Injury
Near Hit Serious (Potential LTI)	Maximum, reasonable, likely outcome if person was impacted is Lost Time Injury
Near Hit Major (Potential fatality)	Maximum, reasonable, likely outcome if person was impacted is fatality
First Aid Injury (FAI)	Person (s) impacted and received first aid treatment
Medical Treatment Injury (MTI)	Person (s) impacted and received medical trea treatment other than first aid
Lost Time Injury (LTI)	Person (s) impacted and was unable to report for the next scheduled shift
Fatality	Person died as a consequence of the incident
Illness	An unhealthy condition of the mind or body
Property Damage	Loss or damage to equipment, material or structures
Environment Damage	Damage to the environment
Hazardous Product Spill	Spill of a designated 'hazardous product'
Motor Vehicle Collision	Vehicle or Mobile Equipment is involved in the incident
Other	

Definitions:

- **Environment Damage:** Includes damage to air, water, soil, ecosystems, habitat destruction and wildlife
- **First Aid Injury:** a minor injury requiring only first aid treatment.
- **Hazardous Product:** a product, mixture, material or substance that meets the criteria to be classified in one or more of the hazard classes of the Hazardous Products Act or Regulations.
- **Illness:** an unhealthy condition of the mind or body
- **Incident:** An incident is an occurrence, condition or situation arising in the course of work that resulted in or could have resulted in injury, illness, damage to health, fatality, property damage or damage to the environment. An incident may also be referred to as a 'near hit' which is an undesired event that could have resulted in any of the losses described above under slightly different circumstances.
- **Lost Time Injury:** a disabling injury where the injured person is unable to report for the next regular scheduled shift. Also, any incident that results in a broken bone.
- **Medical Treatment Injury:** Is an injury or occupational illness which is not classified as lost time, but which results in loss of consciousness or medical treatment other than first aid. Medical Treatment includes, but is not limited to:

  (a) the administration of prescription medication;

  (b) the Use of stiches, staples or glue to close a wound. Where glue is used to protect a wound (that does not require sutures) as a precaution against infection in wet environments and in place of an adhesive dressing, this may be considered a first aid treatment if supported in writing by a doctor or registered nurse;

  (c) the use of devices with rigid stays or other systems designed to immobilize parts of the body;

  (d) use of eye patches (except for use as a precautionary measure, and not extending into the next shift).

  Exceptions: Medical treatment does not include:

  - visits to a physician or other licensed health care professional solely for observation or counselling,
  - the conduct of diagnostic procedures, such as x-rays, blood tests, and the administration of prescription medications used solely for diagnostic purposes (eg. eye drops to dilate pupils), or as a single course administered on first visit for a minor injury or discomfort.
- **Motor Vehicle Collision:** occurs when a vehicle/mobile equipment collides with another vehicle/ mobile equipment, pedestrian, animal, building or other stationary obstruction such as a tree or pole.
- **Near Hit (no injury):** an undesired event that, under slightly different circumstances, could have resulted in personal injury or fatality.
- **Property Damage:** loss or damage to vehicles, tools, equipment, material, buildings, structures, plant, and/or products.

2.4 Investigation Overview
An effective investigation can identify the factors that caused or contributed to the incident and provide opportunity for appropriate control measures to be implemented, to help prevent future incidents. An investigation is a systematic process conducted to prevent recurrence, not to find fault or place blame. The investigation will determine the sequence of events, relevant conditions, direct causes, causal factors and root causes.

2.5 Investigation Team
An employer representative will be assigned to lead the investigation. The investigation will be conducted by people who have knowledge and/or experience with investigations and root cause analysis. When practical and reasonable to do so, a member of the Occupational Health and Safety Committee should participate in the investigation process. The investigation team will include those appropriate to the severity or potential severity and type of incident. The team may include people not under the scope of this policy such as a contractor representative if the incident occurred on a Marathon Gold NL worksite.

2.6 Investigation Process
The incident site must be visited. Photographs, sketches, witness statements and other evidence collection should be undertaken promptly. Incidents requiring immediate notification to the OHS Division of Service NL, will require communication with a provincial investigator with regard to site access and the preservation of evidence.

Witnesses and other persons who have details regarding the incident must be interviewed and a record of each interview must be made (statement, report, email, etc..)

The investigation team will determine a sequence of events to cover relevant actions that occurred leading up to, during and immediately following the incident. Relevant conditions (proven facts) and Direct Causes will be identified. When all pertinent information has been gathered then a root cause analysis will be conducted. This analysis will identify Causal Factors and Root Causes. Each Causal Factor will be analyzed using a Taproot Root Cause Tree form and the Root Cause Tree Dictionary to determine Root Causes.

Marathon Gold NL's Incident and Investigation Form will be used to document the investigation.

2.7 Recommended Corrective Actions
The investigation team will develop recommendations of corrective actions in response to Direct Causes and Root Causes that were identified during the investigation.

2.8 Investigation Report
The findings of the investigation as well as recommendations for corrective actions will be recorded on the Incident Investigation Report Form. The form must be signed by the investigation team lead. A copy of the investigation report will be distributed by the investigation team to senior management for review and approval/implementation of corrective actions. Management will forward a copy of the completed investigation form to the Occupational Health and Safety

Committee for review. Any information that could lead to the identification of the involved parties or other personal or confidential information shall be removed from the report prior to distribution to the committee or other groups.

The Occupational Health and Safety Committee will review the reports for completeness and determine if additional investigation, corrective actions or distribution is required. All investigations that require notification to the OHS Division of Service NL will be forwarded by Marathon Gold Corporation after review by the Occupational Health and Safety Committee.

Part 3: Training

All managers, supervisors and Occupational Health and Safety Committee members must be familiar with Marathon Gold NL's investigation management system, including Investigation Policy and this procedure. All personnel in a position to lead an investigation team will be provided with training in the investigation process.

The requirement to report and investigate incidents will be covered during employee and contractor orientation.

Part 4: Records

Incident reports/records remain open until the recommendations made as a result of the investigation are fully implemented. Copies of the signed incident investigation reports and supplementary information will be maintained by management in a secure area.

PART 5: Review

This procedure should be reviewed annually, or more frequent when revision is required. The Occupational Health and Safety Committee should be involved in this review.

Incident investigation historical records should be reviewed in a timely way by the Occupational Health and Safety Committee in order to:

- Confirm that actions were implemented and the report closed
- Determine if the actions were effective in prevention of recurrence
- Identify trends
- Determine areas for improvement

APPENDIX E

INCIDENT AND INVESTIGATION REPORT FORM

Incident and Investigation Report Form

PART 1: INCIDENT REPORT

1.1 Incident Details

Employer's name	Date of Incident	Time of Incident
Short Description of Incident		
Location of Incident	Date Reported	Time Reported
Reported By:		Phone number
Reported To:		Phone number

1.2 Injured and Involved Persons

Last name	First name	Involvement
a)		
b)		
c)		
d)		

1.3 Incident Classification

- ☐ Near Hit Minor-FAI
- ☐ Near Hit Medium-MTI
- ☐ Near Hit Serious-LTI
- ☐ Near Hit Major- F
- ☐ First Aid Injury (FAI)
- ☐ Medical Treatment Injury (MTI)
- ☐ Lost Time Injury (LTI)
- ☐ Fatality (F)
- ☐ Illness
- ☐ Property Damage
- ☐ Environment Damage
- ☐ Hazardous Material Spill
- ☐ Motor Vehicle Collision
- ☐ Other _____

1.4 Sequence of Events (things that happened, action steps, active verbs)

Required in Initial Report. Update in Investigation Report if necessary, section 2.2. Describe events leading up to, during and immediately after the incident.

1.5 Motor Vehicle Collision Details

1.5.1 Marathon Gold NL Vehicle or Property Involved

Vehicle or Property Identification	Description of Damage	Estimate of Damage
a)		
b)		

1.5.2 Third Party Owned Vehicle or Property Involved

Vehicle or Property Identification	Owner and contact #	Insurer & Policy #
a)		
b)		
Operator & Contact #	**Description of Damage**	**Estimate of Damage**
a)		
b)		

1.5.3 Police Report Details

Reported to Police (Yes or No) & agency	Police name & badge #	Report/File #	Copy of Report attached (yes or no)

1.6 Direct Causes: What specific personal or job/system factors caused or could cause, the incident?

Direct Cause	Remarks
1.	
2.	
3.	
4.	

