United States Department of Agriculture

U.S. Forest Service

Payette National Forest

Draft Record of Decision

Stibnite Gold Project

Valley County, Idaho

September 2024

Draft Record of Decision
Stibnite Gold Project

LEAD AGENCY: U.S. Department of Agriculture
Payette National Forest
500 North Mission Street
McCall, Idaho 83638
(208) 634-0700

Boise National Forest
1249 Vinnell Way Ste 200
Boise, Idaho 83709
(208) 373-4100

DATE DECISION SIGNED: _____

COOPERATING AGENCIES: Idaho Department of Environmental Quality
Idaho Department of Lands
Idaho Department of Water Resources
Idaho Office of Energy and Mineral Resources
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
Valley County

Preface

In 2016, the Payette National Forest accepted a proposed Plan of Operations submitted by Perpetua Resources Idaho Inc. (Perpetua). Based on my review of the environmental analysis disclosed in the Stibnite Gold Project Final Environmental Impact Statement (FEIS), specialist reports, other supporting analyses, associated land management plans, the project record, and in consideration of public comments received on the Stibnite Gold Project Draft Environmental Impact Statement (DEIS), and Supplemental DEIS, this draft record of decision (ROD) describes my decision and the rationale for my decision. The draft and final environmental impact statement documents along with other supporting documents can be accessed on the project website (https://www.fs.usda.gov/project/?project=50516).

Perpetua is proposing to develop an open pit mining operation on National Forest System lands located approximately 98 miles by air and 146 miles by road northeast of Boise, Idaho; approximately 44 miles by air and 68 miles by road northeast of Cascade, Idaho; and approximately 10 miles by air and 14 miles by road east of the community of Yellow Pine, Idaho. The deposit associated with the Stibnite Gold Project, which has been explored to date, is located primarily on National Forest System land that is open to mineral entry under the General Mining Law of 1872. The Stibnite Gold Project is located within the Payette and Boise National Forests. The Forest Supervisor for the Payette National Forest was delegated as the responsible official for the Stibnite Gold Project because the proposed mining activities are proposed to occur on the Payette National Forest. Secondary proposed project activities to mining operations such as the access road are proposed to occur within the Boise National Forest.

In the United States, the General Mining Law of 1872 (30 U.S.C. 21-54) is the principal law governing the exploration and development of locatable minerals on federal lands. Surface use of National Forest System lands in connection with operations authorized by the United States mining laws is governed by regulations found at 36 Code of Federal Regulations (CFR) Part 228 Subpart A. Pursuant to 36 CFR 228.8, all such operations shall be conducted so as, where feasible, to minimize adverse environmental impacts on National Forest surface resources.

Prior to authorizing the use of National Forest System lands and approving a plan of operations, the Forest Service must analyze the potential effects of the activities that the agency will authorize in accordance with the National Environmental Policy Act (NEPA). In this case, the Stibnite Gold Project, and its associated activities, proposed by Perpetua, was analyzed in a FEIS (Forest Service 2024).

Because the Stibnite Gold Project includes the discharge of dredge and fill material into waters of the U.S., including wetlands, the U.S. Army Corps of Engineers, pursuant to Section 404 of the Clean Water Act, will review the Stibnite Gold Project and render a decision to either issue, issue with special condition, or deny a permit for the Stibnite Gold Project. Because of separate agency authorities, the Forest Service and U.S. Army Corps of Engineers each prepared a separate ROD for their respective decisions. The decisions of each agency are developed in coordination with the other. This decision presumes the U.S. Army Corps of Engineers will select the Agency Preferred Alternative identified in the FEIS.

This draft ROD is being published in conjunction with the FEIS and is being made available to people and entities on the Stibnite Gold Project mailing list and the general public. The final ROD will not be signed until after the conclusion of the pre-decisional objection process, as required under 36 CFR 218 Subparts A and B.

Questions can be directed to Rick Rymerson, Forest Service, Project Lead, at (505) 444-1180 or richard.rymerson@usda.gov.

Sincerely,

Matthew Davis
Forest Supervisor, Payette National Forest

Table of Contents

List of Tables

List of Figures

Acronyms and Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
ADT	average daily traffic
AECOM	AECOM Technical Services, Inc.
ASAOC	Administrative Settlement Agreement and Order of Consent
BMP	Best Management Practice
BNF	Boise National Forest
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGP	Construction General Permit
DEIS	Draft Environmental Impact Statement
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMMP	Environmental Monitoring and Management Plan
FDCP	Fugitive Dust Control Plan
FEIS	Final Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act
Forest Service	U.S. Department of Agriculture Forest Service
FR	Forest Road

ft	feet
Hecla	Hecla Mining Company
IDAPA	Idaho Administrative Procedures Act
MA	Management Area
Midas Gold	Midas Gold Idaho, Inc.
ModPRO	revised Plan of Restoration and Operations
ModPRO2	modified Plan of Restoration and Operations
N/A or NA	not available/applicable
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOA	Notice of Availability
PAB	palustrine aquatic bed
PEM	palustrine emergent marsh
Perpetua	Perpetua Resources Ltd.
PFO	palustrine forested
Plan	modified Plan of Restoration and Operations
PNF	Payette National Forest
PSS	palustrine scrub-shrub
Rio ASE	Rio Applied Science and Engineering
ROD	Record of Decision
SDEIS	Supplemental Draft Environmental Impact Statement
SHPO	State Historic Preservation Office
SPCC	Spill Prevention, Control and Countermeasure
SWPPP	Stormwater Pollution Prevention Plan
TEPC	Threatened, Endangered, Proposed or Candidate
U.S.	United States
USC	United States Code
USDA	U.S. Department of Agriculture

This page left blank intentionally.

PART 1 INTRODUCTION

1.1 About This Document

This draft record of decision (ROD) documents my decision to authorize the Selected Alternative, the 2021 Modified Mine Plan, from the Stibnite Gold Project Final Environmental Impact Statement (FEIS), subject to the requirements of Section 2.3 and Part 9 herein, and the rationale for my decision. This document contains a summary of the environmental analysis and the findings required by law and explains the process for eligible individuals and entities to file objections with the Reviewing Officer before the decision is finalized.

The U.S. Forest Service (Forest Service), in cooperation with the Idaho Department of Environmental Quality, Idaho Department of Lands, the Idaho Office of Energy and Mineral Resources, the Idaho Department of Water Resources, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, and Valley County prepared an Environmental Impact Statement (EIS) to review the potential environmental impacts of the Stibnite Gold Project. The FEIS analyzes the potential impacts of the no action alternative and two action alternatives. Public scoping for the Stibnite Gold Project began in 2017 as described in Part 4 of this draft ROD.

This draft ROD is organized into ten parts:

- *Part 1 – Introduction* provides background information about the proposed Plan of Operations from Perpetua Resources Idaho, Inc. (Perpetua) to produce gold, silver, and antimony.
- *Part 2 – Decision and Rationale* explains the decision, the authorities of the Forest Service to regulate use and occupancy of National Forest System lands for development of the Stibnite Mine, required mitigation, and the principal reasons for the Forest Service decisions.
- *Part 3 – Alternatives Considered* briefly summarizes the No Action Alternative and the Action Alternatives that were considered in detail, the environmentally preferred alternative, and alternatives that were eliminated from detailed analysis.
- *Part 4 – Public Involvement* describes the public involvement process.
- *Part 5 – Consultation with Other Agencies* describes the engagement with other regulatory agencies.
- *Part 6 – Tribal Consultation and Government-to-Government Consultation* describes the tribal consultation.
- *Part 7 – Legally Required Findings* lists the laws and regulations that were considered during the decision-making process.
- *Part 8 – Administrative Review* describes the opportunity provided for pre-decisional administrative review under 36 CFR 218, identifies the contact person for the project, and documents the signature authorizing the decisions.
- *Part 9 – Environmental Design Features, Monitoring, and Mitigation* specifies the requirements necessary for implementation of activities.
- *Part 10 – References* provides the references cited in this draft ROD.

1.2 Setting

1.2.1 Background

The Stibnite Gold Project is located within the Stibnite Mining District. Mining in the Stibnite area began in 1919 and over time included underground and open pit mining, mineral concentrating, and heap leaching operations until 1992 when all operations in the Stibnite area ceased. Since 2001, multiple projects have been conducted under the Comprehensive Environmental Response, Compensation, and Liability Act

(CERCLA) authority to reduce pollution and the threats posed to human health and the environment from the release, or imminent threat of a release, of hazardous substances caused by past mining operations. Perpetua has proposed to renew mining activities within the proposed Stibnite Gold Project area. The proposed mine area is privately owned by Perpetua and includes proposed operations on National Forest System lands administered and managed by the Payette National Forest. Perpetua also intends to address certain impacts associated with past mining as described in Chapter 2 of the FEIS.

In September 2016, Perpetua submitted a proposed Plan of Operations to the Payette National Forest for the development and operation of a large-scale mine. The proposed Plan of Operations sought authorization for surface disturbance on National Forest System lands for mining operations and processing of gold, silver, and antimony. The Forest Service determined that the proposed Plan of Operations was complete in December 2016. In June 2017, the Project Notice of Intent to prepare an EIS was published. A revised Plan of Operations, also known as ModPRO, was submitted to the Forest Service in 2019. In August 2020, the draft EIS (DEIS) was released for a public comment period. In 2021, subsequent to public comment on the DEIS, the 2021 Modified Mine Plan (also referred to as ModPRO2) was submitted. In October 2022, a Supplemental DEIS was released for a comment period. Additional details on the public involvement process are covered in Part 4 of this draft ROD.

1.2.2 Location

The Stibnite Gold Project is located within the Payette National Forest, Krassel Ranger District, and the Boise National Forest, Cascade Ranger District in central Idaho. Activities described in the 2021 Modified Mine Plan would occur within approximately 820 acres of private lands (including approximately 535 acres of patented mining claims owned or controlled by Perpetua), approximately 2,372 acres of National Forest System lands, 13 acres of federal land administered by the Bureau of Reclamation, and 62 acres of lands administered by the State of Idaho. The Stibnite Gold Project operations area boundary (the location where mining operations would occur), associated access roads, and off-site facilities are located in Valley County, Idaho. The operations area boundary is situated approximately 98 miles by air and 146 miles by road northeast of Boise; approximately 44 miles by air and 68 miles by road northeast of Cascade, and approximately 10 miles by air and 14 miles by road east of the community of Yellow Pine, Idaho (**Figure 1**).

1.3 Purpose and Need for Action

The Forest Service purpose is to consider approval of Perpetua's proposed occupancy and use of the surface of National Forest System lands in connection with operations authorized by the U.S. mining laws as first described in the proposed Plan of Operations submitted September 2016, then refined in 2019 (Brown and Caldwell 2019), and further modified in 2021 as the 2021 Modified Mine Plan (Perpetua 2021a). The Forest Service's need for action is to ensure that the proposed occupancy and use of National Forest System lands is consistent with statutory and regulatory requirements.

The need for action is to:

> Consider approval of Perpetua's 2021 Modified Mine Plan for development of the Stibnite Gold Project to mine and mill gold, silver, and antimony deposits on the Payette NF and Boise NF, consistent with the requirements of regulations governing surface use and occupancy in 36 CFR 228A and other statutory and regulatory authorities. Forest Service regulations at 36 CFR 228A provide that, where feasible, proposed operations minimize adverse environmental impacts on National Forest surface resources and require reclamation of the NFS surface that is disturbed by mining operations. The Forest Service is also considering the need for mitigation measures to ensure compliance with statutory and regulatory requirements.

PART 2 DECISION AND RATIONALE

2.1 Introduction and Decision Authority

The United States mining laws (30 U.S.C. 21-54), govern the exploration and development of minerals on federal lands. Locatable minerals operations on National Forest System lands are subject to the regulations found at 36 CFR 228 Subpart A. Locatable mineral operations are to be conducted so as, where feasible, to minimize adverse environmental impacts on National Forest surface resources (36 CFR 228.8). In prospecting, locating, and developing the mineral resources, all persons must comply with the rules and regulations covering the National Forests (16 U.S.C. 478). All functions, work, and activities on National Forest System lands in connection with prospecting, exploration, development, mining, or processing of mineral resources and all uses reasonably incident thereto, including roads that are constructed and maintained in connection with development and mining of mineral resources, are operations authorized by the United States mining laws (36 CFR 228.3(a)).

The Forest Service is the lead agency in the preparation of this document (40 CFR Part 1501.5). This draft ROD documents three Forest Service decisions: the identification of the selected alternative (the 2021 Modified Mine Plan subject to the requirements of Section 2.3 and Part 9), the special use authorization for the power transmission line, and project-specific amendments to the 2003 Payette National Forest Land and Resource Management Plan and the amended 2010 Boise National Forest Land and Resource Management Plan.

The U.S. Army Corps of Engineers, a cooperating agency on the Stibnite Gold Project, pursuant to Section 404 of the Clean Water Act, will review the Stibnite Gold Project FEIS and render a decision to either issue, issue with special condition, or deny a permit for the Stibnite Gold Project. Because of separate agency authorities, the Forest Service and U.S. Army Corps of Engineers have prepared separate RODs for their respective decisions.

2.2 The Forest Service Decision

2.2.1 Boise National Forest Supervisor Decision

Based on my review of the environmental analysis disclosed in the Stibnite Gold Project FEIS, specialist reports, other supporting analyses, associated land management plans, the Stibnite Gold Project record, and in consideration of public comments received on the DEIS and Supplemental DEIS, I, Brant Peterson have decided to approve the four project-specific plan amendments to the amended 2010 Boise National Forest Land and Resource Management Plan.

2.2.2 Payette National Forest Supervisor Decision

Based on my review of the environmental analysis disclosed in the Stibnite Gold Project FEIS, specialist reports, other supporting analyses, associated land management plans, the Stibnite Gold Project record, and in consideration of public comments received on the DEIS and Supplemental DEIS, I, Matthew Davis, have decided to select the 2021 Modified Mine Plan as presented in Section 2.7 of the FEIS subject to the requirements of Part 2.3 and Part 9 herein. My decision also includes approval of a special use authorization for Idaho Power Company to upgrade portions of the existing power transmission line, install a new power transmission line from the Johnson Creek substation to the mine area and install upgraded and new substations and support infrastructure for the power transmission line. Additionally, my decision approves five project-specific plan amendments to the 2003 Payette National Forest Land and Resource Management Plan.

Mitigation measures as detailed in Part 2.3 below are requirements of this decision. I expect the applicable mitigation measures as well as permit requirements determined by other regulatory agencies to be

implemented immediately and as applicable for the extent of the Stibnite Gold Project activities. I expect that the performance expectations as outlined in Part 2.3 will be met.

2.2.3 Selected Alternative

The Selected Alternative is the 2021 Modified Mine Plan submitted by Perpetua, subject to the requirements of Section 2.3 and Part 9. The 2021 Modified Mine Plan describes the full breadth of activities that will take place for the construction, operation, closure, and reclamation of the Stibnite Gold Project. These activities are also described in detail in Chapter 2 of the FEIS. They are briefly summarized below to provide context to the decisions considered in this draft ROD.

The actions proposed under the 2021 Modified Mine Plan will take place over a period of approximately 20 to 25 years, not including the long-term, post-closure environmental monitoring or potential long-term water treatment. The phases of the Stibnite Gold Project are described in subsequent sections and include:

- Construction (approximately 3 years; Mine Years -3 through -1);
- Mining and Ore Processing Operations (approximately 15 years; Mine Years 1 through 15);
- Surface and Underground Exploration (approximately 17 years, beginning during construction and continuing concurrent with operations; Mine Years -2 through 15); and
- Closure and Reclamation (Mine Year 16+).

Construction

Implementing the Selected Alternative will require the construction of surface facilities, haul roads, and water management features. Supporting infrastructure will include transmission lines, substations, communication sites, and access roads. Additionally, the removal of some features from past mining activities (legacy mining features) will be initiated during the construction phase. Perpetua will install 15 to 20 temporary trailers on private lands adjacent to the existing exploration camp (located in the proposed ore processing area) to accommodate construction crews. These temporary trailers will be used during site preparation and early construction until the worker housing facility is constructed. Administrative offices, a transportation hub, warehouses, and assay laboratory facilities, all supporting mine-related activities, will be located offsite and outside of the operations area boundary.

Prior to site preparation and construction of surface facilities, vegetation will be removed from operating areas. Any merchantable timber on National Forest System lands will be purchased from the Forest Service through a timber sale. Access to the mine site during the construction period will be from Cascade, Idaho via the County Road 10-579 (Warm Lake Road), to County Road 10-413 (Johnson Creek Road), and then to County Road 50-412 (Stibnite Road). As part of the Stibnite Gold Project construction, a new access route, the Burntlog Route, will be constructed to connect the Warm Lake Road to the mine site. The new Burntlog Route will be used during the operating and closure periods and will be reclaimed as part of closure. The Burntlog Route will be used by Perpetua and its contractors for mine access, but public use of the route will be restricted as described in the Burnt Log Route Public Access Restriction mitigation measure in Section 2.3.9.

Mining

The Selected Alternative includes a total of approximately 3,266 acres of new and re-disturbance of surface resources through the creation or expansion of three open-pits, an ore processing area, a tailings storage facility and buttress, an access roads, a transmission line, dewatering and industrial water supply wells, a worker housing facility, a road maintenance facility, an underground exploration decline, and other ancillary facilities (**Figure 1**). The acreages of disturbance for each mine feature are presented in Table 2.4-1 of the FEIS.

The proposed facilities and methods of mining are described in greater detail in Section 2.4 of the FEIS. The estimated operating mine life is approximately 15 years preceded by a three-year construction period, a five-year closure period, and an estimated 15-year post-closure period for water treatment of residual process solution. Perpetua will employ approximately 640 personnel during the construction period, 580 personnel during the operating period, 160 personnel during the closure period, and 40 personnel during the post-closure period.

General mine operations will include drilling, blasting, loading, and hauling using excavators, dozers, and a fleet of trucks. Ore will be hauled to the on-site mill facility, and overburden will be placed as a buttress to the tailings storage facility embankment or backfilled into the mined-out pits (**Figure 2**). Reclamation will take place concurrently with mining operations, as feasible, and will be completed during the closure and post-closure periods.

The Stibnite Gold Project will consist of mining three primary mineral deposits and the re-mining of historical tailings using conventional open pit mining methods. Ore from three open pits (Yellow Pine, Hangar Flats, and West End pits) will be sent to either the crusher, located near the processing plant, or one of several ore stockpiles in various locations within the operations area boundary (**Figure 2**). Ore will be stockpiled and processed at a future time during extended periods when the ore tonnage or ore type from the pits exceed the availability of the ore processing plant. Pre-stripping or removing the overlying soil and development rock (also known as waste rock) to access the mineral deposit, will commence during the construction phase in Mine Year 2. Ore removal and processing will begin in Mine Year 1 (operations phase) and continue year-round for approximately 15 years. Mine operations will occur in the area of two historical open pit mined areas (Yellow Pine and West End) and one new open pit (Hangar Flats) that includes the sites of former underground mining and mineral processing facilities. Development rock will be hauled to the tailings storage facility embankment or placed in one of four destinations: the tailings storage facility buttress or the Yellow Pine, Hangar Flats, or West End open pits once they are mined out.

Exploration

Surface and underground exploration including development drilling will occur to evaluate potential mineralized areas outside of the proposed mining areas. New surface and underground exploration activities will be conducted during construction and operations. Any additional future expansion of mining activities will require supplemental permitting and approvals, including additional evaluation under the NEPA.

Closure and Reclamation

Closure and reclamation at the site will include interim, concurrent, and final closure and reclamation. Details on reclamation activities to be implemented for the Stibnite Gold Project, including appropriate seed mixes to be used, are described in the Reclamation and Closure Plan Stibnite Gold Project (Tetra Tech 2021). Interim reclamation is intended to provide shorter-term stabilization to prevent erosion of disturbed areas and stockpiles that will be more fully and permanently reclaimed later.

Concurrent reclamation is designed to provide permanent, low-maintenance achievement of final reclamation goals on completed portions of the site prior to the overall completion of mining activities throughout the Stibnite Gold Project. Approximately 37 percent of the reclamation is proposed to be completed concurrent to mining and ore processing; remaining reclamation activities will be completed during closure (Tetra Tech 2021).

Final closure and reclamation will involve removing all structures and facilities; reclaiming areas that have not been concurrently reclaimed such as the tailings storage facility and some backfill surfaces; recontouring and improving drainages; creating wetlands; reconstructing various stream channels; decommissioning the East Fork South Fork Salmon River diversion tunnel; positioning growth media;

planting and revegetating disturbance areas; and reopening the Stibnite Road through the Stibnite Gold Project operations area. The placement of growth media varies by facility.

Final reclamation of certain facilities could continue beyond the five-year closure and reclamation period. The Burntlog Route will be needed until the tailings storage facility is fully reclaimed, after which the newly constructed portions of the road will be decommissioned and reclaimed, and currently existing portions of the road will be returned to their prior use.

Surface water flow diversions of portions of the East Fork South Fork Salmon River, Garnet Creek, Meadow Creek, Midnight Creek, and Hennessy Creek will be reclaimed and incorporated into constructed wetlands or restored to stream channels across the reclaimed tailings storage facility and Yellow Pine pit backfill.

Project-Specific Land and Resource Management Plan Amendments

The full context of Boise and Payette National Forest Land and Resource Management Plans desired conditions, goals, objectives, standards, and guidelines were taken into consideration in making this decision on the Stibnite Gold Project. Under the National Forest Management Act and its implementing regulations at 36 CFR 219 (2012 Planning Rule), a plan may be amended at any time. Plan amendments may be broad or narrow, depending on the need for the change. The responsible official for each National Forest unit has the discretion to determine whether and how to amend the 2003 Payette National Forest and 2010 Boise National Forest Land and Resource Management Plans as amended for their administrative units and to determine the scope and scale of any amendment. Most areas of the Payette National Forest and Boise National Forest are open to mineral activities, including the Stibnite Gold Project area. The desired condition for mineral projects is that operating plans include appropriate mitigation measures and contain bonding requirements commensurate with the costs of anticipated site reclamation. Where practicable, sites are returned to a condition consistent with management emphasis and objectives (Payette Land and Resource Management Plan, p. III-48; Boise Land and Resource Management Plan, p. III-50).

There are six proposed project-specific amendments associated with the Stibnite Gold Project including five applicable to the Payette National Forest and four applicable to the Boise National Forest. The project-specific amendments apply only to National Forest System lands on the Payette and Boise National Forests within the Stibnite Gold Project area and will not apply to any other projects on the Payette or Boise National Forests. The project-specific amendments were prepared under the 2012 Planning Rule to the 2010 Boise National Forest and 2003 Payette National Forest Land and Resource Management Plans as amended. The 2012 Planning Rule has different provisions than the 1982 Planning Rule procedures that the Forest Service used to develop the existing Land and Resource Management plans.

The amendments are needed to allow for the proposed ground disturbance and reclamation associated with the Stibnite Gold Project and measures that mitigate its effects on public recreational use of National Forest System lands in the vicinity of the Stibnite Gold Project. The purpose of these project-specific amendments is to allow for exceptions to plan components for general management, soil resources, visual resources, fish passage diversion, and listed species including whitebark pine and Canada lynx. There is a need to exempt the Stibnite Gold Project from these existing standards in order to ensure that the proposed occupancy and use of National Forest System lands is consistent with statutory and regulatory requirements. The project-specific amendments are needed to be consistent with the project's purpose and need to consider approval of Perpetua's 2021 Modified Mine Plan for development of the Stibnite Gold Project to mine gold, silver, and antimony deposits.

The effects of the project-specific plan amendments are documented in Appendix A of the FEIS following Forest Service NEPA procedures at 36 CFR Part 220 and are summarized below in Table 1. Because the amendments apply to only the Stibnite Gold Project, and because any potential adverse effects from Stibnite

Gold Project implementation will be addressed through environmental protection measures and mitigation, they are not considered a significant change to the Land and Resource Management plans for the purposes of the National Forest Management Act (36 CFR 219.13(b)(5)).

The date the final Record of Decision for the Stibnite Gold Project is signed marks the date when the amendments will be effective. Since the plan amendments apply to only one specific project, they are effective on the date the Stibnite Gold Project may be implemented in accordance with administrative review regulations at 36 CFR Part 218, subpart A (36 CFR 219.17(a)(3)). The objection process under 36 CFR 218 is being used for both the Stibnite Gold Project activities and the project-specific amendments (36 CFR 219.59(b)); refer to Part 8 Administrative Review in this draft ROD for further information on the administrative review process.

Table 1 Proposed Land and Resource Management Plan Amendments

Amendment	Topic	PNF Components	BNF Components
General Management Actions	Duration of Stibnite Gold Project and effects	Standard 1301 (Management Area [MA] 13, Management Prescription Category [MPC] 3.1 Standard 1306 (MA 13, MPC 3.2)	Standard 2010 (MA 20, MPC 3.2) Standard 2113 (MA 21, MPC 3.2) Standard 1919 (MA 19, MPC 3.2) Standard 2005 (MA 20, MPC 3.1)
Total Soil Resource Commitment	Percentage of Total Soil Resource Commitment	Standard SWST03	No amendment
Visual Quality Objectives	New lines, colors, and textures visible	Standard SCST01	Standard SCST01 Standard 1767 (MA17) Standard 1983 (MA 19) Standard 2052 (MA 20) Standard 2155 (MA 21)
Fish Passage Diversion	Tailings storage facility fish barrier	Standard SWST09	No amendment
Whitebark Pine Individuals and Occupied Habitat Avoidance	Disturbance effects on whitebark pine	Standard TEST28 Standard TEST31	Standard TEST28 Standard TEST31
Groomed Over-Snow Vehicle Routes in Lynx Analysis Units	Temporary over-snow vehicle route replacement	No amendment	Standard TEST34

Substantive Provisions for Project-Specific Amendments

On June 5, 2017, notice of the plan amendments was provided in the Notice of Intent to prepare the EIS; the specific amendments that were needed were not identified at that time. On August 13, 2020, the legal notice published in the newspaper of record provided information on the proposed amendments and substantive requirements. The DEIS and Supplemental DEIS included four project specific amendments, four applicable to the Payette National Forest and two applicable to the Boise National Forest. Whitebark pine was listed as a threatened species on January 17, 2023, subsequent to the publication of the

Supplemental DEIS. The listing itself did not result in changes to the Selected Alternative, but it did require a plan amendment applicable to the Payette and Boise National Forests, which was included in the FEIS. Additionally, a plan amendment applicable to the Boise National Forest for the groomed over-snow vehicle route in a Lynx Analysis Unit was added to account for a 3.52-mile increase in groomed over-snow vehicle mileage. Subject to the notification requirements in 36 CFR 219.16, the responsible official has the discretion to determine the scope, methods, forum, and timing of opportunities for public participation.

The specific substantive rule provisions within 36 CFR 219.8 through 36 CFR 219.11 that are directly related and therefore applicable to the amendments are described in Appendix A of the FEIS and summarized below. As described below, the project-specific amendments comply with the procedural provisions of the 2012 Planning Rule (36 CFR Part 219.13(b)). The amendments are based on a review of relevant scientific information, a consideration of responsible opposing views, and the acknowledgment of any incomplete or unavailable information, scientific uncertainty, and risk. Chapter 7 of the FEIS contains a list of published scientific documents referenced in preparation of the FEIS. The specific substantive provisions evaluated relative to the project-specific amendments are as follows:

- 219.8 Sustainability (a) Ecological Sustainability (1) Ecosystem Integrity (2) Air, Soil, and Water (3) Riparian Areas (4) Best Management Practices for Water Quality; (b) Social and Economical Sustainability (2) Sustainable recreation, including recreation settings, opportunities, access, and scenic character; (6) Opportunities to connect people with nature.
- 219.9 Diversity of plant and animal communities (a) Ecosystem plan components (1) Ecosystem Integrity (2) Ecosystem diversity; (b) Additional species-specific plan components (1) and (2); (c) Species of conservation concern.
- 219.10 Multiple Use (a) Integrated resource management for multiple use (1) Aesthetic values, air quality, cultural and heritage resources, ecosystem services, fish and wildlife species, forage, geologic features, grazing and rangelands, habitat and habitat connectivity, recreation settings and opportunities, riparian areas, scenery, soil, surface and subsurface water quality, timber, trails, vegetation, viewsheds, wilderness, and other relevant resources and uses. (2) Renewable and nonrenewable energy and mineral resources. (5) Habitat conditions for wildlife, subject to the requirements of Section 219.9, for wildlife, fish, and plants commonly enjoyed and used by the public; for hunting, fishing, trapping, gathering, observing, subsistence, and other activities (in collaboration with federally recognized Tribes, Alaska Native Corporations, other Federal agencies, and State and local governments). (7) Reasonably foreseeable risks to ecological, social, and economic sustainability. (8) System drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of the terrestrial and aquatic ecosystems on the plan area to adapt to change (Section 219.8).

Rationale for Deviation from Land and Resource Management Plan Guidelines

There are eight guidelines from the Boise and Payette National Forest Land and Resource Management Plans, one of which is only applicable to the Payette National Forest, that will be deviated from in order to meet the purpose and need for the Stibnite Gold Project (Table 2). As per the Boise and Payette Forest Land and Resource Management Plans, "deviation from compliance [with a guideline] does not require a land and resource management plan amendment (as with a standard), but rationale for deviation must be documented in the project decision document" (Boise and Payette National Forest Land and Resource Management Plans p. III-3).

Table 2 Rationale for Deviation from Land and Resource Management Plan Guidelines

Forest and Guideline Number	Guideline Text	Rationale
Payette National Forest and Boise National Forest Scenic Guideline 02	Duration of visual impacts from ground disturbing and vegetation removal activities to allow for herbaceous vegetative recovery of ground cover may extend to three years in foreground Retention, foreground Partial Retention, middle ground Retention, and middle ground Partial Retention. Consider timely initiation of reseeding in areas where natural recovery is questionable.	The proposed project activities will be excepted from maintaining Retention and Partial Retention VQOs due to the project-specific amendment exception to visual quality objectives as stated above in Table 1. The visual impacts from the project activities would exceed three years as the project mining activities would occur for 16 years before closure activities begin, therefore a deviation from the guideline is required. The project activities would be within areas managed as visual quality objectives of Retention or Partial Retention. The Selected Alternative project activities would not meet either of these visual quality objectives as the components would introduce form, line, color, and texture found infrequently or not at all in the characteristic landscape, and to a degree that would dominate the characteristic landscape. Overall, the disturbances associated with the Selected Alternative project activities would introduce strong contrast as a whole; visual impacts of the Stibnite Gold Project during construction and operations would be long-term, moderate to major, and localized. After closure and reclamation, visual contrast would vary depending on the nature of the disturbance. The reclamation, activities such as reseeding and vegetation regrowth, would minimize visual contrast over time. Additional details as to the nature of the impacts can be found within the Scenic Resources Specialist Report. The deviation is required to meet statutory and regulatory requirements associated with locatable mineral mining operations.
Payette National Forest and Boise National Forest Scenic Guideline 07	In foreground Retention, roads should only be visible for a short distance from the sensitive travel way or use area. Other visible temporary excavation could occur providing the area is graded and natural-appearing contours are re-established within the same year and revegetation is initiated.	The proposed project activities will be excepted from maintaining foreground Retention visual quality objective due to the project-specific amendment exception to visual quality objectives as stated above (Table 1). Key observation points 1 and 4 are within the Retention visual quality objective (see the Scenic Resources Specialist Report). The Burntlog Route would be visible from key observation point 1 introducing a visual contrast against the

Forest and Guideline Number	Guideline Text	Rationale
		darker surrounding colors, undulating ridgelines, and variable textures of the vegetation-covered terrain, therefore a deviation from the guideline is required. The Stibnite Road (CR 50-412) to Thunder Mountain Road (FR 50375) link would be visible from key observation point 4. The construction activity associated with road construction would be visible in the foreground, including construction traffic, equipment, dust, and movement of equipment and construction workers. Additional details as to the nature of the impacts can be found within the Scenic Resources Specialist Report. The deviation is required to meet statutory and regulatory requirements associated with locatable mineral mining operations.
Payette National Forest and Boise National Forest Scenic Guideline 08	There should be minimal distraction from scenic quality in foreground Partial Retention and middleground Retention from road construction, reconstruction, and other excavation management.	The proposed project activities will be excepted from maintaining foreground Partial Retention and middleground Retention VQO due to the project-specific amendment exception to visual quality objectives as stated above (Table 1). The new access roads would not be consistent with the Retention visual quality objective as they would introduce new lines, colors, and textures that would be evident. Impacts would be long-term, localized, and moderate to major. The mine site would be within areas managed as a visual quality objective of Retention or Partial Retention. Where visible from viewing platforms, the mine site would not meet the Partial Retention or Retention visual quality objectives as the mine site components would introduce form, line, color, and texture found infrequently or not at all in the characteristic landscape, and to a degree that would dominate the characteristic landscape. The view of the mine site at use areas would be obstructed by topography and would have minimal distraction from scenic quality. Additional details as to the nature of the impacts can be found within the Scenic Resources Specialist Report.

Forest and Guideline Number	Guideline Text	Rationale
		The deviation is required to meet statutory and regulatory requirements associated with locatable mineral mining operations.
Payette National Forest and Boise National Forest Scenic Guideline 09	Roads and other excavation may be visible in middleground Partial Retention and background Partial Retention, but should blend into the characteristic landscape of the surroundings.	The proposed project activities will be excepted from maintaining middleground Partial Retention and background Partial Retention VQO due to the project-specific amendment exception to visual quality objectives as stated above. The mine site would be within areas managed as a visual quality objective of Partial Retention. Where visible from viewing platforms, the mine site would not meet the Partial Retention visual quality objective as the mine site components would introduce form, line, color, and texture found infrequently or not at all in the characteristic landscape, and to a degree that would dominate the characteristic landscape. Additional details as to the nature of the impact can be found within the Scenic Resources Specialist Report. The deviation is required to meet statutory and regulatory requirements associated with locatable mineral mining operations.
Payette National Forest Recreation Guideline 09 Boise National Forest Recreation Guideline 08	All projects and activities should maintain or enhance the adopted recreation opportunity spectrum classes as displayed on the Forest recreation opportunity spectrum strategy maps.	The project activities will not maintain the adopted recreation opportunity spectrum classes as described in Section 4.19.2.2 of the FEIS. After closure and reclamation, the recreation opportunity spectrum classes would be maintained. The deviation is required to meet statutory and regulatory requirements associated with locatable mineral mining operations.
Payette National Forest Recreation Guideline 10 Boise National Forest Recreation Guideline 09	Motorized transport is generally not consistent within Primitive and Semi-primitive Non-motorized areas. However, exceptions may include: a) Search and rescue evacuation; b) Medical treatment of individuals; c) Wildland fire suppression; d) Prescribed fire activities; e) Law enforcement activities; f) Wildlife transplant or relocation activities; g) Trail construction and maintenance; and	The construction, operations, and closure/reclamation within the Operations Area Boundary and the construction of the Burntlog Route will not be consistent with the areas within Semi-primitive Non-motorized recreation opportunity spectrum class as described in Section 4.19.2.2 of the FEIS. After closure and reclamation, the recreation opportunity spectrum classes would be maintained. The deviation is required to meet statutory and regulatory requirements associated with locatable mineral mining operations.

Forest and Guideline Number	Guideline Text	Rationale
	h) Watershed restoration and/or repair of other resource damage from natural events.	
Payette National Forest Recreation Guideline 11 Boise National Forest Recreation Guideline 10	New road construction should not occur within the summer Primitive and Semi-Primitive Non-Motorized areas.	The construction of the Burntlog Route will not be consistent with the areas within Semi-primitive Non-motorized recreation opportunity spectrum class as described in Section 4.19.2.2 of the FEIS in the long-term. The deviation is required to meet statutory and regulatory requirements associated with locatable mineral mining operations.
Payette National Forest Soil, Water, Riparian, and Aquatic Resources Guideline 13	In intermittent and perennial non-fish bearing waters, new surface diversions should not be authorized unless they provide passage and habitat for native and desired non-native aquatic species other than fish. Flows that are adequate to pass fish would also be sufficient to pass other aquatic species in intermittent and perennial non-fish bearing waters.	The only proposed diversion in a non-fish-bearing stream is the diversion of West End Creek around the proposed West End Pit on the Payette National Forest. The reason for that diversion would be to allow for the mining of that open pit. Additional details as to the nature of the impact to fish resources and habitat can be found within the FEIS Section 4.12.2.2. The deviation is required to meet statutory and regulatory requirements associated with locatable mineral mining operations.

2.3 Mitigation

Once environmental impacts are identified and described, mitigation measures are considered. Mitigation measures required by the Forest Service will represent reasonable and effective means to reduce the impacts identified in the FEIS resource analysis or to reduce uncertainty regarding the forecasting of impacts into the future. These mitigation measures are made conditions of this decision. The mitigation measures will be implemented by Perpetua or any successor owner or operator (collectively referred to herein as Project Operator). If environmental impacts are inevitable, certain regulatory programs may require compensatory mitigation of the impacts.