1.6.1 Direct Causes Reference List (check all that apply and list above)

Unsafe Acts/Actions	Unsafe Conditions
□Operating equipment without authority	□Inadequate guards or barriers
□ Worker fatigue	□Inadequate or improper protective equipment
□ Operator not deemed competent	□Defective tools, equipment or materials
□ Inadequate training	□Congestion or restricted action
□Failure to warn	□Inadequate warning system

▫Failure to secure ▫Operating at improper speed ▫Making safety devices inoperable ▫Removing safety devices ▫Using defective equipment ▫Failure to use PPE ▫Improper loading ▫Improper placement ▫Improper lifting ▫Improper position for task ▫Servicing equipment in operation ▫Horseplay ▫Under influence of alcohol and/or other substances ▫Other _____	▫Fire and explosion hazard ▫Poor housekeeping, disorder ▫Hazardous environmental conditions, gases, smoke, dusts, fumes ▫Noise exposure ▫Radiation exposure ▫High or low temperature exposure ▫Inadequate or excess illumination ▫Inadequate ventilation ▫Other _____ ▫Other _____ ▫Other _____ ▫Other _____

1.7 Corrective Actions in response to Direct Causes

Corrective Action (Required in Preliminary Report and Interim Corrective Action Report. Update in Full Report, if necessary.)	**Action assigned to**	**Expected completion date** (yyyy-mm-dd)	**Completed date** (yyyy-mm-dd)
a)			
b)			
c)			
d)			
e)			

1.8 Report Type

☐ **Initial Report**	☐ **Corrective Action Report for Direct Causes**	☐ **Investigation Report**	☐ **Corrective Action Report for Root Causes**
Report date (yyyy-mm-dd)	Report date (yyyy-mm-dd)	Report date (yyyy-mm-dd)	Report date (yyyy-mm-dd)
Prepared by:		Prepared by:	

PART 2: Investigation Report

2.1 People Involved/Witnesses

Last name	**First name**	**Involvement**
a)		
b)		

Last name	First name	Involvement
c)		
d)		
e)		

2.2 Sequence of Events (things that happened, action steps, active verbs)

Required in Initial Report, section 1.4. Update in Investigation Report if necessary. Describe events leading up to, during and immediately after the incident.

2.3 Relevant Conditions

Conditions are proven facts, amplifying info about an event, are not action steps, Eg. Employee did not have specific training, temperature, no guarding, no safe work procedure, etc.).

2.4 Investigation Summary

PART 3: Root Cause Analysis. A TapRoot Root Cause Tree form is to be completed and attached for each Causal Factor and the Root Cause Tree Dictionary is to be used.

3.1 Causal Factors: Mistakes or failures that, if corrected, could have prevented the incident from occurring or would have significantly mitigated the consequences.

Causal Factor	Remarks
1.	
2.	
3.	
4.	

3.2 Root Causes: 'The absence of best practices or the failure to apply knowledge that would have prevented the problem or significantly reduced the likelihood or consequences of the incident'

Equipment Difficulty Types	**Root Causes**
Tolerable Failure	
Design	
Equipment/Parts Defective	
Preventative/Predictive Maintenance	
Repeat Failure	
Human Performance Difficulty Types	**Root Causes**
Individual Performance	
Team Performance	
Management System	
Natural Disaster/sabotage Types	**Root Causes**
Other Types	**Root Causes**

Part 4: Corrective Actions in response to Root Causes

Corrective Action	Action assigned to	Expected completion date (yyyy-mm-dd)	Completed date (yyyy-mm-dd)
a)			
b)			
c)			
d)			
e)			

Consider Improvements to the following:

□ Design	□ Procedure
□ Procurement	□ Training
□ Handling	□ Communications
□ Storage	□ Human Engineering
□ Quality Control	□ Work Direction
□ Preventative/predictive maintenance	□ Management System

Part 5: Accountabilities

5.1 Investigation Team

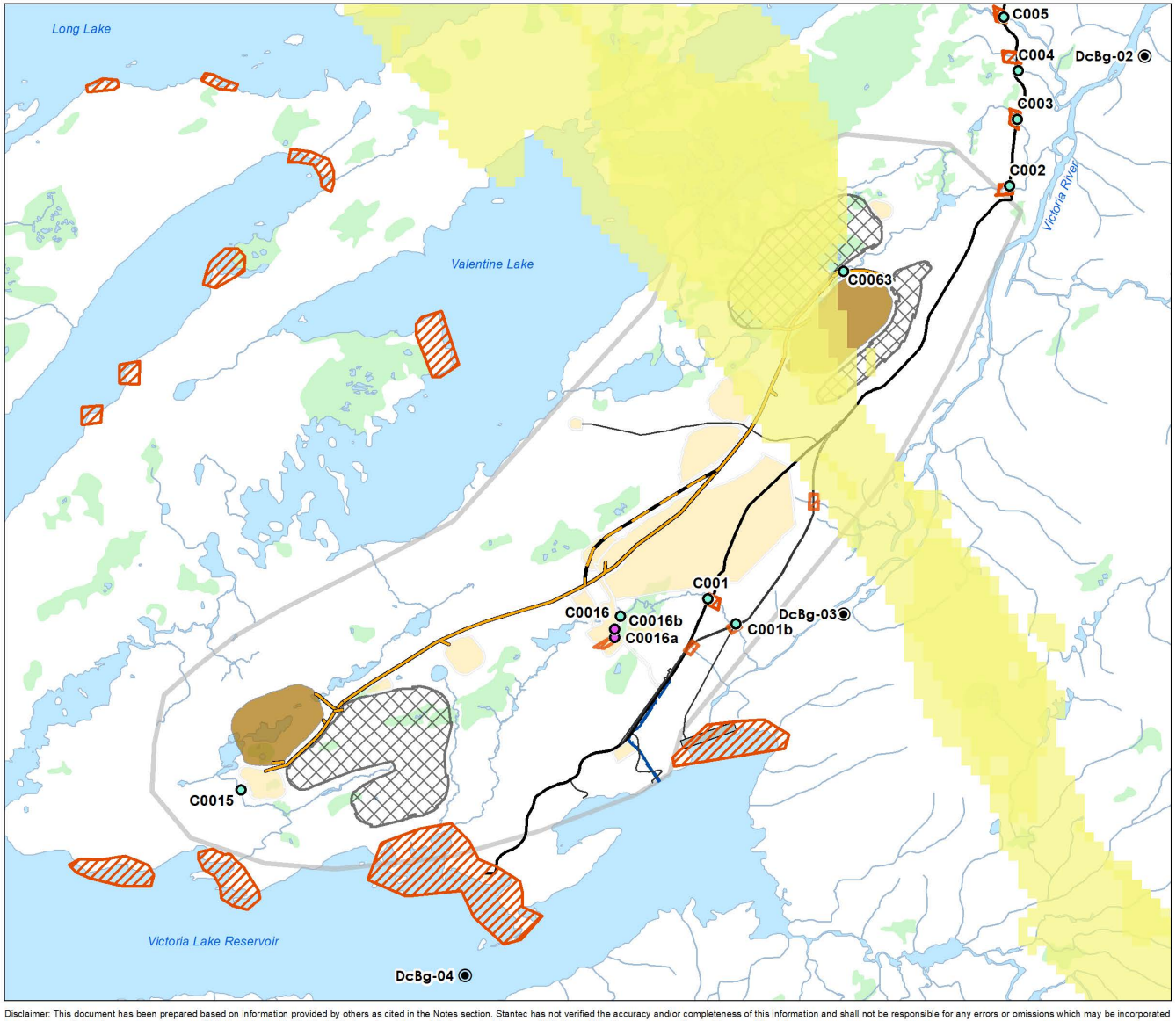
Representative	Name	Job title	Signature (optional)	Date signed (yyyy-mm-dd)
Employer representative				
Worker representative				
Other				
Other				

5.2 Review and sign-off

Representative	Name	Job title	Signature	Date signed (yyyy-mm-dd)
Employer representative				
Worker representative				
Manager				

APPENDIX F

MAPBOOK OF ENVIRONMENTAL SENSITIVITIES



Stantec

Stream Crossing
- Fish Habitat
- Not Fish Habitat

Archaeological Site

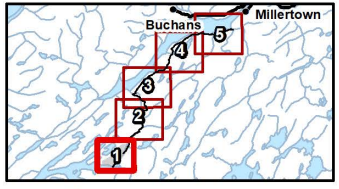
Archaeological Potential Area

Estimated utilization distribution and movement routes for GPS collared caribou in the Buchans caribou herd during migration

Moderate to High Use

Mine Features
- Initial Haul Road (years 1 to 6)
- Future Haul Road (years 5+)
- Access Road
- Site Road
- Pipeline
- Open Pit
- Waste Rock Pile
- Other Mine Infrastructure
- Mine Site

Other Features
- Watercourse
- Victoria Dam
- Wetland
- Waterbody

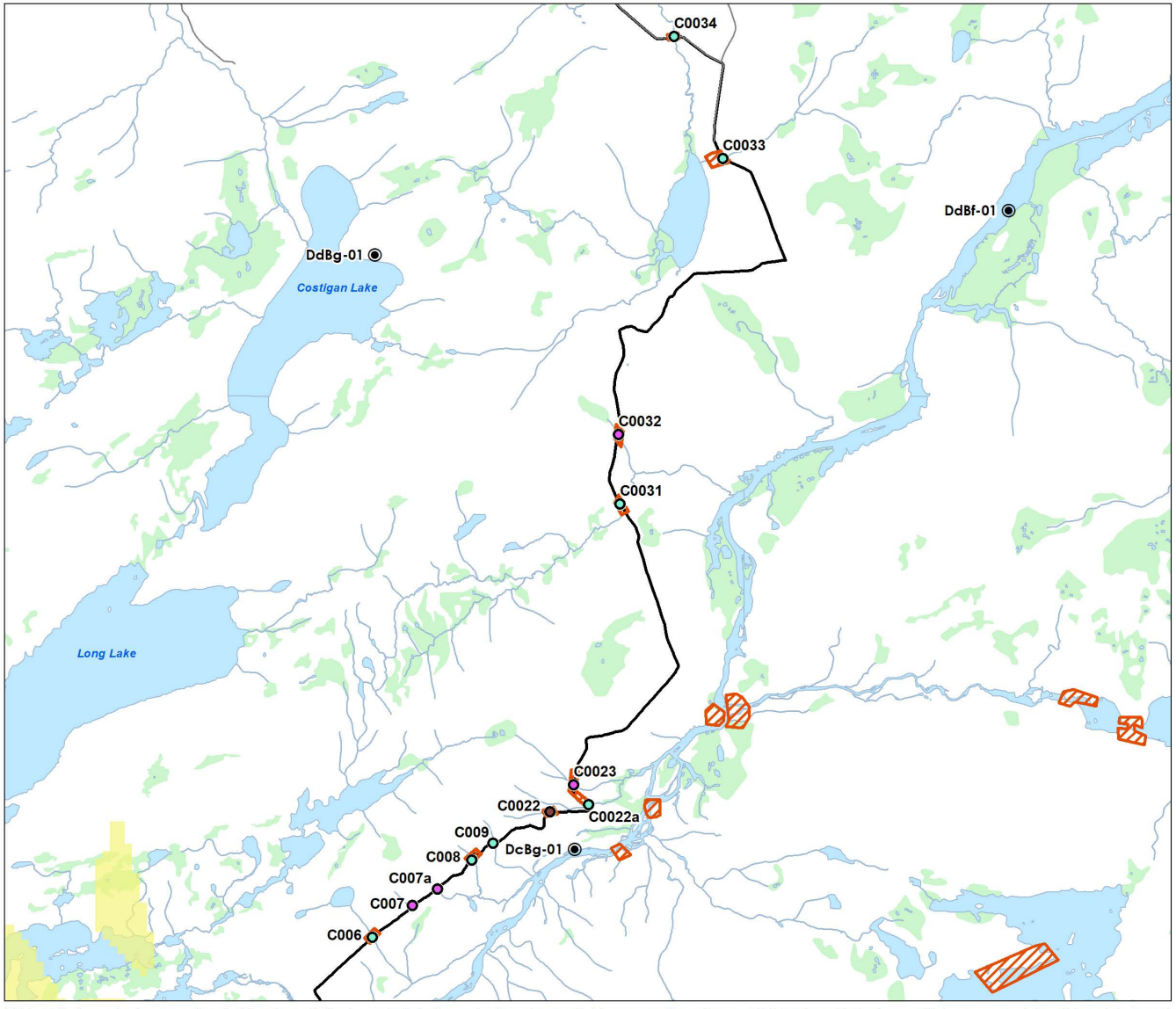


N

0 0.5 1
Kilometres

Project Location Map 1/5
Valentine Lake
Central Newfoundland, CA

Client/Project 121416408_102b
Marathon Gold Corporation
Valentine Gold Project



Stantec

Stream Crossing
- Fish Habitat
- Not Fish Habitat
- Visual Assessment Only

Archaeological Site

Archaeological Potential Area

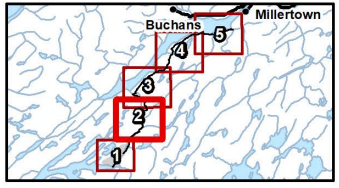
Estimated utilization distribution and movement routes for GPS collared caribou in the Buchans caribou herd during migration

Moderate to High Use

Mine Features
- Access Road
- Open Pit
- Waste Rock Pile
- Other Mine Infrastructure

Other Features
- Resource / Recreation Road

Other Features
- Watercourse
- Wetland
- Waterbody



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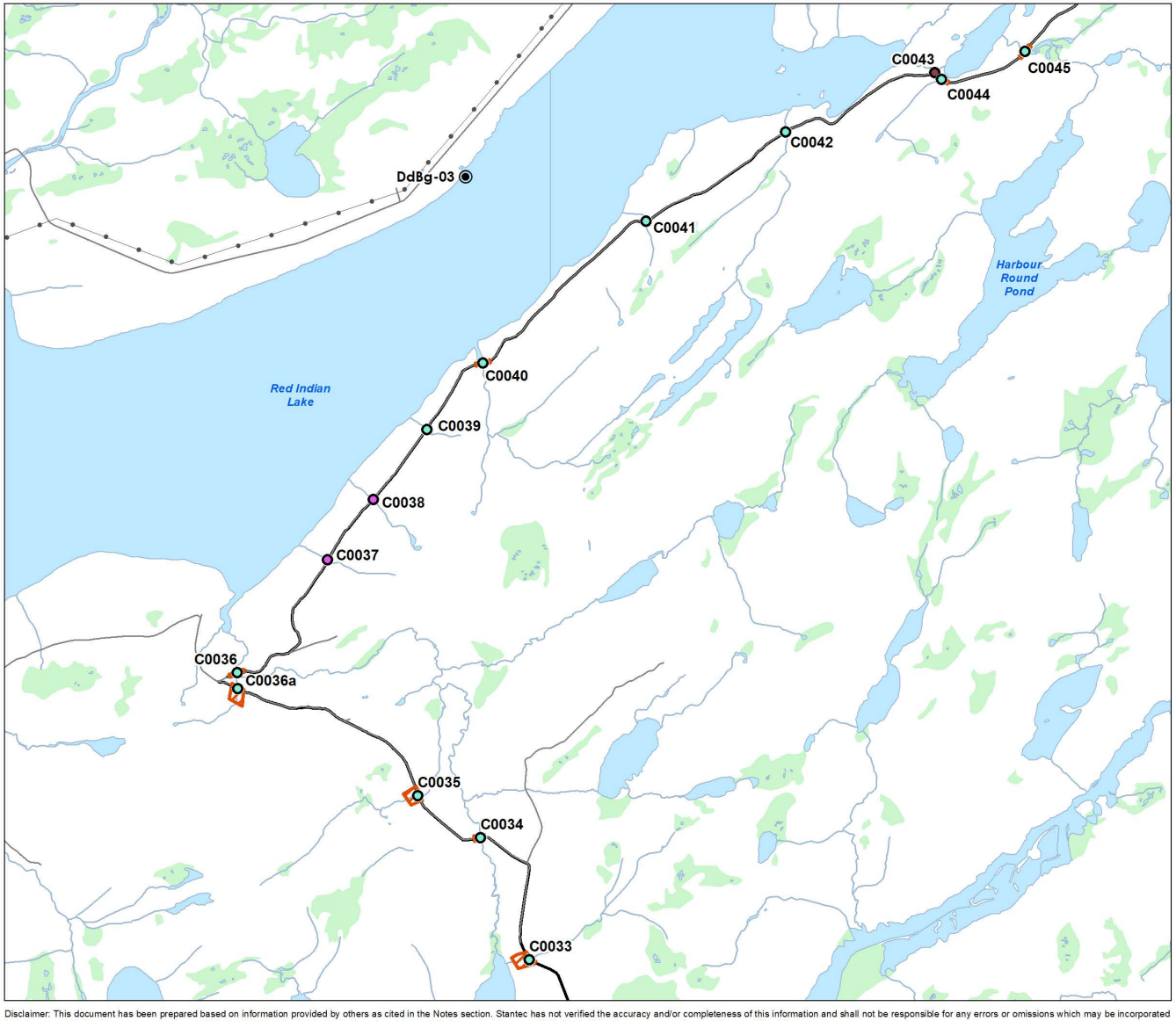
Project Location
Valentine Lake
Central Newfoundland, CA