2.3.1 Geology, Minerals, and Paleontology

Independent Tailings Review Board

Issue: Tailings storage facility construction, operations, and closure are key components in the environmental performance of the Stibnite Gold Project and the performance of its post-closure restoration, subject to performance monitoring for achievement of regulatory requirements and design specifications. The Tailing Storage Facility design accounts for multiple environmental resources in accordance with regulatory requirements. Diligence and oversight in construction and operation per design also contribute to successful environmental performance.

Mitigation Measure – Independent Tailings Review Board: The Global Industry Standard on Tailings Management (International Council on Mining and Metals 2020) recommends the use of independent

reviewers and/or an Independent Tailings Review Board as a means to promote the safety and environmental performance of tailings facilities throughout their lifecycle from design through construction, operations, and closure.

The mine operator will be responsible for convening and utilizing an Independent Tailings Review Board per the Global Industry Standard on Tailings Management with a focus on:

- achieving design criteria for geotechnical stability of the tailings storage facility embankment and buttress during design, construction, and operation;
- achieving design tailings containment and environmental performance goals during design, construction, and operation; and
- managing tailings deposition in a way conducive to implementing closure-period process solution management and reclamation plans for the facility.

The Independent Tailings Review Board will be engaged as described in The Global Industry Standard on Tailings Management for continuing and new tailings management design, construction, and operational activities prior to tailings storage facility construction.

The Project Operator will identify a qualified independent reviewer to lead the Independent Tailings Review Board. The lead will propose additional reviewers to the Project Operator to provide any supplemental technical expertise to the Independent Tailings Review Board. During its reviews, the Independent Tailings Review Board lead will extend invitations to Project Operator personnel, Forest Service personnel, and Idaho Department of Water Resources personnel to provide input and information to be considered in the review.

Recommendations of the Independent Tailings Review Board will be provided by the Project Operator to the Forest Service and reviewed by Forest Service personnel for conformance with Forest Service standards and requirements.

2.3.2 Soils

Revegetation Fertilizers

Issue: Use of fertilizers to promote reclamation revegetation could result in undesired consequences such as mobilization of metals in Stibnite Gold Project growth material that could affect plant growth, human health and water quality.

Monitoring Measure – Testing of fertilizers: Prior to project-related use, proposed fertilizers will be tested by the Project Operator on site growth material and revegetation plant species to determine that fertilizer application will not result in metal mobilization detrimental to plant growth and water quality. The fertilizer testing will follow a Forest Service approved plan including best practices for this type of assessment and will include an evaluation of the potential for metal mobilization associated with fertilizer application. Test controls will include quality control on the volume of irrigation water to prevent solute leaching from over-application.

Testing results will be reviewed by the Project Operator and the U.S. Forest Service to assess the effects of fertilizer use on metals mobilization and effectiveness for promoting growth of reclamation revegetation.

Use of Glacial Till as Growth Media

Issue: The use of glacial till as growth media to fulfill the growth material salvage deficit for successful upland reclamation and revegetation at the site is uncertain.

Monitoring Measure - Test Plots: Test plots for manufacturing growth media from Yellow Pine Pit glacial till will be set up by the Project Operator within the first year that glacial till is mined from the pit (i.e., Mine Year 1) to determine its effectiveness as growth material and/or to determine an effective blend of organic material, fertilizer, and other supplements. The glacial till test plot objective will be to mimic the reclamation properties of native growth media salvaged from the site, targeting revegetation success as described in the Reclamation Closure Plan (Tetra Tech 2021) within seven years. Laboratory and plant nursery testing can be a part of a test plot plan to aid in selection of the most appropriate test plot characteristics. Areas of recent glacial till use in site reclamation may also be used as a component of a test plot plan to demonstrate its effectiveness as growth media.

Glacial till salvaged for potential use during reclamation will be tested by the Project Operator for the following:

- USDA soil texture,
- coarse fragment volume,
- organic matter content,
- soil acidity (pH), and
- screening for metal content.

Laboratory results will be used to support the development and interpretation of test plots.

Growth Media Quantity and Quality

Issue: On-site growth media and seed bank material salvage and formulation (e.g., amending with organic material or fertilizer) may not provide sufficient growth media quantity and quality to achieve reclamation standards for the project.

Mitigation Measure: To maximize use of growth media and seed bank material salvaged and formulated from the Stibnite Gold Project area, all growth media and seed bank material salvaged from the Stibnite Gold Project area will be retained and managed in stockpiles for potential future use. In particular, the 35,000 bank cubic yards of excess growth media salvaged during construction of the Burntlog Route will be retained in the event that it is needed to supplement the growth media salvaged and formulated from the mine area.

In the event that laboratory testing and test plots indicate that growth media and seed bank material salvaged and formulated from the Stibnite Gold Project area is not sufficient to attain the time-sensitive components of Stibnite Gold Project restoration (including stream channel restoration, riparian shade zones, sensitive species habitat areas), off-site sources for whole growth media, seed bank material, and/or amendments will be identified by the Project Operator for delivery to site to supplement on-site sources. The time-sensitive reclamation components for which growth media and/or seed bank material requirements could make off-site sources and amendment import necessary are:

- Yellow Pine Pit wetland and channel restoration area,
- Meadow Creek wetland and channel restoration area,
- Hangar Flats Pit wetland and channel restoration area, and
- Tailings storage facility wetland and channel restoration area.

The total estimated on-site growth media salvage without growth media formulation is 598,615 bank cubic yards along with 261,759 bank cubic yards of seed bank material. For time-sensitive reclamation components (i.e., stream restoration), the total growth media requirement is estimated to be 820,720 bank cubic yards and total seedbank material requirement is estimated to be 146,318 bank cubic yards.

2.3.3 Air Quality

Emission Controls

The Project Operator will develop a fugitive dust control plan (FDCP) that will address the following at a minimum:

- Procedures followed by Project Operator employees to control and minimize fugitive dust emissions,
- Trigger levels to be set that require corrective action,
- Actions to bring fugitive dust emissions within acceptable ranges,
- Steps to demonstrate that appropriate corrective procedures are followed, and
- Procedures to verify that the Project Operator is controlling avoidable fugitive dust emissions.

Additionally, the Idaho Department of Environmental Quality permit will include the following control measures proposed by Perpetua for hazardous air pollutants and mercury emissions. The implementation of these requirements was included in the Forest Service's assessment of air quality effects and the Forest Service decision includes implementation of these control measures:

- Mining – chemical dust suppressant and water application on haul roads, reasonable controls, and FDCP
- Rock dumps and storage piles - reasonable controls, FDCP
- Tailings and maintenance pond activities – chemical suppressant, reasonable controls, FDCP
- Ore processing – water sprays, moisture carryover, enclosures, reasonable controls, FDCP
- Ore concentration and refining tanks – chemical treatment
- Autoclave – venturi scrubber, vent gas cleaning tower, carbon filter
- Electrowinning cells and pregnant solution tank – carbon fiber
- Mercury retort – carbon filter
- Melting furnace – baghouse, carbon filter
- Carbon kiln – wet scrubber, carbon filter
- Limestone ball mill – baghouse
- Parallel flow regenerative shaft lime kiln – baghouse
- Lime mill crusher – baghouse
- Lime slaker – wet scrubber
- Storage silos – bin vents
- Aggregate and concrete production – water sprays, moisture carryover, reasonable controls, FDCP
- Fuel Combustion – clean fuel (ultra-low sulfur diesel)
- Emergency engines – Environmental Protection Agency Tier 2 standard compliant or better
- Gasoline storage – lids or gasketed seal, submerged filling
- Diesel storage – lids

Fugitive mercury emissions will be reduced with the following measures:

- Mining – Chemical dust suppressant and water application on haul roads, reasonable controls, FDCP.
- Rock dumps and storage piles - reasonable controls, FDCP.
- Tailings and maintenance pond activities – chemical treatment, reasonable control, FDCP
- Ore processing – water sprays, moisture carryover, enclosures, reasonable controls, FDCP
- Aggregate and concrete production – water sprays, moisture carryover, reasonable controls, FDCP

Idaho Department of Environmental Quality permitting is limiting emissions in the following manner:

- "Low-arsenic" quartzite or similar material (90 parts per million arsenic or less) development rock to be applied for capping haul roads excluding those within the various pits and rock storage facilities.
- Drill rigs will include a dust control system with a minimum efficiency of 90 percent.

Dust Emission Monitoring

Issue: The Stibnite Gold Project may result in unanticipated levels of dust emissions and associated air quality impacts.

Monitoring Measure - Fence-Line Dust Control Monitoring Plan Implementation: Because dust emissions from the Stibnite Gold Project may impact air quality, a dust monitoring plan was developed by Perpetua. As the Project Operator will be responsible for the implementation of the dust monitoring plan, including installation of dust monitors at two locations near the mine operations boundary. One location will be south of the mine boundary close to the Burntlog Route. The other location will be between the eastern mine boundary and wilderness areas. The plan will include dust and meteorological monitoring during operations and quarterly reports to the U.S. Forest Service; monitoring and reporting will occur during non-winter periods and be implemented prior to commencement of mining. The plan will be reviewed and approved by the Forest Service and implemented prior to the commencement of mining. Forest Service personnel will review monitoring data for conformance with analyzed effects of dust emissions on Forest Service resources. This data will be used in conjunction with field observations for adherence to the objectives of the Stibnite Gold Project's dust control measures.

After five (5) years of monitoring and every three (3) years thereafter, the Forest Service and the Project Operator will review this plan to determine if sufficient information was acquired and the monitoring may be discontinued.

Dust-related Visual Impacts

Issue: Dust emissions from Stibnite Gold Project activities would have their most pronounced visual effects during low-light sunrise or sunset time periods.

Mitigation Measure – Low-light Limitations on Dust-Emitting Activities: Blasting events that generate dust aside from the regular excavation, haulage, dumping, crushing, and grinding activities will not occur during sunrise and sunset time periods.

2.3.4 Climate Change

Engine Idling Restriction

Issue: Idling engines not actively generating power or producing work would have potential impacts associated with greenhouse gas emissions and noise.

Mitigation Measure – Engine idling restriction: When not being used to generate power or perform work or for the immediate preparations and conclusions of these activities (including cold weather operation to minimize re-start engine wear), engines and generators will be turned off and not allowed to idle.

2.3.5 Noise

Engine Noise Reduction

Issue: Engines on mobile and stationary equipment would result in noise effects in the Stibnite Gold Project area.

Mitigation Measure – Engine Noise Reduction: Mobile and stationary engine and generator equipment selected for use by the Project Operator will be equipped with mufflers and/or enclosed in accordance with manufacturers specifications. Equipment operation will only occur with mufflers and/or enclosures that are in good working order. Equipment will be tuned to run efficiently (including emissions) for the project altitude.

2.3.6 Water Resources

Water Resource Monitoring Plan – Water Quantity

Issue: Mine-induced drawdown of water levels could impact flows in springs that were hydrologically connected with the aquifer being pumped.

Monitoring Measure - Water Resource Monitoring Plan Implementation: As construction, operation, and closure of the Stibnite Gold Project has the potential to impact surface or groundwater resources, a focused Water Resources Monitoring Plan for the proposed operations will be implemented by the Project Operator (see Part 9 for more details regarding the monitoring). The plan will be reviewed and approved by Forest Service and implemented prior to the commencement of mining. State authorizations may also have monitoring requirements and these requirements along with monitoring already conducted or proposed could be applied to satisfy the needs of this mitigation measure. The Water Resources Monitoring Plan will be focused on confirming the predicted groundwater drawdown within allowance for model uncertainty and its relationship to discharges at proximal surface water resources. The plan will include surface water, groundwater, and meteorological monitoring requirements for the approved project. Water quantity measurements will include:

- diversion rates from groundwater pumping,
- water levels in groundwater monitoring wells and piezometers located within the Operations Area Boundary,
- compliance with water right stipulations as adjudicated and decided upon by IDWR is expected,
- and flow rates of streams and springs at U.S. Geological Survey monitoring stations as well as spring locations characterized in the baseline program within the predicted 10-foot drawdown contour.

The Project Operator will provide monitoring results to the Forest Service on a quarterly basis and annually in a summarized report. The Project Operator will be responsible for continued monitoring and reporting

of changes in groundwater levels and surface water flows prior to, and during, operation and for a period of time in the post-reclamation period.

Groundwater Modeling

Issue: Despite the best efforts at calibration and validation, predictive modeling of groundwater flow and stream flow entails uncertainty and future field conditions may vary from predictions.

Monitoring Measure - Groundwater Modeling Validation and Update: Since there is a reasonable level of uncertainty in the numerical groundwater model developed for the Stibnite Gold Project, a work plan will be developed by the Project Operator to revise the model and update it as necessary. Forest Service personnel will review and approve the work plan to assess its effectiveness in modeling effects of groundwater pumping on surface water volume and flows. Model updates should occur no earlier than after one year of data has been collected following the beginning of mine dewatering activities and/or whenever monitoring data demonstrates a change in conditions that would significantly influence prediction and recognition of potential mine impacts. The model update will be based on the actual observed changes in groundwater elevations and additional hydrogeologic or groundwater-related data collected during operation. The Forest Service's annual review of monitoring results combined with the updated groundwater modeling, if necessary, would provide early warning of potentially unanticipated, undesirable impacts to water resources to allow for implementation of appropriate mitigation measures (see Part 9 for additional detail regarding the Water Resources Monitoring Plan).

Groundwater Drawdown and Discharge to Surface Water

Issue: Mine-related groundwater drawdown could reduce groundwater discharge to surface stream flows and groundwater dependent ecosystems.

Mitigation Measure – Groundwater Discharge to Surface Water: Impacts to groundwater discharge to surface water resources are predicted by the numerical groundwater flow model and are accounted for in this Forest Service decision However, if monitoring results indicate a different nature or extent of impacts that are outside of model uncertainty and associated with Stibnite Gold Project water management, additional compensatory mitigation required by the U.S. Army Corps of Engineers will be implemented by the Project Operator to mitigate for the effects of that reduced flow on the use of the affected surface water resource. Any additional compensatory mitigation will need to be performed in compliance with applicable regulations, including Section 404 of the Clean Water Act and Section 401 Water Quality Certification.

Contingent Stream Temperature Reduction

Issue: Long-term performance of stream temperature reduction measures may have the potential to not fully achieve the forecasted stream temperature results. For example, the restored stream channel across the closed tailings storage facility may experience different consolidation, hydrologic, and/or re-vegetation performance compared to model forecasts that would affect its viability for reducing stream temperature as well as maintaining a physically and chemically stable closure for the tailings storage facility.

Due to inherent limitations in modeling and forecasting stream flow temperatures over a multi-decade period, effectiveness of the actual performance of tailings storage facility consolidation, stream channel restoration, riparian plantings, and other temperature reduction measures implemented may differ from forecast.

Without this temperature reduction, stream temperatures downstream of the Yellow Pine pit area could also be greater than existing conditions.

Mitigation – Measure - Contingent Stream Temperature Reduction Measures:

Ditches and pipelines utilized to divert water around the tailings storage facility during operations are expected to result in maintaining cooler water temperatures for downstream reintroduction into the main stream system. In addition, these diversions will not be affected by tailings storage facility consolidation or implementation of stream channel restoration. Therefore, these surface flow diversions will not be removed or reclaimed and continue to be utilized to divert flows in part or in whole until the following measures are implemented by the Project Operator:

- Tailings storage facility consolidation appropriate for stream channel restoration will be verified via consolidation monitoring and/or re-modeling for the as-built tailings facility.
- Stream restoration design and implementation will be re-assessed prior to construction by resurveying the as-built and partially consolidated tailings storage facility surface to determine whether design stream gradients could be achieved or whether the stream channel design will need adjustment to accommodate the gradients of the post-consolidation tailings storage facility surface.
- Achievement of design shading effects of riparian plants on stream temperatures could be re-assessed prior to construction by measuring the success of establishing riparian plantings at locations outside the tailings storage facility footprint (e.g., Hangar Flats pit diversion corridor, tailings storage facility buttress, across the Yellow Pine pit backfill or other areas) or a tailings storage facility -analogous test plot location utilizing the design cover materials and thicknesses.
- Operational period maintenance practices for the diversions will remain in effect into the closure and post-closure period to prevent sedimentation and other factors from impairing the effective use of the diversions. Upon verification of the items above, including any associated design adjustments, stream water temperature monitoring data in the constructed restored stream channel will be collected to confirm the performance of the temperature reduction measures. In an event where monitoring data indicated that acceptable stream temperatures would not be attained, the ditch and pipeline diversions will be re-commissioned and utilized to convey surface flows in part or in whole until an effective planting design is developed and implemented.

Water Resource Monitoring Plan – Water Quality

Issue: As with any predictive model, reasonable limitations to long-term water chemistry modeling may result in underestimation of the nature and/or extent of surface water and groundwater quality impacts.

Monitoring Measure - Water Resource Monitoring Plan Implementation: Because construction, operation, and closure of the proposed Stibnite Gold Project has potential to impact surface or groundwater resources, a focused Water Resources Monitoring Plan will be developed by the Project Operator. The Project Operator will be responsible for the implementation of the Water Resources Monitoring Plan for any approved action incorporating the confirmation of predicted surface water and groundwater chemistry plus surface water temperature. The plan will include mined development rock and ore, surface water, groundwater, and meteorological monitoring requirements. Monitoring results will be provided to the Forest Service on a quarterly basis and summarized in an annual report. The Project Operator will be responsible for continued monitoring and reporting of surface and groundwater chemistry and temperature prior to, during, and after operations in the post-reclamation period until the Forest Service accepts the reclamation has demonstrated efficacy in accomplishing the results as predicted as outlined in the EIS. The plan will be reviewed and approved by the Forest Service and implemented prior to the commencement of mining. State authorizations may also have monitoring requirements and these requirements along with monitoring already conducted or proposed could be applied to satisfy the needs of this mitigation measure.

Issue: Despite the best efforts at calibration and validation, predictive modeling of groundwater and surface water chemistry and temperature entails reasonable uncertainty and future field conditions may vary from model predictions.

Monitoring Measure – Updated Geochemical and Temperature Modeling: Geochemical modeling and/or temperature modeling will be updated as necessary by the Project Operator (at the request of the Forest Service) if monitoring results obtained from the Water Resources Monitoring Plan or other data collection indicate a change in water quality conditions that would significantly influence prediction and recognition of potential mine impacts. The Forest Service's review of quarterly and annual monitoring results compared to predicted conditions will provide an early warning of potentially unanticipated, undesirable impacts to water resources. This early warning would allow for the implementation of appropriate mitigation measures that reduce or eliminate potential impacts to water quality (see the mitigation measure below for examples of appropriate mitigation measures).

Streamflow Temperature

Issue: Riparian vegetation planting along restored stream channels may not provide enough shade to limit temperatures at the degree and timing forecast in the site closure plan.

Mitigation Measure – Streamflow temperature adjustment: In the event that riparian shading does not provide sufficient shade to maintain Summer Maximum Weekly Maximum Temperature at or below those included in the closure plan (Tetra Tech 2021), adaptive management in the areas of concern will be used to identify the issues and implement improvement measures by the Project Operator. Depending on the degree and spatial extent of the mitigation needed, these measures could include placing larger container plants along stream reaches to supplement riparian vegetation, leaving low-flow diversion pipes in place for longer periods while vegetation is established, installing temporary shade structures, storing and covering snowpack along reaches to allow melt water into the system, or retrofitting additional pond features for mixing day and night time flows to lower maximum daily stream temperatures.

Water Quality Sampling

Issue: Planned water quality sampling and analyses frequency may need to be increased to detect certain changes in water chemistry that could cause or contribute to impairments of beneficial use or violations of surface water quality standards.

Monitoring Measure – Higher frequency water quality sampling and analyses: Water quality samples will be collected and analyzed by the Project Operator more frequently in scenarios described below where there is a demonstrated reason for concern that water sources and discharges around Project components could have rapidly changing analyte concentrations. Key parameters will be monitored at a higher frequency (for example weekly sampling compared to monthly or quarterly sampling) for a limited time until monitoring parameters stabilized. The higher frequency data collected, which may coincide with requirements under other state and federal permits, will be reviewed and compared to previously collected data, baseline concentrations, and other permit conditions. Higher frequency water quality sampling and analyses will be applied to:

- Discharges from the start-up or resumption of mine water treatment plants following an extended shut-down will be analyzed for pH, specific conductivity, weak acid dissociable cyanide, organic carbon, arsenic, antimony, and mercury until results meet Idaho Pollutant Discharge Elimination System permit limits or the results of monitoring are considered sufficient based on Forest Service review in consultation with applicable state regulatory agencies; and
- in the event of a spill of hazardous materials, monitoring of spill indicators in affected receiving monitoring wells, contact water collection ponds, and surface waters will be analyzed for pH, specific conductivity, and spilled material indicators until the results of the monitoring are considered sufficient based on Forest Service review in consultation with applicable state regulatory agencies.

Water Management Power Contingency Plan

Issue: Water management activities are dependent on electrical power for effective protection of water resources.

Mitigation Measure – Contingency plan for long-term power interruption: While Idaho Pollutant Discharge Elimination System permitting requires contingency planning for power interruption associated with discharging water treatment plants, other water management activities not associated with discharges are not required to have contingency plans under that Idaho Pollutant Discharge Elimination System permit. The Project Operator will develop and maintain water management contingency plans for review by Forest Service personnel prior to operations for a long-term power interruption of longer than 24 hours to prevent unauthorized discharge from the following water management facilities:

- contact water collection ponds,
- tailings storage facility,
- dewatering,
- process plant water containments, and
- any water pumping associated with a spill response.

2.3.7 Wetlands and Riparian Areas

The U.S. Army Corps of Engineers has federal primacy related to evaluation and mitigation of impacts to regulated wetlands and riparian areas affected by the Stibnite Gold Project. In order for the U.S. Army Corps of Engineers to issue a permit under Section 404 of the Clean Water Act and authorize dredge or fill placement in Waters of the U.S., all unavoidable impacts to jurisdictional Waters of the U.S. must be mitigated. The final rule for Compensatory Mitigation for Losses of Aquatic Resources (U.S. Army Corps of Engineers and Environmental Protection Agency 2008) states a preference for achieving mitigation by first trying to find available wetland mitigation credits from an agency-approved wetland mitigation bank. When mitigation bank credits are not available, the final rule directs 404 permit applicants to seek out opportunities to use in-lieu fee programs to satisfy mitigation needs. In-lieu fee programs are generally operated by public resource agencies that accept money for wetland impacts within a specific geography and periodically use that money to fund wetland restoration, creation, or enhancement projects within that same geography. The Project Operator is required to complete compensatory mitigation for impacts to wetlands through a combination of mitigation bank credits in the North Fork Payette subbasin and permittee-responsible on-site mitigation within the South Fork Salmon River subbasin, plus some additional off-site mitigation outside the South Fork Salmon River subbasin to account for temporal impacts (Tetra Tech 2023).

The Project Operator will gain approval for a final compensatory wetland mitigation plan from the U.S. Army Corps of Engineers, and then implement and maintain the planned wetlands in coordination with the U.S. Army Corps of Engineers, as part of their Clean Water Act 404 permit. A Compensatory Mitigation Plan (Tetra Tech 2023) that addresses compensation for lost wetland areas and functions, in addition to addressing mitigation proposed for impacted streams, many of which are also waters of the United States, has been submitted to the U.S. Army Corps of Engineers by the Project Operator. The Compensatory Mitigation Plan addresses compensatory mitigation for the permanent impacts described in the FEIS, which will be accomplished through a combination of mitigation bank credits and the creation of new wetlands, streams, and enhancing and reclaiming existing wetlands and streams in the general vicinity of the impact areas. The Compensatory Mitigation Plan also addresses compensatory mitigation to reduce the temporal loss of aquatic functions and potential risks associated with actions described in the Compensatory Mitigation Plan.

The Compensatory Mitigation Plan describes a plan to locate the compensatory wetland mitigation sites within the same subbasins as the associated wetland impact sites. The temporal lag between effects on

stream functional units and their mitigation will be addressed via off-site stream improvements located in subbasins outside the Stibnite Gold Project vicinity (Tetra Tech 2023). The proposed compensatory wetland mitigation within the Stibnite Gold Project area subbasin will be located around the mine site area where the majority of wetland impacts would occur, with no mitigation sites proposed along the access roads and the transmission line routes. The current location and configuration of mitigation sites identified in the Compensatory Mitigation Plan were selected based on suitable hydrology and compatibility with watershed-scale features and on the likelihood that compensatory mitigation wetlands would be sustainable within five years (Tetra Tech 2023). At the conclusion of the Forest Service NEPA process, final wetland impacts will be assessed, any agreed upon off-site compensatory mitigation projects will be finalized, and a final mitigation plan will be prepared, including a final assessment of functional units lost and created, and then the final credits and debits would be documented in the Clean Water Act Section 404 permit based on U.S. Army Corps of Engineers impact determinations.

Coordination with the U.S. Army Corps of Engineers for approval of existing and predicted wetland functional assessment scores is ongoing and may also result in changes relative to the totals listed in the FEIS. The U.S. Army Corps of Engineers may have changes to the methodology for the functional assessment evaluation which could result in changes in the final Compensatory Mitigation Plan to ensure mitigation reflects any resulting changes. Final impact acreages will be determined as part of the Clean Water Act Section 404 permit application and will be agreed upon by the U.S. Army Corps of Engineers.

2.3.8 Vegetation

Noxious Weed Control

Issue: Mobile equipment arriving on site may contain seed material from noxious weeds and non-native species.

Monitoring Measure – Equipment Inspection: Prior to delivery to the site, mobile equipment (excluding light passenger vehicles, employee buses, and delivery trucks) will be inspected for potential noxious and non-native seed materials at the Stibnite Gold Logistics Facility by Project Operator personnel trained to observe potential seed materials. Any potential seed materials will be removed prior to transportation to site.

Whitebark Pine

Issue: Previous 2019 whitebark pine surveys were conducted within a 300-foot-wide buffer of the Selected Alternative components, which included the transmission line, Burntlog Route, and mine site features (Tetra Tech 2020). The field survey relied on an AECOM Technical Services, Inc. suitable habitat model (4,320 acres) prepared for the Stibnite Gold Project EIS to document species presence or absence and to group areas with uniform stand characteristics. The survey methodology was determined by the Forest Service and focused on coarse scale results. For example, the survey estimated a range of live whitebark pine individuals within a plot boundary, the presence of white pine blister rust, the percent of dead whitebark pine trees, the percent of whitebark pine trees that are cone producing, the presence of seedlings, and evidence of mountain pine beetle kill.

Mitigation Measure – Pre-construction Surveys and Genetic Testing:

- VEG-1. Pre-construction Surveys – Within AECOM's modeled suitable habitat that overlaps with Stibnite Gold Project components and along the entirety of the Burntlog Route, prior to construction of the route, the Project Operator will conduct surveys in unsurveyed areas (e.g., not included in Tetra Tech's 2019 survey effort due to changes in the proposed Stibnite Gold Project footprint since the 2019 field season) and occupied habitat to identify whitebark pine individuals within the disturbance footprint and estimate the number of individuals within 300 feet of the planned Stibnite

Gold Project disturbance footprint. Surveys will make particular note of mature (greater than 4-inch diameter at breast height), cone-producing "plus" trees, which are defined as those with presumed (i.e., phenotypic) white pine blister rust resistance.

The Project Operator will coordinate with the Forest Service Region 4 Forest Health Protection Boise Group Lead, on survey methodology including but not limited to identification and confirmation of blister rust infection, "plus" trees identification, and mountain pine beetle presence and absence within occupied habitat. In stands showing signs of blister rust resistant whitebark pine trees, genetic testing will be conducted to confirm resistance and these individual trees will be mapped. Genetic testing will focus on whitebark pine stands with mature (greater than 4 inches diameter at breast height) and/or cone-producing individuals appearing to have some level of resistance as evidenced by healthy whitebark pine trees. Stands showing high levels of blister rust infection and little evidence of blister rust resistance will be designated as potential replanting sites. As practicable, for future cone collections from whitebark pine trees with genetic resistance confirmed, effort will be made to identify "source" genetic resistant whitebark trees located in the vegetation analysis area but outside of the Stibnite Gold Project footprint in order to maintain a sustainable source of genetic resistant whitebark pine trees.

Additionally, within stands of identified blister rust resistant trees confirmed through genetic testing, surveys will document trees of all age classes. Within stands identified as not containing blister rust resistant trees, surveys will focus on mature trees greater than 4 inches diameter at breast height.

Issue: Accurate identification of whitebark pine individuals of various age classes.

Mitigation Measures – Whitebark Pine Identification:

- VEG-2. The Project Operator will train Stibnite Gold Project personnel to identify whitebark pine (and other 5-needled pines, if they occur within disturbance areas) to ensure that Stibnite Gold Project activities limit the damage or removal of healthy (e.g., show no evidence of blister rust infection or mountain pine beetle infestation) whitebark pine trees regardless of their age class (seedling, sapling, and mature trees) to the extent practicable.
- VEG-3. To protect from accidental removal or damage, all identifiable whitebark pine trees, particularly mature, healthy trees, in a disturbance area will be marked either individually or collectively by stand perimeter marking and buffered by 33 feet, in a manner that does not cause damage to the tree or introduce disease, regardless of their age class (seedling, sapling, and mature trees).

Issue: Removal of whitebark pine individuals, particularly "plus" trees.

Mitigation Measures – Whitebark Pine Avoidance:

- VEG-4. The Project Operator will make every practicable effort to avoid timber cutting or ground disturbing activities that may damage or kill whitebark pine individuals of all age classes within populations of whitebark pine blister rust resistant stands, especially stands with evidence of natural regeneration or reproductive whitebark pine individuals.
- VEG-5. The Project Operator will make every practicable effort to avoid removing or damaging live whitebark pine trees greater than 4-inch diameter at breast height, particularly live whitebark pine trees that are identified or considered to be "plus" trees.
- VEG-6. Damaging or killing a "plus" tree will only occur in situations where human health and safety are at risk or where a reasonable effort was made and shown to be infeasible for the Stibnite Gold Project based on communication with the Forest Service.

- VEG-7. During maintenance activities not associated with the power transmission line, the Stibnite Gold Project Operator will avoid removing mature whitebark pine trees where possible, and instead prune trees to acceptable heights and extents, maintaining as many cone bearing branches as possible to allow for the continued production of seeds. The power transmission line right-of-way will be maintained via tree removal to minimize potential fire risks associated with vegetation in proximity to the power transmission line.

Issue: Indirect impacts to whitebark pine individuals and occupied habitat.

Mitigation Measures – Whitebark Pine Impact Minimization:

- VEG-8. Where practicable, ground disturbance from the use of mechanical equipment will not occur within 33 feet of whitebark pine individuals.
- VEG-9. When not able to avoid whitebark pine individuals, the Project Operator will use mechanical equipment (heavy equipment and vehicles) sparingly, to the extent practicable, within occupied whitebark pine habitat and clean all equipment before entering and before leaving a work site to prevent the spread of invasive weeds, pathogens, and pests.
- VEG-10. Where possible, the Project Operator will avoid placing skid trails within 33 feet of whitebark pine individuals to prevent soil compression, minimize crushing and destroying undetected whitebark pine seeds, and prevent removal of whitebark pine seedlings and saplings.

Mitigation Measures – Whitebark Pine Impact Rectifying and Restoring:

- VEG-11. If damage or removal of any live whitebark pine trees cannot be avoided, the Project Operator will make every reasonable effort to collect the cones, scion, pollen, or other genetic material from live mature trees (particularly "plus" trees) within the same seed zone for future restoration efforts before the live whitebark pine is damaged or killed. The Project Operator will coordinate with the Forest Service and U.S. Fish and Wildlife Service to identify potential restoration efforts for the species within or near the Stibnite Gold Project.
- VEG-12. If collection cannot occur, the Project Operator will contact the Forest Service and U.S. Fish and Wildlife Service to explore additional options, which may include replanting in accordance with current whitebark pine replanting guidelines or best practices, or suitable alternatives with whitebark pine seedlings or seed stock of known superior parentage ("plus" whitebark pine). Whitebark pine used for replanting will be of the same seed zone as the mature trees that were removed.

Clark's Nutcracker Habitat

Issue: Impacts to whitebark pine seed dispersers, primarily the Clark's nutcracker and its habitat.

Mitigation Measure – Clark's Nutcracker:

VEG-13. Where possible, the Project Operator will avoid or limit cutting of mature whitebark pine trees in stands that are of sufficient size to support Clark's nutcracker use of the area (30,888 to 61,776 acres of cone bearing whitebark pine habitat within a 20.3-mile radius).

2.3.9 Transportation

Burntlog Route Public Access Restriction

Issue: Unrestricted public use of the Burntlog Route (consisting of the existing Forest Road [FR] 447 [Burnt Log Road] and new road segments connecting to FR 50375 [Thunder Mountain Road] and FR 51290 [Meadow Creek Lookout Road]) would have potential impacts associated with traffic incidents, public safety, emergency services, wildlife interactions, wilderness solitude, and tribal interests.

Mitigation Measure – Burntlog Route public access restriction: Construction of the Stibnite Gold Project is expected to take three years (Mine Years -3 through -1). The Burntlog Route is anticipated to take two years to construct (i.e., Mine Year -3 and -2). The access to Meadow Creek Lookout Road will experience short-term closures during Year -3 when crossings of the new Burntlog Route are constructed.

The through-site public access to Thunder Mountain Road will be largely unaffected during Year -3 with more temporary closures in Year -2, then completely closed during Year -1 before re-opening on a new seasonal access route in Year 1 (Table 3).

Table 3 Access Impacts During Construction and Operations

Road	Mine Year -3	Mine Year -2	Mine Year -1	Mine Operations
Warm Lake Road (Cascade to Landmark)	Limited effects	Limited effects	Limited effects	Limited effects
Johnson Creek Road (Landmark to Yellow Pine)	Limited effects	Temporary closures	Seasonal access	Seasonal access
Stibnite Road (Yellow Pine to Stibnite)	Limited effects	Temporary closures	Closed in Operations Area	Seasonal access
Thunder Mountain Road (Stibnite to Thunder Mountain)	Limited effects	No access when Stibnite Road is temporarily closed	Access through new Burntlog Route only	Seasonal access via new public access road through site
Meadow Creek Lookout Road	Temporary closures for nearby Burntlog Route construction	Limited effects	1.8-mile shared segment with new Burntlog Route	1.8-mile shared segment with new Burntlog Route
New Burntlog Route (Landmark to Stibnite)	Under construction	Under construction	Site access plus public access	Site access with public access restriction

The Burntlog Route will be a mine access road operated by the Stibnite Gold Project for the duration of the project. As such, project-related use of the route will be regulated per the Forest Service's decision on the Stibnite Gold Project and incorporate compliance with the project's Transportation Management Plan. Public use of the Burntlog Route will be restricted. Seasonal use of the newly constructed portions of the Burntlog Route will be allowed only during the snow-free portion of Year -1 when there would be no other access to the Thunder Mountain Road.

Public use of existing segments of the Burntlog Route will not be modified by the Stibnite Gold Project decision but would be subject to temporary closures for new Burntlog Route construction. During operations, public use of existing segments of the Burntlog Route (i.e., Burnt Log Road [FS447], Meadow Creek Lookout Road [FR51290], and Thunder Mountain Road [FR50375]) will be unrestricted. The main road segment where public access would continue will be a 1.8-mile section of the Meadow Creek Lookout Road, coincident with the Burntlog Route. Signage would be placed at all intersections with Forest Service roads and trails to identify road segments with public access restrictions.

The Forest Service will require the Project Operator, to develop and implement a Burntlog Route Access Plan to restrict public access per this mitigation measure and to provide notifications to the public when the newly constructed segments of the Burntlog Route would be open.

Traffic Delay Notifications

Issue: Road improvement, repair, and maintenance activities plus the transportation of large loads to the Operations Area Boundary would result in road closures and traffic delays on site access roads such as Warm Lake Road (e.g., Big Creek Summit), Johnson Creek Road, Stibnite Road, and Thunder Mountain Road. These delays would affect public use of the access roads for their non-project-related usage.

Mitigation Measure – Traffic Delay Notifications: The Project Operator will coordinate with the Forest Service, Valley County Road and Bridge Department, Valley County Sheriff Department, Valley County Recreation Department, Cascade Rural Fire Protection District, Warm Lake Campground, and Yellow Pine Town Council to provide information regarding planned roadwork, road usage, and traffic delays. This coordination will include publication and weekly updating of the planned schedule for Stibnite Gold Project roadwork and large-load road usage that will be available on a project webpage on the internet, on a system accessible by phone dial-in, and at the coordinating entities' physical locations. Also, in coordination with the Forest Service and Valley County Road and Bridge Department, roadside signage indicating the current and planned traffic delays for the next week will be displayed near the intersection of State Highway 55 and Warm Lake Road, at the intersection of Warm Lake Road and Johnson Creek Road, and at the Yellow Pine rest area.

2.3.10 Recreation

Cabin Creek Over-snow Vehicle Route Avalanche Hazard Communication Plan

Issue: Closure of the Warm Lake Road to winter recreation use as a groomed over-snow vehicle route would transfer winter recreation opportunities to the Cabin Creek Road. Transfer of the over-snow vehicle route to Cabin Creek Road presents new terrain and avalanche hazards.

Measure: A Cabin Creek Over-snow Vehicle Route Avalanche Hazard Communication Plan will be developed by the Project Operator describing the new avalanche hazards and then explain where information will be located to communicate avalanche forecast hazards. Avalanche forecasts for the Cabin Creek over-snow vehicle route will be developed based on data from the Project Operator's weather station along Warm Lake Summit.

2.3.11 Heritage Resources

For the Stibnite Gold Project, the Forest Service determined that a programmatic agreement is required to ensure compliance with the National Historic Preservation Act and 36 CFR 800. The programmatic agreement includes provisions for identification of historic properties, mitigation for adverse effects to historic properties, the preparation of a Historic Properties Management Plan, and subsequent Historic Properties Treatment Plans to address effects to historic properties over the life of the Stibnite Gold Project.

The Historic Properties Management Plan applies to both public and private lands within the project's area of potential effects and is designed to address the process by which previously unknown historic resources will be identified, evaluated, and assessed for potential effects pursuant to the requirements of Section 106 of the National Historic Preservation Act. The Historic Properties Management Plan will also address the process by which previously identified sites in uninventoried areas within the physical area of potential effect would be re-identified, evaluated, and assessed for potential effects. The goal of the Historic Properties Management Plan is to incorporate the management of historic properties with the management and operation of the Stibnite Gold Project, without unnecessary delays and in a manner that addresses the historic properties within the area of potential effects in accordance with applicable legal requirements.

Management options are designed to ensure that effects on historic properties are avoided and include preservation in place, ongoing use, monitoring, public and company education, closure or isolation of specific properties, and stabilization. This Historic Properties Management Plan attempts to protect resources, provide positive benefits for the preservation of cultural values, and recognize consideration of the effects on historic properties. The Historic Properties Management Plan will:

- Comply with stipulations developed jointly by the Signatory, Invited Signatory, and Concurring Parties as outlined in the programmatic agreement;
- Summarize the results of previously conducted cultural resources surveys and the identification of historic properties, including any traditional cultural property in the area of potential effects;
- Develop a process for phased identification efforts for previously uninventoried portions of the Stibnite Gold Project areas of potential effects and incorporating design changes to the Stibnite Gold Project to avoid or minimize adverse effects on historic properties;
- Describe a process for evaluation of heritage resources for eligibility for inclusion on the National Register of Historic Places;
- Address the assessment of effects and how adverse effects to historic properties will be resolved in consultation with the Project Operator and other consulting parties;
- Develop ways to avoid, minimize, or mitigate adverse effects on historic properties;
- Define impact and adverse effect avoidance measures for performing operations and maintenance activities;
- Establish the process and protocol for the development of an Historic Properties Treatment Plans outlining mitigation for those historic properties determined to be adversely affected. The purpose of the Historic Properties Treatment Plans will be to streamline the resolution of adverse effects to historic properties located within the Stibnite Gold Project and will be prepared in accordance with the stipulations set forth in the programmatic agreement;
- Determine the curation process for all recovered heritage resource materials as a result of the Stibnite Gold Project;
- Establish the process for managing unanticipated discoveries; and
- Confirm the process for managing discovery of human remains on both private and federal lands within the Stibnite Gold Project area of potential effects taking into account applicable state laws, local laws, and the Native American Graves Protection and Repatriation Act (U.S.C. § 3001).

Tribal Monitor Program – Section 106 and Archaeological Sites

The Payette National Forest and The Project Operator invite tribal partners to participate in the implementation of the Stibnite Gold Project through the Tribal Monitor Program. The Tribal Monitor Program will be funded by the Project Operator as described below.

Tribal monitors are not employees of the Project Operator and monitors will not be under contract with the Project Operator when acting in this capacity. Rather, they are agents and representatives of their respective tribal organizations who nominated them to act as tribal monitor.

The Forest Service will update tribal partners on the status of the Tribal Monitor Program as part of the Forest Service's ongoing consultation process. In addition, updates will be provided by the Forest Service to the Project Operator.

Through the Tribal Monitor Program, tribal partners will be provided with the opportunity to be present during construction and operation activities for the Stibnite Gold Project. This program is developed specifically for the monitoring of project activities in proximity to historic properties and is in accordance with the National Historic Preservation Act. The Project Operator will provide the construction timeline to the Forest Service, who will distribute it to tribal partners prior to implementation of project activities in proximity to historic properties. Upon receipt, tribal partners will identify their participation interest in the

Tribal Monitor Program. Participating tribes in the Tribal Monitor Program will designate a tribal point-of-contact who will be provided the timeline and will coordinate with tribal identified and organized tribal monitors to be available and on-site during construction activities in proximity to historic properties. A list of tribal monitors will be maintained by the tribal point-of-contact and shared with the Forest Service and the Project Operator.

The Project Operator will contact the Forest Service with a request for both a Forest Service archaeologist and a tribal monitor from participating tribal partners when implementing Stibnite Gold Project activities within 100 meters of historic properties. Historic properties may have been previously identified in the Historic Properties Management Plan, identified during phased archaeological inventory efforts, or may be identified during project-related disturbances. The Project Operator will provide no less than two-weeks of notice to a Forest Service archaeologist and the tribal point of contact. A Forest Service archaeologist will be required for monitoring prior to the implementation of project activities in proximity to historic properties.

The Forest Service archaeologist and a tribal monitor will monitor Stibnite Gold Project activities for avoidance of impacts to historic properties. The Forest Service archaeologist' and tribal monitors' duties will include ensuring project actions stayed within surveyed and flagged areas. If a tribal monitor is not available within the implementation timeframe, project actions may proceed.

To facilitate the Tribal Monitor Program, the Project Operator will perform the following:

1. Work directly with each participating tribal partners' point-of-contact to coordinate and organize tribal monitoring of the activity or activities;
2. Provide training to on-the-ground Project Operator staff on the Tribal Monitor Program;
3. Provide any required safety training (such as Mine Safety and Health Administration safety training) to tribal monitors;
4. Provide the personal protective equipment required for tribal monitors (including hard hat, safety glasses, and orange vests);
5. Assign an employee or contractor (such as site manager or professional archeologist) to work with the tribal monitor and coordinate on-site transportation for the monitoring event; and
6. Provide no less than $650 per day stipend (with a 3.5 percent increase annually to account for inflation) to reimburse monitors for mileage, travel, meals, and other expenses incurred in the course of acting as a tribal monitor (Stipend is based on government reimbursement mileage rate, government food per diem rates, government volunteer labor value rate, and median cost of local accommodation options). To receive the stipend, each tribal monitor must submit a brief written statement to the Project Operator indicating that they were present as a tribal monitor on that date, and what activities they monitored. The Project Operator will supply copies of these daily sheets to Forest Service Heritage Program lead, and participating tribal partners upon request. It will generally take approximately two weeks to receive the reimbursement stipend from the date that a tribal monitor is present at the Stibnite Gold Project and has submitted a report; and,
7. Tribal monitors will still be reimbursed for their labor and travel expenses should delays occur as a result of the Project Operator's decisions/actions.

Under the Tribal Monitor Program, the tribal monitors will perform the following:

1. Have the physical capacity to walk over uneven ground without assistance;
2. Supply their own transportation to and from the Stibnite Gold Project;
3. Supply their own food, water, and living accommodations for the period they are acting as tribal monitors;
4. Complete required safety training including Mine Safety and Health Administration training, site-specific safety training, safety meetings, and testing;

5. Work safely and adhere to all Project Operator safety policies and procedures to perform the tribal monitor role;
6. Wear the personal protective equipment required by the Project Operator;
7. Remain with the work crew for the duration of the daily activity, or until their assigned supervisor can accommodate their safe departure from the work area;
8. Provide the Project Operator, Forest Service, and their Tribe or Committee with a brief written statement indicating the date they were on site acting as a tribal monitor and the activities they monitored that day;
9. Provide the feedback and reports requested by the Project Operator, Forest Service, or the tribal monitor's tribal organization; and
10. Provide information on any concerns to the tribal monitor's tribal organization for further discussion with Forest Service and potentially the Project Operator, if necessary.

2.3.12 Tribal Treaty Rights and Interests

Tribal Plant Resources

Issue: Revegetation of tribally significant plant species may be difficult without seed material derived from the Stibnite Gold Project vicinity.

Mitigation Measure – Pre-disturbance seed collection: Because of the amount of ground disturbance and the site-specific nature of Stibnite Gold Project reclamation, revegetation efforts will be augmented through the use of locally derived material to supplement reclamation seed mixes purchased commercially. The Project Operator will develop seed collection and reclamation nursery programs prior to or during construction or operations. Seeds of native forb, graminoid, shrub, and tree species may be collected on or adjacent to the Stibnite Gold Project site and grown to a seedling size in the nursery. These nursery-grown seedlings will then be planted in reclamation areas as described above. Additionally, plugs or sprigs of riparian and wetland graminoid species will be harvested and grown-out or stored short term in the nursery for transplanting into reclamation areas. Cuttings of native shrub species, such as willows and redosier dogwood (*Cornus sericea*), will also be harvested and propagated and/or stored short term in the nursery prior to use as live-stakes for revegetation purposes. The collected seeds, seedlings, and cuttings will supplement the majority of plant materials which would be purchased from commercial off-site nurseries and seed suppliers.

Tribal Access Plan

Issue: Project activities would restrict access to the Project Operations Area Boundary which could preclude tribal traditional activities within that area.

Mitigation Measure – Tribal access plan: The Project Operator and the Federally-recognized Tribes with traditional use claims for the Operations Area Boundary will enter into a Tribal Access Plan to allow for continued access for tribal members while complying with safety rules and requirements put in place to protect the health and safety of workers and visitors to the Operations Area Boundary. The Tribal Access Plan locations will be designated for tribal member entry into the Operations Area Boundary, parking areas, accessible trails and roads. Pre-notification and communication procedures while tribal members are actively within the Operations Area Boundary will be developed.

Tribal Environmental Monitoring

Issue: Planned environmental monitoring for the Stibnite Gold Project does not specifically occur at locations of traditional tribal usage or for specific natural resources of tribal interest.

Monitoring Measure – Tribal Environmental Monitoring: The Forest Service will accommodate monitoring proposals from Federally-recognized Tribes with traditional use locations within the Operations

Area Boundary to conduct environmental monitoring on National Forest Lands. Tribally proposed monitoring outside of the Project Operations Area Boundary would be coordinated with the Forest Service while proposed monitoring within the Operations Area Boundary would be considered by the Forest Service for inclusion amongst its monitoring requirements for the Stibnite Gold Project. Any tribal monitoring within the Operations Area Boundary would conform to all federal and state safety regulations and access would be done in accordance with the Stibnite Gold Project Tribal Access Plan. While no specific monitoring proposals have been received, the Forest Service generally supports tribal observers accompanying archeologists during the treatment of pre-historic sites and tribal observers accompanying Forest Service personnel during compliance inspections. The Forest Service would expect that results of any tribal observations would be made available to the Forest Service and the Project Operator by the tribe(s).

Tribal Treaty Rights and Treaty Resources

Issue: Tribal partners may want to observe pre-construction and construction activities in areas of tribal concern.

Monitoring Measure – Tribal Observer Program: The Payette National Forest and the Project Operator invite tribal partners to participate in the implementation of the Stibnite Gold Project through the Tribal Observer Program. The tribal observer will be funded by the Project Operator as described below.

Tribal observers are not employees of the Project Operator and tribal observers will not be under contract with the Project Operator when acting in this capacity. Rather, they are agents and representatives of their respective tribal organizations who nominated them to act as tribal observer.

The Forest Service will update tribal partners on the status of the Tribal Observer Program as part of the Forest Service's ongoing consultation process. In addition, updates will be provided by the Forest Service to the Project Operator.

Through the Tribal Observer Program, tribal partners will be provided with the opportunity to be present during pre-construction and construction activities. This program is developed specifically for observation of project activities that are in accordance with NEPA-compliance and implementation of the Stibnite Gold Project. the Project Operator will provide the construction timeline to the Forest Service prior to implementation of project activities to be distributed to tribal partners. Upon which, tribal partners will identify their participation interest in the Tribal Observer Program. Participating tribes in the Program will designate a tribal point-of-contact who will be provided the timeline and will coordinate with the Project Operator and the tribal-identified observers to be available and on-site during pre-construction and/or construction activities. A list of tribal observers will be maintained by the tribal point-of-contact and shared with the Forest Service and the Project Operator. If a tribal observer is not available within the implementation timeframe, project actions may proceed.

To facilitate the Tribal Observer Program, the Project Operator will perform the following:

1. Work directly with each participating tribal partners' point-of-contact to coordinate and organize tribal observation of the activity or activities;
2. Provide training to on-the-ground the Project Operator staff on the Tribal Observer Program
3. Provide any required safety training (such as Mine Safety and Health Administration safety training) to tribal observers;
4. Provide the personal protective equipment required for tribal observers (e.g., hard hat, safety glasses, and orange vests);
5. Assign an employee or contractor (such as site manager or professional archeologist) to work with the tribal observer and coordinate on-site transportation for the observation event; and

6. Provide no less than $650 per day stipend (with a 3.5 percent increase annually to account for inflation) to reimburse tribal observers for mileage, travel, meals, and other expenses incurred in the course of acting as a tribal observer (Stipend is based on government reimbursement mileage rate, government food per diem rates, government labor value rate, and median cost of local accommodation options). To receive the stipend, each tribal observer must submit a brief written statement to the Project Operator indicating that they were present as a tribal observer on that date, and what activities they observed. the Project Operator will supply copies of these daily sheets to Forest Service project lead, and participating tribal partners upon request. It would generally take approximately two weeks to receive the reimbursement stipend from the date that a tribal observer is present at the Stibnite Gold Project and has submitted a report; and
7. Tribal observers will still be reimbursed for their labor and travel expenses should delays occur as a result of the Project Operator's decisions or actions.

Under the Tribal Observer Program, tribal observers will perform the following:

1. Have the physical capacity to walk over uneven ground without assistance;
2. Supply their own transportation to and from Stibnite Gold Project;
3. Supply their own food, water, and living accommodations for the period they are acting as tribal observers;
4. Complete required safety training including Mine Safety and Health Administration training, site-specific safety training, safety meetings, and testing;
5. Work safely and adhere to all the Project Operator safety policies and procedures to perform tribal observer role;
6. Wear the personal protective equipment required by the Project Operator;
7. Remain with the work crew for the duration of the daily activity, or until their assigned supervisor can accommodate their safe departure from the work area;
8. Provide the Project Operator, Forest Service, and their Tribe or Committee with a brief written statement indicating the date they were on site acting as a tribal observer and the activities they observed that day;
9. Provide the feedback and reports requested by the Project Operator, Forest Service, or the tribal observer's tribal organization; and
10. Provide information on any concerns of the tribal observer to their tribal organization for further discussion with the Forest Service and potentially the Project Operator, if necessary.

2.3.13 General Measure

To the extent practical, the Project Operator will protect all survey monuments, witness corners, reference monuments, and bearing trees against destruction or damage. Public land survey system monuments will be protected and preserved. If destroyed or damaged, the Project Operator will immediately report the matter to the Forest Service Authorized Officer and reestablish the monument, corner, or accessory in accordance with the Bureau of Land Management Manual of Instructions for the Survey of the Public Lands of the United States.

To assist in planned avoidance of environmental resources in accordance with Project designs, the Project Operator will flag the design boundary of a work area that is within 100 feet of an avoidance area (such as the Frank Church River of No Return Wilderness or a heritage resource site) during initial ground disturbance activity and any subsequent surface earthwork. Flagging of the work area boundary provides a visual cue to the authorized extent of work activity for employees and contractors to assist them in avoiding the nearby environmental resources.

2.4 Principle Reasons for the Decision

My decision is based on review of the Stibnite Gold Project FEIS and supporting documents, public scoping, consultation with tribes, including the Nez Perce Tribe, Shoshone-Bannock Tribes, and Shoshone-Paiute Tribes, and the project record, which shows a thorough examination of relevant and best available scientific information, consideration of responsible opposing views, and the acknowledgment of incomplete or unavailable information, scientific uncertainty, and risk.

I have taken into consideration the degree to which the environmental design features, monitoring, and mitigation measures will, where feasible, minimize adverse environmental impacts on National Forest surface resources, and the predicted effects of the Selected Alternative on groundwater and surface water quality in the area with respect to state and federal requirements. The Selected Alternative minimizes adverse environmental impacts on National Forest surface resources where feasible, consistent with the requirements of 36 CFR 228A, while providing sufficient access to allow mining operations to proceed. I have ensured that an evaluation of the environmental impacts in the Stibnite Gold Project FEIS was accomplished through coordination with other state and federal agencies in addition to other interests and jurisdictions.

The requirements of the 2008 Idaho Roadless Rule and the Payette and Boise Land and Resource Management Plans were considered as I formulated my decision. My decision is consistent with them, as both the 2008 Idaho Roadless Rule and the land and resource management plans recognize the access to National Forest System lands afforded by the mining laws.

This section presents the principal reasons supporting the Forest Service decisions.

2.4.1 Principle Reason – Selected Alternative (2021 Modified Mine Plan)

Following my review of the environmental impacts as discussed in the Stibnite Gold Project FEIS and as presented in its Table 2.8-1, I have identified the 2021 Modified Mine Plan as the Selected Alternative for the Stibnite Gold Project. Use of the Burntlog Route for mine access is superior to alternative routes because it:

- Reduces the risks of geotechnical instability, hazardous materials transport, and public health and safety transportation during operations (26 landslides and rockfalls and 38 avalanche paths versus the Johnson Creek Route Alternative: 45 landslides and rockfalls and 94 avalanche paths). This reduction in exposure to landslide and avalanche paths was given preference over effects of new road ground disturbance because of the potential intensity of those impacts on hazardous materials, access and transportation, and public health and safety, compared to the effects of ground disturbance on other resources;
- Reduces potential for spill contamination, sedimentation, and turbidity to streams during operations (37 stream crossings, 6.6 miles of travelway within 100 feet of streams versus Johnson Creek Route Alternative: 43 stream crossings, and 11.5 miles of travelway within 100 feet of streams). This reduction in exposure of streams to spills resulting from traffic incidents and the reduction in potential sedimentation and turbidity impacts was given preference over effects of new road ground disturbance because of the intensity of those potential impacts on hazardous materials, water resources, fish and aquatic resources, and socioeconomics compared to the effects of ground disturbance on other resources;
- Reduces acres of riparian area lost within the off-site focus area (299.5 acres versus Johnson Creek Route Alternative: 352.6 acres);

- Reduces the volume of timber resources removed (595 acres versus Johnson Creek Route Alternative: 733 acres), and acres of timberland permanently converted to non-productive land use (66 acres versus Johnson Creek Route Alternative: 282 acres);
- Reduces public safety risks and potential accidents during operations (Johnson Creek Route Alternative has steeper topography and terrain requiring wider roads, more cut and fill sections and more switchbacks; traffic including heavy equipment would be routed through the community of Yellow Pine for the duration of the Stibnite Gold Project; general public would utilize same roads as large mining equipment). This reduction in mine traffic exposure to public road use was given preference over effects of new road ground disturbance because of the intensity of those impacts on access and transportation, recreation, public health and safety, and socioeconomics compared to the effects of ground disturbance on other resources; and
- Reduces potential impacts such as access to tribal fisheries restoration activities along Johnson Creek Road during operations.

The Selected Alternative removes legacy mined materials, includes measures to manage stream temperatures, and utilizes reclamation and closure activities that improve surface water quality and fish access to habitat compared to the No Action Alternative.

The Selected Alternative will reasonably accomplish the purpose and need for the federal action, while giving consideration to environmental, economic, and technical factors.

2.4.2 Principle Reason – Special Use Authorizations

The power transmission line is proposed as part of the 2021 Modified Mine Plan and therefore its environmental effects are being analyzed in the FEIS because it is part of the proposed Selected Alternative. As proposed it appears consistent with the special use authorization regulations at 36 CFR 251.53(l)(4). This decision covers the special use authorization for the transmission line provided the application adheres to the scope of analysis in the Stibnite Gold Project FEIS.

PART 3 ALTERNATIVES CONSIDERED

Public comments received during scoping provided early input into potential alternatives to the proposed Stibnite Gold Project. An iterative review by the Forest Service and cooperating agencies, evaluated these comments to determine whether they were reasonable alternatives to the proposed Stibnite Gold Project using four basic screening criteria described below. In addition to alternatives suggested during scoping, the Forest Service, cooperating agencies, and Perpetua also completed an alternatives development and review process (Midas Gold 2016a, Appendix G). Twenty-one (21) potential alternatives and component options were screened based upon four criteria:

1) Does the alternative, including a combination of component options, meet the purpose and need of the Stibnite Gold Project?
2) Would the alternative or component option potentially reduce environmental effects to at least one resource?
3) Is the alternative or component option technically feasible?
4) Is the alternative or component option economically feasible?

3.1 Other Alternatives Considered in Detail

In addition to the Selected Alternative, I considered two other alternatives, which are discussed below. A more detailed comparison of these alternatives can be found in Chapter 2 of the Stibnite Gold Project FEIS.

3.1.1 No Action Alternative

Under the No Action Alternative (Section 2.3 of the FEIS), the 2021 Modified Mine Plan would not be approved and the mining, ore processing, or related activities proposed in that plan would not occur, including removal of legacy materials included in the Stibnite Gold Project area.

3.1.2 Reasons for Not Selecting the No Action Alternative

The No Action Alternative was not selected primarily due to:

- The Stibnite Gold Project as mitigated minimizes adverse environmental impacts on National Forest System surface resources to the extent feasible per the Forest Service 36 CFR 228A regulations,
- Economic production of gold, silver, and antimony would not occur,
- Existing legacy materials and unreclaimed historical mine conditions would continue to affect the site and its surface water conditions,
- The existing open pit barrier would continue to block volitional fish access to habitat, and
- Employment, procurement, and taxation benefits associated with the Stibnite Gold Project would not be realized.

3.1.3 Johnson Creek Alternative

The Johnson Creek Route Alternative (Section 2.5 of the FEIS) was developed to avoid or reduce certain impacts to Idaho Roadless Areas, sensitive plant species, and wetlands. Under this alternative, the Burntlog Route would not be constructed and used for primary access to the Stibnite Gold Project. The Johnson Creek Route would be used during the construction, operations, and closure and reclamation phases of the Stibnite Gold Project.

3.1.4 Reasons for Not Selecting the Johnson Creek Route Alternative

The Johnson Creek Route Alternative was not selected primarily due to:

- Higher transportation risks associated with geotechnical stability, hazardous materials transport, and public health and safety,
- Higher potential for spill contamination, sedimentation, and turbidity effects on streams,
- More acres of riparian disturbance,
- More timber resources removed,
- More mine-related traffic on public roads including through the community of Yellow Pine, and
- More potential effects on tribal fisheries restoration activities along the Johnson Creek Road during operations.

3.2 Environmentally Preferred Alternative

The Council on Environmental Quality regulations (40 CFR Part 1505.2) require agencies to identify the environmentally preferable alternative. The environmentally preferable alternative is the alternative that will promote the national environmental policy, as expressed in Section 101 of the NEPA. It is the alternative that will cause the least damage to the biological and physical environment and best protect, preserve, and enhance historic, heritage, and natural resources.

The No Action Alternative is the environmentally preferable alternative because the No Action Alternative would result in no project-related environmental disturbance as compared to the Selected Alternative and other action alternatives. Under the No Action Alternative, the proposed mining, ore processing, or related activities would not occur. Removal of legacy materials (such as the Spent Ore Disposal Area and Hecla heap leach), restoration of stream channels, and enhanced riparian plantings would not occur; however, the two action alternatives would result in more new surface disturbance and associated impacts.

Previously approved activities (including approved exploration activities and associated reclamation obligations) would continue. In a reasonably foreseeable future action, certain legacy and existing mining impacts would be addressed as directed in the 2021 Administrative Settlement Agreement and Order of Consent (ASAOC), including installation of stream diversion ditches designed to avoid contact of water with existing sources of contamination and removal of approximately 325,000 tons of development rock and tailings that are currently impacting water quality. These Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) response actions would occur under all alternatives considered in this analysis. However, other existing legacy disturbances such as the Spent Ore Disposal Area and Hecla heap leach would continue to impact the environment.

3.3 Alternatives Eliminated from Detailed Analysis

In addition to the alternatives considered in detail, additional access and utility alternatives, land tenure alternatives, and facility configuration alternatives were considered but eliminated from full analysis for reasons described in Section 2.6 of the FEIS. The alternatives eliminated from detailed analysis included:

- Underground mining,
- West End Pit backfill,
- Electric mining equipment,
- Off-site ore processing,
- Filtered tailings,
- Tailings storage facility alternate locations,
- Power transmission line alternate route,
- Worker housing facility alternate location,
- South Fork Route access,
- Lick Creek Route access,
- Cabin Creek Road, Old Thunder Mountain Road, Riordan Creek Road access,
- Convoy mine traffic,
- Public parking lots and project components,
- No temporary over-snow vehicle trail,
- Dry mining and processing,
- West End Pit drainage,
- Modified East Fork Meadow Creek (Blowout Creek) restoration, and
- Yellow Pine Pit stream diversion without fish passage.

PART 4 PUBLIC INVOLVEMENT

4.1 Public Involvement Process

4.1.1 Scoping

The Stibnite Gold Project has been published in both the Boise and Payette National Forests' Schedule of Proposed Actions (SOPA) since January 1, 2017. The Notice of Intent for the Stibnite Gold Project EIS was published in the Federal Register on June 5, 2017. Additionally, a legal notice was published in two local newspapers on June 1, 2017: The Idaho Statesman in Boise, Idaho which is the newspaper of record and The McCall Star News in McCall, Idaho.

In-person open house public meetings were held in Cascade on June 27, 2017, McCall on June 28, 2017, Yellow Pine on July 15, 2017, and two meetings were held in Boise, Idaho on June 29, 2017.

The open house meetings provided a project overview, maps of the project area, and a forum for exchange of information and ideas or concerns related to the Stibnite Gold Project. Comment forms were available at the meetings. The Forest Service, Perpetua, cooperating agencies, and AECOM representatives were present. Lists of individuals who signed attendance sheets at the public meetings are included in the Scoping and Issues Summary Report (AECOM 2018).

The Forest Service received a total of 536 emails, comment letters, and public meeting comment forms during public scoping. The Scoping and Issues Summary Report can be viewed here: https://www.fs.usda.gov/project/?project=50516.

4.1.2 Comment Periods

A Notice of Availability (NOA) for the Draft EIS was published in the Federal Register August 20, 2020, initiating a 60-day comment period. Accompanying documents were also made available on the project webpage. Numerous individuals and several organizations requested an extension of the comment period. The request was accommodated by extending the comment period through November 4, 2020, resulting in a total overall comment period of 75 days. Due to the COVID-19 pandemic, only a virtual, online project information room provided the public with an opportunity to ask questions, learn about the project, and provide comments. The room contained posters describing the Stibnite Gold Project and its key effects along with descriptions of ways to submit comments and questions. In total, approximately 10,000 comment letters from individuals, Tribal governments, Federal, State, and local agencies, organized interest groups, and businesses were received during the 75-day comment period in response to the DEIS.

A NOA for the Supplemental DEIS was published in the Federal Register October 28, 2022. The NOA initiated a 60-day comment period. Accompanying documents and a virtual, online Story Map summarizing the Stibnite Gold Project and key effects were made available on the project webpage. Individuals and several organizations requested an extension of the comment period. The request was accommodated by extending the comment period through January 10, 2023, resulting in a total overall comment period of 75 days. In-person public meetings were held in McCall, Idaho (December 6, 2022), Cascade, Idaho (December 7, 2022), and Boise, Idaho (December 9, 2022). In total, approximately 19,400 submissions were received from individuals, Tribal governments, Federal, State, and local agencies, organized interest groups, and businesses during the 75-day comment period in response to the SDEIS. Submissions received on the SDEIS were reviewed by the Forest Service and responses to all substantive comments were responded to in the FEIS.

PART 5 CONSULTATION WITH OTHER AGENCIES

Council on Environmental Quality (CEQ) regulations (40 CFR 1508.5) define a cooperating agency as any Federal agency (other than the lead agency) and any State or local agency or Indian Tribe with jurisdictional authority or special expertise with respect to any environmental impact involved in a proposal. Two federal agencies, four state agencies, and Valley County with jurisdictional authority and/or applicable special expertise cooperated in the development of the EIS. The cooperating agencies are as follows:

- United States Army Corps of Engineers,
- United States Environmental Protection Agency,
- Idaho Governor's Office of Energy and Mineral Resources,
- Idaho Department of Lands,
- Idaho Department of Water Resources,
- Idaho Department of Environmental Quality, and
- Valley County.

These cooperating agencies assisted with the EIS preparation in several ways including providing research and baseline data information, reviewing scientific reports, identifying issues, assisting with the formulation of alternatives, assisting with comment responses, and reviewing preliminary EIS content and other EIS materials.

Coordination with federal and state agencies was ongoing throughout the preparation of the EIS with regularly scheduled calls and issue-specific meetings. Cooperating agencies contributed to the formulation of mitigation measures and provided information utilized in the resource sections.

PART 6 TRIBAL CONSULTATION AND GOVERNMENT-TO-GOVERNMENT CONSULTATION

Tribal governments have a special and unique legal and political relationship with the U.S. government as reflected in the U.S. Constitution, treaties, statutes, court decisions, executive orders, and memoranda. This relationship imparts a duty on all federal agencies to consult, coordinate, and communicate with American Indian tribes on a government-to-government basis.

The intergovernmental consultation process serves as the primary means for the federal agencies to carry out the United States' unique legal relationship with Indian tribal governments as set forth in the Constitution of the United States, treaties, statutes, Executive Orders, and court decisions. Consultation is not a single event, but instead is an informed process leading to a decision. Consultation means different things to different tribes. It can be either a formal process of negotiation, cooperation, and policy-level decision-making between tribal governments and the federal government, or a more informal process. Tribal rights, ideas, and interests are discussed and considered or incorporated into the decision. Tribal consultation is an on-going relationship between agencies and tribes, characterized by consensus-seeking approaches to reach mutual understanding and resolve issues. It may concern issues and actions that could affect the government's decision-making processes, or other tribal interests. Because Native American tribes can be affected by the policies and actions of the Forest Service in managing the lands and resources under its jurisdiction, the Forest Service consults with them on matters affecting their interests. Therefore, efforts were made to involve local tribal governments and to solicit their input regarding the Stibnite Gold Project through this government-to-government relationship.

Consultation minimally serves five purposes:

- To identify and clarify issues;
- To provide for an exchange of existing information and identify where information is needed;
- To identify and serve as a process for conflict resolution;
- To provide an opportunity to discuss and explain the decision; and
- To recognize the unique legal relationship with Indian Tribal governments.

Inherent in the tribal consultation process is also consideration for guidance set forth in Executive Order 13175 Tribal Consultation and Coordination and Executive Order 13007 Consultation with Tribes on Indian Sacred Sites. Executive Order 13175 outlines the process by which executive departments and agencies engage in regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications and are responsible for strengthening the government-to-government relationship between the United States and Indian Tribes. Executive Order 13007 states that Federal agencies shall, to the extent practicable, accommodate access to, and use of, sacred sites by Indian religious practitioners, and to avoid adversely affecting the physical integrity of such sacred sites. Both Executive Order 13175 and 13007 should be considered in the context of the NEPA and Section 106 consultation process.

Consultation, for purposes of both the NEPA and National Historic Preservation Act compliance, consistent with Executive Order 13175, Executive Order 13007, Secretarial Order 3206, Secretarial Order 3403, and the 2022 Memorandum on Uniform Standards for Tribal Consultation, as well as CEQ Guidance for Federal Department and Agencies on Indigenous Knowledge, should be conducted in a manner recognizing the unique government-to-government relationship that exists between the federal government and tribes. The consultation should be respectful of tribal sovereignty, and should be sensitive to the concerns and needs of the Indian tribe or Native Hawaiian organization. The Forest Service collaborative process has included utilizing regularly scheduled meetings to engage Indian tribes who may be interested or affected by the Stibnite Gold Project, including the Nez Perce Tribe, Shoshone-Bannock Tribes, and the Shoshone-Paiute Tribes. The following sections describe the government-to-government consultation process and the framework within which the Forest Service implemented a collaborative process for tribal consultation in compliance with NEPA and the National Historic Preservation Act. Included in this approach is a process by which consulting parties, including Tribal partners, participate in the development of a programmatic agreement designed to resolve adverse effects to historic properties under the National Historic Preservation Act Section 106 review process.

The government-to-government relationship between federal agencies and federally-recognized tribes is a special relationship based on Tribal Sovereignty. The Forest Service is conducting government-to-government consultation regarding the Stibnite Gold Project with the following federally-recognized tribes: the Nez Perce Tribe; Shoshone-Bannock Tribes; and the Shoshone-Paiute Tribes. This consultation process was initiated with the tribes through a notification letter from the Forest Service offering opportunities to participate in formal government-to-government consultation, to participate in the NEPA process as a cooperating agency, and/or to routinely receive information about the Stibnite Gold Project.

The Forest Service first notified Nez Perce Tribe cultural resource staff about the Stibnite Gold Project on March 1, 2017. Formal consultation with the Nez Perce Tribe was requested and initiated on May 23, 2017. The Nez Perce Tribe formalized opposition to the Stibnite Gold Project in a resolution passed by the Nez Perce Tribal Executive Committee (the governing body of the tribe) on October 9, 2018, and announced opposition in a press release the same day. Despite formal opposition to the Stibnite Gold Project, the tribe continues to participate in a previously established project-specific informal consultation process, including discussion on ways to avoid, reduce, or mitigate impacts.

The Forest Service introduced the Stibnite Gold Project to Shoshone-Paiute Tribal leadership during the Wings and Roots Program meeting (government-to-government consultation) on April 13, 2017. The Shoshone-Paiute Tribes do not conduct informal consultation; however, they have meetings between the Tribal Business Council Chair and the Forest Service Line Officers, with other members of the Council and/or tribal staff occasionally attending as well.

The Stibnite Gold Project was formally presented to the Shoshone-Bannock Tribes Fort Hall Business Council and also informally to tribal staff on July 26, 2017. The Shoshone-Bannock Tribes expressed interest in the project. As a result, the Payette National Forest has engaged in formal and informal consultation on numerous occasions regarding aspects of the Stibnite Gold Project and responded to Tribal comments on the DEIS and SDEIS.

Updates to each of these tribes are provided in an ongoing basis during project-specific, ad-hoc consultation meetings, and the Forest Service will continue to engage in government-to-government consultation throughout the NEPA process. Monthly staff-to-staff meetings are held between the Forest Service and the Nez Perce Tribe and the Forest Service and the Shoshone-Bannock Tribes. A consultation and coordination summary of consultation with the Tribes is available in the Tribal Rights and Interests Specialist Report as well as the project record.

The structure of formal government-to-government consultation is between tribal governing bodies (Executive Committee, Tribal Councils, Tribal Chairperson, traditional Chiefs, or those identified formally by a tribe's governing body as 'representative' of that tribe's interests) and Forest Service Line Officers. Staff-to-staff meetings usually include Forest Service technical specialists and tribal liaison and technical specialists.

The U.S. Army Corps of Engineers has been represented in one or more project-specific Forest Service consultation meetings with each of these tribes, in an informal capacity, to offer information on the Clean Water Act Section 404 permitting process.

The Nez Perce Tribe, Shoshone-Paiute Tribes, and Shoshone-Bannock Tribes were invited on April 30, 2020, to participate in development of a project-specific programmatic agreement and associated Historic Properties Management Plan and Historic Properties Treatment Plan, which are being prepared to mitigate impacts and address Section 106 of the National Historic Preservation Act compliance (see Part 7.7 below for additional details).

The Forest Service remains available for government-to-government consultation with federally recognized tribes. Government-to-government consultation is an ongoing effort by the Forest Service to share information, answer questions, listen to concerns, and resolve issues.

PART 7 LEGALLY REQUIRED FINDINGS

7.1 National Environmental Policy Act

The Council on Environmental Quality (CEQ) has published final rules to amend its regulations implementing the National Environmental Policy Act of 1969 (CEQ 2020, 2024). The amended regulations apply to any NEPA review process begun after the effective date of the final rules. For this project because the NEPA review process began before all the effective dates, the Council on Environmental Quality 1978 regulations, as amended, are the guiding regulations for the Stibnite Gold Project NEPA process.