Map 2/5

Client/Project
Marathon Gold Corporation
Valentine Gold Project

121416408_102b



Stantec

Stream Crossing
- Fish Habitat
- Not Fish Habitat
- Visual Assessment Only

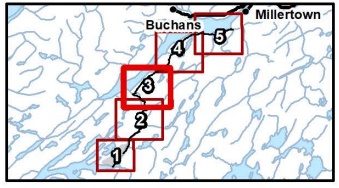
Archaeological Site

Archaeological Potential Area

Mine Features
- Access Road
- Open Pit
- Waste Rock Pile
- Other Mine Infrastructure

Other Features
- Resource / Recreation Road
- Transmission Line

Other Features
- Watercourse
- Wetland
- Waterbody



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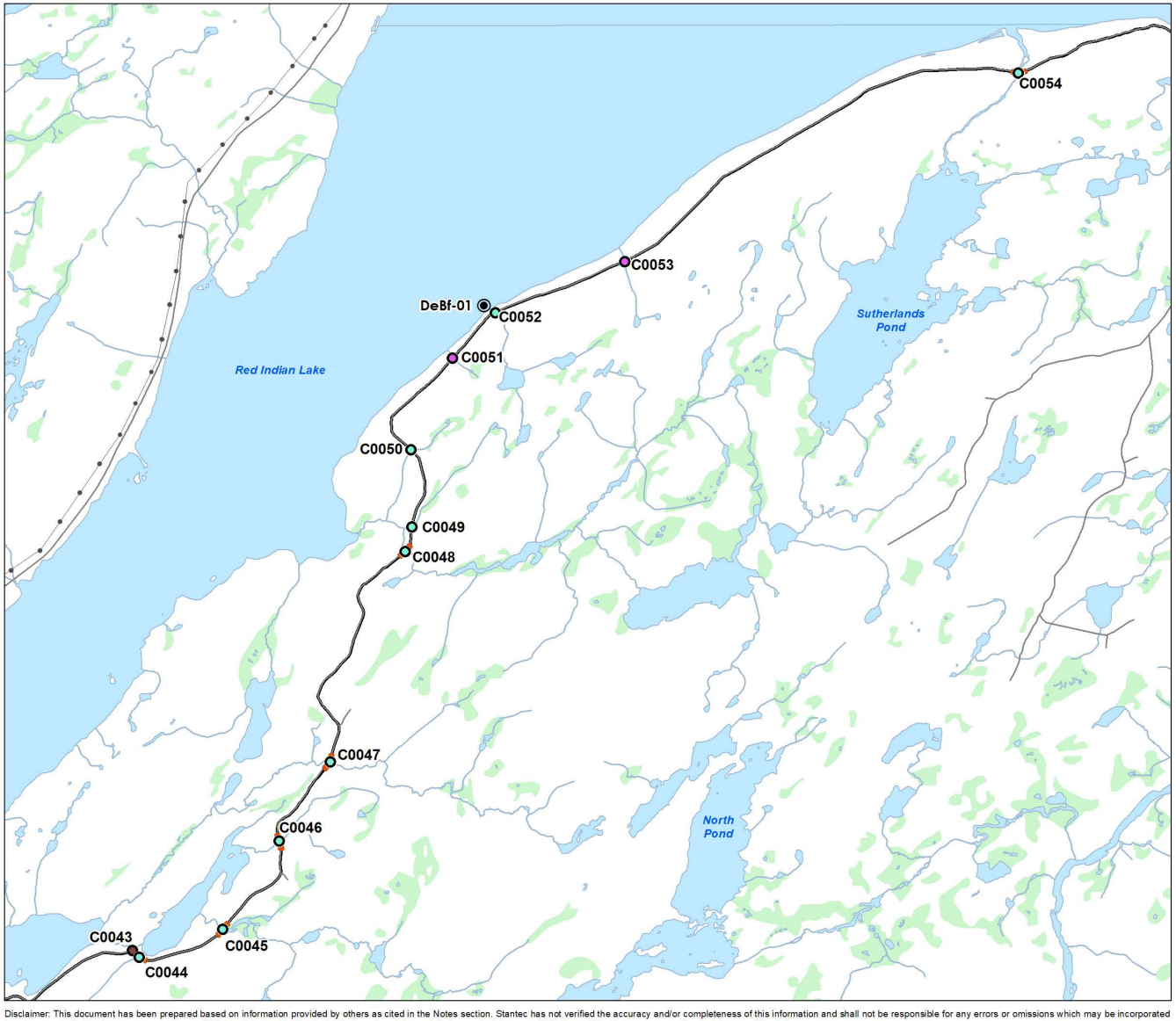
Project Location Map 3/5
Valentine Lake
Central Newfoundland, CA

Client/Project 121416408_102b
Marathon Gold Corporation
Valentine Gold Project



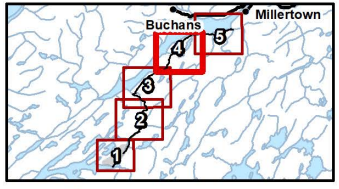
Stantec

Stream Crossing
- Fish Habitat
- Not Fish Habitat
- Visual Assessment Only
- Archaeological Site
- Archaeological Potential Area

Mine Features
- Access Road
- Open Pit
- Waste Rock Pile
- Other Mine Infrastructure