The NEPA requires public involvement and consideration of potential effects on the quality of the human environment of implementing federal actions. The environmental analysis and public involvement process

outlined in the FEIS for the Stibnite Gold Project complies with the requirements set forth by the Council on Environmental Quality for implementing NEPA (40 CFR 1500-1508 (prior to 2020)). These include: 1) considering a range of reasonable alternatives; 2) disclosing direct, indirect, and cumulative effects; 3) using best available scientific information; 4) considering long-term and short-term effects; and 5) disclosing unavoidable adverse effects.

Under the NEPA process, agencies evaluate the environmental and related social and economic effects of their federal action (40 CFR 1508.1(q)). Requirements in Sections 1501.2 and 1501.7 of the CEQ regulations call for the involvement of tribes that may be affected by a federal proposal.

7.2 National Forest Management Act

The National Forest Management Act of 1976 requires the development, maintenance, amendment, and revision of land and resource management plans for each unit of the National Forest System. Under National Forest Management Act, the Forest Service is to ensure coordination of the multiple uses and sustained yield of products and services under the National Forest System.

The Stibnite Gold Project incorporates all applicable land and resource management plan standards and guidelines, management area prescriptions, and goals and objectives; therefore, the Forest Service decision is consistent with the Boise and Payette National Forest Land and Resource Management Plans, as amended, and complies with the National Forest Management Act. Land management plan consistency evaluations can be found in the project record.

There is a need to amend the Boise and Payette National Forest Land and Resource Management Plans to fully implement the Stibnite Gold Project. The amendments are described in Part 2 "Decision and Rationale" above. The evaluation of substantive requirements for the amendments are analyzed in Chapter 4 and Appendix A of the FEIS. The public was notified of the amendments as required at 36 CFR 219.13(b)(2). The Forest Service has reviewed the proposed mineral development action and the analysis of predicted impacts. The environmental impacts are predicted to be in compliance with established requirements of the Land and Resource Management Plans as amended. The 2021 Modified Mine Plan meets the standards and guidelines in the Payette and Boise Land and Resource Management Plans, as amended. The Selected Alternative will provide for long-term multiple-use management on the Payette and Boise National Forests.

This decision is based on a review of the project record that shows a thorough review of relevant scientific information, a consideration of responsible opposing views, and the acknowledgment of any incomplete or unavailable information, scientific uncertainty, and risk. Chapter 7 of the FEIS contains a list of published scientific documents referenced in preparation of the FEIS.

7.3 Federal Land Policy and Management Act (FLPMA)

Title V of the FLPMA of October 21, 1976 (90 Stat. 2743; 43 United States Code [USC] 1761-1771) authorizes the Forest Service to issue permits, leases or easements to occupy, use, or traverse National Forest System lands. Occupancy of National Forest System lands may be authorized when such use is determined to be in the public interest. This is applicable to the existing power transmission line right-of-way being utilized by the project.

7.4 Multiple-Use Sustained Yield Act

The Multiple-Use Sustained-Yield Act of 1960 directs the Secretary of Agriculture to administer renewable surface resources, including the products and services obtained from them, for multiple use and sustained yield. The Multiple-Use Sustained Yield Act does not directly affect the use or occupancy of National

Forest System lands, or administration of same, in connection with locatable minerals operations authorized by the United States mining laws.

The Forest Service is required to consider the Selected Alternative relative to compliance with the General Mining Law of 1872, regulations, and land use plans. Environmental design features and mitigation measures analyzed in the FEIS and incorporated into this decision are considered adequately protective of the environment. The Forest Service land use plans acknowledge and allow for the extraction of locatable minerals.

The restoration and reclamation activities within this decision meet the intent of the Multiple Use-Sustained Yield Act to administer the renewable resources of water, recreation and wildlife on the National Forests for multiple use and sustained yield of the products and services.

7.5 General Mining Act of 1872

The statutory right to search for, develop, and extract mineral deposits on federal lands open to mineral entry was established by the General Mining Law of 1872, as amended. These rights include the right to locate a mining claim and the right to reasonable access to the claim for further exploration, development, mining, or necessary ancillary activities.

The Selected Alternative allows Perpetua to exercise its rights under the mining laws in a manner consistent with the requirements governing surface use and occupancy of NFS lands in connection with mining operations consistent with 36 CFR 228A.

7.6 Endangered Species Act and the Magnuson-Stevens Fishery Conservation and Management Act

The Endangered Species Act provides for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of the Endangered Species Act, the Forest Service must consult with the U.S. Fish and Wildlife Service and National Marine Fisheries Service to ensure that its actions are "not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species," which the Secretary of the Interior determines to be critical (16 USC 1536) and consult on essential fish habitat (Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act).

Informal consultation with the U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration National Marine Fisheries Service on the Stibnite Gold Project began in 2017 by conducting regularly scheduled monthly meetings, primarily for discussions on fish species. The pertinent letters, emails, meetings, and conference calls are summarized in a collaboration memo in the project record.

As described in the FEIS, the Stibnite Gold Project area contains critical habitat for, and populations of, several species listed under the Endangered Species Act. The Forest Service prepared a biological assessment and initiated formal consultation for Stibnite Gold Project effects on listed species and critical habitat with the U.S. Fish and Wildlife Service and National Marine Fisheries Service under Section 7 of the Endangered Species Act.

The U.S. Fish and Wildlife Service has jurisdiction over bull trout, Canada lynx, Northern Idaho ground squirrel, wolverine, monarch butterfly, and whitebark pine, while the National Marine Fisheries Service has jurisdiction over Chinook salmon, steelhead, and the killer whale. The following determinations were submitted to U.S. Fish and Wildlife Service and National Marine Fisheries Service for their review and concurrence: "*may affect but is not likely to adversely affect*" Southern Resident killer whale and critical habitat, Northern Idaho ground squirrel, and Canada lynx; "*may affect, likely to adversely affect*" Chinook salmon and critical habitat, steelhead and critical habitat, bull trout and critical habitat, North American

wolverine, and whitebark pine; and "*not likely to jeopardize the continued existence*" of the monarch butterfly. This Forest Service decision is complying with the legal requirements set forth under Section 7 of the Endangered Species Act and Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act. The final decision will incorporate all the requirements set forth in the biological opinions from the U.S. Fish and Wildlife Service and National Marine Fisheries Service.

7.7 National Historic Preservation Act

Section 106 of the National Historic Preservation Act requires federal agencies to identify historic properties, assess the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation an opportunity to comment on such undertakings. The Idaho State Historic Preservation Office (SHPO) administers the national historic preservation program at the state level. The Section 106 process seeks to accommodate historic preservation concerns with federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties. Section 106 also requires federal agencies to consult with Native American tribes to determine whether there are properties of traditional religious and cultural importance that may be eligible to National Register of Historic Places (54 USC 302706). The Forest Service has consulted with tribes on matters affecting their interests, utilizing both government-to-government and staff-to-staff consultation and coordination. These efforts were and continue to be made to involve local tribal governments and to solicit their input regarding potential effects to historic properties, including potential traditional cultural properties and cultural landscapes.

There are 150 National Register of Historic Places-eligible, National Register of Historic Places-listed, or unevaluated heritage resources in the area of potential effect for the 2021 Modified Mine Plan or Selected Alternative. Of these, 53 historic properties will be within the physical area of potential effect and may be susceptible to physical, vibratory, auditory, and/or visual impacts. An additional 97 historic properties are solely within the vibratory, auditory, and visual area of potential effect and may be susceptible to vibratory, auditory, and visual impacts.

Because of the Stibnite Gold Project's size, scope, and alternatives under consideration, the Forest Service as the lead federal agency, initiated preparation of the programmatic agreement as a management tool to address project effects on heritage resources and to minimize or resolve any potential adverse effects. The programmatic agreement outlines measures for compliance with Section 106 of the National Historic Preservation Act, including but not limited to: protocols for the identification and evaluation of historic properties; permitting requirements; treatment of historic properties; monitoring requirements; inadvertent discovery protocols; curation; and treatment of human remains. The programmatic agreement identifies known adverse effects to historic properties and provides a discussion of proposed mitigation measures that will be implemented. In addition to the programmatic agreement, the Historic Properties Management Plan and Historic Properties Treatment Plans will further refine the requirements for resolution of adverse effects.

The Forest Service collaborated with Consulting Parties (Table 4) in the development of the programmatic agreement to comply with consultation procedures intended to satisfy requirements under the National Historic Preservation Act and the NEPA. On April 30, 2020, the Forest Service initiated the consultation process for the development of the programmatic agreement by extending invitations to participate in the process pursuant to the regulations of Section 106 of the National Historic Preservation Act to interested parties. Letters were sent to the Nez Perce Tribe, Shoshone-Paiute Tribes, and Shoshone-Bannock Tribes with a request for response within 30 days. Additionally, invitations were extended to the U.S. Army Corps of Engineers, Idaho Power Company, Perpetua, the Idaho State Historic Preservation Office, and the Advisory Council on Historic Preservation. The Forest Service collaborative process included utilizing regularly scheduled periodic meetings to engage the identified Consulting Parties to the programmatic agreement.

Table 4 Programmatic Agreement Consulting Parties

Organization	Role in the Stibnite Gold Project and Programmatic Agreement
United States Department of Agriculture, United States Forest Service, Payette National Forest (Forest Service)	Lead Federal Agency, Signatory
Idaho State Historic Preservation Office (ID SHPO)	Section 106 Compliance, Signatory
Advisory Council on Historic Preservation	Signatory
Idaho Power Company	Invited Signatory
Perpetua Resources Idaho Inc.	Project Proponent; Invited Signatory
Nez Perce Tribe	Consulting Party
Shoshone-Bannock Tribes	Consulting Party
Shoshone-Paiute Tribes	Consulting Party
United States Army Corps of Engineers	Consulting Party
Mary Anne Davis	Consulting Party

Consultation and coordination with consulting parties to resolve adverse effects to historic properties in accordance with Section 106 of the National Historic Preservation Act will continue. The programmatic agreement was developed through discussions with the consulting parties to ensure that the requirements of Section 106 are satisfied. The programmatic agreement outlines the roles and responsibilities of parties, the procedure for identification and evaluation of historic properties, assessment for effects, and each party's responsibilities under the Section 106 process. Therefore, I find that through the execution of the programmatic agreement, the Forest Service has complied with its federal responsibilities under the National Historic Preservation Act.

7.8 Tribal Consultation and Coordination

The U.S. has a unique legal relationship with Native American tribal governments as set forth in the U.S. Constitution, treaties, Executive Orders, federal statutes, federal policy, and tribal requirements, which establish the interaction that must take place between federal and tribal governments. An important basis for this relationship is respect for tribal sovereignty, self-determination, tribal lands, tribal assets and resources, and treaty and other federally recognized and reserved rights. Government-to-government consultation is the process of seeking, discussing, and considering views on policy, and/or, in the case of the Stibnite Gold Project, environmental and cultural resource management issues.

Pursuant to Executive Order 13175 (Tribal Consultation and Coordination), executive departments and agencies are charged with engaging in regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications and are responsible for strengthening the government-to-government relationship between the United States and Indian Tribes.

Executive Order 13007 (Consultation with Tribes on Indian Sacred Sites) states that federal agencies shall, to the extent practicable, accommodate access to and use of sacred sites by Indian religious practitioners, and to avoid adversely affecting the physical integrity of such sacred sites.

The Payette National Forest has been conducting tribal consultation related to the Stibnite Gold Project. This consultation has included formal and informal meetings, correspondence, information sharing, site visits, and documentation of tribal comments and concerns by the Forest Service. Consultations are ongoing and will continue through the end of the project. Consultation efforts are summarized in Section 3.24.4.5

of the FEIS and detailed in the project record. The following affected Tribes are involved in the consultation process:

- Nez Perce Tribe
- Shoshone-Bannock Tribes
- Shoshone-Paiute Tribes

As noted in Part 7.7, the Forest Service complied with Section 106 of the National Historic Preservation Act through the development of a programmatic agreement in consultation with the Idaho State Historic Preservation Office, the Advisory Council on Historic Preservation, Tribes, and other consulting parties. The final version of the programmatic agreement was presented to the Tribes in government-to-government consultation prior to signature.

The Forest Service conducted government-to-government consultation with the Nez Perce Tribe, Shoshone-Bannock Tribe, and Shoshone-Paiute Tribe as described in Part 6 of this draft ROD. Through development of alternatives and mitigation, I sought to address Tribal concerns. I find that the Selected Alternative complies with Executive Orders 13007 and 13175, as well as the National Historic Preservation Act as described in Part 7.7.

7.9 Migratory Bird Treaty Act

Ground clearing and timber removal are necessary precursors to mineral mining and milling and are part of this decision. There is potential for the Selected Alternative to impact migratory birds. In January 2001, Executive Order 13186 required federal agencies (those taking actions that may negatively impact migratory birds) to develop a memorandum of understanding with the U.S. Fish and Wildlife Service to promote the recommendations of various migratory bird programs and conservation considerations. The Forest Service developed a memorandum of understanding with the U.S. Fish and Wildlife Service in 2008. The needs of migratory birds have been incorporated into the Payette National Forest and Boise National Forest planning process and specific mitigation measures are required as part of this decision. Appropriate measures to minimize those impacts, such as ground clearing areas outside of nesting seasons, are described in Section 2.4 of the FEIS. I find that the Selected Alternative complies with this Executive Order.

7.10 Executive Order 13112 - Invasive Species

Executive Order 13112 issued February 3, 1999 (Executive Order 13112) direct Federal agencies to: 1. Identify actions that may affect status of an invasive species; 2. (a) prevent introduction of such species; (b) detect and control such species; (c) monitor population of such species; (d) provide for restoration of native species; (e) conduct research on invasive species and develop technologies to prevent introduction of such species; (f) promote public education of such species; and 3. not authorize, fund, or carry out actions likely to cause the introduction or spread of invasive species in the United States or elsewhere unless the benefits of the action clearly outweigh the harm and the agencies take steps to minimize the harm.

Through the implementation of the environmental design features in the Selected Alternative for the detection, control, and monitoring of invasive species it is expected that the establishment and spread of invasive species will be prevented. Infestations will be treated by the Project Operator in accordance with the Payette and Boise National Forests Weed Management Decision for the South Fork Salmon River Subbasin Noxious and Invasive Weed Program (Forest Service 2010). Reclamation seedings will be done with native seed mixes and integrated weed management shall be used to maintain or restore habitats for sensitive plants and other native species of concern where they are threatened by noxious weeds or non-native invasive plants.

7.11 Executive Order 11988 – Floodplain Management

There are no designated floodplains in the Stibnite Gold Project area, therefore, there will be no impacts to floodplains (Executive Order 11988) from the implementation of the Selected Alternative.

7.12 Executive Order 11990 – Protection of Wetlands, Clean Water Act, and Idaho Groundwater Rule

The Project Operator will be required to prepare a Storm Water Pollution Prevention Plan, which guides implementation of appropriate site-specific activities designed to protect the quality of surface waters from stormwater discharge under the Clean Water Act.

The FEIS disclosed that the Selected Alternative will not result in impacts to surface water that will impair beneficial uses. However, the FEIS also disclosed that there will be impacts above applicable standards in the groundwater. The Idaho Department of Environmental Quality is processing Perpetua's Point of Compliance Permit, and the Stibnite Gold Project is anticipated to comply with the Clean Water Act, and the State of Idaho Ground Water Quality Rule.

Executive Order 11990, Protection of Wetlands, requires that federal agencies ". . . avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative." Under the Selected Alternative, there will be direct removal of wetlands and waters of the U.S.

The effects of the Stibnite Gold Project on wetlands were evaluated in the DEIS, Supplemental DEIS, and FEIS. Based on the EIS evaluation, the following represent the Statement of Findings required by Executive Order 11990:

- Wetland locations occur throughout the Stibnite Gold Project area and partially overlap the ground surface overlying orebodies. Logistical and topographical constraints on the location of adjacent ore processing also result in selection of facility locations that overlap the wetlands. The nature of the orebodies requires open pit mining techniques resulting in ground surface disturbance in the mining areas.
- Alternative facility locations, mining methods, processing methods, and infrastructure routes were evaluated through the NEPA process but did not yield a feasible alternative without a comparable or larger effect on wetlands.
- The Selected Alternative conforms to the applicable Idaho wetland protection standards (see Part 7.13 below).
- The Stibnite Gold Project design avoids and minimizes the effects on wetlands as described in the environmental design features (Table 5, Table 6, Part 9.3.1, and Part 9.3.11 of this draft ROD). However, the locations of wetlands with respect to orebodies limits the ability to completely avoid and minimize effects. Therefore, a Compensatory Mitigation Plan is required to mitigate wetland effects that cannot be avoided or minimized (see Part 2.3.8 above).
- The Selected Alternative permanently eliminates 150.5 acres of wetlands and temporarily reduces the productivity of 299.5 acres of wetlands. Therefore, a Compensatory Mitigation Plan is required to offset the temporal effects of those losses in wetland functionality at off-site locations prior to restoring wetlands and their functionality through mine closure and reclamation on-site.

Perpetua has submitted a Clean Water Act Section 404 permit application to the U.S. Army Corps of Engineers for the direct disturbance of wetlands and other waters of the U.S. The FEIS constitutes the primary impact analysis that the U.S. Army Corps of Engineers will use to assess the application. As part of the application, and in compliance with the Final Rule, Compensatory Mitigation for Losses of Aquatic

Resources (33 CFR Parts 325 and 332 and 40 CFR Part 230), Perpetua has submitted a Compensatory Mitigation Plan that identifies potential compensatory mitigation for the U.S. Army Corps of Engineers to consider in replacement of wetlands and lost functions and values. The Compensatory Mitigation Plan is currently under review and identifies potential compensatory mitigation to offset wetland loss as well as loss of related functions and values in order to maintain no net loss of wetlands.

7.13 Idaho Stream Channel Protection Act

Perpetua has applied for a Clean Water Act 404 permit through the U.S. Army Corps of Engineers, which is a joint application for an Idaho Stream Alteration Permit from the Idaho Department of Water Resources. This permit is currently in the review process.

7.14 Safe Drinking Water Act

Implementation of the Selected Alternative minimizes impacts to surface and groundwater as discussed in the FEIS. None of the water resources that potentially could be impacted are used as a drinking water source for human consumption. Stibnite Gold Project culinary water supplies will be required to comply with applicable state, federal and local regulations.

7.15 Clean Air Act

The Stibnite Gold Project is expected to meet the requirements of the Clean Air Act. Air emissions from the 2021 Modified Mine Plan or Selected Alternative are regulated by Idaho Department of Environmental Quality and Environmental Protection Agency. Perpetua is in the process of acquiring an Idaho Department of Environmental Quality air quality permit, which addresses point source and fugitive dust control measures, haul truck speed limits, blasting and drilling dust suppression, and other air pollution control requirements.

7.16 Executive Orders 12898, 13985, 13990, 14008

The Nez Perce Census County Subdivision, Duck Valley Indian Reservation, and Fort Hall Reservation meet the definition of minority populations under the Forest Service Guidance for Environmental Justice analyses under NEPA (Forest Service 2014). There are no minority communities within the Stibnite Gold Project area. There will be no direct effect to reservation lands and their Tribal minority populations that are outside of the Stibnite Gold Project area, but there will potentially be indirect effects. Per the Executive Orders, these effects have been discussed with the three communities via government-to-government and/or staff-to-staff consultation efforts. These consultation efforts have contributed to mitigation measures to offset these indirect effects with regard to soils, air quality, water quality, tribal access to the area, and monitoring effects on environmental resources.

7.17 Resource Conservation and Recovery Act

Hazardous waste is regulated under the Federal Resource Conservation and Recovery Act regulations (40 CFR 260 et. seq.). Generators of hazardous waste must follow strict rules regarding the generation, storage, handling, and disposal of their wastes. Under implementation of the Selected Alternative, wastes will be characterized according to the Resource Conservation and Recovery Act requirements, managed in compliance with state and federal regulations and recycled or disposed of in existing, permitted facilities. Non-hazardous solid waste will be hauled from the mine site by licensed waste disposal services for disposal off-site.

7.18 Idaho Roadless Rule

Per 36 CFR 294.25(b), the Idaho Roadless Rule does not affect mining activities conducted pursuant to the General Mining Law of 1872. Idaho Roadless Area characteristics affected by the Stibnite Gold Project have been disclosed in the FEIS. The Idaho Roadless Commission has been briefed routinely throughout the analysis process.

7.19 Travel Management Rule

The reroute of Stibnite Road and the designation of a temporary over-snow vehicle route to replace an existing over-snow vehicle route are actions that fall under the Travel Management Rule (36 CFR 212), Subparts B and C, respectively (FSM7715.03(5)). These actions require consideration under the Travel Management Rule Minimization Criteria (36 CFR 212.55(b)). The environmental design features (see Parts 9.2, 9.3.2, 9.3.3, 9.3.4, 9.3.6, 9.3.7, 9.3.12, and 9.3.14 below) and mitigation measures (see Parts 2.3.2, 2.3.5, 2.3.6, 2.3.8, and 2.3.10) were developed with the objective of minimizing:

- *Damage to soil, watershed, vegetation, and other forest resources* – The route uses the existing Cabin Creek Road (FR 50467) to minimize new ground disturbance. Best management practices and environmental design features protective of soils, water, and vegetation are described in Table 5, Table 6, and Parts 9.3.2, 9.3.7, and 9.3.12 of this ROD below. Cabin Creek, a 303(d) listed stream for water temperature, is adjacent to the over-snow vehicle route. There are no municipal or domestic water supplies in the vicinity of the trail;
- *Harassment of wildlife and significant disruption of wildlife habitats* – The route uses the existing Cabin Creek Road (FR 50467) to minimize effects on wildlife. Best management practices and environmental design features protective of wildlife are described in Table 5, Table 6, and Parts 9.3.3, 9.3.4, and 9.3.6 of this ROD below;
- *Conflicts between motor vehicle use and existing or proposed recreational uses of National Forest System lands or neighboring federal lands* – The route uses the existing Cabin Creek Road (FR 50467) to minimize effects on neighboring recreation;
- *Conflicts among different classes of motor vehicle uses of National Forest System lands or neighboring federal lands* – The over-snow vehicle route does not cross other vehicle routes; and,
- *Compatibility of motor vehicle use with existing conditions in populated areas, taking into account sound, emissions, and other factors* – There are no populated areas in the vicinity of the over-snow vehicle route.

I find that the Selected Alternative complies with the Travel Management Rule.

7.20 Special Uses

The Payette and Boise National Forest Land and Resource Management Plans allow special uses that serve the public, promote public health and safety, protect the environment, are legally mandated, and are compatible with other resources. This may include special uses for ancillary facilities related to exploration and mining-related operations that lie on National Forest System lands outside of mineral lease boundaries. The power transmission line meets the special uses screening criteria at 36 CFR 251.53(l)(4) and considerations put forth at 36 CFR 228 Subpart A for uses in connection with operations under the mining laws.

PART 8 ADMINISTRATIVE REVIEW

8.1 Pre-decisional Administrative Review

8.1.1 Objection Opportunity

This action is subject to the pre-decisional administrative review process outlined in Title 36 of the CFR, Part 218, Subparts A and B. A final decision will not be made until after the requirements of 36 CFR 218.12, Timing of Project Decision, have been met.

Eligibility to File Objections

Objections can be accepted only from individuals and entities who have submitted timely, specific written comments regarding a proposed project or activity subject to these regulations during any designated opportunity for public comment, per the regulations at 36 CFR 218.5(a). Additional eligibilities are established in 36 CFR 218.5(b) through (f). Issues raised in objections must be based on previously submitted timely, specific, written comments regarding the proposed project unless based on new information arising after designated opportunities for comment. A connection to previous comments must be demonstrated in the objection.

Individual members of organizations must have submitted their own comments to meet the requirements of eligibility as an individual. Objections received on behalf of an organization are considered as those of the organization only. If an objection is submitted on behalf of a number of individuals or organizations, each individual or organization listed must meet the eligibility requirement of having previously submitted comments on the project (36 CFR 218.5). Names and addresses of objectors will become part of the public record.

Contents of an Objection

Incorporation of documents by reference in the objection is permitted only as provided for at 36 CFR 218.8(b). Minimum content requirements of an objection as identified in 36 CFR 218.8(d) include:

- Objector's name and address with a telephone number if available; with signature or other verification of authorship supplied upon request.
- Identification of the lead objector when multiple names are listed, along with verification upon request.
- Name of project, name and title of the responsible official, national forest and ranger district where project is located.
- Sufficient narrative description of those aspects of the proposed project objected to, specific issues related to the project, how environmental law, regulation, or policy would be violated, and suggested remedies which would resolve the objection.
- A statement demonstrating the connection between prior specific written comments on this project and the content of the objection unless the objection issue arose after the designated opportunities for comment.

Filing an Objection

Objections must be postmarked (if sent via postal mail), faxed, or submitted electronically via the project webpage at https://www.fs.usda.gov/project/payette/?project=50516 within 45 days following publication of the legal notice. Mailed objections should be sent to Objection Reviewing Officer, Stibnite Gold Project, USFS Intermountain Regional Office, Room 4403, 324 25th Street, Ogden, UT 84401. Hand delivery of

written objections can be made from 8:00 am to 4:30 pm to the above address excluding holidays when the office is closed. Objections may be faxed to 801-625-5127. Electronic objections must be submitted in a format such as Portable Document Format (pdf), plain text (.txt), or Word (.doc or .docx) and electronic file names must be less than 85 characters long (including spaces). It is the responsibility of objectors to ensure their objection is received in a timely manner (36 CFR 218.9).

The publication date in the Idaho Statesman, the newspaper of record, is the exclusive means for calculating the time to file an objection to this project. Those wishing to object to this draft ROD should not rely upon dates or timeframe information provided by any other source.

8.1.2 Implementation

If no objections are filed within the 45-day objection filing period, the approval and signing of the final ROD may occur on, but not before, the fifth business day following the end of the objection filing period (36 CFR 218.12(c)). If an objection is filed during the objection filing period, the final ROD will not be signed until the objection reviewing officer has responded in writing to all pending objections and all concerns and instructions identified by the reviewing officer in the objection response have been addressed (36 CFR 218.12(a)(b)).

Per 36 CFR 218, no legal notice is required once the final ROD is signed. However, the Forest Service may send out a letter or news release to notify any interested parties of the availability of the final decision.

8.2 Further Information and Contact Person

Rick Rymerson, Project Manager
500 N. Mission Street
McCall, Idaho 83638-3805
Phone: (505) 444-1180
Email: richard.rymerson@usda.gov
Office hours: Monday through Friday, 8:00 am through 4:30 pm

8.3 Responsible Official and Signature

_____ _____

Forest Supervisor, Payette National Forest Date

_____ _____

Forest Supervisor, Boise National Forest Date

PART 9 ENVIRONMENTAL DESIGN FEATURES, PROTECTION MEASURES, AND MONITORING

The Selected Alternative incorporates numerous environmental design features as described in Chapter 2 and elsewhere in the FEIS. All environmental design features, monitoring, and applicable mitigation measures required by the FEIS will apply to Stibnite Gold Project operations. All practical means to avoid or minimize environmental harm from the Selected Alternative have been adopted as part of this decision (40 CFR 1505(2)(c)).

9.1 Plans, Permits, and Authorizations

This decision approves the mining plan and its associated activities as described in the Stibnite Gold Project, Valley County, Idaho, Refined Proposed Action ModPRO2, October 2021; referred to here as the 2021 Modified Mine Plan. The mine plan incorporates several resource management plans that are hereby made part of the Stibnite Gold Project and its approval:

- Compensatory Mitigation Plan (Tetra Tech, April 2023),
- Development Rock Management Plan (Brown & Caldwell, May 2022),
- Environmental Legacy Management Plan (Perpetua, March 2021b),
- Environmental Monitoring and Management Program (Brown & Caldwell, September 2021a),
- Fish and Aquatic Resources Mitigation Plan (Brown & Caldwell, McMillen Jacobs, and BioAnalysts, September 2021b),
- Fishway Operations and Management Plan (Brown & Caldwell, McMillen Jacobs, and BioAnalysts, September 2021a),
- Plan of Development, Electrical Transmission, Stibnite Gold Project (Perpetua, September 2021c)
- Reclamation and Closure Plan (Tetra Tech, October 2021),
- Snow Avalanche Hazard Assessment for Access Roads (Dynamic Avalanche Consulting, August 2021),
- Transportation Management Plan (Perpetua, June 2022),
- Water Management Plan (Brown & Caldwell, December 2021b), and
- Water Resources Monitoring Plan (Brown & Caldwell, November 2021c).

This decision also requires the completion and approval of the following plans which are components of the Environmental Monitoring and Management Plan that are currently in finalization pending details of permits and authorizations being determined by other agencies:

- Burntlog Route Access Plan,
- Cabin Creek Over-snow Vehicle Route Avalanche Hazard Communication Plan,
- Dust Monitoring Plan,
- Emergency Response Program,
- Fugitive Dust Control Plan,
- Ground Control Plan,
- Historical Properties Management Plan,
- Historical Properties Treatment Plan,
- Spill Prevention Control and Countermeasures Plan,
- Storm Water Pollution Prevention Plan,
- Tribal Access Plan, and
- Water Management Power Contingency Plan.

This decision requires the above listed plans be completed and submitted prior to project development.

This decision is one of many federal, state, and local decisions and permitting authorizations applied to the proposed mining project that represent different processes implemented under different authorities. As such, compliance requirements associated with the multiple agency decisions and permits may overlap but are unlikely to be identical. Key environmental permits determined by other agencies for the Stibnite Gold Project are:

- Air quality permit,
- Clean Water Act Section 404 permit,
- Cyanidation permit,
- Dam safety permit,
- Idaho Pollutant Discharge Elimination System permit,
- Composting facility permit,
- Point of Compliance permit, and
- Water right authorization.

The Forest Service's decision on a mining plan is based on its analysis of the plan under NEPA and enforcement of plan compliance is based on its decision rather than independent decisions by other agencies. While the Forest Service respects the authorities of other agencies, it does not assume their compliance responsibilities, nor does it relinquish its responsibilities to other agencies. Regarding environmental resources, a Forest Service decision is based on a predictive analysis of the mine plan implementation during weather dependent environmental conditions (e.g., flow conditions on groundwater levels, streamflows, and the resulting implications for other environmental resources such as groundwater dependent ecosystems, analyte concentrations, stream temperature, and aquatic wildlife). Key predictive analyses that were examined by the Forest Service under its NEPA evaluations are:

- Stibnite Gold Project, Supplemental Hazardous Air Pollutant Air Quality Analysis, ModPRO2 (Air Sciences, October 2021),
- Evaluation of Upper East Fork South Fork Salmon River Fish Passage Barriers (BioAnalysts, December 2021),
- Stibnite Gold Project, Site-Wide Water Balance Model Refined Proposed Action (ModPRO2) Report (Brown & Caldwell, October 2021d),
- Hydrologic Site Model Refined Proposed Action (ModPRO2) Report (Brown & Caldwell, August 2021e),
- Stibnite Gold Project Water Rights Diversion Rate by Source for Industrial Use (Brown & Caldwell, December 2021f),
- Stibnite Gold Project Comprehensive Baseline Geochemical Characterization Report (SRK Consulting, November 2021a),
- Stibnite Gold Project ModPRO2 Site-Wide Water Chemistry Modeling Report (SRK Consulting, November 2021b),
- Stream and Pit Lake Network Temperature Model Refined Proposed Action (ModPRO2) Report (Brown & Caldwell, July 2021g),
- Stibnite Gold Project Tailings Consolidation Addendum (Tierra Group International Ltd., December 2021), and
- Public Health Assessment Stibnite and Yellow Pine Mining Area (Agency for Toxic Substances and Disease Registry, September 2003).

Any Forest Service decision to allow operations to be conducted would be based on the impacts analyzed for under NEPA, and compliance would be based on adherence to the actions for which that analysis was based, independent of the mine's compliance status with decisions and permits from other agencies. For example, if groundwater and/or surface water diversion within Idaho Department of Water Resources' water authorizations resulted in an impact to streamflow significantly different from what the Forest Service

analyzed and based its decision on, that impact would not be authorized without further analysis and approval.

The Stibnite Gold Project incorporates a number of environmental design features, operational activities, best practices, mitigation measures, and monitoring plans intended to reduce impacts to the environment. An Interested Agency Review Board will be formed to provide oversight for the Stibnite Gold Project's environmental-related activities including adaptive management. The Interested Agency Review Board will consist of all permitting agencies including Idaho Department of Environmental Quality, Idaho Department of Water Resources, National Marine Fisheries Service, U.S. Fish and Wildlife Service, Environmental Protection Agency, Valley County, and the Forest Service.

Member agencies on the Interested Agency Review Board will have access to Stibnite Gold Project design reports, Stibnite Gold Project as-built drawings, environmental monitoring reports, model updates required by environmental mitigation measures, and any environmental action plans. These agencies will also have the opportunity to provide input where appropriate on Stibnite Gold Project documentation. Specific construction stage documentation subject to Interested Agency Review Board review upon their completion include:

- Construction-level design of the water treatment plants,
- Construction-level design of the tailings storage facility,
- Construction-level design of the processing plant facility components,
- Construction-level design of the Burntlog Route,
- Construction-level design of the fish tunnel,
- Construction-level design of the East Fork South Fork Salmon River water intake,
- The final Stormwater Pollution Prevention Plan,
- The final Compensatory Mitigation Plan,
- Monitoring and mitigation plans under the Environmental Monitoring and Management Plan (EMMP) (including adaptive management), and
- Engineering as-builts for completed facilities.

The Interested Agency Review Board will meet at least annually to review road maintenance activities, environmental monitoring data, project development, and any adaptive management measures.

9.2 Regulatory and Forest Service requirements

Regulatory and Forest Service requirements and requirements associated with environmental design features are listed in Tables 5 and 6, and made conditions of this decision. These tables are also contained in the FEIS as Tables 2.4-12 and 2.4-13.

Table 5 Prominent Regulatory and Land and Resource Management Plan Requirements

Description	Type	Reference	Resources Affected
The proponent will prepare a dust mitigation plan with appropriate schedule or triggers for control deemed adequate by Idaho Department of Environmental Quality to achieve the level of control of 93.3 percent of dust (as required in conditions 2.1-2.8 of the Permit to Construct from Idaho Department of Environmental Quality). Additionally, the proponent will employ particulate matter or opacity monitors deemed adequate by the Forest Service and immediately apply water or chemical dust control when PM or opacity monitors reach levels within 10 percent of the threshold determined by Idaho Department of Environmental Quality.	Idaho Department of Environmental Quality Permit	Idaho Department of Environmental Quality Permit to Construct	Air Quality Visibility, Wildlife, Vegetation, Wilderness
During project planning, affected tribe(s) shall be consulted regarding opportunities for restoration, enhancement, and maintenance of native plant communities that are of interest to tribe(s) when proposed activities may affect those plant communities.	FP Component	BNF and PNF: TRST04	Cultural Resources, Vegetation
When taking water from fish-bearing waters for road and facility construction and maintenance activities, intake hoses shall be screened with the most appropriate mesh size (generally 3/32 of an inch), or as determined through coordination with National Oceanic and Atmospheric Administration Fisheries and/or U.S. Fish and Wildlife Service.	FP Component	BNF and PNF: FRST01 TEST32	Fish
Fish passage shall be provided at all proposed and reconstructed stream crossings of existing and potential fish-bearing streams.	FP Component	BNF and PNF: SWST08	Fish
Surface water withdrawal intake hoses will be situated so as to prevent generation of turbidity in bottom sediments during pumping.	Design Feature		Fish, Water Resources
Where settlement ponds, tailing dams, or impoundments are planned, each will be located, designed, constructed, and inspected under the supervision of a professional engineer.	FP Component	BNF and PNF: MIGU03	Geology and Geotechnical
Prohibit solid and sanitary waste facilities in Riparian Conservation Areas. If no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in Riparian Conservation Areas exists, then: Analyze waste material using the best conventional methods and analytic techniques to determine its chemical and physical stability characteristics. Locate and design waste facilities using the best conventional geochemical and geotechnical predictive tools to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term, and such releases or instability would result in exceedance of established water quality standards or would degrade surface resources, prohibit such facilities in RCAs. Monitor waste and waste facilities to confirm predictions of chemical and physical stability and make adjustments to	FP Component	BNF and PNF: MIST09	Geology and Geotechnical, Wetlands and Water Resources, Wildlife, Fish

Description	Type	Reference	Resources Affected
operations as needed to avoid degrading effects to beneficial uses and native and desired non-native fish and their habitats. Reclaim and monitor waste facilities to ensure chemical and physical stability and revegetation to avoid degrading effects to beneficial uses and native and desired non-native fish and their habitats. Require reclamation bonds adequate to ensure long-term chemical and physical stability and successful revegetation of mine waste facilities.			
Transport hazardous materials on the Forest in accordance with 49 CFR 171 in order to reduce the risk of spills of toxic materials and fuels during transport through RCAs.	FP Component	BNF and PNF: SWGU11	Hazardous Materials, Fish, Health and Safety
A Spill Prevention, Control, and Countermeasure (SPCC) Plan shall be prepared in accordance with 49 CFR parts 171 through 180, including packaging, transportation, incident reporting, and incident response. Include the following items within the SPCC Plan: • During off-loading of fuel from fuel vehicles or during refueling operations have a standard marine-type fuel containment boom (which would be of sufficient length for a worst-case discharge), spill prevention kit, and fire kit readily available on site. • Store two or more spill containment and response caches along each of the fuel delivery routes. • Spill response team will carry sufficient containment equipment for one full fuel tanker. • Include the Forest Service as a party to be notified in the event of a hazardous materials spill. • Intake pumps, engines, fuel storage, fuel containment site, and other equipment with fuel or lubricants will be inspected at each refueling and periodically between refueling for leakage or spillage. • Pilot and emergency spill response vehicles will carry appropriate containment and first aid equipment. • All fuel containers will be marked with contents, owner's name and contact information. • Material Safety and Data Sheets for all products will be posted and available on site with the SPCC plan. • Intake pumps will not be situated within the active stream and ditch channel and will be placed within containment vessels capable of holding 120 percent of the pump engine's fuel, engine oil and hydraulic fluid. The smallest practical pump and intake hose will be used. • Following large storm events, the intake pumps will be inspected to determine if stream flow has encroached into the pump area and if the pump needs to be moved so it remains above flowing water. • A spill prevention and clean-up kit will be placed at the intake pump site and will consist of absorbent pads and/or	Regulatory Requirement and Design Features	49 CFR 171	Hazardous Materials, Health and Safety, Water Resources, Wetlands, Fish, Wildlife, Soils,

Description	Type	Reference	Resources Affected
boom (which will be sufficient length for a worst-case discharge), drip pan, a shovel, and a fire extinguisher. • Spare fuel for the water intake pump will be stored in approved [29 CFR 1926.152(a)(1)] fuel storage containers placed into a secondary containment vessel capable of holding at least 120 percent of the volume of the fuel in the fuel container. • A copy of the SPCC plan will be kept at an appropriate on-site facility.			
Unless otherwise authorized, all garbage or refuse should be removed from National Forest System lands. This includes, but is not limited to, empty fuel and lubricant containers. Food and garbage will be stored either indoors, in vehicles, or if outside, in wildlife-proof containers. No garbage will be burned.	FP Component and Design Features	Design Feature developed for compliance with BNF and PNF: MIGU04	Hazardous Materials, Water Resources, Fish, Health and Safety, Wildlife
The operator shall comply with all applicable Federal and State fire laws and regulations and shall take all reasonable measures to prevent and suppress fires on the area of operations and shall require their employees, contractors and subcontractors to do likewise.	Regulatory Requirement	36 CFR 228.11	
The operator shall comply with State of Idaho fire protection procedures (as outlined in IDAPA 20.04.01) and any local Valley County Fire District regulations and shall require their employees, contractors and subcontractors to do likewise.	Regulatory Requirement	IDAPA 20.04.01	Health and Safety, Vegetation
Several fire-response kits will be spaced strategically around the project area and be inspected annually.	Design Feature		Health and Safety, Vegetation
On-site staff will maintain contact with Krassel District Ranger to ensure appropriate procedures are followed in the event of implementation of fire restrictions or woodland use restrictions (e.g., “Red Flag Warnings”).	Design Feature		Health and Safety, Vegetation
Damage to or loss of Forest System trails from mining activities should be repaired or mitigated by the Project Operator.	FP Component	BNF: REGU22, REGU24 PNF: REGU23, REGU26	Recreation
When new recreation facilities and trails must be located in RCAs, they shall be developed such that degrading effects to Riparian Conservation Areas are mitigated. Where reasonable and practical location alternatives exist, new recreation facilities and trails should be located outside of RCAs.	FP Component	BNF: REST02 PNF: REST02	Recreation

Description	Type	Reference	Resources Affected
Architectural designs will follow principles and concepts outlined in the Built Environment Image Guide. Facilities identified as necessary should blend with the surrounding landscape character and the ROS setting. ROS descriptions in the Boise National Forest and Payette National Forest Land and Resource Management Plans Appendix F should be used to help guide facility development and recreation activity management within each ROS class. When a structure or facility is created for other than public use, the materials, color, and location should be chosen to reduce visual contrast of the structure. Natural or neutral colors should be used in to help structures blend with the landscape. The use of natural or neutral colors and non-reflective surfaces will be considered for structures. An exception to this will be when the function of the structure is to be seen.	FP Component	BNF and PNF: FRGU13, SCGU13, SCGU14, SCGU15 BNF: REGU12, REGU15 PNF: REGU13, REGU16	Scenic Resources, Tribal Resources
Reclamation cover material (e.g., growth media) used in places including but not limited to the tailings storage facility and tailings storage facility buttress will be evaluated for contaminants prior to use during reclamation. Acceptable metal and contaminant concentrations and sampling and testing methodology will be documented in a sampling and analysis plan developed prior to reclamation.	Design Feature		Soil, Water, Public Safety
Topsoil and any brush removed will be stockpiled separate from fill material and used in reclamation.	Design Feature		Soils
Measures such as, but not limited to, segregating and stockpiling topsoil, implementing stormwater and sediment best management practices (BMPs), backfilling, revegetation, and concurrent reclamation will be conducted, where possible and practical, for areas where the soil has been exposed by ground-disturbing activities. These areas and sites include but are not limited to borrow sites, utility corridors, skid trails, firebreaks, temporary roads, cut and fill slopes, and areas where construction activities have occurred.	Design Feature	Design Feature developed to lessen impacts under BNF and PNF: SWST03, SWGU05	Soils, Vegetation, Timber, Transportation and Access, Water, Wetlands, Fish
Applicable road obliteration for all roads proposed for obliteration including temporary roads and applicable sections of the Burntlog route (if selected) will be fully recontoured, including full bench constructed road segments. Road obliteration through recontouring is the reclamation of a road template through the following: • Deep decompaction (36”) of the inside half of the road surface; • excavate road fill down to the natural ground level and then place on top of the decompacted inside half of the road surface on the cut slope side of road; • Reestablish the natural slope profile; and • Vegetation clump planting. Decompaction**:** All compacted road surfaces that will be covered with excavated material, for example the inside half of the road surface, shall be decompacted to a depth of 36 inches or to a restrictive layer (bedrock). This is to promote water	Design Feature		Soils, Vegetation, Transportation and Access

Description	Type	Reference	Resources Affected
infiltration, breakup any potential landslide slip surface between the road surface and excavated and placed fill material and allow deep root vegetation establishment. Excavation: After decompaction of the roadway, the outside road fill material shall be excavated and placed on roadbed between the top of cut and natural ground, forming a slope approximating natural contours. No ditches, water traps, or berms shall remain. Finished product should blend in with the surrounding terrain. Soil-Vegetation Plug Transplanting: Excavate soil-vegetation plugs from adjacent natural and undisturbed ground having a minimum surface area of 9 square feet to a depth beyond the vegetation rooting zone (plug size is dictated by excavator bucket size). The plug transplant shall be of sufficient depth that will maintain the root system and contain adequate soil to enhance favorable growth. Soil-vegetation plug transplanting will be done at a minimum rate of 15 plantings per 100 lineal feet evenly distributed along the width and length of the recontoured surface. The plugs will be transplanted to a depth even with the surrounding recontoured ground level. This work will be accomplished with an excavator. Surface Ground Cover: Ground cover across the entire recontoured or disturbed surface (this will include all scarified ground, de-compacted roads and skid trials), by order of priority, shall be achieved using a combination of clump planting, native mulch, coarse woody debris and certified weed free agriculture straw to reach a minimum of 50 percent to the maximum 80 percent coverage of the recontoured surface or disturbed area. Apply native seed mix, hydromulch or organic fertilizer. This order or priority shall be given to vegetation plug planting, native mulch, coarse woody debris, and straw. When applying coarse woody debris, use various size classes at levels similar to surrounding undisturbed ground and placed at various orientations. The desired result of road obliteration through recontouring is to restore slope contours the natural slope profile, improve soil productivity, improve soil-water infiltration, and reestablish ground water flow paths and hydrologic function.			
Road rutting from operations, outside the mine site, will be minimized by construction and maintenance of surface drainage structures, application of surfacing material, and by restricting road use when conditions are unacceptable due to moisture that is leading to the onset of rutting and concentrated turbid flow. (Note typical guidance is 'no use' if ruts deeper than 4" are created.) This design feature does not apply to the mine site.	Design Feature	Design Feature developed to lessen impacts under BNF and PNF: SWST02 SWST03	Soils, Vegetation, Timber, Transportation and Access, Water, Wetlands, Fish

Description	Type	Reference	Resources Affected
Handling of road waste material (e.g., slough, rocks) will avoid or minimize delivery of waste material to streams that will result in degradation of soil, water, riparian, and aquatic resources.	Design Feature	Design Feature developed for compliance with BNF and PNF: FRST05	Transportation and Access, Fish, Soils, Water Resources, Wildlife,
Commercial transport vehicles will be inspected at Knox or Landmark by the driver prior to accessing the Johnson Creek area.	Design Feature		Transportation and Access, Health and Safety
Road clearing and maintenance activities for roads under Forest Roads and Trail Act easement agreements will be coordinated with Valley County, as necessary.	Design Feature		Transportation and Access, Health and Safety
Mitigate degrading effects from locatable mine operations situated within Riparian Conservation Areas by identifying reasonable locations for access, processing, and disposal facilities outside of RCAs, wherever possible.	FP Component	BNF and PNF: MIST04, LSST07, MIST08, FRGU06	Transportation and Access, Water Resources, Fish, Wetlands.
To minimize the degradation of watershed resource conditions, prior to expected water runoff, water management features will be constructed, installed, and/or maintained. Activities and features include, but are not limited to, water bars, rolling dips, seeding, grading, slump removal, barriers and berms, distribution of slash, and culvert and ditch cleaning in all applicable areas.	Design Feature	Design Feature developed for compliance with BNF and PNF: SWST01 and SWST04	Transportation and Access, Water Resources, Soils, Wetlands
To accommodate floods, including associated bedload and debris, new culverts, replacement culverts, and other stream crossings will be designed to accommodate a 100-year flood recurrence interval unless site-specific analysis using calculated risk tools or another method, determines a more appropriate recurrence interval.	FP Component	BNF and PNF: FRST02	Transportation and Access, Water Resources, Soils, Wetlands, Fish
To minimize sediment runoff from the temporary roads and roadbeds, water management features will be constructed, installed, and/or maintained on authorized temporary roads and roadbeds, on completion of use, before expected water runoff, or before seasonal shutdown. Activities and features could include, but will not be limited to, water bars, silt fencing, certified weed-free wattles, and/or weed-free straw bales, rolling dips, seeding, grading, slump removal, barriers and berms, distribution of slash, and culvert and ditch cleaning. These features will be installed in strategic downslope areas and in RCAs, where and when appropriate.	Design Feature	Design Feature developed for compliance with BNF and PNF: SWGU06	Transportation and Access, Water Resources, Wetlands, Soils

Description	Type	Reference	Resources Affected
Snow removal will be accomplished in accordance with the following standards of performance: • All debris, except snow and ice, that is removed from the road surface and ditches will be deposited away from stream channels at approved locations. • During snow removal operations, banks will not be undercut, and gravel or other surfacing material will not be bladed off the roadway surface. • Ditches and culverts will be kept functioning during and following plowing. Berms left on the shoulder of the road will be removed and/or drainage openings will be created and maintained. Drainage openings will be spaced to maintain satisfactory surface drainage without discharge on erodible fills. • Dozers will be used on an as-needed basis for plowing snow. The dozer operator will maintain an adequate snow floor over the gravel road surface. • Snow will not be totally removed to the gravel road surface. Appropriate snow floor depth will be maintained to protect the roadway. • Damage of roads from, or as a result of, snow removal will be repaired in a timely manner. • Culverts and stream crossings will be clearly marked before snow removal begins to avoid placing berm openings in locations that will allow runoff to enter drainages directly at the culverts or stream crossings. Excessive snow will not be plowed into locations that will impact operation of the culverts or prevent positive drainage from drainage areas. Some snow is necessary around culvert openings and in the bar ditches as this will insulate the ditch and culvert and will prevent the water in the ditch and culvert from freezing. • No ice and snow removal chemicals will be used on roads. • Traction material will be 3/8-inch diameter gravel or greater.	Design Feature		Transportation and Access, Water Resources, Wetlands, Fish
If sensitive plants or their propagules are required to be collected, collection methods and other information will be under the direction of the Forest or Regional Botanist.	Design Feature	Design Feature developed for compliance with BNF and PNF: BTST02	Vegetation
For projects or activities that include application of insecticides, herbicides, fungicides, or rodenticides, degrading effects on sensitive plant species will be mitigated.	FP Component	BNF and PNF: BTST04	Vegetation
In revegetation and seeding projects in occupied Threatened, Endangered, Proposed, or Candidate (TEPC) plant habitat, a Forest botanist shall be consulted to ensure appropriate species are used.	FP Component	BNF and PNF: TEST09	Vegetation

Description	Type	Reference	Resources Affected
When available and not cost-prohibitive, seeds and plants used for seedings and plantings in revegetation projects should originate from genetically local sources of native species. When project objectives justify the use of non-native plant materials, documentation explaining why non-natives are preferred should be part of the project planning process.	FP Component	BNF and PNF: BTGU03	Vegetation
Noxious weeds and undesirable non-native plants will be eradicated in the Operations Area boundary, within permitted use areas, and the cut and fill slopes of roads and trails used by mine and mine facility related traffic. Where it is not practical to eradicate existing infestations, infestations will be managed to prevent seed production and spread. In areas of existing extensive infestation, mitigation for noxious weed prevention will be incorporated into road layout, design, and project alternative evaluation.	Design Feature	Design Feature developed for compliance with BNF and PNF: FRGU02, TEST10	Vegetation
Clean borrow and gravel sources on Forest should be maintained as noxious weed free through an inspection and treatment program. Off-Forest inspections and treatments should be coordinated with county weed agents.	FP Component	BNF and PNF: NPGU02	Vegetation
All seed used on National Forest System lands will be certified to be free of seeds from noxious weeds listed on the current All States Noxious Weeds List.	FP Component	BNF and PNF: NPST02	Vegetation
Materials such as hay, straw, or mulch that are used for rehabilitation and reclamation activities shall be free of noxious weed seed and shall comply with the 1995 weed-free forage special order against use of non-certified hay, straw, or mulch. Materials that are not covered under a weed seed free certification, and that have the potential to contain noxious weed seed, shall be inspected and determined to be free of weed seed before purchase and use.	FP Component	BNF and PNF: NPST01 NPST06	Vegetation
Source sites for gravel and borrow materials shall be inspected for noxious weeds before materials are processed, used, or transported from the source site into the project area or onto the National Forest.	FP Component	BNF and PNF: NPST07	Vegetation
Gravel or borrow material source sites with noxious weed species present shall not be used unless effective treatment or other mitigation measures are implemented.	FP Component	BNF and PNF: NPST08	Vegetation
To prevent invasion and expansion of noxious weeds, the following provisions will be included in the plan of operating where land-disturbing activities are associated with the authorized land use): a) Re-vegetate areas, as designated by the Forest Service, where the soil has been exposed by ground-disturbing activity. Implement other measures, as designated by the Forest Service, to supplement the influence of re-vegetation in preventing the invasion or expansion of noxious weeds. Potential areas will include: construction and development sites, underground utility corridors, skid trails, landings, firebreaks, slides, slumps, temporary roads, cut and fill slopes, and travel ways of specified roads.	FP Component	BNF and PNF: NPST03	Vegetation

Description	Type	Reference	Resources Affected
b) Earth-disturbing equipment used on National Forest System lands--such as cats, graders, and front-loaders--shall be cleaned to remove all visible plant parts, soil, and material that may carry noxious weed seeds. Cleaning shall occur prior to entry onto the project area and again upon leaving the project area if the project area has noxious weed infestations. This also applies to fire suppression earth-disturbing equipment contracted after a Wildland Fire Situation Analysis and Wildland Fire Implementation Plan has been completed.			
Integrated weed management shall be used to maintain or restore habitats for sensitive plants and other native species of concern where they are threatened by noxious weeds or non-native invasive plants. Specific measures to reduce the potential for spread and establishment of noxious weed infestations could include, but are not limited to, determining the presence, location, and amount of noxious weed infestations in the Operations Area, developing management strategies such as, methods and frequency for treating infestations, treatment procedures and restrictions, reporting requirements, and follow-up or monitoring requirements. Herbicide applications will be by or under the direct supervision of licensed Idaho professional herbicide applicators with Aquatic Pest Control certifications and will be consistent with the Boise National Forest Invasive Species Management Plan and Payette National Forest guidance.	FP Component and Design Features	Design Feature developed for compliance with BNF and PNF: NPST11	Vegetation
New facilities for storage of fuels and other toxicants will be located outside of occupied Regional Forest Sensitive, Forest Watch, and TEPC plant habitat.	FP Component	BNF and PNF: TEST11	Hazardous Materials, Water Resources, Fish, Health and Safety, Vegetation
Public firewood cutting and gathering along the Burntlog route, if the route is open to the public, will not be allowed.	Design Feature		Vegetation
Mitigate, through avoidance or minimization, management actions within known winter roosting sites of TEPC species if those actions would adversely affect the survival of wintering or roosting populations. During project planning, determine sites, periods, and appropriate mitigation measures to avoid or minimize effects.	FP Component	BNF and PNF: TEST13 WIST03	Wildlife
Section 6 of Idaho Department of Land's Best Management Practices for Mining in Idaho (IDL 1992) will be observed, including if water is encountered in exploration holes, water zones will be sealed off during abandonment to prevent crossflow.	Regulatory Requirement	Section 6 of Idaho Department of Land's Best Management Practices for Mining in Idaho (IDL 1992)	Water Resources

Description	Type	Reference	Resources Affected
The proponent will implement surface water quality baseline turbidity monitoring, as defined in the Idaho Department of Environmental Quality permit clauses.	Design Feature		Water Resources, Fish
Do not authorize storage of fuels and other toxicants or refueling within Riparian Conservation Areas unless there are no other alternatives. Storage of fuels and other toxicants or refueling sites within Riparian Conservation Areas shall be approved by the responsible official and have an approved spill containment plan commensurate with the amount of fuel.	FP Component	BNF and PNF: SWST11	Water Resources, Fish, Wetlands, Hazardous Materials, Health and Safety
Dust abatement chemicals will be used in accordance with the applicable road maintenance Biological Assessment. Apply dust- abatement additives and stabilization chemicals (typically $MgCl_2$, $CaCl_2$, or lignin sulphonates) to avoid run-off of applied dust abatement solutions to streams. Spill containment equipment will be available during chemical dust abatement application. Where the road surface is within 25 feet (slope distance) of surface water, dust abatement will only be applied to a 10-foot swath down the centerline of the road. The rate and quantity of application will be regulated to insure all of the chemical is absorbed before leaving the road surface.	Design Feature		Water Resources, Fish, Wetlands, Air Quality, Transportation and Access
Drilling mud and hole plug products, if utilized, will conform to American Petroleum Institute guidelines for ensuring groundwater integrity.	Design Feature	American Petroleum Institute guidelines	Water Resources, Health and Safety, Hazardous Materials
Trees or snags that are felled in Riparian Conservation Areas will be left unless determined not to be necessary for achieving soil, water, riparian, and aquatic desired conditions. Felled trees or snags left in Riparian Conservation Areas will be left intact unless resource protection (e.g., the risk of insect infestation is unacceptable) or public safety requires bucking them into smaller pieces.	FP Component	BNF and PNF: SWST10	Water Resources, Soil, Fish, Vegetation
The proponent will monitor stormwater runoff and stormwater BMPs as per the Stormwater Pollution Prevention Plan (SWPPP). Stormwater monitoring, inspections, and reporting will be conducted in accordance with the Idaho Pollutant Discharge Elimination System Multi-Sector General Permit and the SWPPP.	Permitting Requirement	Idaho Pollutant Discharge Elimination System Multi-Sector General Permit and the SWPPP	Water Resources, Soils
All activities will be conducted in accordance with Idaho environmental anti-degradation policies, including Idaho Department of Environmental Quality water quality regulations at IDAPA 58.01.02 and applicable federal regulations.	IDAPA 58.01.02		Water Resources, Wetlands, Fish
If additional water rights are applied for, the Forest Service will be informed to determine if additional analysis or consultation is necessary prior to use.	Design Feature		Water Rights

Description	Type	Reference	Resources Affected
Road reconstruction and/or upgrades to NFR 51290 (Meadow Creek Lookout Road) on the ridgeline dividing Meadow Creek from the Indian Creek drainage will be restricted to 30 feet either side of the centerline of the existing alignment to prevent potential for direct impacts to the Frank Church River of No Return Wilderness.	Design Feature	Design Feature developed for compliance with BNF and PNF: LSST03, LSST05	Wilderness
Mitigate management actions within known winter roosting sites or hibernacula (bats) of Sensitive species if those actions would measurably reduce the survival of wintering or roosting populations. Sites, periods, and mitigation measures will be determined during project planning.	FP Component	BNF and PNF: WIST04	Wildlife
To mitigate impacts to known nesting or denning sites of Management Indicator Species or Sensitive species, land clearing activities in areas where complete vegetation removal is necessary greater than 0.5 acres will not occur, to the extent possible, until after the bird breeding season (April 1 through July 30th) for migratory and resident birds. This design feature does not apply to the mine site, road construction or maintenance, hazard tree felling, or the power line upgrades and construction.	Design Feature	Design Feature developed for compliance with BNF and PNF: WIST03	Wildlife
Potential water sources will be surveyed by the proponent, in coordination with the Forest Service, for Columbia spotted frog egg masses and other amphibians after ice melt and avoid disturbing any water sources with identified egg masses or other species. Exceptions: If egg masses are found at a water source essential for proposed activities, the egg masses will be relocated in coordination with the Forest Service wildlife biologist.	Design Feature	Design Feature developed for compliance with BNF and PNF: WIST03, TEST12	Wildlife
The Forest Service wildlife biologist will be notified of any sightings of TEPC or Sensitive wildlife species, including, occupied sensitive species nests or dens encountered during implementation. If necessary to maintain key features of nesting and denning habitat or to avoid disruption of nesting and denning activities, prescribed activities will be modified in accordance with the Forest Service wildlife biologist.	Design Feature	Design Feature developed for compliance with BNF and PNF: WIST03, TEST12	Wildlife
Where practicable, monitoring of high elevation habitats characteristic of wolverine denning habitat will be done in cooperation with State fish and game agencies.	Design Feature	Design Feature developed for compliance with BNF: WIGU17	Wildlife
To minimize adverse effects of lighting to TEPC, Management Indicator Species, or Sensitive species, where necessary and in accordance with Mine Safety and Health Administration and the Occupational Safety and Health Administration, the proponent could utilize actions in line with, but not limited to, the below:	Design Feature	Design Feature developed for compliance with BNF and PNF:	Wildlife

Description	Type	Reference	Resources Affected
• To the extent practicable, limit construction activities to the time between dawn and dusk. • Utilize, where possible, use down shielding or directional lighting such as 'Cobra' style lights rather than an omnidirectional light system. • While allowing for public and worker safety, utilize low intensity energy saving lighting (e.g., low pressure sodium lamps). • If possible, minimize illumination of lighting on associated construction or operation structures by using motion sensors or heat sensors. • If possible, place light shields over outside lights, confining light to the immediate area. • Whisper Quiet light plants could be utilized used to mitigate visual impacts from night operations.		WIST03, WIST04 TEST29	
Communication towers should not be sited in or near wetlands, or other known bird concentration or high use areas (e.g., riparian corridors), in known migratory or daily movement flyways. Towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.	Design Feature		Wildlife
If fawning and calving activity is encountered during project activities, the activity will cease and/or be modified in coordination with the Forest Service.	FP Component	BNF: WIGU12 PNF: WIGU12	Wildlife
In goshawk territories with known active nest stands, identify alternate and replacement nest stands during project-level planning when it is determined that the proposed activity is likely to degrade nest stand habitat.	FP Component	BNF and PNF: WIST06	Wildlife
To minimize adverse effects of noise to TEPC, Management Indicator Species, or Sensitive species, where necessary and in accordance with Mine Safety and Health Administration and Occupational Safety and Health Administration, the proponent could utilize actions in line with, but not limited to, the below: • Construction equipment engines will be equipped with adequate mufflers, intake silencers, and engine enclosures when feasible. • When practicable, pumps, generators, and engines will be turned off when not in use. • Temporary wooden structure could be erected around portions of the drill, pumps, and heaters, with acoustic absorbent panels. These temporary structures will not be put in place if they created safety issues related to exhaust vapor build-up. • When feasible, activities such as helicopter use and blasting, could be scheduled at the same time.	Design Feature	Design Feature developed for compliance with BNF and PNF: WIST03, WIST04 TEST29	Wildlife, Scenic Resources, Noise, Wilderness
In revegetation and seeding projects in occupied sensitive plant habitat, a Forest botanist shall be consulted to ensure appropriate species are used.	FP Component	BNF and PNF: BTST05	Vegetation

Description	Type	Reference	Resources Affected
Design and implement projects within occupied habitats of Sensitive species to help prevent them from becoming listed. Use Forest Service-approved portions of Conservation Strategies and Agreements, as appropriate, in the management of Sensitive species habitat to keep management actions from contributing to a trend toward listing for these species.	FP Component	BNF and PNF: WIST02	Wildlife, Vegetation

Table 6 Proponent Proposed Environmental Design Features

Description	Resources Affected
Following crushing, the crushed ore will report via conveyor to a dome-shaped, covered stockpile.	Air Quality
Dust emission controls, such as water sprays and/or bag house dust collectors, will reduce dust from crushing, conveying, and stockpiling.	Air Quality
Dust will be controlled in a similar manner to the ore crushing and conveying process using water sprays and/or bag house dust collectors.	Air Quality
Air emissions from the leaching facility will be captured in a series of air pollution controls, and the material collected will be disposed of as a solid waste or a hazardous waste depending on characterization of the waste.	Air Quality
Air emissions from the induction furnace will be captured in a series of emission controls. Mercury from the induction furnace will be converted to a liquid metallic state, and then securely stored prior to shipment to a certified hazardous waste disposal facility.	Air Quality
Silos will be equipped with air emission controls except for Prill Silo.	Air Quality
All off-highway diesel engines will be Environmental Protection Agency Tier IV or better.	Air Quality, Climate Change
The Project Operator will encourage employees to use company provided shuttle buses as transport to the Stibnite Gold Logistics Facility from towns along SH 55.	Air Quality, Health and Safety, Transportation and Access
Busing and/or vanpooling will be provided for the Project Operator and contractor employees. The associated parking area will accommodate approximately 300 vehicles. To the degree practicable, the Project Operator will mandate the use of busing and vans for employee and contractor transportation to the Stibnite Gold Project and the worker housing facility.	Air Quality, Health and Safety, Transportation and Access
Proper dust control will be employed along transportation corridors and active mining areas using aquatic safe dust suppression chemicals and methods.	Air Quality, Water Resources, Fish, Wildlife
The Project Operator will utilize “smart grid” technology to reduce energy consumption, such as auto dimming lights in offices.	Climate Change
The Project Operator employees and contractors will be informed about relevant governmental regulations intended to protect cultural and historic resources.	Heritage

Description	Resources Affected
To protect fish residing in, using, or potentially using the Yellow Pine Pit lake (Chinook salmon, steelhead trout, bull trout, Westslope cutthroat trout, mountain whitefish), the Project Operator has developed a Fish Salvage and Release Plan to isolate the lake from upstream movement into the lake and salvage and release fish. The Fish Salvage and Release Plan will be refined in coordination with federal, state, and tribal agencies. The Project Operator will, in consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, design, install, and operate a fish trap and one or two weirs designed to allow fish to leave the Yellow Pine pit lake but not allow fish to migrate upstream past the trap to ensure that the fewest number of individual Endangered Species Act -listed fish species are present in the pit lake when the draining process begins. The timing for providing the upstream barrier to fish movement will be designed to minimize the number of fish in the Yellow Pine pit lake, particularly larger bull trout. Fish captured in the Yellow Pine pit lake will be immediately released downstream of the upstream fish movement barrier or in another location determined by the appropriate regulatory agencies. The Yellow Pine pit lake will be partially drained to recover the remaining fish and relocate them prior to final draining of the pit lake.	Fish
A fishway has been designed and will be operated within the East Fork South Fork Salmon River diversion tunnel to provide upstream and downstream volitional fish passage throughout mine operations. The East Fork South Fork Salmon River diversion tunnel will be approximately 0.9 miles long and 15 feet high by 15 feet wide. The tunnel will include a parallel accessway to allow equipment and personnel access for monitoring, inspection, and maintenance. The accessway will function as a floodway for high flows, limiting the operating flow range within the fishway while river and thus total tunnel flows vary more widely.	Fish
As an alternative to the fishway in the East Fork South Fork Salmon River diversion tunnel the Project Operator will provide adult passage by trap and haul if needed. Criteria may be put in place so that if any unusual or unexpected events occur that result in adverse impacts to fish during operations, fish passage through the fishway will be switched to trap and haul operations.	Fish
Low-energy lighting will be provided in the fishway to determine if it aids in fish passage and to provide light for tunnel and fishway inspections. The system will be configured so that it mimics the photoperiod of the region, run manually on a dimming system, or be completely turned off at the option of the operator.	Fish
Fish salvage and relocation operations will be conducted any time the facility needs repair within the fishway, potentially during sediment removal, and potentially when streamflows recede from the accessway.	Fish
Post mining, the East Fork South Fork Salmon River stream channel will be reestablished across the backfilled Yellow Pine pit with a channel design that will provide for upstream and downstream fish passage.	Fish
the Project Operator will reestablish fish passage at the location of the existing box culvert on the East Fork South Fork Salmon River just downstream of the confluence with Meadow Creek at the McCall-Stibnite Road (CR 50-412) crossing.	Fish
The Project Operator will improve fish passage along the Burntlog Route within the Stibnite Gold Project area by identifying and replacing existing collapsed, undersized, or otherwise degraded or poorly designed culverts at road crossings and committing appropriate resources to fix and improve these structures.	Fish
The Project Operator will install side-ditching, culverts, guardrails, and bridges, where necessary along the Burntlog Route, with design features to provide fish passage and limit potential sediment delivery to streams.	Fish

Description	Resources Affected
The Project Operator will employ blasting setback distances and other controlled blasting techniques following industry best management practices (modifying blasting variables including charge size, and vibration and overpressure monitoring) to minimize impacts to fish from blasting. the Project Operator will follow up with monitoring in early stages of operation to evaluate effectiveness and refine blasting protocols in coordination with federal, state, and tribal agencies, if needed.	Fish
Dewatering of the Yellow Pine pit lake or stream segments will generally be conducted during low-flow periods to facilitate stream segment isolation and fish salvage. When practicable, dewatering also will be timed to avoid or minimize impacts during known spawning periods for Chinook salmon, steelhead, and bull trout.	Fish
To protect fish, the Project Operator will develop a standard procedure for channel segment isolation, dewatering, fish salvage, and fish relocation to appropriate receiving streams during dewatering or maintenance of natural stream and diversion channels, based on the U.S. Fish and Wildlife Service Recommended Fish Exclusion, Capture, Handling, and Electroshocking Protocols and Standards (U.S. Fish and Wildlife Service 2012) and refined in coordination with federal, state, and tribal agencies.	Fish
The fishway operations and management plan defines the monitoring and evaluation plan elements and describes how the hydraulic conditions, fish use, and performance of the tunnel fishway will be measured and evaluated, and the design of the adaptive management component of the plan including the option of using trap and haul.	Fish
Access and Stibnite Gold Project haul road crossings of fish bearing streams will be designed such that structures installed or constructed allow fish passage.	Fish and Wildlife
The Project Operator will implement measures to limit stream baseflow effects during active operations, including a combination of lining key reaches of streams potentially impacted by pit dewatering, and treating and discharging pit dewatering water that is not used for ore processing or other industrial uses. Maintain instream flows for fish species and other aquatic resources: flows within natural stream channels affected by Stibnite Gold Project operations will be maintained to meet seasonally appropriate and stream-specific low-flow needs to the maximum extent practicable. the Project Operator will continue to evaluate options and measures to further avoid and minimize the magnitude and duration of effects of the Stibnite Gold Project through other measures in consultation with federal, state, and tribal agencies.	Fish, Water Resources
Following permanent cessation of mining activities at the Yellow Pine pit, the Project Operator will backfill the pit and route the East Fork South Fork Salmon River over the backfilled pit with a longer, lower-gradient channel with higher intrinsic potential for Chinook salmon and steelhead spawning and rearing than the channel that exists presently. The floodplain area along the constructed channel will include side-channels and other off-channel features and will be revegetated to restore wetland and riparian habitat providing long-term shade and cover favorable to fish.	Fish, Wetlands
The Meadow Creek channel will be routed over the final tailings storage facility and tailings storage facility embankment and buttress, resulting in a long, relatively flat surface and a short, steep face. On top of the tailings storage facility surface, Meadow Creek will be contained within a broad floodplain corridor bound laterally by erosion-resistant terraces and vertically by a subsurface armor layer over a low-permeability stream liner.	Fish, Wetlands

Description	Resources Affected
The Project Operator will stabilize and restore Blowout Creek. Blowout Creek wetland restoration will consist of restoring and enhancing palustrine aquatic bed (PAB), palustrine emergent (PEM), Palustrine scrub-scrub (PSS) wetlands that were impacted when a historical dam failed on Blowout Creek. Headcutting and shallow aquifer dewatering have impaired and reduced functions of the wetland vegetation classes. A grade control and groundwater cutoff structure is proposed to raise the water level in Blowout Creek as well as recharge the shallow groundwater system and reduce stream headcutting. A coarse rock drain will be constructed within the chute downstream of the failed dam to isolate the flow of Blowout Creek from the actively eroding chute side slopes and to prevent further erosion of the gully bottom, facilitating subsequent restoration of a surface channel on top of the drain. The Project Operator will stabilize the steep, confined, erosive middle reach to address the significant fine sediment load currently produced from this reach and restore the downstream, relatively low-gradient reach.	Fish, Wetlands, Water Resources
The Project Operator will lead annual site visits for U.S. Army Corps of Engineers, Environmental Protection Agency, Idaho Department of Fish and Game, and other interested agency personnel as needed to facilitate agency review of mitigation areas if desired. Final reporting and data archival requirements will be subject to permit conditions; however, it is anticipated that until the U.S. Army Corps of Engineers concurs that mitigation sites meet success criteria, monitoring reports will be prepared by the Project Operator annually and submitted to U.S. Army Corps of Engineers Walla Walla District, Environmental Protection Agency, Idaho Department of Fish and Game, IDL, National Oceanic and Atmospheric Administration Fisheries, U.S. Fish and Wildlife Service, the Forest Service, and other interested agencies, Stibnite Gold Project partners, and stakeholders. After success criteria are met, permit conditions will set the frequency for long-term monitoring and reporting.	Fish, Wetlands, Water Resources
The Project Operator will repair and rehabilitate habitats adversely affected by historical mining impacts in the Stibnite Gold Project area within the disturbance footprint of the modified mine plan.	Fish, Wetlands, Water Resources
Minor surface improvements (e.g., ditch and culvert repair, adding gravel, winter snow removal, and summer dust suppression) will occur on the Yellow Pine Route to reduce sediment runoff and dust generation.	Fish, Wildlife, Water Resources
Implementation of an avalanche hazard management program that "could" include avalanche control and/or road closure. Also proposed are daily region-scale assessments; daily weather observations including snowpack and avalanches; notifying Stibnite Gold Project staff of highly unstable conditions; closing roads during periods of elevated hazard or blocked roads; and mitigating the avalanche hazard with explosives. Section 7.2 of Dynamic Avalanche Consulting (2021) provides a description of an active avalanche monitoring and mitigation program that has more specific descriptions of the components that could be included in a Stibnite Gold Project -specific plan. Section 8.0 of Dynamic Avalanche Consulting (2021) includes a discussion of avalanche mitigation likely to be necessary for the avalanche paths identified and this should be included in the program discussed above. the Project Operator will provide for Forest Service review of a written avalanche monitoring and mitigation program that could be implemented for the Stibnite Gold Project.	Geotechnical Hazards
Construction and operation of snow catchment areas for smaller avalanche paths. Section 7.3 of Dynamic Avalanche Consulting (2021) includes a more detailed discussion of specific locations and design characteristics for ditches and catchment areas to reduce avalanche impacts to roads. the Project Operator will review this information and current road designs to provide for Forest Service review of specific designs and maintenance and operating plans for said ditches and catchment areas along the selected access route.	Geotechnical Hazards