Other Features
- Resource / Recreation Road
- Transmission Line

Other Features
- Watercourse
- Wetland
- Waterbody



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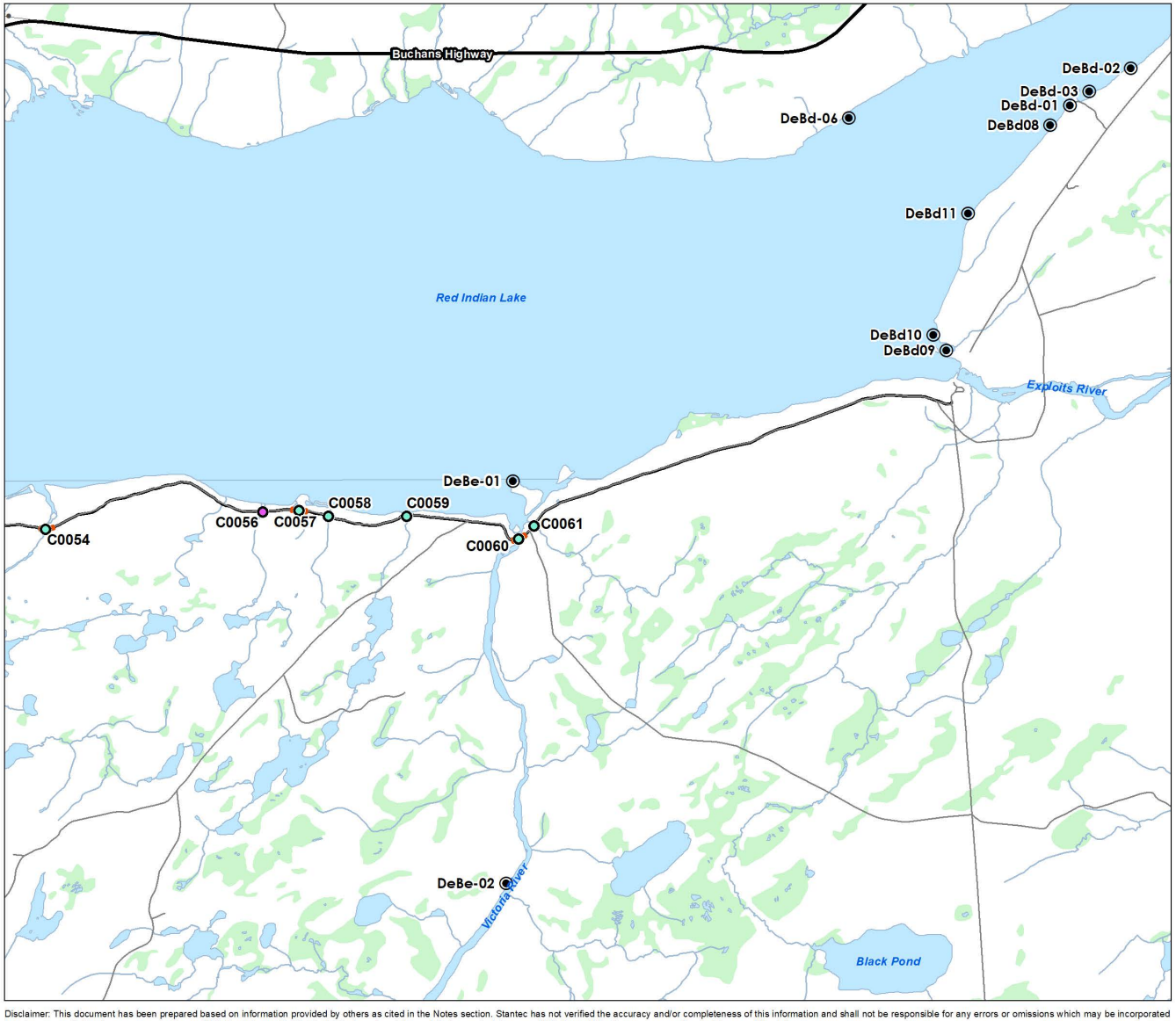
Project Location Map 4/5
Valentine Lake
Central Newfoundland, CA

Client/Project 121416408_102b
Marathon Gold Corporation
Valentine Gold Project



Stantec

Stream Crossing
- Fish Habitat
- Not Fish Habitat

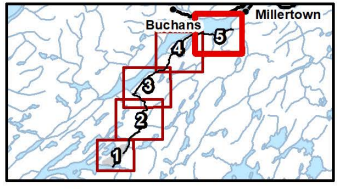
Archaeological Site

Archaeological Potential Area

Mine Features
- Access Road
- Open Pit
- Waste Rock Pile
- Other Mine Infrastructure

Other Features
- Highway
- Resource / Recreation Road
- Transmission Line

Other Features
- Watercourse
- Wetland
- Waterbody



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Kilometres

Project Location
Valentine Lake
Central Newfoundland, CA

Map 5/5

Client/Project
Marathon Gold Corporation
Valentine Gold Project

121416408_102b

APPENDIX G

TRAFFIC MANAGEMENT PLAN

VALENTINE GOLD PROJECT

Construction

Traffic Management Plan

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LIST OF FIGURES

1.0 INTRODUCTION

Marathon Gold Corporation (Marathon) is proposing to develop an open pit gold mine near Valentine Lake, the Valentine Gold Project (the Project). Marathon is committed to reducing the impact of its activities on the local environment and community and is developing an Environmental Protection Plan (EPP) for Project construction. This Traffic Management Plan is a component of the Valentine Gold Project Construction EPP.

1.1 PROJECT OVERVIEW AND CONTEXT

The Project is located in a rural area of central Newfoundland, southwest of the Town of Millertown, Newfoundland and Labrador (Figure 1). The Project consists of two open pits, waste rock piles, crushing and stockpiling areas, conventional milling and processing facilities, a tailings management facility, staff accommodations, and supporting infrastructure including roads, on-site power lines, buildings and water and effluent management facilities. The Project site is currently accessible year-round by an existing public access road (mine access road) that has been maintained by Marathon since 2010. The existing mine access road will be upgraded and maintained as part of Project construction and operation.

Project construction is anticipated to commence in 2022 pending regulatory approvals. The construction phase is expected to take place over a period of approximately 20 months, operating 24 hours a day, seven days a week on a 12-hour shift basis.

The economy of central Newfoundland was built on natural resource-based industries, particularly forestry and mining. The towns closest to the Project, Buchans and Millertown, were founded in the early 1900s in support of mining and logging activities in the area and continued to support these industries until the 1980s. Other land and resource use in the area includes commercial forestry, multiple hydroelectric developments, mineral exploration, outfitting, cabins, harvesting such as trapping, hunting and fishing as well as recreational use such as hiking, boating, snowmobiling and all-terrain vehicle use. Since the closing of the Abitibi-Bowater Inc.'s pulp and paper mill in Grand Falls-Windsor in 2009, forestry in the area has decreased. This Project is anticipated to result in substantial benefits to the local economy, including employment and contracting and business opportunities.

The measures within this Traffic Management Plan will serve to reduce impacts on regional traffic during the construction phase of the Project.

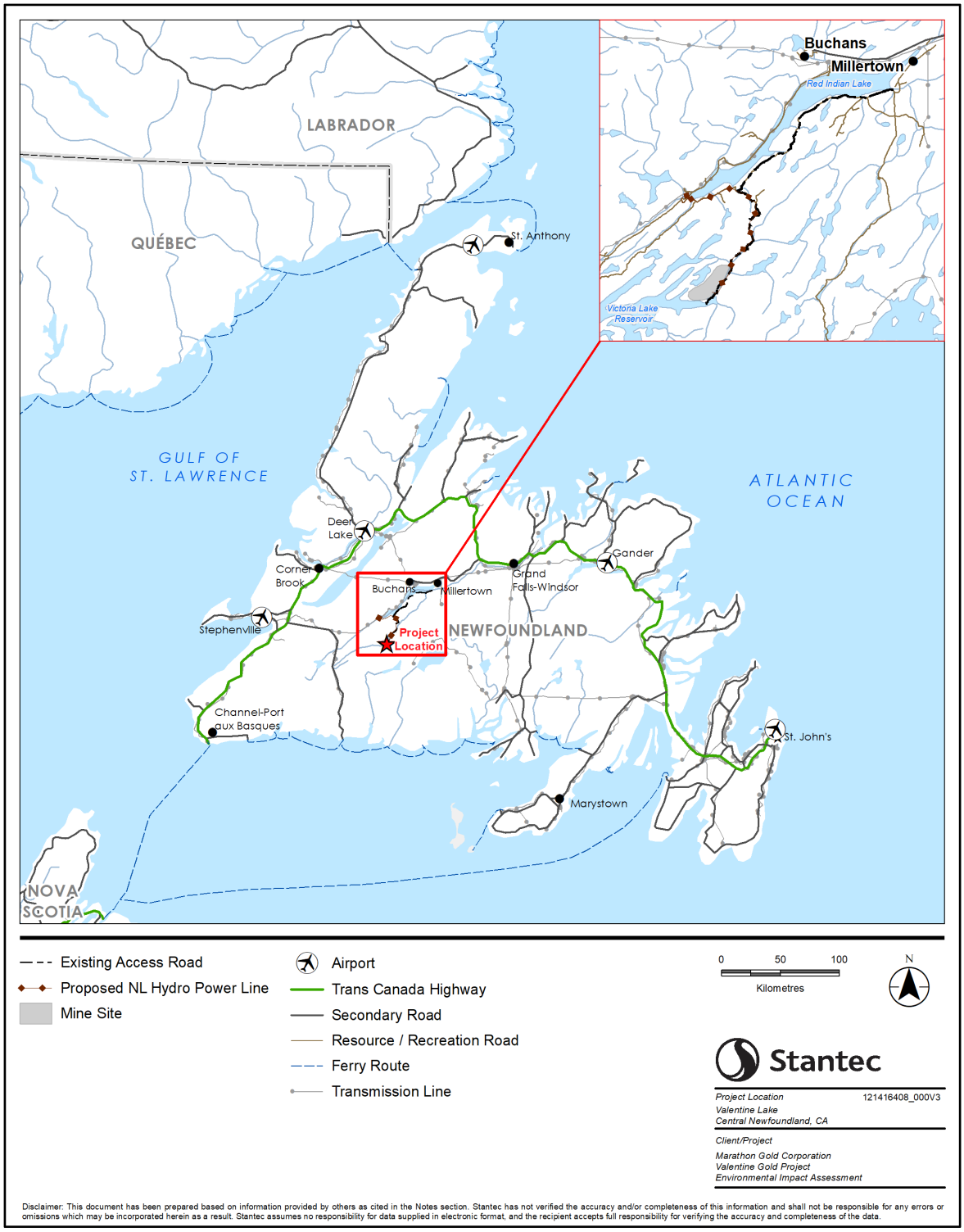

Figure 1 Location of Valentine Gold Project

1.2 TRANSPORTATION NETWORK

The Trans-Canada Highway (Route 1) crosses the Island of Newfoundland from east to west connecting the major populated centres, airports and seaports. Portions of the highway are a 4-lane expressway while other portions transition to a 2-lane controlled access highway. The Trans-Canada Highway through the local area is a major transportation route and capable of accommodating transportation demands associated with the Project.