Description	Resources Affected
Avalanche structural defense options that could be beneficial in the Stibnite Gold Project mine site to protect high-value, stationary facilities from avalanche hazards. The Project Operator will review this information and provide the Forest Service with any recommendations for implementing structural avalanche defenses in at the Stibnite Gold Project mine site.	Geotechnical Hazards
The Project Operator will increase the ground limestone dosage to the pre-oxidized concentrate as it is fed into the autoclave to address the potential for creation of soluble arsenic. By decreasing the free acid levels (increasing the pH) in the autoclave by increasing the ground limestone dosage in the autoclave feed increases the quantity of crystalline (stable) arsenic compounds in the resultant slurry with a proportional decrease in the quantity of amorphous (unstable) arsenic compounds.	Hazardous Materials
The Project Operator will monitor levels of soluble arsenic in the tailings. If soluble arsenic levels are higher than anticipated, the Project Operator will treat the oxidized concentrate with hot arsenic cure prior to neutralization.	Hazardous Materials
The ore processing area will be designed to provide for containment of ore processing materials, chemicals, wastes, and surface runoff. Potentially hazardous chemicals and wastes will be stored within buildings or areas with both primary and secondary containment. Surface runoff within the ore processing area will be directed to a contact water pond for collection. Leaks or spills escaping primary and secondary containment will flow to the contact water pond for collection and will not discharge off site.	Hazardous Materials
The processing circuit will be housed in a steel frame building set on concrete foundations with interior curbing to provide secondary containment; the interior curbing will be high enough to contain 110 percent of the volume of the largest tank.	Hazardous Materials
The gold and silver leaching circuit will be designed and operated consistent with the International Cyanide Management Institute Code (https://www.cyanidecode.org) and the Initiative for Responsible Mining Assurance Standard for Responsible Mining (https://responsiblemining.net/resources/). Accordingly, impermeable secondary containment for cyanide unloading, storage, mixing and process tanks shall be sized to hold a volume at least 110 percent of the largest tank within the containment and any piping draining back to the tank, with additional capacity for the design storm event, if applicable. Pipelines containing process water or process solution shall also use secondary containment in combination with audible alarms, interlock systems, and/or sumps as spill control measures.	Hazardous Materials
Cyanide-bearing solutions used in ore processing will be neutralized to approximately 10 milligrams per liter weak acid dissociable cyanide before the material is pumped to the tailings storage facility. Residual cyanide will be treated using a sodium metabisulfite and air system to detoxify the cyanide by oxidation to form cyanate.	Hazardous Materials
Cyanide will be neutralized to levels protective of wildlife, and the tailings storage facility will be surrounded by an 8-foot high, chain-link fence designed to keep wildlife, such as deer and elk, from entering the impoundment area, to prevent either liner damage or wildlife drowning.	Hazardous Materials
Oils, solvents, and lubricants will be stored in approved containers located within, or directly adjacent to, the maintenance shop and contained within secondary containments to prevent spills into the environment. All used petroleum products, waste antifreeze, and used solvents will be collected in approved containers, transported off site, and disposed or recycled.	Hazardous Materials
Nitric and sulfuric acid will be transported in tanks designed to prevent spills even in the event of rollovers.	Hazardous Materials
Nitric and sulfuric acids will be stored in specialized non-corrosive, polyethylene-lined tanks located within the ore processing facility and will have secondary containment.	Hazardous Materials

Description	Resources Affected
Liquids will be shipped to the Stibnite Gold Project in tank trucks designed for spill prevention and escorted to the Stibnite Gold Project by pilot cars manned and equipped to handle spills.	Hazardous Materials
Other legacy materials may be encountered during construction and operations. If encountered, these materials will be characterized to determine potential for reprocessing, reuse, or disposal.	Hazardous Materials
Small scale composting associated with organic materials generated at the worker housing facility may be incorporated within the centralized growth media stockpile in the Fiddle valley.	Hazardous Materials
An Explosives and Blasting Management Plan will be prepared for the Stibnite Gold Project. Explosives storage, transport, handling, and use will comply with applicable Department of Homeland Security, Bureau of Alcohol, Tobacco, Firearms and Explosives, and Mine Safety and Health Administration regulations.	Health and Safety
For safety and security reasons, no alcohol, firearms, or illegal drugs will be permitted on site.	Health and Safety
For safety and security reasons, public access into the mine area will be prevented by using fencing, gate locking, security personnel, and/or notice postings that prohibit unauthorized entry; no unauthorized vehicles or personnel will be permitted on the Stibnite Gold Project.	Health and Safety
Personnel transporting, handling, or using any hazardous chemicals (including sodium cyanide) will be trained to ensure the safe use of such materials. The Project Operator will design, construct, and manage facilities to conform to International Cyanide Management Code.	Health and Safety, Fish, Wildlife, Hazardous Materials
Fuel and other petroleum products at the site will be stored in above ground containment structures, with appropriate secondary containment measures.	Health and Safety, Fish, Wildlife, Hazardous Materials
Air emissions, groundwater, surface water, and aquatic parameters will be monitored during mine construction, operation, closure, and post-closure as specified in the final authorizations from the regulating agencies.	Monitoring
Monitoring will be conducted following the completion of closure and reclamation of all facilities and disturbance areas to demonstrate compliance with permit requirements and to measure the success of reclamation and mitigation.	Monitoring
The draft EMMP includes the following plans for monitoring aquatic resources: Stream and Wetlands Monitoring and Management Plan and Fisheries and Aquatic Habitat Monitoring and Management Plan.	Monitoring
The ore processing facility building will be enclosed.	Noise, Wildlife, Health and Safety
Appropriate sound dampening and muffling equipment will be utilized to minimize noise excursion from equipment and facilities. When possible, schedule high noise activities at the same time. Monitor and maintain equipment to reduce noise related impacts.	Noise, Wildlife, Health and Safety
When practicable, pumps, generators, and engines will be turned off when not in use to avoid unnecessary noise generation and reduce energy consumption.	Noise, Wildlife, Health and Safety
Electric line power will be utilized during operations to eliminate diesel generator noise, except in emergency situations when grid power is down or temporary use in remote areas where it is not practical to run power lines.	Noise, Wildlife, Health and Safety

Description	Resources Affected
An 8-mile temporary 16-foot-wide groomed over-snow vehicle trail will be created adjacent to Johnson Creek Road between Landmark and Trout Creek Campground during construction of the Burntlog Route.	Recreation
A 16-foot-wide groomed over-snow vehicle trail will be created south of Warm Lake Road to connect the southern end of Johnson Creek Road to the Landmark-Stanley Road. This 0.3-mile route will be used throughout construction and operations.	Recreation
During construction, approximately 11 miles of groomed over-snow vehicle trail will be maintained along Cabin Creek Road (FR 467).	Recreation
Suitable surface coatings or exterior design features will be used on Stibnite Gold Project buildings and other structures to reduce visual impacts.	Scenic Resources
Lighting will be managed within active mining areas to avoid unintended lighting of natural, wildlife usage areas. External lighting will be kept to the minimum required for safety and security purposes. Lights will be directed down toward the interior of the Stibnite Gold Project and shielded, where appropriate.	Scenic Resources, Wildlife
Approximately 37 percent of the reclamation will be done concurrent to mining and ore processing; the remaining 63 percent will be accomplished during closure.	Soils, Reclamation
The Yellow Pine pit will be backfilled with West End pit development rock during operations.	Soils, Reclamation
A sinuous channel will be constructed through the backfilled area for the reconstructed East Fork South Fork Salmon River with an average valley gradient approximating the historical, pre-disturbance river gradient.	Soils, Reclamation
The backfill will be placed to achieve a mounded final reclamation surface to promote drainage away from the West End pit and prevent formation of a pit lake within Midnight pit.	Soils, Reclamation
The floor of the sidehill pit southwest of the main West End pit will be graded to drain, covered with growth media, and revegetated.	Soils, Reclamation
The Project Operator will begin with placement of soil and rock cover material, then construct wetlands and restore Meadow Creek and its tributaries within appropriately sized lined floodplain corridors, place growth media, and revegetate the area.	Soils, Reclamation
Hangar Flats pit will be fully backfilled with development rock to the valley bottom elevation or slightly higher during mine operations. There will be no Hangar Flats pit lake.	Soils, Reclamation
Once all final mine closure and reclamation work has been completed, the Project Operator will reduce the 21-foot-wide travel way of 19.8 miles of Burntlog Road (FR 447), 1.3 mile of Meadow Creek Lookout Road (FR 51290), and 2.0 miles along Thunder Mountain Road (FR 375) of Burntlog Route to their approximate pre-mining width.	Soils, Reclamation
The approximately 15 miles of Burntlog Route connecting to Meadow Creek Lookout Road (FR 51290) and Thunder Mountain Road (FR 50375) will be decommissioned.	Soils, Reclamation
Following mining and ore processing operations, unless they are taken over by a third-party for ongoing use and maintenance, the Burntlog Maintenance Facility buildings will be removed. The sewer system and septic tanks for the facility will be decommissioned. Soil and rock beneath fuel storage areas and chemical storage buildings will be tested for contamination. All petroleum products, solvents, and other hazardous or toxic materials will be removed from the site and disposed of according to applicable state and federal regulations. After demolition of the buildings and facilities, the site will be graded, and drainage restored.	Soils, Reclamation
The Project Operator will manufacture growth media material using fines from glacial till sources mined from the Yellow Pine pit, available mulched vegetation, and off-site composted material.	Soils, Reclamation

Description	Resources Affected
Planting, seeding, and mulching will be conducted in the fall and early winter to take advantage of snowpack and springtime moisture. Where cover crops are used in lieu of mulch, seeding will occur in the spring or fall followed by seeding of the permanent mixture.	Soils, Reclamation
Reclamation monitoring will begin during concurrent reclamation at Stibnite Gold Project facilities. Quantitative and qualitative monitoring of reclamation success will begin the first growing season after final reclamation is completed and will continue until success criteria are satisfied.	Soils, Reclamation
Soil stability will be estimated for all reclaimed areas using qualitative descriptors.	Soils, Reclamation
Slope stability will be monitored during the erosion inspections.	Soils, Reclamation
If the performance of reclaimed areas is not satisfactory, appropriate maintenance activities will be implemented. Maintenance activities may include one or more of the following: • Sediment removal from sediment basins, stormwater drainage channels, and diversions as necessary to maintain their design capacity; • Diverting surface water away from reclaimed areas where erosion jeopardizes attainment of reclamation standards; • Stabilizing rills, gullies, and other erosion features or slope failures that have exposed development rock; • Noxious weed and invasive plant species control; and, • Re-seeding or re-applying reclamation treatments in areas where it is determined through monitoring and agency consultation that reclamation will not meet standards.	Soils, Reclamation
The Project Operator will submit an annual report to the Forest Service and the other federal and state agencies that are responsible for issuing authorizations applicable to reclamation for the preceding calendar year. The annual report will contain descriptions of the reclamation activities completed during the previous year, a summary of areas reclaimed, a discussion of the results of the reclamation monitoring conducted, and corrective actions implemented.	Soils, Reclamation
A new 12-foot-wide gravel road will be constructed to provide public access from Stibnite Road (FR 50412) to Thunder Mountain Road (FR 50375) through the Stibnite Gold Project. During operations, the public access road will be used to travel through the Stibnite Gold Project and will provide seasonal use, open to all vehicles. Vehicles passing through the Stibnite Gold Project will be required to check-in with mine personnel at the North or South Stibnite Gold Project entry points.	Transportation and Access, Health and Safety
Post reclamation, a road will be established over the backfilled Yellow Pine pit to allow public access through the reclaimed site and connect Stibnite Road (FR 50412) to Thunder Mountain Road (FR 50375). This will replace the operational phase public access route.	Transportation and Access
Prior to site preparation and construction of surface facilities, vegetation will be removed from operating areas. Trees and deadwood, shrubs, and slash not needed to construct windrows at the edge of Burntlog Route disturbance (to function as sediment barriers), will be chipped, and suitable soil will be separately salvaged and stockpiled (except for a small portion that will be 'live handled') for use as part of site reclamation and restoration. Portions of the salvaged soil will be blended with the chipped wood to create growth media. All growth media placed in stockpiles will be stabilized, seeded, and mulched to protect the stockpiles from wind and water erosion.	Vegetation
The Project Operator will inspect and remove vegetation material (including noxious weeds) from mechanical equipment and properly dispose to minimize the spread of unwanted vegetation.	Vegetation

Description	Resources Affected
Wood wastes and wood mulch are the two primary sources of compost. Food waste produced from on-site meal preparation and wastes may provide another source. Combined and properly managed during composting, these materials will provide a source of organic matter to be blended into substrate materials suitable for mitigation.	Vegetation
The Project Operator will be responsible for noxious weed control within areas disturbed by Stibnite Gold Project activities.	Vegetation, Wildlife
Develop and employ planting plans for wildlife benefits (cover, forage, etc.) using approved seed mixes.	Vegetation, Wildlife
The Project Operator will use aquatic safe herbicides during vegetation management activities and noxious weed control. Adhere to chemical label restrictions, Federal and State rules on usage. Use proper equipment for chemical application by trained personnel.	Vegetation, Fish
The Project Operator or its designated contractor(s) will perform long-term maintenance as necessary, including maintaining and monitoring the Mitigation Area (including stream and wetlands) in perpetuity once the final performance standards are met or until such responsibility is relinquished to an appropriate third party (Forest Service, etc.) as approved by the U.S. Army Corps of Engineers.	Vegetation, Wetlands
The Project Operator will plant stream reclamation reaches and wetland reclamation areas with native plant species that are present in PAB, PEM, PSS, and palustrine forested wetlands and riparian areas along streams throughout the Mitigation Area.	Vegetation, Wetlands
To address stream temperature, riparian planting widths along restored and enhanced stream reaches will be 18 feet wide on each stream bank where possible. Taller and denser vegetation such as spruce trees will be planted. Further, the creation of the lined Stibnite Lake, a feature similar in size to the present Yellow Pine pit lake, will replace the function of the existing Yellow Pine pit lake in buffering stream temperature extremes and reduce maximum stream temperatures in East Fork South Fork Salmon River in and downstream of the Stibnite Gold Project.	Vegetation, Wetlands, Surface Water, Reclamation
Pre-construction water management activities will include the installation of surface water management features and implementation of best management practices to reduce erosion and sediment delivery to streams. These water management features and best management practices could include sedimentation ponds; run-on water diversion ditches, trenches, and/or berms; runoff water collection ditches; silt fence; water bars; culverts; energy dissipation structures; terraces; and other features specified in construction permits.	Water Resources
Stormwater runoff from undisturbed areas upslope of mine features in the major drainages will be captured in the stream diversion channels described above or in other channels that will direct runoff away from disturbed areas. Smaller-scale diversion channels or earthen berms will be used, where necessary, to divert stormwater around other mine infrastructure.	Water Resources
Stormwater drains, ditches, and stream channels will be protected against erosion through a combination of adequate dimension, appropriate gradient, riprap, fabric- encapsulated soil lifts, or other stabilization materials. Diversions will be sized for a peak flow recurrence interval appropriate to the risk level of the facility, in recognition of other water management measures and fail-safes in place (excess flood storage and freeboard in the tailings storage facility, etc.), and in accordance with regulatory standards.	Water Resources
Existing streams that run through areas proposed for mining related disturbance will be diverted to prevent generation of contact water or commingling of contact and non-contact water, keeping clean water clean; and to prevent flooding of mine facilities by runoff generated off site.	Water Resources
Groundwater pumped from the dewatering wells will be considered to be contact water and will be managed through forced evaporation or active water treatment when the volume of pumped water exceeds the ore processing facility demand.	Water Resources

Description	Resources Affected
Channel segments constructed over fill or excavated in permeable materials will be constructed over a geosynthetic liner to reduce seepage. A transition layer of sand and gravel followed by riprap or similar will be placed over the liner for erosion protection.	Water Resources
Secondary containment for pipelines will consist of an open geosynthetic-lined trench, pipe-in-pipe, or backfilled geomembrane-wrapped trench, depending on location, and the pipeline corridor will drain to one of two pipeline maintenance ponds – one at the truck shop and one at the ore processing facility.	Water Resources
A lined tailings pipeline maintenance pond will be located at the ore processing facility, to which tailings and process water in the tailings distribution or water reclaim pipelines will drain by gravity during maintenance shutdowns or if there is a leak in either pipeline. The pond will typically be empty except during maintenance or unforeseen problems with the tailings pipeline, pumping system, or tailings storage facility. The pond is designed to contain the contents of the pipelines and the runoff from the pond and lined pipeline corridor from a 100-year, 24-hour storm event plus snowmelt.	Water Resources
Underdrain collection sumps and downgradient monitoring wells will be used for tailings storage facility leak detection.	Water Resources
Water treatment will continue until metal concentrations from each source have stabilized at levels that meet water quality standards for discharge.	Water Resources
A truck wash facility will include an oil-water separation system and water treatment facilities to enable reuse of the wash water.	Water Resources
During mine operations, summer low flows in perennial diversion channels around the tailings storage facility impoundment and buttress (Meadow Creek), Yellow Pine pit (Hennessy Creek and East Fork South Fork Salmon River diversion tunnel), and West End pit (West End Creek) will be piped underground as a mitigation measure to maintain cold stream temperatures.	Water Resources
Hennessy Creek flow will be disconnected from the current unlined ditch passing alongside the Northwest Bradley dumps.	Water Resources
A liner will be installed under the Meadow Creek stream and floodplain corridor to minimize water seepage into the Hangar Flats pit or the pit dewatering well system, and to avoid potential pit wall instability or loss of stream habitat as a result of stream dewatering.	Water Resources
The underdrain system will convey spring and seep flows beneath both facilities to a collection sump at the buttress toe where the flows will be monitored for water quality prior to release into the stream system or capture for use in the processing circuit or treatment prior to discharge, depending on water quality.	Water Resources
Crushed rock will be placed on Stibnite Gold Project access roads as needed to provide a durable surface and limit sediment transport.	Water Resources, Fish, Soils
Road surfaces throughout the Stibnite Gold Project will be stabilized and managed to minimize transport of sediment, dust, and other materials, especially near watercourses through appropriate road engineering, surface drainage, watering, and application of dust control binding agents (magnesium chloride, lignin sulfonate, etc.), roadside ditching, road-cut stabilization, road surface maintenance, appropriate speed limits, and by limiting traffic.	Water Resources, Fish, Soils
During operations, runoff generated from direct precipitation on the tailings storage facility will be retained in the tailings storage facility water pool for reclaim to the ore processing circuit.	Water Resources, Fish, Wildlife, Wetlands
Riparian fringe and floodplain wetlands will be established on the broad, gently sloping floodplains on both sides of the reclaimed stream channels.	Wetlands

Description	Resources Affected
Valley margin wetlands will only be established where there is an upgradient water source sufficient to produce enough saturation and near surface water tables for wetland conditions.	Wetlands
Wetland reclamation will begin after the end of mine construction, with the first reclaimed wetlands occurring in the Blowout Creek drainage. Additional reclamation will occur in and after operational year 3 and continue through operations to closure year 25.	Wetlands
Salvaged O and A horizon soils from wetland or hydric soils (seed bank materials over or in combination with mineral soils uplands and wetland subsoils (growth media) will be used to create wetland soil conditions.	Wetlands
During Burntlog Route and Stibnite Gold Project haul road construction and use, the Project Operator will install and maintain sediment control measures and devices, such as culverts, culvert inlet protection devices, ditching, silt fencing, straw wattles, straw bales, and sediment catch basins.	Wetlands, Fish, Wildlife
Erodible cut and fill slopes along roads will be mulched, hydro-seeded or have durable rock inlay material to minimize the potential for sediment generation.	Wetlands, Fish, Wildlife
During winter road maintenance, the Project Operator will remove snow from the Burntlog Route and haul roads at the Stibnite Gold Project and the temporary construction access Yellow Pine Route. The Project Operator will avoid disposal of snow in riparian areas, wetlands, or areas where snowmelt might cause road damage or erosion during spring melt. Care will also be taken to dispose of collected snow, which may contain sand or gravel, in a manner that avoids impacts to nearby streams and rivers.	Wetlands, Fish, Wildlife
The Project Operator will use coarse sand (with less than 20 percent fines) for winter sanding of the main access road and Stibnite Gold Project haul roads in combination with a fine to medium gravel as needed, (approximately 1/4 - 5/8-inch sizing).	Wetlands, Fish, Wildlife
The Project Operator will salvage and preserve the growth media and seedbank materials of wetlands and riparian areas that will be impacted by the Stibnite Gold Project. These salvaged soils, containing native seed banks, will be used to aid in establishment of wetland and riparian vegetation in the stream and wetland reclamation areas.	Wetlands, Vegetation
Soil will be amended with additional compost and other sources of organic matter necessary to successfully reclaim wetlands at the Stibnite Gold Project.	Wetlands, Vegetation
The Project Operator will maintain a recycling program at the Stibnite Gold Project.	Wildlife
In order to reduce attractants, during construction and operations, trash and other miscellaneous inert (non-hazardous) garbage will be contained in on-site wildlife-resistant containers and hauled to the Valley County waste transfer station for disposal. Used oils, solvents, grease, and antifreeze will be handled separately from normal trash and garbage. Good housekeeping practices will include minimizing loose trash, odors, and access for wildlife to trash storage or disposal areas and prompt removal of trash.	Wildlife
Implement an Avian Protection Plan at the Stibnite Gold Project for transmission lines, including designing power lines and poles to minimize potential bird mortalities due to electrocution. Develop procedures for managing nests of protected species on utility structures (if nests are built).	Wildlife
Construct and operate all overhead powerlines and transmission lines and related facilities in accordance with Avian Power Line Interaction Committee suggested practices (Avian Power Line Interaction Committee 2012) as described in Idaho Power's Avian Protection Plan.	Wildlife
Electric power structures to serve the Stibnite Gold Project facilities will be designed and constructed to avoid raptor perching on structures for predation purposes and minimize the risk of their being electrocuted.	Wildlife

Description	Resources Affected
The Project Operator will install a wildlife exclusion fence around the tailings storage facility, process facility areas, and related process ponds in order to reduce the potential for mortalities.	Wildlife
The Project Operator will plan routine inspections of tailings storage facility facilities for wildlife use. If needed, the Project Operator will implement measures to remove wildlife and install additional BMPs to reduce wildlife exposure to these areas.	Wildlife
If critical wildlife zones or corridors are identified, restricted or seasonal access will be established prior to construction or expansion activities to the extent practicable. Physical barriers and/or signage will be added identifying these areas and site-specific measures will be implemented to minimize impacts.	Wildlife
The Project Operator will implement an animal trapping and relocation plan, as necessary, for nuisance species for safety of staff, visitors, and animals.	Wildlife
The Project Operator will install fences along and around the ore processing facilities, tailings storage facility, explosive storage areas, and composting/landfill, excluding pit perimeters and high walls.	Wildlife
The Project Operator will install signs of known wildlife crossing and usage areas along access and Stibnite Gold Project haul road corridors and all active facility areas. Locations are yet to be determined but signs will be installed to state the road name and mile markers where these corridors are known to exist. These will also be referenced in the training materials.	Wildlife
The Project Operator will provide tiered training for awareness, sighting, operations and maintenance, and restoration. Cross training to include noxious weeds, maintenance needs, unsafe conditions, etc., as well as reporting mechanisms. All mine personnel and visitors will receive some level of training tiered appropriately based on where they are working, type of work activities, and reason for mine visit. Forms will be developed to document training and identify how often training needs to be refreshed. Fact sheets will be developed on known wildlife in the area including pictures, warnings, and what to do if encountered.	Wildlife
The Project Operator will design and manage the tailings storage facility and associated facilities to reduce wildlife attraction. These include the following: • Surface area of the supernatant pond will be minimized to the extent practical. • Install an 8-foot fence around the tailings storage facility to exclude wildlife from the facility. • Implement an avian mortality reporting system for the tailings storage facility and contact water ponds. • Use skirting to enclose open spaces as necessary beneath raised structures as practical. • Follow the International Cyanide Management Code to avoid features possibly attractive to wildlife, as feasible.	Wildlife
Erosion control techniques at the Stibnite Gold Project will include mulching, wetland sodding; planting of vegetation to stabilize slopes; and use of silt fences, biofilters, brush mats, erosion control fabric, and/or fiber rolls along temporary swales, perimeter dikes, and stream banks. In addition, to minimize human disturbance, permanent signage will be posted around the perimeter of individual project sites to prohibit unauthorized foot traffic and the use of all-terrain vehicles and motorbikes, dumping, draining, and cutting and/or removal of plant materials.	Wildlife
Sumps will be constructed with at least one side having a shallow grade for wildlife egress. Sumps will be backfilled and reclaimed when no longer needed for drilling.	Wildlife

Description	Resources Affected
Mine site facilities will be monitored in accordance with the draft EMMP for the presence and potential mortality of birds, mammals, reptiles, and amphibians. Sightings of rare or sensitive wildlife, along with any wildlife mortalities, will be recorded and provided in periodic reports to the Forest Service, U.S. Fish and Wildlife Service, and Idaho Department of Fish and Game.	Wildlife
The Project Operator will provide mine personnel with mobile deterrents to avoid conflicts with wildlife – sprays, air horns, etc.	Wildlife
The Project Operator will establish and post speed limits for the Burntlog Route, Stibnite Gold Project haul roads, and light vehicle access roads on the Stibnite Gold Project site. Slower speed limits will be posted at known wildlife crossings and along defined migratory corridors during migration season.	Wildlife, Health and Safety
There will be no hunting or discharge of firearms during construction and operations within the Stibnite Gold Project area. The Stibnite Gold Project site will be posted to prohibit hunting, and employees will be prohibited from carrying firearms on the Stibnite Gold Project.	Wildlife, Health and Safety
The Project Operator will employ vegetation maintenance for safety along roads, removal of hazard trees, and riparian conservation areas, etc. – coordinate such that wildlife protection and restoration are incorporated during maintenance.	Wildlife, Health and Safety

In addition to these project environmental design features and Forest Service requirements, the Project incorporates elements specifically designed to be protective of Endangered Species Act - listed species that are presented in Part 9.3 and made conditions of this decision.

This page left blank intentionally.

9.3 Environmental Design Features

9.3.1 Fish - General

Description	Reference
To protect fish residing in, using, or potentially using the Yellow Pine pit lake (Chinook salmon, steelhead trout, bull trout, Westslope cutthroat trout, mountain whitefish), Perpetua has developed a Fish Salvage and Release Plan (Section 5.4.7 within Brown and Caldwell, Rio ASE, and BioAnalysts 2021) to isolate the lake from upstream movement into the lake and salvage and release fish. The Fish Salvage and Release Plan will be refined in coordination with federal, state, and tribal agencies. The Project Operator will, in consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, design, install, and operate a fish trap and one or two weirs designed to allow fish to leave the Yellow Pine pit lake but not allow fish to migrate upstream past the trap to ensure that the fewest number of individual Endangered Species Act -listed fish species are present in the pit lake when the draining process begins. The timing for providing the upstream barrier to fish movement will be designed to minimize the number of fish in the Yellow Pine pit lake, particularly larger bull trout (i.e., installed in the spring when streamflow conditions allow). Fish captured in the Yellow Pine pit lake will be immediately released downstream of the upstream fish movement barrier or in another location determined by the appropriate regulatory agencies. The Yellow Pine pit lake will be partially drained to recover the remaining fish and relocate them prior to final draining of the pit lake.	2021 Modified Mine Plan
A fishway has been designed and will be operated within the East Fork South Fork Salmon River tunnel to provide upstream and downstream volitional fish passage throughout mine operations (see East Fork South Fork Salmon River Temporary Diversion Tunnel portion of Section 2.4.5.10 of the FEIS). The East Fork South Fork Salmon River diversion tunnel will be approximately 0.9 miles long and 15 feet high by 15 feet wide. The tunnel will include a parallel accessway to allow equipment and personnel access for monitoring, inspection, and maintenance. The accessway will function as a floodway for high flows, limiting the operating flow range within the fishway while river and thus total tunnel flows vary more widely.	2021 Modified Mine Plan
As an alternative to the fishway in the East Fork South Fork Salmon River tunnel, the Project Operator will provide adult passage by trap and haul if needed. Criteria may be put in place so that if any unusual or unexpected events occur that result in adverse impacts to fish during operations, fish passage through the fishway will be switched to trap and haul operations (e.g., per the Fishway Operations Management Plan, Appendix C, at one week prior to the spawning period, if adults present in the resting pool below the fishway have not entered the fishway over a 48-hour period, they will be collected for transport).	2021 Modified Mine Plan
Low-energy lighting will be provided in the fishway to determine if it aids in fish passage and to provide light for tunnel and fishway inspections. The system will be configured so that it mimics the photoperiod of the region, run manually on a dimming system, or be completely turned off at the option of the operator.	2021 Modified Mine Plan
Fish salvage and relocation operations will be conducted any time the facility needs repair within the fishway, potentially during sediment removal, and potentially when streamflows recede from the accessway.	2021 Modified Mine Plan
Post mining, the East Fork South Fork Salmon River stream channel will be reestablished across the backfilled Yellow Pine pit with a channel design that will provide for upstream and downstream fish passage.	2021 Modified Mine Plan
The Project Operator will reestablish fish passage at the location of the existing box culvert on the East Fork South Fork Salmon River just downstream of the confluence with Meadow Creek at the McCall-Stibnite Road (CR 50-412) crossing.	2021 Modified Mine Plan
The Project Operator will improve fish passage along the Burntlog Route within the Stibnite Gold Project area by identifying and replacing existing collapsed, undersized, or otherwise degraded or poorly designed culverts at road crossings and committing appropriate resources to fix and improve these structures.	2021 Modified Mine Plan
The Project Operator will install side-ditching, culverts, guardrails, and bridges, where necessary along the Burntlog Route, with design features to provide fish passage and limit potential sediment delivery to streams.	2021 Modified Mine Plan

Description	Reference
The Project Operator will employ blasting setback distances and other controlled blasting techniques following industry best management practices (modifying blasting variables including charge size, and vibration and overpressure monitoring) to minimize impacts to fish from blasting. The Project Operator will follow up with monitoring in early stages of operation to evaluate effectiveness and refine blasting protocols in coordination with federal, state, and tribal agencies, if needed. Blasting setbacks are described in the Fish and Aquatic Resources Mitigation Plan. Blasting for the Yellow Pine pit will be in proximity to the East Fork South Fork Salmon River while blasting for the Hangar Flats Pit will be in proximity to the Meadow Creek diversion, above its confluence with the East Fork South Fork Salmon River.	2021 Modified Mine Plan
Dewatering of the Yellow Pine pit lake or stream segments will generally be conducted during low-flow periods to facilitate stream segment isolation and fish salvage. When practicable, dewatering also will be timed to avoid or minimize impacts during known spawning periods for Chinook salmon, steelhead, and bull trout.	2021 Modified Mine Plan
To protect fish, the Project Operator will develop a standard procedure for channel segment isolation, dewatering, fish salvage, and fish relocation to appropriate receiving streams during dewatering or maintenance of natural stream and diversion channels, based on the U.S. Fish and Wildlife Service Recommended Fish Exclusion, Capture, Handling, and Electroshocking Protocols and Standards (U.S. Fish and Wildlife Service 2012) and refined in coordination with federal, state, and tribal agencies.	2021 Modified Mine Plan
The fishway operations and management plan defines the monitoring and evaluation plan elements and describes how the hydraulic conditions, fish use, and performance of the tunnel fishway will be measured and evaluated, and the design of the adaptive management component of the plan including the option of using trap and haul.	2021 Modified Mine Plan
Access and Stibnite Gold Project haul road crossings of fish bearing streams will be designed such that structures installed or constructed allow fish passage.	2021 Modified Mine Plan
The Project Operator will implement measures to limit stream baseflow effects during active operations, including a combination of lining key reaches of streams potentially impacted by pit dewatering, and treating and discharging pit dewatering water that is not used for ore processing or other industrial uses. Maintain instream flows for fish species and other aquatic resources: flows within natural stream channels affected by Stibnite Gold Project operations will be maintained to meet seasonally appropriate and stream-specific low-flow needs to the maximum extent practicable. The Project Operator will continue to evaluate options and measures to further avoid and minimize the magnitude and duration of effects of the Stibnite Gold Project through other measures in consultation with federal, state, and tribal agencies.	2021 Modified Mine Plan
Following permanent cessation of mining activities at the Yellow Pine pit, The Project Operator will backfill the pit and route the East Fork South Fork Salmon River over the backfilled pit with a longer, lower-gradient channel with higher intrinsic potential for Chinook salmon and steelhead spawning and rearing than the channel that exists presently. The floodplain area along the constructed channel will include side-channels and other off-channel features and will be revegetated to restore wetland and riparian habitat providing long-term shade and cover favorable to fish.	2021 Modified Mine Plan
To address stream temperature, riparian planting widths along restored and enhanced stream reaches will be 18 feet wide on each stream bank where possible. Taller and denser vegetation such as spruce trees will be planted. Further, the creation of the lined Stibnite Lake, a feature similar in size to the present Yellow Pine pit lake, will replace the function of the existing Yellow Pine pit lake in buffering stream temperature extremes and reduce maximum stream temperatures in East Fork South Fork Salmon River in and downstream of the Stibnite Gold Project. The 18-foot planting area provided sufficient shading so that predicted solar radiation did not increase stream temperatures above existing conditions upon the re-establishment of the vegetation based on temperature modeling results from the Stream and Pit Lake Network Temperature Model (Brown and Caldwell 2021).	2021 Modified Mine Plan
During mine operations, summer low flows in perennial diversion channels around the tailings storage facility impoundment and buttress (Meadow Creek), Yellow Pine pit (Hennessy Creek and East Fork South Fork Salmon River tunnel), and West End pit (West End Creek) will be piped underground as a mitigation measure to maintain cold stream temperatures.	2021 Modified Mine Plan
A liner will be installed under the Meadow Creek stream and floodplain corridor to minimize water seepage into the Hangar Flats pit or the pit dewatering well system, and to avoid potential pit wall instability or loss of stream habitat as a result of stream dewatering.	2021 Modified Mine Plan
In fish-bearing waters, intake hoses shall be screened with the most appropriate mesh size (generally 3/32 of an inch), or in compliance with National Marine Fisheries Service guidelines.	2021 Modified Mine Plan

Description	Reference
In intermittent and perennial non-fish bearing waters, new surface diversions will not be authorized unless they provide passage and habitat for native and desired non-native aquatic species other than fish.	2021 Modified Mine Plan
For watersheds with listed aquatic species, essential fish habitat, or designated critical habitat, transportation system design criteria for fish passage will be coordinated with National Marine Fisheries Service or U.S. Fish and Wildlife Service, as appropriate.	2021 Modified Mine Plan
Employees and staff will receive training and direction to avoid spawning adult Chinook salmon, bull trout and steelhead.	2021 Modified Mine Plan
Provide trap and haul passage for adult Endangered Species Act -listed species (Spring and summer Chinook, steelhead, and bull trout) when necessary, between April 1 - September 15 at the north portal to the fish passage.	2021 Modified Mine Plan
Blasting peak particle velocity will be < 7.3 pounds per square inch (50 kilo Pascals) where fish are present.	2021 Modified Mine Plan
Blasting airblast overpressure will be < 2.0 in/s (51 millimeters per second) during sensitive stage (embryo incubation before epiboly is complete).	2021 Modified Mine Plan
Water infrastructure will be managed to protect fish and minimize harm by implementing best practices for diversions, dewatering, isolation, and fish salvage.	2021 Modified Mine Plan
Efforts to increase spring and summer Chinook salmon production in the upper East Fork South Fork Salmon River have been actively pursued since 2009 with the transport and release of mature adults upstream from Yellow Pine pit.	2021 Modified Mine Plan
Required setbacks for blasting are set to meet maximum overpressure and maximum peak particle velocity and that a 239-ft blasting setback on 20-ft benches and 419 ft on 40-ft benches from the closest point the blast field to stream and lake habitats should be protective.	2021 Modified Mine Plan
The Project Operator will develop an Explosives and Blasting Plan that will ensure compliance with the blasting requirements of the Mine Safety and Health Administration, 30 CFR Part 56, Subpart E – Explosives and Part 57, Subpart E – Explosives. The blasting plan will include the setback distances and options for other mitigative measures and BMPs.	2021 Modified Mine Plan
Design and maintain diversion channels and restored channels to avoid the risk of stranding fish including juvenile and adult salmonids.	2021 Modified Mine Plan
Maintain appropriate streamflows and water quality conditions in natural or restored channels where fish are present.	2021 Modified Mine Plan
Protect stream segments not directly impacted by mining to protect fish species from indirect physical or chemical impacts (i.e., applying road construction and maintenance BMPs to control sedimentation and water quality effects from mine and access routes).	2021 Modified Mine Plan
Provide fish passage enabling volitional or managed movement of migratory species around blockages that may currently exist in high-gradient stream sections or at existing road crossings or other drainage culverts to areas not currently accessible (i.e., removal the current barriers of the Yellow Pine Pit and the box culvert on the East Fork South Fork Salmon River downstream of the confluence with Meadow Creek plus relocation of the gradient barrier on Meadow Creek to a location further upstream) .	2021 Modified Mine Plan
Exclusion and fish handling, using a trap, seine, electrofishing, or other method designed to minimize injury risk, will be supervised by a qualified fish biologist per guidance provided in National Oceanic and Atmospheric Administration 2000 Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act.	2021 Modified Mine Plan
Avoid capture and handling stress by excluding fish from entering the Yellow Pine pit lake prior to draining; migratory adult salmonids (i.e., Chinook salmon and bull trout) will be prevented from moving upstream into the lake by installing and operating a fish trap and one or two weirs designed to allow fish to leave the Yellow Pine pit lake but not allow fish to migrate upstream past the trap.	2021 Modified Mine Plan
Design of the restored East Fork South Fork Salmon River stream channel over the backfilled Yellow Pine pit to allow for volitional upstream passage by all salmonid species present.	2021 Modified Mine Plan
During operations, the Project Operator will implement measures to monitor streamflows and water quality conditions at key locations as defined in Table 4-1 of the Water Resources Monitoring Plan.	2021 Modified Mine Plan