It is anticipated that most materials, equipment, and supplies for Project construction will be brought to the Project site by road from larger communities in Newfoundland, such as Grand Falls-Windsor and Gander. However, some materials, equipment, and supplies may need to be brought in from outside the Island and may be delivered by air to airports in Deer Lake or Gander. They may also be delivered from outside the province on truck via the Marine Atlantic-operated ferry which connects North Sydney, Nova Scotia with Port-aux-Basques on the west coast of Newfoundland.

During construction, an estimated average of six vehicles per day associated with the Project, including delivery of goods and buses for the shuttle system are estimated on the road network. On staff rotation days an estimated peak of 18 vehicles per day is expected. This increase in traffic volume can be managed to avoid adverse impacts to the existing road network.

The primary road network that will be used to access the site by Project-related vehicles includes Route 370 (Buchans Highway), Millertown Highway and the mine access road (Figure 2). Alternate access routes are available in the event that the primary access route is unusable (e.g., forest fire, bridge construction, or damage), including via Buchans along the north side of Red Indian Lake, and from the west via Burgeo Highway over to Lloyd's River.

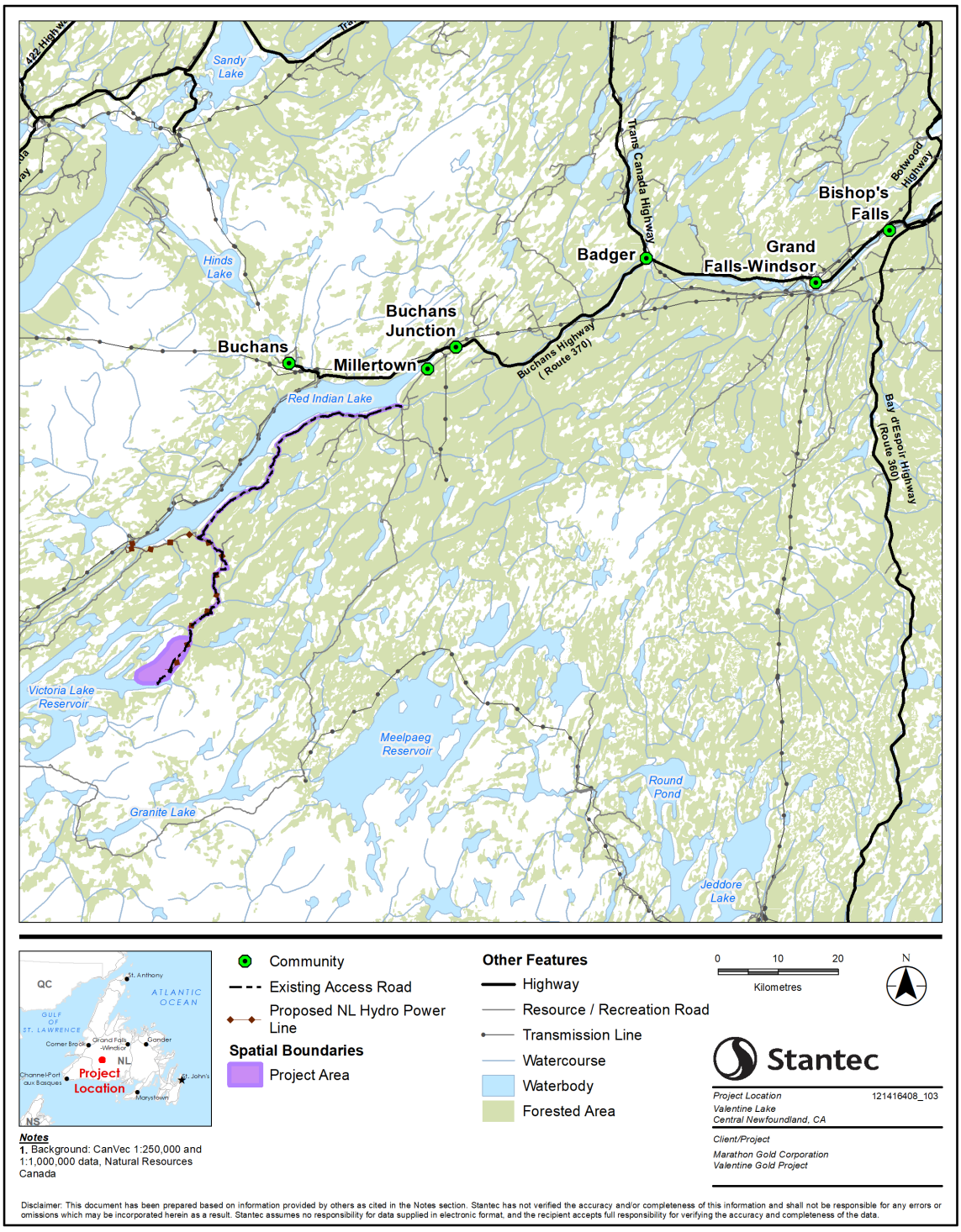

Figure 2 Project Area and Surrounding Road Network

1.3 PRIMARY ROAD NETWORK

The primary road network includes the highways and roads that will be the main access to the Project Site and used by Project-related vehicles. This includes Route 370 (Buchans Highway), Millertown Highway, and the mine access road (Figure 2).

1.3.1 Route 370 – Buchans Highway

Route 370 – Buchans Highway is a rural undivided two-lane, two-way highway with a posted speed of 80 km/h. The portion of the Buchans Highway forming part of the primary road network for the mine site connects to the Trans-Canada Highway at Badger, continuing southwest to Buchans Junction. Along with the Trans-Canada Highway, Highway 370 through the local area is a major transportation route capable of accommodating transportation demands associated with the Project.

1.3.2 Millertown Highway

The Millertown Highway is a rural undivided two-lane, two-way highway with a posted speed of 50 km/h. The highway connects to Highway 370 at the community (Local Service District) of Buchans Junction and extends 6 km southwest to the Town on Millertown.

1.3.3 Mine Access Road

Primary access to the mine site is via an existing Class D gravel, public road extending south from Millertown approximately 88 km to Marathon's existing exploration camp. The road has a posted speed limit of 50 km/h. The first 8 km of the roadway leaving Millertown will be operated and maintained by the province of Newfoundland and Labrador. Marathon will upgrade and maintain the remainder of the mine access road, a distance of approximately 76 km to the primary site access gate. This portion of the mine access road commences southwest of the Exploits River Bridge, just south of the Millertown Dam on Red Indian Lake. Public road access will be maintained to the Victoria Lake Reservoir, which is also the route by which NL Hydro access the Victoria Dam.

The mine access road will be upgraded to a Class A gravel road with a standard 7.3 m wide top driving surface with appropriately sized cross culverts, and improvements made to ditches as necessary. Aggregate material for the road upgrade will be sourced from small existing borrow pits along the length of the roadway or other sources (including suitable waste rock from the Project) and will therefore not contribute to an increase in vehicular traffic in nearby communities.

Road maintenance or upgrades will require that one lane remain open to traffic and signage warning of construction activities be placed at appropriate distances from the construction. Where full road closures are required for bridge or culvert work, etc., proper scheduling of these activities will be required to ensure traffic is not impeded to and from the mine site. Public notifications, including notices to potential cabin owners, and other resources users (e.g., outfitters, forestry companies) will be issued in advance of and during the work (Section 3.0).