Description	Reference
East Fork Meadow Creek - Stabilize and restore East Fork Meadow Creek to improve watershed conditions, enhance concurrent restoration efforts and improve habitat near the Project site, restore the water table and long-term function of the upper reach that was historically a low-gradient meadow with broad riparian wetlands, stabilize the steep, confined, erosive middle reach to address the significant fine sediment load currently produced from this reach, restore the downstream, relatively low-gradient reach will be restored to provide rearing habitat for Chinook salmon and other salmonids.	2021 Modified Mine Plan
Passive integrated transponder tag arrays will be positioned at key monitoring points within the tunnel for assessing travel times and migration rates of both juvenile and adult salmonids that have been previously passive integrated transponder tagged.	2021 Modified Mine Plan
Establishing an adult fishway during operations proactively results in a 14-year head start on re-establishing volitional passage prior to restoring the East Fork South Fork Salmon River stream channel across the Yellow Pine pit.	2021 Modified Mine Plan
There will be an annual decision point about how the fishway should be operated each year (operate fishway, trap and haul, or no operation of fishway) and for the relationship to Chinook salmon stocking in the East Fork South Fork Salmon River to be considered.	2021 Modified Mine Plan
No net loss of function of wetlands and streams resulting from construction, operation, and reclamation of the Project after providing compensatory mitigation for unavoidable impacts to jurisdictional streams and wetlands.	2021 Modified Mine Plan
Provide net benefit to wetlands, streams, water quality, and fisheries in the Project area following mining and closure by repair and rehabilitation of habitats adversely affected by historical mining impacts in the Project area.	2021 Modified Mine Plan
Observe setback distances for each blasting activity, wherever possible. In the event a blasting activity will not meet the required setback distance, The Project Operator will attempt to adjust the bench height or blast intensity to minimize potential adverse effects to fish communities in the nearby stream. Where the setback distance cannot be met and alterations to the blasting protocol will not adequately mitigate potential harm to fish communities, the Project Operator will implement measures to isolate, capture, and relocate Endangered Species Act -listed fish species from the stream segment where potential for impact exists.	2021 Modified Mine Plan
As the Project Operator works through the permitting and Endangered Species Act Consultation processes with the agencies, if further concerns arise regarding the effects of the projected incremental increase in winter water temperatures in the diverted reach of the East Fork South Fork Salmon River, the Project Operator will explore opportunities to use cold ambient air temperatures to lower discharge temperatures to minimize this localized effect, if deemed necessary to support salmonid incubation and emergence conditions. The additional temperature mitigation measures being considered include the following: • Increasing the restoration planting width from 7 to 18 feet on all restored stream reaches; Stream bank planting of the enhanced East Fork South Fork Salmon River reach that is currently disturbed to the width allowable by site constraints; • Revised planting prescriptions that include more spruce and willow trees than prescribed in the Compensatory Mitigation Plan; Constructing a lake near the location of the present Yellow Pine pit lake to mimic its temperature-moderating effects; and • Maintaining low-flow pipes within stream diversions until restoration plantings have matured to provide adequate shade. Implementing water treatment plant design refinements to lower effluent temperature prior to discharge to streams during the winter, as necessary.	2021 Modified Mine Plan
Where mine facilities or practices have been identified as potentially contributing to degradation of water quality, aquatic species, or occupied sensitive and watch plant habitat, facilities and practices causing degradation will be considered for relocation, closure, changes in management strategy, alteration, or discontinuance.	2021 Modified Mine Plan
Improvements to fish passage will be made along the Burntlog Route within the Project area in streams of fish-bearing size. This will be completed by identifying and replacing collapsed, undersized, or otherwise degraded or poorly designed culverts at road crossings and committing appropriate resources to fix and improve these structures that have not already been replaced for fish passage. The same dewatering and fish salvage techniques used at the Stibnite Gold Project will be used at these locations as well before constructing a replacement culvert if work isolation methods alone will not suffice.	Fish and Aquatic Resources Mitigation Plan, Section 5.5.3

Description	Reference
The 21 crossings are on Burntlog Creek, East Fork Burntlog Creek, East Fork South Fork Salmon River, Johnson Creek, Landmark Creek, Peanut Creek, Rabbit Creek, Riordan Creek, Trapper Creek, and 12 unnamed creeks. Based on environmental DNA data collected as part of the road design the crossings with fish passage are: • 1 Johnson Creek crossing, • 1 Burntlog Creek crossing, • 6 crossings of East Fork Burntlog Creek and its tributaries, • 2 crossings of Trapper Creek and its tributaries, • 2 Peanut Creek crossings, • 1 Riordan Creek crossing, • 1 Rabbit Creek crossing, and • 3 East Fork South Fork Salmon River crossings. See Table 3.4-4 in the Fish and Aquatic Resources Mitigation Plan for more details.	
Designs will be consistent with National Marine Fisheries Service 2022 design criteria and consultation with the U.S. Fish and Wildlife Service. Perpetua will complete this work using the Forest Service Stream Simulation approach on fish bearing streams (Stream Simulation Working Group 2008). Stream simulation was adopted by the U.S. Department of Agriculture, Forest Service as a pragmatic approach and sustainable long-term solution to maintain passage for all aquatic organisms at all life stages at road-stream crossings while meeting vehicle transportation needs and objectives. Larger crossings along the Burntlog Route will feature channel-spanning bridges or arches rather than culverts. These improvements are expected to benefit salmonid species access to productive habitats and increase watershed connectivity.	Fish and Aquatic Resources Mitigation Plan, Table 5-1 Fish and Aquatic Resources Mitigation Plan, Section 5.5.3
The instream work windows provided in this section are based on our current understanding of fish use and periodicity for Chinook salmon, steelhead, bull trout, and Westslope cutthroat trout. The instream work windows will be updated as information and timing of migratory salmonids is acquired through monitoring of the East Fork South Fork Salmon River tunnel fishway. Instream work windows have been developed for each species because not all streams contain all target species. For example, Fiddle Creek and East Fork Meadow Creek only contain Westslope cutthroat trout and *O. mykiss* only occur in the East Fork South Fork Salmon River downstream from the Yellow Pine pit passage barrier. The information presented is intended to establish appropriate instream work windows for each species and stream in the Stibnite Gold Project area and to assist with avoidance and minimization measures. Thus, instream work windows avoid potential impacts to spawning adults an protect developing eggs within the gravel. As a conservation measure, no in-water work will occur within 300 feet of spawning areas during anadromous fish spawning and incubation times, which will be dictated by the approved work window.	Fish and Aquatic Resources Mitigation Plan, Section 5.2
Perpetua developed a spreadsheet tool to compute the required setback distances from fish-bearing streams and lakes. The spreadsheet tool was developed using the following steps: 1. The equations used in the spreadsheet were taken from Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters (Wright and Hopky 1998), including equating the peak particle velocity to charge weight and distance. 2. The standards used came from the Alaska Blasting Standard for the Proper Protection of Fish (TR 13-03) described above—the blast overpressure threshold limit was set at 7.3 pounds per square inch and peak particle velocity threshold was set at 2.0 in/s). 3. The spreadsheet tool was then populated with the anticipated drill and blast assumptions (bench height, drill hole diameter, stemming length, powder column height, powder volume and charge per hole [weight]). The spreadsheet tool calculates the resulting minimum setback distance to achieve enough setback to meet the threshold limits, namely 239 feet for blasting a 20-foot-deep bench and 419 feet for blasting a 40-foot-deep bench (i.e., there are more explosives used for the deeper bench). Perpetua used these required setback distances to do a high-level review of streams and lakes in closest proximity to areas where blasting may be required. This review identified areas where the blasting may be within the 239-foot and 419-foot setbacks. These include some stream segments adjacent to the East Fork South Fork Salmon River diversion	Fish and Aquatic Resources Mitigation Plan, Section 5.6

Description	Reference
tunnel, Yellow Pine pit, West End pit, the tailings storage facility and Hangar Flats pit where Meadow Creek is closest to the pit. This analysis does not definitively identify areas where impacts will occur but points to areas where adjustments to blasting methods may be needed to reduce the required blasting buffer (bench heights, charge size, and detonation pattern, etc.). According to the proposed implementation, such areas will be the locations at which initial calculation and testing of blast effects (instantaneous pressure and peak particle velocity) will be conducted. It is also noteworthy that blasting in some of the areas identified may not occur until non-consolidated materials are removed without blasting, such that the distance between blast sites and streams will have increased. During Endangered Species Act informal consultation meetings with the participating agencies and tribes in 2019, Perpetua reviewed and summarized elements of the blasting analysis for review and comment. In advance of those meetings, Perpetua provided the literature used in determining protective setback distances needed for fish protection, the spreadsheet tool to compute the required setback distances and the Excel spreadsheet analysis, and geographic information system maps of the mine pits and other areas where blasting will likely be required. The agencies reviewed the materials provided and there was a general concurrence within the agency group on the following: (1) the Alaska blasting standards for air overpressure and ground vibration were appropriate; (2) that the spreadsheet tool was a useful and appropriate tool for calculating required protective buffer distance; (3) that careful blasting operations using standards based setbacks designed to be protective of fish and fish embryos will likely result in little or no adverse effects to fish life stages from blasting; and (4) that the approach and standards to be used were sound and that the plan will be refined and included in a future revision of the Fisheries and Aquatic Resources Mitigation Plan. The agencies indicated that they expected monitoring validation of the estimated and actual blast intensities early in the construction and mining period to verify accuracy the estimates provided by the spreadsheet tool. The predicted setback distances will be verified via blast monitoring instrumentation (blast seismographs and pressure transducers) utilized for test blasts at three sites with different physical conditions.	
The purpose of the Fisheries and Aquatic Resources Mitigation Plan is to describe the measures proposed by Perpetua to protect fish and aquatic resources during mine operation, site reclamation, closure, and post-closure for the 2021 Modified Mine Plan. The Fisheries and Aquatic Resources Mitigation Plan provides information on how the Project Operator plans to: • Implement measures to avoid and minimize impacts to fish species and aquatic resources during Project construction and operation. • Implement ongoing protection and mitigation measures such as stream habitat enhancement, fishway operations, fish protection during mining, and stream diversions, stream restoration, water quality management, and other protective BMPs. • Monitor mitigation actions to ensure they are implemented correctly and have met established success criteria, applying an adaptive management approach as needed. The specific areas where infrastructure is developed to minimize harm include: • Protection of water quality • Protection of fish individuals via avoidance and handling procedures • Fish passage improvements • Blasting procedures to manage vibration • Effects monitoring • Stream restoration	Fish and Aquatic Resources Mitigation Plan, Section 1
The following fish protection or exclusion methods will be utilized in the project: • Fish screening to prevent entry of adult and juvenile fish into Meadow Creek diversion canals and low-flow pipes around the tailings storage facility. • New Meadow Creek stream channel diversion around the Hangar Flats Pit will be constructed dry then watered to become the permanent stream channel. • East Fork South Fork Salmon River tunnel designed to receive the entire East Fork South Fork Salmon River flow to allow for safe upstream and downstream fish passage. • Raw water intakes will include fish screens designed in accordance with National Marine Fisheries Service guidelines.	Fish and Aquatic Resources Mitigation Plan, Table 5-1 Fish and Aquatic Resources Mitigation Plan, Section 5.3

Description	Reference
• Diversion of streams encountering historic mining facilities into relocated channels. To protect Endangered Species Act -listed fish species, the Project Operator will utilize a standard procedure for channel segment isolation, dewatering, fish salvage, and fish relocation during dewatering or maintenance of natural stream and diversion channels, based on the U.S. Fish and Wildlife Service Recommended Fish Exclusion, Capture, Handling, and Electroshocking Protocols and Standards (U.S. Fish and Wildlife Service 2012). This procedure was developed for the approved 2022 – 2024 Administrative Settlement Agreement and Order of Consent (ASAOC) removal work on site and will be adapted for use by the Project. Additional sources of information on fish protection protocols may be considered in developing the program. For example, the Bonneville Power Administration Habitat Improvement Program III provides a series of conservation measures intended to protect and restore fish and wildlife habitat affected by construction activities. The elements of the standard procedure are described below. For channel isolation and dewatering, to minimize impacts to fish, cofferdams will isolate portions of the proposed channel within the existing ordinary high--water mark to keep water and fish out of a channel until construction is completed. Once construction of a channel is completed (including prewashing the substrate), water will be slowly reintroduced into the new channel (one-third of the flow initially), with seine block nets keeping fish from entering the new channel. Seine block nets will be placed in the upstream end of the channel with fish salvage steps described in the next paragraph. Next, two-thirds of the flow will be released into the new channel until flows and turbidity stabilize, and then ultimately all flow will be released into the new channel and the seine block net to the new channel removed. Fish salvage steps before stream dewatering will be: • Identify stream reach that may require fish salvage operations and/or instream water work associated with the Stibnite Gold Project, and which salvage methods are most applicable, as outlined in the fish salvage plan. • Secure necessary fish handling permits to conduct instream water work and fish handling. • Secure and stage all necessary fish capture, isolation, holding, and transportation equipment to execute fish salvage operations. This includes but is not limited to pumps, generators, fuel, fuel spill containers, sanctuary nets, block nets, electrofishing units, seines, transport vehicles, radio communications, buckets (smaller vessel to move fish from to tank to release location) and tanks (if fish are relocated), back up aeration and pumps for staging area fish handling and transportation, backpack for transporting fish, hoses, thermometers, turbidity meter, field data notebooks. • Isolate stream channel via weirs, block nets, sandbags, straw bales, and tarps to prevent fish movement into the fish salvage area. Isolation may occur well in advance of fish salvage operations to prevent adult salmonids from entering the stream or lake. • Partially dewater isolated stream section to improve fish capture efficiency (if needed). Some diverted water should be conveyed through diversion channel(s) to prevent increased turbidity downstream. Isolate water used to pre-wet and clean diversion channel. Use pumps to extract turbid water for land application until diverted water reaches ambient turbidity levels in undisturbed stream. Work area isolation provide a means to limit potential effects to fish by preventing movement into the work area with the goal of safely removing as many fish outside of the work area as practicable. Protocols established in Bonneville Power Administration's Habitat Improvement Program will be followed for work area isolation and fish salvage, which include: • When work area isolation is required, design plans will include all isolation elements, fish release areas, a pump to be used to dewater the isolation area, and, when fish are present, a fish screen that meets National Marine Fisheries Service's fish screen criteria. Wider mesh screens may be used after all fish have been removed from the isolated area. Salvage activities will take place during conditions to minimize stress to fish species, typically periods of the coolest air and water temperatures which occur in the morning versus late in the day. A fish biologist will determine an operational plan to remove Endangered Species Act -listed fish, with the least amount of harm to the fish, before in-water work begins. This will involve either passive movement of fish out of the Project reach through slow dewatering, or actively removing the fish from the Project reach. Should active removal be warranted, a fish biologist will clear the area of fish before the site is dewatered using one or more of a variety of methods including seining, dipping, or electrofishing, depending on specific site conditions. Salvage operations will follow the ordering, methods, and conservation measures specified as follows: • Slowly reduce water from the work area to allow some fish to leave the work area volitionally.	Fish and Aquatic Resources Mitigation Plan, Table 5-7 Fish and Aquatic Resources Mitigation Plan, Section 5.4.7.2

Description	Reference
• Block nets will be installed at upstream and downstream locations and maintained in a secured position to exclude fish from entering the Project area. Block nets will be secured to the stream channel bed and banks until fish capture and transport activities are complete. Block nets may be left in place for the duration of the Project to exclude fish as long as passage requirements are met. • Nets will be monitored hourly anytime there is instream disturbance. • If block nets remain in place more than one day, the nets will be monitored at least daily to ensure they are secured to the banks and free of organic accumulation. If the Project is within bull trout spawning and rearing habitat, the block nets must be checked every 4 hours for fish impingement on the net, per Bonneville Power Administration (2019) requirements unless a variance can be granted. • Capture fish through seining and relocate to streams. • While dewatering, any remaining fish will be collected by hand or dip nets. • Seines with a mesh size to ensure capture of the residing Endangered Species Act -listed fish will be used. • Minnow traps may be left in place overnight and used in conjunction with seining. • Electrofish to capture and relocate fish not caught during seining. This step is to be used as a last resort; after all passive techniques have been exhausted. • Continue to slowly dewater the stream reach. • Collect any remaining fish in transport buckets with cold water and relocate to the stream. • Limit the time fish will be held in a bucket and release them as quickly as possible. • The number of fish within a bucket will be limited, and fish will be of relatively comparable size to minimize predation. • Aerators for buckets will be used, or the bucket's water will be frequently changed with cold, clear, water at 15-minute, or more-frequent, intervals. • Buckets will be kept in shaded areas; or if in exposed areas, covered by a canopy. • Dead fish will not be stored in buckets used to transport fish but will be left on the streambank to avoid mortality counting errors. Fish capture methods that will be employed during fish salvage operations include both active and passive capture techniques. Brennan-Dubbs (2012) and National Oceanic and Atmospheric Administration (2000) provide guidance on several fish capture techniques. Active capture techniques may include electrofishing, dip netting, seining, minnow traps, and fish herding and/or crowding. Passive capture techniques will include fish traps associated with weirs to exclude juvenile and adult fish from instream work areas. A weir and fish trap will be placed downstream of Yellow Pine pit lake to prevent adult salmonids from entering or reentering the lake thus avoiding the possibility of fish salvage for those migratory fish. The trap will be checked at least once a day and debris accumulation will be removed from the picket panels. Fish will be removed from the trap and immediately released downstream. As with all fish salvage operations, the date, number, and species of fish handled will be documented and provided in a post-salvage operations report.	
The top-level parameters: • biological community observations, • instream habitat conditions, • riparian conditions, • wetland condition, functions, and values, • fish access, and • channel conditions and dynamics will be monitored as part of the Stibnite Gold Project Fisheries and Aquatic Habitat Monitoring program. Most parameters provide a continuation of baseline monitoring (i.e., fisheries, instream habitat, and macroinvertebrates) while others are new to assess the implementation and performance of stream habitat restoration and enhancement. Each parameter is classified by the type of monitoring that it will support along with the methods used to establish baseline data and metrics.	Fish and Aquatic Resources Mitigation Plan, Section 7.3 Fish and Aquatic Resources Mitigation Plan, Section 5.5.1

Description	Reference
Biological community observations will include monitoring of fish assemblages and stream macroinvertebrate communities via continued fish and macroinvertebrate surveys based on the baseline aquatic surveys completed. Condition monitoring for habitat will occur annually during low-flow periods through completion of habitat restoration activities and then for an additional five-years. Condition monitoring will be based on the baseline habitat information and will record observations of substrate, wood debris, pool frequency and quality, width-depth ratios, streambank conditions, off-channel habitat and other parameters specified in the Fish and Aquatic Resources Mitigation Plan (Section 7.3) along with their proposed monitoring methodology. Other short-term monitoring will be conducted in association with specific Project activities (e.g., blasting management, water diversion, fish handling, and salvage). In addition, there is some uncertainty regarding the number and precise timing of juvenile and adult fish that will use the East Fork South Fork Salmon River tunnel and fishway (Brown and Caldwell, Rio ASE, and BioAnalysts, Inc. 2021). As part of the adaptive management program, initial monitoring and evaluation will be key to understanding those uncertainties. Monitoring elements established for East Fork South Fork Salmon River tunnel will include: • Monitor adult approach (downstream - passive integrated transponder tag station) • Monitor adult fishway entrance (North portal - video) • Monitor adult fishway exit (South portal - video) • Monitor adult entrance and exit times via adult entrance and exit times (video) and passive integrated transponder tagged juvenile and adult entrance and exit times • Document trap and haul passage, date, and time • Monitor adult resting pool and entrance behavior • Document adult passage success • Document fish health A number of metrics and indices or indicators are available and appropriate for evaluating the status, trends, and condition (or health) of aquatic communities based on monitoring results. Some have been previously described such as the metrics in Table 7-1 of the Fish and Aquatic Resources Mitigation Plan, and others, such as are the Stream Macroinvertebrate Index are widely used in biological monitoring in Idaho. Some biological metrics such as redd counts and distribution, fish abundance, species composition, may not have expected values or standards based on literature but can be compared to baseline biological conditions and trends. Other metrics that describe instream habitat and channel condition and dynamics will be compared to Watershed Condition Indicator functional conditions (i.e., pool frequency, large woody debris, etc.) to evaluate habitat and channel conditions in restored stream reaches compared to baseline while some parameters will also be compared initially to stream enhancement and restoration designs (Rio ASE 2021) as part of implementation and compliance monitoring. Other indicators are multi-metric indices that provide more robust and provide greater insight into stream and watershed condition, including Watershed Condition Indicators, Stream Functional Assessment, SMI. These multi-metric indices generally are scored or rated based on scoring criteria that are based on expectations generated from streams of similar size in the same geographic region. Individual metrics or subgroups of metrics can be used alone, or the entire set of metrics can be combined into an overall score indicative of stream condition, health, or biological integrity. The results of stream habitat, riparian, and biological monitoring will be analyzed and presented in tables, figures, and text and interpreted in a manner consistent with the data and sampling design. Summary analysis will provide a comparison of metrics to certain published standards, comparison to baseline and degree of change, and when sufficient data have been collected, the analysis of trends. Specific requirements for certain physical or biological monitoring may be required by permits (e.g., Idaho Pollutant Discharge Elimination System, 401 Water Quality Certification) and the reports will be adapted to meet those requirements through consultation with the Forest Service and permitting agencies. The Project Operator will create annual summary reports of the results of stream habitat and biological monitoring for submittal to the Forest Service, permitting agencies, and other stakeholders. The monitoring data will then be utilized for adaptive management of the Project and site restoration as warranted. Adaptive management is the process of adjusting management actions and/or directions based on new information as it becomes available. Adaptive management is an approach that recognizes and prepares for uncertainty (e.g., in simulated outcomes, restoration effectiveness, etc.) and natural events or disturbance (climate change, flooding, fire, etc.). It couples the decision-making process with monitoring, performance criteria, and ongoing evaluation, and is typically implemented with explicit process steps and needed adjustments when	

Description	Reference
monitoring indicates that performance objectives are not being met. That is, if the results of the monitoring program indicate that mitigation measures are failing to achieve the ecological performance standards as anticipated, reasons for failure will be evaluated and corrective actions will be proposed to correct shortcomings. There is inherent uncertainty in elements of forecasted impacts and the anticipated effectiveness of management measures and mitigation plans. Certain monitoring elements described above, such as monitoring of specific stream functional assessment habitat elements, water quality monitoring, streamflows, and fish and aquatic community monitoring are examples of monitoring that will be implemented in an adaptive management framework once performance expectations are established. Three elements are needed for an adaptive management strategy: (1) a clear statement of the metrics and indicators by which progress toward achieving goals will be tracked, (2) a monitoring and evaluation plan for tracking such metrics and indicators, and (3) a decision framework through which new information from monitoring and evaluation is used to adjust strategies or actions aimed at achieving recovery goals.	
Surface water monitoring components of the Water Resources Monitoring Plan includes measurement streamflow, water temperature, pH, specific conductance, oxidation-reduction potential, dissolved oxygen, and turbidity at various locations through the mine site, as well as collection of water samples for laboratory analysis of multiple constituents including metals. Thirty-three (33) surface water monitoring locations proposed in the Water Resources Monitoring Plan are located upstream and downstream of Project activities and facilities such as the worker housing area, the tailings storage facility, open pit mining operations, the ore processing area, and the downstream boundary of the mine operations area on the East Fork South Fork Salmon River.	Fish and Aquatic Resources Mitigation Plan, Section 7.3 Water Resources Monitoring Plan, Section 4.2.1
Meeting Project water consumption needs for mining and ore processing depends on diversion of surface water from the East Fork South Fork Salmon River during times when groundwater production is insufficient to meet consumptive use needs. When operating the surface water diversion from the East Fork South Fork Salmon River, the Project Operator will follow one of two approaches: 1. When make-up water is required from the river, the East Fork South Fork Salmon River intake pumps will be operated at or near the full 4.5 cubic feet per second (cfs) to fill the Midnight Pond booster tank to a high-water level, at which point level sensors in the Midnight Pond booster tank will shut off the pumps. The booster pumps will then drain the tank at whatever demand is required from the process plant to a low-water level, at which point the East Fork South Fork Salmon River intake pumps will start up again and fill the tank. For this method, the Midnight Pond booster tank will need to be sized to limit the number of starts and stops on the East Fork South Fork Salmon River intake pumps, such that there are no more than six pump starts per hour. 2. When make-up water is required from the river, the East Fork South Fork Salmon River intake pumps will be turned on and the variable frequency drive on the pumps will target a particular water surface elevation in the Midnight Pond booster tank, based on input from a level sensor in the tank. If the demand is less than 50 percent of the duty point of the intake pumps, the pump will fill the tank to a high-water level and will shut off. When the booster pumps drain the tank, the intake pumps will again turn on and target the same water surface elevation. In this case, likewise, the Midnight Pond booster tank will need to be sized to limit the number of starts and stops on the East Fork South Fork Salmon River intake pumps to no more than six pump starts per hour. A safety measure will be employed at the intake to ensure that fish passage and downstream ecological requirements are met in the East Fork South Fork Salmon River diversion, if the pump demand is greater than the flows in the East Fork South Fork Salmon River or greater than some allowable reduction in East Fork South Fork Salmon River flows (i.e., 20 percent diversion of East Fork South Fork Salmon River flow as measured below the Sugar Creek confluence). A low-level float switch will be provided in the wet well, such that if the water level drops below a defined level the pumps will turn off and no water will be withdrawn, and a low-level alarm will alert operators of the pump shutoff. The level of this float switch will need to be coordinated with the downstream minimum flow requirements but should be easily located due to the controlled water surface in the Fish Tunnel's south portal forebay. This float switch will also protect the pumps from drawing the wet well down below the minimum submergence level and entraining air in the pipeline which could cause damage to the pumps. The screen design for the stream water intake utilizes a brushed cone screen that adheres to criteria set by the 2011 National Marine Fisheries Service (NMFS) Anadromous Salmonid Passage Facility Design guidelines for maximum approach velocity (0.4 ft/s, NMFS 11.6.1.1), flow distribution (near uniform, NMFS 11.6.1.4), screen inclination (45	Fishway Operations and Management Plan, Appendix G, Section 5.7 Fishway Operations and Management Plan, Appendix G, Table 3-2

Description	Reference
degrees, NMFS 11.6.1.6), maximum circular screen opening diameter (3/32 inch, NMFS 11.7.1.1), maximum rectangular screen opening width (1/16 inch, NMFS 11.7.1.2), maximum square screen opening dimension (3/32 inch, NMFS 11.7.1.3), corrosion resistant screen material (NMFS 11.7.1.4), minimum screen open area (27 percent, NMFS 11.7.1.6), flush screen surfaces (NMFS 11.8.1.1), structural features to protect screen integrity (NMFS 11.8.1.2), and associated civil works to prevent eddies and stagnant zones around the screen (NMFS 11.8.1.3).	
There will be three potential sources of turbidity associated with an Idaho Pollutant Discharge Elimination System outfall. The first is any that will come out with the treated wastewater. The proposed water treatment plant will remove nearly all of the total suspended solids prior to discharge from the water treatment plant. There is not necessarily a direct correlation between total suspended solids and turbidity; however, with minimal total suspended solids in the water, it can be expected that the turbidity in the water treatment plant discharge will also be very low. The second potential source is any turbidity on the stream bottom that will be disturbed when the outfall enters the stream and may have the potential to stir up any bottom sediment in the immediate vicinity. The area surrounding and downstream of the discharge location will have cobble-gravel-boulder substrates. Therefore, the operating outfalls will create very little if any turbidity and any such minor turbidity will be quickly dissipated. The third potential turbidity source will be erosion of the outfall channel itself; this will be prevented by designing and constructing the outfall channel and transition to the receiving water to resist erosion, which is readily accomplished given the water treatment outfall flow is both known and small (peaking at 2,000 gallons per minute). The outfall channel will have riprap to dissipate energy as flow is transitioned to the creek channel. In addition, any discharge from the underdrains will not be turbid since it will originate from seeps beneath the tailings storage facility and buttress and will not have the potential to pick up sediment within the drainpipes.	Perpetua communication 9/20/22
Trap and haul is not the preferred method of passage at the East Fork South Fork Salmon River tunnel. Volitional passage through the fishway is the preferred passage method. Trap and haul will only be used when it is deemed necessary to avoid further delay of adult passage near or during the spawning period. At one week prior to the spawning period, if adults present in the resting pool below the fishway have not entered the fishway over a 48-hour period and proceeded up the fishway they will be collected and transported upstream without further delay. Fish that arrive at the East Fork South Fork Salmon River tunnel several weeks prior to the spawning period will be given full opportunity to pass volitionally through the fishway. This approach will be reassessed and modified as needed annually with the Fisheries Technical Team. Chinook Salmon, steelhead, and bull trout are the target fish species. Adult Westslope cutthroat trout may be transported opportunistically with final approval of this plan. Chinook Salmon: (July 7 to September 15); Steelhead: (April 1 to May 31); Bull Trout: (June 15 to September 15) The migration period will be monitored via fishway video and passive integrated transponder tag detections in the fishway. In addition, environmental staff will also provide input on visual observations of adults near the fishway entrance. Arrivals at the fishway and redd surveys will be conducted to refine migration and spawning periods of fish passing the East Fork South Fork Salmon River tunnel. Information will be presented annually to the Fisheries Technical Team and periods of migration and spawning will be adjusted as needed. Staff and facility will be prepared and ready for trap and haul transport from April 1 to September 15. The operational period may be adjusted as needed based on monitoring of migration and spawning behaviors and recommendations provided by the Fisheries Technical Team. Based on annual aquatic resources survey results, the range in the number of adults estimate at the fishway annually is: • Chinook salmon: 4 – 94 • Steelhead: 3 – 93 • Bull Trout: 100 The trap and haul facility will be sized to handle 100 Chinook salmon, 100 steelhead, and 100 bull trout annually. Trap and haul transport tanks will be sized to handle at least 20 percent of the expected annual return for each species within a single day with two trap and haul transports. Capture pool volumes will be 840 cubic feet at a streamflow of 8.2 cfs, 946 cubic feet at a streamflow of 54 cfs, and 1,372 cubic feet at a streamflow of 239 cfs.	Fishway Operations and Management Plan, Appendix C, Table 1

Description	Reference
Fish will be crowded within the first fishway pool with removable picket panels and netted with a large sanctuary dip net. Once in the sanctuary dip net, fish will be removed and placed into a wetted transfer boot to move fish from the capture pool to the transport tank. Water-to-water transfer is the goal with loading density at or below 0.06 kg/L (0.5 pound per gallon). Tank(s) volume will be 1,100-1,900 L (300-500 gallon) that will have the capacity to hold from 13-31 fish depending on tank volume and fish species transported. Trap and haul is only expected to occur once per day but may occur twice if target species need to be separated (i.e., bull trout and Chinook salmon) or there is sufficient fish onsite that require more than one transport. There are three proposed release sites that are at least 1.5 miles upstream from the East Fork South Fork Salmon River Tunnel 1. East Fork South Fork Salmon River – Just upstream from the NF-375 road crossing but below the confluence of the East Fork South Fork Salmon River with Meadow Creek (transport time 6 to 10-minutes). 2. East Fork South Fork Salmon River – Release fish near the confluence of Fern Creek where there is road access to the stream and Chinook salmon were released in 2001 (transport time 11 to 19- minutes). 3. Meadow Creek - Release fish in Meadow Creek where they have been outplanted in the past. The Meadow Creek outplant location is at the west end of the Stibnite airstrip at the old bridge location to access the East Fork Meadow Creek area (44 53’ 46” N, 115 20’ 17.3” W). This site might not be available depending on year and mine site activity (transport time 8 to 13-minutes).	
The East Fork South Fork Salmon River tunnel is divided into a fishway and accessway. The fishway consists of an elevated fishway channel with a concrete partition/divider wall along the length of the tunnel with intermittent weirs that provide depth and velocity control. The channel is designed to accommodate a one-foot hydraulic drop between pools with a streaming flow over the weirs (submerged weir flow). Computational Fluid Dynamics (CFD) modeling was developed to aid in weir sizing and spacing and to confirm hydraulic performance of the proposed fish channel configuration. CFD modeling estimates that the velocities over each weir are maintained below 6.5 fps in all cases (i.e., throughout the fishway design flow range of 8 to 239 cfs total river flow) and the average velocity in the pool sections between the weirs is maintained below 2.0 fps. The partition and divider wall will be five feet high and extend the length of the tunnel. The wall confines streamflow below 25 cfs within the fishway channel, and the flow control weir regulates the partitioning of streamflow above 25 cfs between the fishway and accessway. Concrete weirs will be installed within the fishway to maintain the 1-foot hydraulic drop, with weir spacing dependent upon the slope of the tunnel -22 feet at 4.5 percent, and 66 feet at 1.5 percent. A nine-foot wide accessway will run the length of the tunnel parallel with the fishway. The accessway (or access road) will allow for inspection and maintenance of the tunnel as well as the fishway. Muck bays within the accessway are alcoves built into the side of the tunnel utilized during tunnel construction to aid in efficient removal of blasted rock. These bays will be sloped to drain towards the accessway upon tunnel completion to prevent the formation of pools that may potentially delay or strand juvenile fish that enter the accessway during high-water events. The accessway itself will follow the gradient of the tunnel floor at a slope of 1.5 percent or steeper from south (upstream) to north (downstream), thereby avoiding pools or sections of adverse gradient that could delay or strand out-migrating juveniles. Tunnel lighting will be included along the length of the tunnel ceiling, consisting of LED lights on a dimming system. From research of existing data on fish passage in tunnels, it is unclear if lighting is a benefit or not; however, there is strong evidence that abrupt lighting transitions should be avoided. Lighting will be provided to determine if it aids in fish passage and to provide light for tunnel and fishway inspections. The system will be configured so that it mimics the photoperiod of the region, runs manually on an auto-dimming system, or can be completely or partially turned off at the option of the operator. Fish passage will be monitored relative to the effectiveness of the lighting, and lighting may be adjusted or eliminated if found most functional during certain periods of the day or year. There is some uncertainty regarding the number and precise timing of juvenile and adult fish that will use the East Fork South Fork Salmon River tunnel and fishway (Brown and Caldwell, McMillen Jacobs Associates, and BioAnalysts 2021). As part of the adaptive management program, initial monitoring and evaluation will be key to understanding those uncertainties. Monitoring elements established for East Fork South Fork Salmon River tunnel will include: 1. Monitor adult approach (downstream - passive integrated transponder tag station)	Fishway Operations and Management Plan, Section 2.4 Fishway Operations and Management Plan, Section 4

Description	Reference
2. Monitor adult fishway entrance (North portal - video) 3. Monitor adult fishway exit (South portal - video) 4. Monitor adult entrance and exit times via adult entrance and exit times (video) and passive integrated transponder tagged juvenile and adult entrance and exit times 5. Document trap and haul passage, date, and time 6. Monitor adult resting pool and entrance behavior 7. Document adult passage success 8. Document fish health The adaptive management proposed relies on monitoring and evaluation to determine if fishway objectives are being met, determine if corrective actions are required, and establish a timeline for completion for adaptive management actions. An element of the fishway operations and management plan is a framework for reporting, feedback, and decisions on adjustments to fishway operations. The Project Operator will develop, in coordination with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, an acceptable reporting format and content to address objectives established for fish monitoring and evaluation of the East Fork South Fork Salmon River diversion tunnel. The report will organize and assess the physical and biological monitoring results relative to the agreed-upon criteria. The results of monitoring will provide the basis for learning about fishway operations performance and fish passage performance, serving as the basis for further evaluation and adjustments. The Project Operator envisions phased decision points that will be based on monitoring results and coordination with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. First, decisions about operating the fishway and whether trap and haul operation is appropriate in any given year might be appropriate. Second, decisions about specific adjustments to fishway operations based on performance. However, some learning must occur first before such decisions can be made, and learning will require the operation of the fishway for some period before adaptive adjustments can be made. Formation of a Fisheries Technical Team with representatives from various resources agencies will be advantageous in the adaptive management process and will likely include the Forest Service, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration and the tribal nations. The initial implementation check point will be an annual review how the fishway is operating and how it will be operated each year (operation of fishway, trap and haul, or no operation of fishway) and with consideration for its relationship to Chinook salmon stocking in the East Fork South Fork Salmon River. The second is a check point about specific detailed adjustments to the fishway operation involving criteria so that if any unusual or unexpected events occur that result in adverse impacts to the species during operations, fish passage through the fishway will be switched to trap and haul operations. The Project Operator will review with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service annual operations after the first year of operations, and after the second year for determination of necessary fishway operational adjustments. This approach allows monitoring and performance to be addressed and decisions made with new information. Other options may be considered, including the timing of information sharing and operations decisions. If it is determined that established performance standards may not be attainable, new standards may be developed. The Project Operator will work with regulatory agencies and other project partners to refine the details of this adaptive management.	