1.4 SCOPE

This document describes the key aspects of traffic management and controls to be implemented by Marathon associated with site access, traffic routing and management with respect to vehicle and employee transportation during the construction phase for the Project. The requirements under this Plan apply to Marathon's staff, contractors and consultants. This plan focusses on the primary road network for the Project, comprising the mine access road and traffic movement through Buchan's Junction and Millertown (Section 1.3).

1.5 OBJECTIVE

Public, employee and contractor safety is the primary goal of this Traffic Management Plan. Specific objectives of the Plan and associated measures to help achieve this goal are to:

- Implement traffic management measures during the construction phase of the Project to manage and reduce the impact of traffic on the environment
- Detail traffic management responsibilities
- Maintain an effective response mechanism to deal with issues and complaints
- Describe the access route for traffic generated by the Project and the traffic management requirements associated with the management of the mine access road
- Provide details of planned road upgrade works and responsibilities for maintenance of the mine access road
- Outline measures to be implemented to mitigate Project-related traffic and associated impacts
- Outline the roles and responsibilities for traffic management
- Describe the process for incident reporting
- Implement driver safety, competence and awareness training
- Detail preventative measures for Project-related impacts
- Complete ongoing review and revisions to this TMP

2.0 TRAFFIC MANAGEMENT AND MITIGATION MEASURES

This section outlines the measures that will be implemented throughout the construction phase to mitigate potential traffic impacts.

2.1 PROACTIVE MEASURES FOR INCLEMENT WEATHER

The Construction Management Team in consultation with the Safety Health and Emergency Response Superintendent will keep informed of upcoming weather conditions and weather warnings and notify the Safety Health and Emergency Response Superintendent / Coordinator when it is highly probable that weather could affect safe movement of vehicles. The Safety Health and Emergency Response Superintendent / Coordinator will notify the people under their responsibility of the impacts of weather on

the traffic conditions by radio, telephone or toolbox meetings; and advise appropriate action including delaying travelling to or from the site. The type of weather conditions could include severe rain, hail, fog and heavy snowfall or icy conditions (e.g., freezing rain).

2.2 CODE OF CONDUCT FOR DRIVERS

Drivers of all vehicles that have been engaged by Marathon must adhere to the following *Code of Conduct for Drivers*:

- Abide by Newfoundland and Labrador Department of Transportation and Infrastructure (NLDTI) road rules and vehicle regulations
- Operate in full compliance with this Traffic Management Plan
- Respect the rights of others, including drivers and pedestrians, to use and share the road space
- Maintain a high level of courtesy
- Maintain a safe following distance between vehicles
- Turn off flashing/rotating beacons when on public roads
- Confirm that the vehicle is clean and in good mechanical condition to reduce environmental impacts
- Avoid travelling in convoys where possible unless under approved escorts
- Follow the designated access routes for the Project

2.3 SHUTTLE BUS SYSTEM

The travel time to the mine site from Millertown is approximately two hours. To reduce increases in traffic volumes and lengthy daily commutes to the site by staff, which could result in a health and safety risk, Marathon will provide a mandatory bus system. The bus system will transport staff from designated communities to the mine site with a return trip at the end of their work rotations. Park and ride parking lots will be established in designated communities to allow Marathon staff to leave their vehicles and transfer to a bus for transport to the on-site accommodations camp. Drop off and pick up points established in nearby communities versus one large parking area will help to mitigate an increase in traffic volumes associated with staff transportation to and from the mine site. It is estimated that the peak number of vehicles per day during construction will occur on staff rotation days at 18 vehicles per day.

Construction workers will work for a three-week rotation with one week off and a weekly rotation change. Rotation changes will be scheduled so that workers do not arrive to and leave the site at the same time, limiting Project-related demands on both road and air services and infrastructure. Arrivals and departures of buses will also be scheduled to occur earlier than the existing observed morning peak hour for local traffic and later than the existing observed afternoon peak hour, if necessary.

2.4 ROAD SAFETY

Guiding principles that will be used to manage safety risks are described in the following sub-sections.

2.4.1 Driver Education

Driver education, such as driver safety training, and advisements of updates to the TMP will assist to improve both driver and general community safety. Driver education will be delivered via employee orientation program, toolbox meetings and safety briefings.

2.4.2 Vehicle Permits/Oversized Loads

Heavy vehicle movements will adhere to the posted load limits for each route used. Where over-dimensioned loads/vehicles are required, the loads will be broken down to bring them within the acceptable dimensions. If over-dimensioned loads are unavoidable, a review of the intended haul route will be completed. Potential impacts will be identified and either addressed via physical improvements to infrastructure, such as roads or bridge structures, or scheduling of trips during low volume traffic hours. Necessary permits will be obtained, and relevant communities and governing bodies will be notified prior to movement of oversized loads. A traffic control plan will be prepared to describe the method(s) of controlling traffic adjacent to or around the over-dimensioned vehicle. This would include details relating to pilot and trailing vehicles or police escort (if required), as well as vehicle mounted traffic control signs.

2.4.3 Managing Driver Fatigue

Fatigue is an important risk factor in driver safety. Risk of driver fatigue for shift workers will be in-part managed by the shuttle bus system and on-site accommodation camp. However, there are occasions where self-driving may be required, particularly for contractors and consultants. Education regarding fatigue management will be provided as part of the orientation program.

2.5 PEDESTRIAN SAFETY

Increased traffic volumes and the potential for an increase in the size of vehicles traveling through Millertown, Buchans Junction, and other communities as applicable, raises the concern of public safety. Drivers engaged by Marathon are required to act responsibly when travelling through built up areas such as towns and will yield to pedestrians and other sensitive road users (e.g., cyclists, ATV users, snowmobile drivers), reducing vehicle speed in their presence. To provide a high level of courtesy while driving through such built up areas, drivers will:

- Reduce the use of fog lights and high beams
- Reduce the use of compression brakes
- Use designated drop off and pick up parking areas and keep the areas safe and clean
- Be conscientious of the potential risks to vulnerable users, such as pedestrians and cyclists

Education, in the form of Marathon informing the community of the practices at the mine and associated traffic will help to raise community awareness. Driver safety training, to be included as part of an orientation program, will educate drivers on the expectation that posted speed limits will be respected. Enforcement is another important strategy to help improve pedestrian environments and hold drivers

accountable. Enforcement campaigns will be conducted by Marathon periodically and if complaints are reported relating to disregard for posted speed limits or public safety. Investigations into traffic offenses may result in disciplinary measures (Section 4).

2.6 DUST CONTROL

Dust emissions from the mine access road will be controlled through the application of water in accordance with the Valentine Gold Project Construction EPP. Traffic related to the Project travelling on the road will be in accordance with the code of conduct for drivers and posted speed limits.

2.7 MITIGATION MEASURES FOR ROUTINE ACTIVITIES

Table 1 describes mitigation measures for Project traffic activities and summarizes the responsibilities and timing associated with these measures.

Table 1 Traffic Control Measures and Responsibilities

Traffic Control Measures	Responsibility	Timing
Planning and Design		
Mine access road will be upgraded to Class A with 7.3 m wide top travel surface with proper ditching and appropriately sized culverts, in accordance with, and approval by NLDTI.	Construction Manager	As required
New signage will be installed along the mine access road speed limit signs, road narrows, curve ahead in accordance and approval by NLDTI.	Construction Manager	As required
Mileage markers will be installed along the mine access road as reference in the event of a breakdown or accident.	Construction Manager	As required
Driving safety, will be part of employee orientation program.	Safety Manager/Superintendent	Ongoing
Vehicle operators will hold the appropriate driver's license.	Safety Manager/Superintendent	Ongoing
Traffic control measures such as permanent entry/exit security gates, placement of barricades (e.g., large boulders and fencing) will be used to restrict public access to the mine site. This could also include lighting and signage including stop signs.	Construction Manager	Ongoing
Planning for Traffic Activities		
Permitting will be in place (as applicable) for the transport of mobile and fixed plant equipment to and from the Project site.	Safety Health and Emergency Response Superintendent/OHS Coordinator	As required
Movement of heavy vehicles will be scheduled to occur outside of spring weight restricted periods, as applicable.	Construction Manager and/or Logistics Coordinator	As required
Traffic control personnel will be used to manage heavy oversized loads on access roads.	Construction Manager and/or Logistics Coordinator	As required

Table 1 Traffic Control Measures and Responsibilities

Traffic Control Measures	Responsibility	Timing
Deliveries will be scheduled to reduce over-sized loads on access roads during peak traffic periods and at night.	Construction Manager and/or Logistics Coordinator	Ongoing
Staff will be transported to and from designated nearby communities and the Project site using a bus service in order to limit the increase in light vehicle traffic on roads in nearby communities and the mine access road.	Construction Manager	Ongoing
Rotation changes will be scheduled so that workers do not arrive to and leave the site at the same time, limiting Project-related demands on both road and air services and infrastructure.	Construction Manager	Ongoing
Arrivals and departures of employee-related traffic will be scheduled to occur earlier than existing morning peak hour for local traffic and later than the existing afternoon peak hour, if necessary.	Construction Manager	Ongoing
Marathon will liaise with local emergency providers so that roles and responsibilities are understood and that the necessary resources required to respond to vehicle accidents are in place.	Safety Health and Emergency Response/Superintendent	Ongoing
Marathon will communicate with local communities and service providers with respect to scheduling so they may prepare for potential increased demands related to transportation.	Construction Management Team	Ongoing
Marathon staff and contractors will be required to have appropriate vehicle and traffic training, and will be given Project-specific training including briefings in environmental awareness, legal responsibility, and traffic regulations. See Section 2.2 for Driver's Code of Conduct	Safety Manager/ Superintendent	Ongoing
Disciplinary measures will be taken for site staff and contractors committing traffic offences or breaching company policies and procedures.	Safety Manager/ Superintendent	As required
Compliance with posted speed limits will be enforced by means of random vehicle speed testing.	Safety Manager/ Superintendent	Ongoing
Temporary construction signage will be installed during mine access road maintenance.	Construction Manager	Ongoing
Monitoring Severe Weather Conditions and Notifications of Road Conditions	Construction Management Team and the Safety Health and Emergency Response Superintendent/coordinator	
Mine access road will be monitored for signs of erosion and maintained in good condition, including grading, ditching to improve water flow, snow clearing and vegetation removal.	Construction Manager	As required
Dust suppression, such as watering the road, shall be used on the mine access road.	Construction Manager	As required
Construction and mobile equipment are required to be equipped with appropriate muffler systems to limit noise emissions.	Construction Manager	Ongoing

3.0 COMMUNICATION AND NOTIFICATION PROTOCOLS

Marathon will continue to communicate with local communities and service providers with respect to scheduling so they can expect increased traffic and prepare accordingly for potential increased demands related to transportation.

Marathon anticipates that road maintenance or upgrades will require only single-lane temporary closures. Public notifications, including notices to potential cabin owners, and other resources users (e.g., outfitters, forestry companies) will be issued in advance of and during road maintenance or upgrades. Construction signage warning of activities on the roadway will be placed at the beginning of the mine access road and along the road at appropriate distances from the construction site. The notifications will identify detours/alternate access routes, as applicable.

For maintenance or upgrade activities requiring more than one day to complete or a full road closure, written notification will be distributed to cabin owners along the mine access road and to communities, such as Millertown and Buchans Junction. Local radio stations will be contacted to notify residents of occurring or scheduled roadwork or movement of heavy vehicles to and from the site. This information will also be provided and updated regularly on a Public Notice page on the Project website.

4.0 INCIDENT REPORTING AND COMPLAINT MANAGEMENT PROCESSES

Marathon will record incidents and complaints into an incident report/complaint management database. The database will include reporting incident/complaint notification, details of investigation, findings, close out action tracking.

Incidents, such as collisions, near misses, recurring wildlife encounters, road maintenance issues which have resulted in, or have the potential to result in, damage to property or personal injury, will be reported as soon as practicable by drivers to Marathon. Marathon will inform staff and transport contractors about incident reporting procedures via various information forums that may include driver orientation training and toolbox talks. Marathon staff are responsible to notify visitors (e.g., government officials, consultants) of construction activities taking place on the mine access road at the time of their visit and how to contact someone to report an incident or request assistance in the event of a breakdown or accident.

Marathon has engaged with local communities through the negotiation of Community Cooperation Agreements with six communities in proximity to the Project Area and will continue to foster this communication. Should complaints arise relating to traffic associated with the Project, they can be directed by community members to Marathon via phone or email. The phone number and email address will be widely advertised to the local community via the Marathon website.

Upon receipt of an incident report or complaint, Marathon will commence preliminary investigations as soon as practicable to determine the likely cause and identify corrective or preventative actions. The investigation will be conducted in accordance with Marathon's Incident Investigation Procedure (see Appendix D of the Construction EPP).

Incident and complaint investigations will be communicated to staff through toolbox meetings and/or company memorandums. If required, the Traffic Management Plan and/or Driver's Code of Conduct will be reviewed and revised in response (see Section 5.0).

Every effort will be made to address concerns in a manner that facilitates a mutually acceptable outcome for both the complainant and Marathon and a response provided as soon as practicable.

5.0 TRAFFIC MANAGEMENT PLAN REVIEW

This Plan will be reviewed, and if necessary, revised based on the following developments or timing:

- Following changes to Project approval or license conditions relating to traffic management.
- Following a traffic related incident investigation resulting in recommendations for corrective and/or preventative actions
- When a relevant/significant improvement has been identified
- For necessary or unforeseen changes to traffic movements
- Annually

APPENDIX H

SPILL REPORT FORM

SPILL REPORTING INFORMATION FORM

To be completed by the area Supervisor following immediate verbal notification to the Environment Department

Section 1: Spill Description (including who, what, when, where, why, and how)	
Date of spill:	Time of spill:
Date reported (verbal):	Time reported (verbal):
Reported by (include title):	Company:
Supervisor:	Phone number:
Description of source of spill:	
Equipment ID # (if applicable):	
Type of substance spilled:	
Quantity of substance spilled:	
Location of spill site:	
Description of spill location and surroundings:	
Distance to nearest infrastructure:	
Distance to nearest stream, water bodies, sensitive areas:	
Please provide a sketch of the spill site including surrounding infrastructure, waterbodies, sensitive areas, roads, treelines, etc., including approximate distances from the spill site to each, and use arrows to depict slopes and direction of flow:	

Description of the cause and any impacts of the spill:
Section 2: Containment and Clean-up (describe immediate actions taken to contain and clean-up the spill and any actions remaining)
Actions taken to contain and clean-up the spill (including storage and/or disposal of contaminated materials including soil and absorbents):
Remaining clean-up requirements (if applicable):

Responsible person:	Completion date:

Vehicle spill kit or site spill drum used? Yes / No (note: spill kits/drums must be replaced or restocked, even if only partially used)
Location or equipment ID number of spill kit/drum used:

Section 3: Supporting Documentation (please ensure that all applicable supporting documentation is attached)		
☐ Pictures ☐ Employee Statements ☐ Pre-use Inspection ☐ Maintenance Records ☐ Other (_____)		
Section 4: Signatures (including the employee that observed/reported the spill, his/her Supervisor and the Marathon Environment reviewer)		
Print:	Signature:	Date:
Employee:		
Supervisor:		
Environment:		

Notes:

(1) The Marathon Incident & Investigation Report Form must also be filled out for root cause analysis and to outline corrective actions.

(2) Please refer to Section 6.0 of the Environmental Protection Plan (EPP) for guidance in spill response and in filling out this form. Please contact the Marathon Environment Department if you have any questions or concerns.

(3) Written reports for spills of E2 substances should be in accordance with the provisions of the E2 Regulations and submitted to the Regional Director – Atlantic Region, Environmental Enforcement Directorate, Enforcement Branch, Department of the Environment.

APPENDIX I

REVISION REQUEST FORM

SECTION TO BE REVISED:

NATURE OF REVISION:

RATIONALE FOR REVISION:
(i.e., environment/worker safety, etc.)

SUBMITTED BY:

Please submit request to the Marathon Gold Corporation Environment Manager, Environmental Superintendent or Environmental Coordinator.

APPENDIX J

REVISION HISTORY LOG

REVISION HISTORY LOG

Version	Date Issued	Revision Notes