9.3.2 Fish - Sediment

Description	Reference
Erosion and sediment runoff will be reduced to improve water quality and fish habitat by placing growth media to encourage healthy vegetative growth and reforesting select legacy impacted and burned areas in and around the project areas with appropriate native species.	2021 Modified Mine Plan
Stormwater runoff from undisturbed areas upslope of mine features in the major drainages will be captured in the stream diversion channels described above or in other channels that will direct runoff away from disturbed areas. Smaller-scale diversion channels or earthen berms will be used, where necessary, to divert stormwater around other mine infrastructure.	2021 Modified Mine Plan
Stormwater drains, ditches, and stream channels will be protected against erosion through a combination of adequate dimension, appropriate gradient, riprap, fabric- encapsulated soil lifts, or other stabilization materials. Diversions will be sized for a peak flow recurrence interval appropriate to the risk level of the facility, in recognition of other water management measures and fail-safes in place (excess flood storage and freeboard in the tailings storage facility, etc.), and in accordance with regulatory standards.	2021 Modified Mine Plan
Existing streams that run through areas proposed for mining related disturbance will be diverted to prevent generation of contact water or commingling of contact and non-contact water, keeping clean water clean; and to prevent flooding of mine facilities by runoff generated off site (e.g., Meadow Creek diversions are in segments where bull trout have been detected. The East Fork South Fork Salmon River tunnel will modify access for bull trout in the East Fork South Fork Salmon River below its confluence with Meadow Creek. Bull trout have not been detected in Fiddle Creek, Garnet Creek, or Midnight Creek).	2021 Modified Mine Plan
Crushed rock will be placed on Stibnite Gold Project access roads as needed to provide a durable surface and limit sediment transport.	2021 Modified Mine Plan
Road surfaces throughout the Stibnite Gold Project will be stabilized and managed to minimize transport of sediment, dust, and other materials, especially near watercourses through appropriate road engineering, surface drainage, watering, and application of dust control binding agents (magnesium chloride, lignin sulfonate, etc.), roadside ditching, road-cut stabilization, road surface maintenance, appropriate speed limits, and by limiting traffic (e.g., via the standard practices of busing, vanpooling, consolidating deliveries at the Stibnite Gold Logistics Facility plus public access restrictions to Project roads).	2021 Modified Mine Plan
During Burntlog Route and Stibnite Gold Project haul road construction and use, the Project Operator will install and maintain sediment control measures and devices, such as culverts, culvert inlet protection devices, ditching, silt fencing, straw wattles, straw bales, and sediment catch basins.	2021 Modified Mine Plan
Erodible cut and fill slopes along roads will be mulched, hydro-seeded or have durable rock inlay material to minimize the potential for sediment generation.	2021 Modified Mine Plan
During winter road maintenance, the Project Operator will remove snow from the Burntlog Route and haul roads at the Stibnite Gold Project and the temporary construction access Yellow Pine Route. The Project Operator will avoid disposal of snow in riparian areas, wetlands, or areas where snowmelt might cause road damage or erosion during spring melt. Care will also be taken to dispose of collected snow, which may contain sand or gravel, in a manner that avoids impacts to nearby streams and rivers. Measures developed for winter road maintenance for the Golden Meadows Exploration Project will be extended to Project access roads namely: a. Except snow and ice, all debris that is removed from the road surface and ditches will be deposited away from stream channels at approved locations b. During snow removal, banks will not be undercut and gravel or other surfacing material will not be bladed off the roadway surface. An appropriate snow depth will be maintained on gravel or native access road surface to protect the roadway. Internal mine haul roads utilized by heavy equipment will be plowed to their gravel running surface. c. Ditches and culverts will be kept functioning during and following plowing. Berms left on the shoulder of the road will be removed and/or drainage openings will be created and maintained. Drainage openings will be spaced to maintain satisfactory surface drainage without discharge on erodible fills. d. Damage of roads from, or as a result of snow removal will be repaired in a timely manner. e. Culverts and stream crossing swill be clearly marked before snow removal begins to avoid placing berm openings in locations that will allow runoff to enter drainages directly at the culvert or stream crossings. f. Excessive snow will not be plowed into locations that will impact operation of the culverts or prevent positive drainage from drainage areas.	2021 Modified Mine Plan

Description	Reference
No chemicals will be used.	
The Project Operator will use coarse sand (with less than 20 percent fines) for winter sanding of the main access road and Stibnite Gold Project haul roads in combination with a fine to medium gravel as needed, (approximately 1/4 - 5/8-inch sizing).	2021 Modified Mine Plan
Site-specific analysis using calculated risk tools, or another method will be documented in the project record for stream crossings designed to accommodate <100-year flood recurrence interval.	2021 Modified Mine Plan
To provide protection to the East Fork South Fork Salmon River, snow removal for Stibnite Road will be accomplished in accordance with the following standards of performance: Except snow and ice, all debris that is removed from the road surface and ditches will be deposited away from stream channels at approved locations.	2021 Modified Mine Plan
Select areas within and immediately adjacent to the Project site that have been severely impacted by forest fires will be replanted to reduce soil erosion, landslides, debris flows, and sediment run-off, which contribute to sediment levels in local drainages and degrade water quality and fish habitat. The Project Operator will coordinate with Forest Service to identify restoration opportunities.	2021 Modified Mine Plan
Surface water withdrawal intake hoses will be situated so as to prevent generation of turbidity in bottom sediments during pumping.	2021 Modified Mine Plan

9.3.3 Wildlife – General

Description	Reference
All site employees, contractors, and visitors will receive annual wildlife-related training to recognize and properly respond to wildlife incidents.	2021 Modified Mine Plan
If critical wildlife zones or corridors are identified, restricted or seasonal access will be established prior to construction or expansion activities to the extent practicable. Physical barriers and/or signage will be added identifying these areas and site-specific measures will be implemented to minimize effects.	2021 Modified Mine Plan
Cyanide will be neutralized to levels protective of wildlife, and the tailings storage facility will be surrounded by an 8-foot high, chain-link fence designed to keep wildlife, such as deer and elk, from entering the impoundment area, to prevent either liner damage or wildlife drowning.	2021 Modified Mine Plan
Appropriate sound dampening and muffling equipment will be utilized to minimize noise excursion from equipment and facilities. When possible, schedule high noise activities at the same time. Monitor and maintain equipment to reduce noise related impacts.	2021 Modified Mine Plan
When practicable, pumps, generators, and engines will be turned off when not in use to avoid unnecessary noise generation and reduce energy consumption.	2021 Modified Mine Plan
Electric line power will be utilized during operations to eliminate diesel generator noise, except in emergency situations when grid power is down or temporary use in remote areas where it is not practical to run power lines.	2021 Modified Mine Plan
Lighting will be managed within active mining areas to avoid unintended lighting of natural, wildlife usage areas. External lighting will be kept to the minimum required for safety and security purposes. Lights will be directed down toward the interior of the Stibnite Gold Project and shielded, where appropriate.	2021 Modified Mine Plan
In order to reduce attractants, during construction and operations, trash and other miscellaneous inert (non-hazardous) garbage will be contained in on-site wildlife-resistant containers and hauled to the Valley County waste transfer station for disposal. Used oils, solvents, grease, and antifreeze will be handled separately from normal trash and garbage. Good housekeeping practices will include minimizing loose trash, odors, and access for wildlife to trash storage or disposal areas and prompt removal of trash.	2021 Modified Mine Plan
The Project Operator will install a wildlife exclusion fence around the tailings storage facility, process facility areas, and related process ponds in order to reduce the potential for mortalities.	2021 Modified Mine Plan

Description	Reference
The Project Operator will plan routine inspections of tailings storage facility facilities for wildlife use. If needed, the Project Operator will implement measures to remove wildlife and install additional BMPs to reduce wildlife exposure to these areas.	2021 Modified Mine Plan
The Project Operator will implement an animal trapping and relocation plan, as necessary, for nuisance species for safety of staff, visitors, and animals.	2021 Modified Mine Plan
The Project Operator will install fences along and around the ore processing facilities, tailings storage facility, explosive storage areas, and composting and landfill area, excluding pit perimeters and high walls.	2021 Modified Mine Plan
The Project Operator will install signs of known wildlife crossing and usage areas along access and Stibnite Gold Project haul road corridors and all active facility areas. Locations are yet to be determined but signs will be installed to state the road name and mile markers where these corridors are known to exist. These will also be referenced in the training materials.	2021 Modified Mine Plan
The Project Operator will provide tiered training for awareness, sighting, operations and maintenance, and restoration. Cross training to include noxious weeds, maintenance needs, unsafe conditions, etc., as well as reporting mechanisms. All mine personnel and visitors will receive some level of training tiered appropriately based on where they are working, type of work activities, and reason for mine visit. Forms will be developed to document training and identify how often training needs to be refreshed. Fact sheets will be developed on known wildlife in the area including pictures, warnings, and what to do if encountered.	2021 Modified Mine Plan
The Project Operator will design and manage the tailings storage facility and associated facilities to reduce wildlife attraction. These include the following: • Surface area of the supernatant pond will be minimized to the extent practical. • Install an 8-foot fence around the tailings storage facility to exclude wildlife from the facility. • Implement an avian mortality reporting system for the tailings storage facility and contact water ponds. • Use skirting to enclose open spaces as necessary beneath raised structures as practical. Follow the International Cyanide Management Code to avoid features possibly attractive to wildlife, as feasible.	2021 Modified Mine Plan
Sumps will be constructed with at least one side having a shallow grade for wildlife egress. Sumps will be backfilled and reclaimed when no longer needed for drilling.	2021 Modified Mine Plan
Mine site facilities will be monitored in accordance with the draft EMMP for the presence and potential mortality of birds, mammals, reptiles, and amphibians. Sightings of rare or sensitive wildlife, along with any wildlife mortalities, will be recorded and provided in periodic reports to the Forest Service, U.S. Fish and Wildlife Service, and Idaho Department of Fish and Game.	2021 Modified Mine Plan
The Project Operator will provide mine personnel with mobile deterrents to avoid conflicts with wildlife such as sprays, air horns, etc.	2021 Modified Mine Plan
The Project Operator will establish and post speed limits for the Burntlog Route, Stibnite Gold Project haul roads, and light vehicle access roads on the Stibnite Gold Project site. Slower speed limits will be posted at known wildlife crossings and along defined migratory corridors during migration season.	2021 Modified Mine Plan
There will be no hunting or discharge of firearms during construction and operations within the Stibnite Gold Project area. The Stibnite Gold Project site will be posted to prohibit hunting, and employees will be prohibited from carrying firearms on the Stibnite Gold Project.	2021 Modified Mine Plan
The project will be designed to meet the terms of approved recovery plans for TEPC species. For TEPC species without a recovery plan, best information available will be used in design and implementation. Recovery plans exist for bull trout, steelhead, chinook, and the Northern Idaho ground squirrel. A draft recovery plan for the Canada lynx and recovery outlines for whitebark pine and wolverine are available as of June 2024.	2021 Modified Mine Plan
In the event that the composting system becomes an unacceptable attractant for wildlife, such that it becomes unsafe to the employees and, in order to provide back-up or alternative to the composting system, the Project Operator may construct an onsite solid waste incinerator near Stibnite Lodge.	2021 Modified Mine Plan

Description	Reference
Only proper and effective pesticides will be used in conformance with the weed management plan as part of Payette National Forest Programmatic Activities.	2021 Modified Mine Plan
Pesticide and herbicide application equipment will be inspected prior to use. Faulty equipment will not be used in pesticide or herbicide application.	2021 Modified Mine Plan
Pesticide applications will be done in a careful, controlled manner.	2021 Modified Mine Plan
Pesticides and herbicides will be applied in a manner that follows all applicable laws and regulations.	2021 Modified Mine Plan
Pesticides and herbicides will only be applied under acceptable climate conditions (i.e., rain, wind, etc.) following manufacturer instructions for product-specific details.	2021 Modified Mine Plan
Proper equipment will be used for chemical application by trained personnel.	2021 Modified Mine Plan
To prevent unwanted intrusion by wildlife, the compost area will have wildlife exclusion fencing.	2021 Modified Mine Plan
Off-site upland habitat enhancements at this site could include rehabilitation of recently burned areas, decommissioning of road cuts, and noxious weed treatments. The Project Operator estimates 30 HFUs are available through enhancement actions.	2021 Modified Mine Plan
Conduct pre-construction surveys for the species identified in the EMMP Wildlife Monitoring and Management Plan.	2021 Modified Mine Plan
Inspect snags and logs before removal for maintenance, construction, and operations.	2021 Modified Mine Plan
Mud sumps used for drilling operations will have perimeter fencing to keep wildlife from accidently falling into the excavation.	2021 Modified Mine Plan
To prevent inadvertent entrapment of common and special status wildlife during construction, all excavated, steep-walled holes or trenches more than two feet deep will be covered with tarp, plywood, or similar materials at the close of each working day to prevent animals from being trapped. Ramps may be constructed of earth fill or wooden planks within deep walled trenches to allow for animals to escape, if necessary. Before such holes or trenches are backfilled, they will be thoroughly inspected for trapped animals. If trapped wildlife are observed, escape ramps or structures will be installed immediately to allow escape.	2021 Modified Mine Plan
Monitor roadways and remove dead animals as soon as possible. Remove road-killed carcasses regularly to prevent scavenging and potential mortality to raptors and furbearers	2021 Modified Mine Plan
To minimize the risk of collisions: Install wildlife friendly culverts for rodents and small mammals. Remove road-kill carcasses regularly to prevent scavenging and bird congregations along roadways. Eliminate use of steady burning lights on tall structures (e.g., >200 ft).	2021 Modified Mine Plan
To minimize the effects of project-related lighting on wildlife: • To the maximum extent practicable, limit construction activities to the time between dawn and dusk to avoid the illumination of adjacent habitat areas. • If construction activity time restrictions are not possible, use down shielding or directional lighting to avoid light trespass into bird habitat (i.e., use a 'Cobra' style light rather than an omnidirectional light system to direct light down to the roadbed). • To the maximum extent practicable, while allowing for public safety, low intensity energy saving lighting (e.g., low pressure sodium lamps) will be used. • Minimize illumination of lighting on associated construction or operation structures by using motion sensors or heat sensors. Light shields will be placed over outside lights, confining light to the immediate area in order to further limit visual impacts.	2021 Modified Mine Plan
For new communications towers no more than 199 feet above ground level, use construction techniques which do not require guy wires (e.g., use a lattice structure, monopole, etc.). Such towers should be unlighted if Federal Aviation Administration regulations permit. If taller (>199 feet above ground level) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the Federal Aviation Administration should be used. Unless otherwise required by the Federal Aviation Administration, only white (preferable) or red strobe lights should be used at night, and there should be the minimum number, minimum intensity, and	2021 Modified Mine Plan

Description	Reference
minimum number of flashes per minute (longest duration between flashes) allowable by the Federal Aviation Administration. The use of solid red or pulsating red warning lights at night should be avoided.	
Provide mine personnel with mobile deterrents to avoid conflicts with wildlife such as sprays, air horns, etc.	2021 Modified Mine Plan
Design restoration and reclamation areas to protect, attract, and benefit wildlife for nesting, denning, forage, and migration.	2021 Modified Mine Plan
If determined warranted due to species observation or species preference habitat present, conduct baseline surveys for targeted sensitive species prior to activities for construction and operations in previously unimpacted areas.	2021 Modified Mine Plan

9.3.4 Wildlife – Canada Lynx

Description	Reference
Activities will be modified when practicable to maintain key features of Canada lynx denning habitat or to avoid disruption of denning activities.	2021 Modified Mine Plan
A qualified environmental professional or qualified contractor will survey the project area for evidence of breeding, denning, or occurrence of Canada lynx to avoid and minimize effects to this species to the extent practicable during construction-related activities. The Project Operator will report observations to Forest Service and Idaho Department of Fish and Game in the annual observation report at a minimum.	2021 Modified Mine Plan
The Forest Service wildlife biologist will be notified of any occupied Canada lynx dens encountered during construction and operation.	2021 Modified Mine Plan
Construction activities will be modified to avoid disruption of Canada lynx denning activities when and where species are present.	2021 Modified Mine Plan
If a sighting of Canada lynx occurs within the project footprint, notify Forest Service and U.S. Fish and Wildlife Service.	2021 Modified Mine Plan
Adjustments on a temporary basis to construction and operations based on Canada lynx sighting location.	2021 Modified Mine Plan
Alert other operators along access routes and haul roads of the sighting of Canada lynx.	2021 Modified Mine Plan

9.3.5 Wildlife – Northern Idaho Ground Squirrel

Description	Reference
Pre-construction Northern Idaho ground squirrel surveys will be conducted during mid-June by two experienced biologists in areas where suitable habitat is indicated by the habitat modeling. All potential Northern Idaho ground squirrel habitat will be surveyed out to 328 feet (100 meters) on either side of the transmission line alignment or facility. Data on Northern Idaho ground squirrel presence (visual or auditory confirmation, active burrows, runways, fecal pellets, and other sign) will be recorded and global positioning system coordinates used to identify Northern Idaho ground squirrel location.	2021 Modified Mine Plan
Northern Idaho ground squirrel occupied areas will be flagged and protected from all equipment and human disturbance during construction, operations, closure, and post-closure/monitoring activities out to 0.5 mile from the edge of the occupied area to protect active Northern Idaho ground squirrel from project activities between late March to early September. The occupied areas will also be protected during the hibernation period out to 0.5 mile.	2021 Modified Mine Plan
If a Northern Idaho ground squirrel sighting occurs during construction, clear area, halt activities, and notify Forest Service and U.S. Fish and Wildlife Service.	2021 Modified Mine Plan

9.3.6 Wildlife – Wolverine

Description	Reference
Winter recreation use in high-elevation habitats characteristic of wolverine denning habitat will be monitored periodically. Where practicable, monitoring will be done in cooperation with State fish and game agencies.	2021 Modified Mine Plan
If a sighting of a wolverine occurs within the Project footprint, notify Forest Service and U.S. Fish and Wildlife Service.	2021 Modified Mine Plan
Adjustments on a temporary basis to construction and operations based on a wolverine sighting location.	2021 Modified Mine Plan
Alert other operators along access routes and haul roads of the sighting of a wolverine.	2021 Modified Mine Plan

9.3.7 Vegetation – General

Description	Reference
Disturbed areas will be returned to self-sustaining perennial vegetation by establishing persistent native vegetation cover in the reclaimed areas, creating dry to wet shrub and grassland vegetation community structure with some areas that are composed of tree species, and planting and seeding shrub, grass, and tree species that are present in the existing dominant vegetation communities within and adjacent to the Project area.	2021 Modified Mine Plan
A vegetative community will be established on disturbed area that is reflective of species native to the area and that will encourage and support the development of healthy wildlife populations.	2021 Modified Mine Plan
Prior to site preparation and construction of surface facilities, vegetation will be removed from operating areas. Merchantable timber on National Forest System surface lands could be purchased from the Forest Service. Non-merchantable trees, deadwood, shrubs, and slash will be removed, and any remaining vegetation will be grubbed using a bulldozer. The resulting material will be saved for future use in reclamation activities. Specifically, the organic matter will be chipped and stockpiled for use as mulch or blended to create a growth media additive. After vegetation removal, growth media will be salvaged and stockpiled. Stockpiles will be stabilized, seeded, and mulched to protect the stockpiles from wind and water erosion.	2021 Modified Mine Plan
The Project Operator will inspect and remove vegetation material (including noxious weeds) from mechanical equipment and properly dispose to minimize the spread of unwanted vegetation.	2021 Modified Mine Plan
Wood wastes and wood mulch are the two primary sources of compost. Food waste produced from on-site meal preparation and wastes may provide another source. Combined and properly managed during composting, these materials will provide a source of organic matter to be blended into substrate materials suitable for mitigation.	2021 Modified Mine Plan
Develop and employ planting plans for wildlife benefits (cover, forage, etc.) using approved seed mixes.	2021 Modified Mine Plan
The Project Operator will use aquatic safe herbicides during vegetation management activities and noxious weed control. Adhere to chemical label restrictions, Federal and State rules on usage. Use proper equipment for chemical application by trained personnel.	2021 Modified Mine Plan
Erosion control techniques at the Stibnite Gold Project will include mulching, wetland sodding; planting of vegetation to stabilize slopes; and use of silt fences, biofilters, brush mats, erosion control fabric, and/or fiber rolls along temporary swales, perimeter dikes, and stream banks. In addition, to minimize human disturbance, permanent signage will be posted around the perimeter of individual project sites to prohibit unauthorized foot traffic and the use of all-terrain vehicles and motorbikes, dumping, draining, and cutting and/or removal of plant materials.	2021 Modified Mine Plan
The Project Operator will employ vegetation maintenance for safety along roads, removal of hazard trees, and riparian conservation areas, etc. and coordinate such that wildlife protection and restoration are incorporated during maintenance.	2021 Modified Mine Plan

Description	Reference
Effects to TEPC, Sensitive, and Forest Watch plant species and their habitats will be avoided to the extent possible. Where impacts on these species cannot be avoided, degrading effects of the Project, including due to application of insecticides, herbicides, fungicides, or rodenticides, will be mitigated. Project actions in occupied Sensitive plant habitat will incorporate measures to ensure habitat is maintained where it is within desired conditions or restored where degraded.	2021 Modified Mine Plan
Coordination with a Forest botanist will occur: • When designing and implementing management activities that may affect Sensitive or TEPC species or their habitats. • When developing species lists for revegetation and seeding for all areas where reclamation will occur, including in habitat for Sensitive, Forest Watch, and/or TEPC plant species. • If sensitive plants or their propagules are required to be collected as part of salvage or restoration actions for unavoidable Project impacts, a collection permit will be obtained as part of this work. The Forest or Regional botanist will be the authority for collection methods and other information. When developing all insecticide and herbicide spray plans and prescribed burning plans to determine how degrading effects to Sensitive, Forest Watch, or TEPC plants and their pollinators should be mitigated, and how mitigation should be implemented.	2021 Modified Mine Plan
If TEPC or sensitive plants are likely to be disturbed by the Project, digging, or physically removing whole plants should be discouraged in favor of collecting seeds or cuttings for propagation of plants in other areas.	2021 Modified Mine Plan
Downed trees will only be handled by the Project Operator employees or contractors who have completed SSHPs.	2021 Modified Mine Plan
Historically and newly impacted sites will be re-contoured to reduce sediment run off and enhance vegetative growth and habitat development.	2021 Modified Mine Plan
If disturbance cannot be avoided, the plant should be dug up and set aside in a protected area with the topsoil until it can be used in reclamation. The plants should then be replaced at their original site if possible before the end of the field season or as soon as possible to avoid desiccation.	2021 Modified Mine Plan
If straw mulch is used, it will be certified as weed-free, applied at a rate of about 3,000 pounds per acre, and applied over a raked seedbed.	2021 Modified Mine Plan
If the plants must be held for extended periods of time, they will be placed in cold storage designed for vegetation or transported to a local nursery with experience in propagating bentflowered milkvetch.	2021 Modified Mine Plan
Impacts to TEPC and sensitive plant species should be avoided if possible.	2021 Modified Mine Plan
In areas where construction or early interim reclamation is implemented, the sites will be seeded with species and at amounts specified. The ultimate species selection will be based on a Forest Service recommended listing of reclamation plants, seed and tree availability, and cost.	2021 Modified Mine Plan
In Project areas where sensitive plant species are documented or there is potential habitat for it, no seeding or mulching will be conducted, and duff will be raked onto the disturbed area with minimal application of large woody material.	2021 Modified Mine Plan
The Project Operator plans to plant approximately 3,600 trees annually on burnt-over land and un-reclaimed legacy disturbance adjacent to the Project.	2021 Modified Mine Plan
The Project Operator will plant tree seedlings on hill slopes; the species variety will depend on slope, aspect, and elevation and planting spacing will vary but will be approximately 12 feet by 12 feet.	2021 Modified Mine Plan
Legacy impacted and newly disturbed and burned areas in and around the Project area will be reforested with appropriate native species, which will help reduce erosion, sediment run-off, and risks of debris flows and avalanches.	2021 Modified Mine Plan
The Project Operator will use either a wood, straw, or fabric mulch. Fabric mulches include jute netting and Excelsior erosion control blankets (or their equivalent) and fabric mulches will be tacked, crimped, or otherwise secured to withstand windy conditions common in the mountainous areas of Idaho.	2021 Modified Mine Plan

Description	Reference
Minimizing the overall disturbance of the Project and impacts to undisturbed areas by siting, to the extent practicable, proposed facilities and roads on previously disturbed ground.	2021 Modified Mine Plan
On disturbed slopes greater than 30 percent in grade, the Project Operator will apply mulch to aid in stabilizing the area to minimize or prevent erosion, as well as to promote revegetation.	2021 Modified Mine Plan
Project-related impact to soils will be minimized to the extent practicable.	2021 Modified Mine Plan
Removal or disturbance of vegetation will be kept to a minimum by limiting the area of disturbance, to the extent practicable, to maintain safe and efficient operations.	2021 Modified Mine Plan
Vegetation and soil removal will occur in a manner that minimizes erosion and sedimentation.	2021 Modified Mine Plan

9.3.8 Vegetation – Noxious Weeds

Description	Reference
Establishment and spread of noxious weeds and invasive plant species on Project areas will be prevented.	2021 Modified Mine Plan
The Project Operator will be responsible for noxious weed control within areas disturbed by Stibnite Gold Project activities.	2021 Modified Mine Plan
All access routes, drill platforms, pad locations, and sump construction sites will be inspected prior to Project-related activities and if they are found to be weed-infested, then the weed infestation will be treated prior to ground disturbing activity per the Forest Service's weed management program.	2021 Modified Mine Plan
Any pulled weed will be burned in a secure site (with a burn permit) or bagged and removed and disposed of as per County Extension Service recommendations.	2021 Modified Mine Plan
Noxious weeds may be removed from the Project area by hand pulling and/or hand digging and herbicide methods described below.	2021 Modified Mine Plan
Prior to construction disturbance, known weed populations in the specific disturbance area will be flagged so that they may be avoided.	2021 Modified Mine Plan
Herbicide use, where prescribed, will be in accordance with the South Fork Salmon River Sub Basin Noxious and Invasive Weed Management Program (Forest Service 2010). Infestations within 100 feet of live water will be controlled by hand pulling. Disposal of weeds will also be in accordance with the above plan.	2021 Modified Mine Plan
In areas of extensive weed infestations, designated wash sites for equipment should be established. Wash sites should be located: (1) where they are easily accessible and useable, (2) on gravelly or well-drained soils, (3) where wash water runoff will not carry seeds away from site, (4) where wash water runoff will not directly enter streams, and (5) where they may be used repeatedly for several projects or activities within the area.	2021 Modified Mine Plan
In areas with sensitive plant species present, noxious weeds should be removed from the Project area by hand pulling and/or hand digging.	2021 Modified Mine Plan
Limit preconstruction weed treatments, such as mechanical control and herbicide application, to areas expected to have unavoidable ground-disturbing activities.	2021 Modified Mine Plan
Noxious weeds may be removed from the Project area by applying herbicide in a controlled fashion per the labeled instructions.	2021 Modified Mine Plan
Forest Service and/or Valley County-approved herbicides (Forest Service 2010) will be used to prevent and restrict the spread of noxious and invasive weeds.	2021 Modified Mine Plan
Vegetation removal and maintenance work should be conducted in accordance with the Weed Management Plan.	2021 Modified Mine Plan
Where feasible and practical, weed-free locations should be selected for incident camps, staging, cargo loading, drop points, helibases, and parking areas.	2021 Modified Mine Plan

Description	Reference
Integrated weed management shall be used to maintain or restore habitats for sensitive plants and other native species of concern where they are threatened by noxious weeds or non-native invasive plants. Specific measures to reduce the potential for spread and establishment of noxious weed infestations could include, but are not limited to, determining the presence, location, and amount of noxious weed infestations in the Operations Area, developing management strategies such as, methods and frequency for treating infestations, treatment procedures and restrictions, reporting requirements, and follow-up or monitoring requirements. Herbicide applications will be by or under the direct supervision of licensed Idaho professional herbicide applicators with Aquatic Pest Control certifications and will be consistent with the Boise National Forest Invasive Species Management Plan and Payette National Forest guidance.	Design Feature developed for compliance with BNF and PNF: NPST11

9.3.9 Vegetation – Whitebark Pine

Description	Reference
Where feasible, whitebark pine stands will be restored using BMPs set forth by the Forest Service and the planting guidelines described in Perkins et al. (2016). These techniques include (but are not limited to) using seedlings resistant to white pine blister rust, properly preparing the site for restoration, and following the most-up-to-date seed transfer zone guidelines. Potential restoration areas include the borrow sources along the Burntlog Route, and portions of the transmission line route from Johnson Creek substation to the Mine site along the ridge above Meadow Creek.	2021 Modified Mine Plan
In areas infested with white pine blister rust or with mountain pine beetle, vegetation will not be moved off-site, thereby avoiding the potential spread.	2021 Modified Mine Plan
Noxious weed management in areas with whitebark pine will be controlled manually or by herbicide approved for use on National Forest System lands where the label doesn't restrict use in conifer stands. Herbicides such as Pictoram (Tordon ™) that are known to have a high degree of mortality in woody species, will not be used in vicinity of whitebark pine. No aerial applications of herbicide will be made in whitebark pine stands. Herbicide use will be limited to spot treatment in the vicinity of whitebark pine and will maintain a minimum distance of 3.3 feet (1 meter) from a whitebark pine tree. Ground-based broadcast applications will maintain a minimum distance of 10 feet (3 meters) from the trunk of a whitebark pine tree.	2021 Modified Mine Plan
In areas known to be occupied by whitebark pine, dust management strategies will avoid the use of dust suppressants known to have negative effects on conifers. Water or conifer-safe dust suppression chemicals will be used to control dust (if necessary) in these areas.	2021 Modified Mine Plan
Conduct periodic (i.e., every 5 years) surveys for new whitebark pine locations.	2021 Modified Mine Plan
Consult with the Forest Service and U.S. Fish and Wildlife Service if whitebark pine is observed in new locations.	2021 Modified Mine Plan
Any anticipated impacts to whitebark pine will be reported to the Forest Service and U.S. Fish and Wildlife Service.	2021 Modified Mine Plan
Prior to construction, all known populations and/or individuals of whitebark pine within 300 feet of the Project area will be flagged by a Qualified Environmental Professional. Any anticipated impacts will be reported to Forest Service.	2021 Modified Mine Plan
Restrict use of chemicals or hazardous substances within 100 feet of whitebark pine trees.	2021 Modified Mine Plan

9.3.10 Road Use and Maintenance

Description	Reference
Minor surface improvements (e.g., ditch and culvert repair, adding gravel, winter snow removal, and summer dust suppression) will occur on the Yellow Pine Route to reduce sediment runoff and dust generation.	2021 Modified Mine Plan
Once all final mine closure and reclamation work has been completed, the Project Operator will reduce the 21-foot-wide travel way of 19.8 miles of Burntlog Road (FR 447), 1.3 mile of Meadow Creek Lookout Road (FR 51290), and 2.0 miles along Thunder Mountain Road (FR 375) of Burntlog Route to their approximate pre-mining width.	2021 Modified Mine Plan
The approximately 15 miles of Burntlog Route connecting to Meadow Creek Lookout Road (FR 51290) and Thunder Mountain Road (FR 50375) will be decommissioned.	2021 Modified Mine Plan
Following mining and ore processing operations, unless they are taken over by a third-party for ongoing use and maintenance, the Burntlog Maintenance Facility buildings will be removed. The sewer system and septic tanks for the facility will be decommissioned. Soil and rock beneath fuel storage areas and chemical storage buildings will be tested for contamination. All reagents, petroleum products, solvents, and other hazardous or toxic materials will be removed from the site and disposed of according to applicable state and federal regulations. After demolition of the buildings and facilities, the site will be graded, and drainage restored.	2021 Modified Mine Plan
A new 12-foot-wide gravel road will be constructed to provide public access from Stibnite Road (FR 50412) to Thunder Mountain Road (FR 50375) through the Stibnite Gold Project. During operations, the public access road will be used to travel through the Stibnite Gold Project and will provide seasonal use, open to all vehicles. Vehicles passing through the Stibnite Gold Project will be required to check-in with mine personnel at the North or South Stibnite Gold Project entry points.	2021 Modified Mine Plan
Post reclamation, a road will be established over the backfilled Yellow Pine pit to allow public access through the reclaimed site and connect Stibnite Road (FR 50412) to Thunder Mountain Road (FR 50375). This will replace the operational phase public access route.	2021 Modified Mine Plan
New roads constructed for the Project on National Forest System lands will be closed and reclaimed, as required by Forest Service, once they are no longer needed to support Project construction, operations,	2021 Modified Mine Plan
Project-related traffic will be restricted to existing roadways and Project areas. Off-road travel in previously undisturbed areas will be forbidden.	2021 Modified Mine Plan

9.3.11 Reclamation and Restoration

Description	Reference
Facilities will be located on previously impacted lands when that location fits into mine operations.	2021 Modified Mine Plan
Productive lands that support wildlife and fisheries habitat and dispersed recreation will be established on Project-related surface disturbance.	2021 Modified Mine Plan
Approximately 37 percent of the reclamation will be done concurrent to mining and ore processing; the remaining 63 percent will be accomplished during closure. Annual reclamation activities are described in a schedule provided in Table 3-1 of the Reclamation Closure Plan. Concurrent reclamation areas will focus on construction period restoration efforts (e.g., East Fork Meadow Creek, aka Blowout Creek) and laydown yards, Yellow Pine Pit area facilities, and Hangar Flats Pit area facilities. Closure period activities are focused on the West End Pit area, tailings storage facility area, Fiddle growth media stockpile, and process plant area. This information is also presented graphically in Appendix C to the Compensatory Mitigation Plan.	2021 Modified Mine Plan
The Yellow Pine pit will be backfilled with West End pit development rock during operations.	2021 Modified Mine Plan
A sinuous channel will be constructed through the backfilled area for the reconstructed East Fork South Fork Salmon River with an average valley gradient approximating the historical, pre-disturbance river gradient.	2021 Modified Mine Plan

Description	Reference
The backfill will be placed to achieve a mounded final reclamation surface to promote drainage away from the West End pit and prevent formation of a pit lake within Midnight pit.	2021 Modified Mine Plan
The floor of the sidehill pit southwest of the main West End pit will be graded to drain, covered with growth media, and revegetated.	2021 Modified Mine Plan
The Project Operator will begin with placement of soil and rock cover material, then construct wetlands and restore Meadow Creek and its tributaries within appropriately sized lined floodplain corridors, place growth media, and revegetate the area.	2021 Modified Mine Plan
Hangar Flats pit will be fully backfilled with development rock to the valley bottom elevation or slightly higher during mine operations. There will be no Hangar Flats pit lake.	2021 Modified Mine Plan
The Project Operator will manufacture growth media material using fines from glacial till sources mined from the Yellow Pine pit, available mulched vegetation, and off-site composted material.	2021 Modified Mine Plan
Planting, seeding, and mulching will be conducted in the fall and early winter to take advantage of snowpack and springtime moisture. Where cover crops are used in lieu of mulch, seeding will occur in the spring or fall followed by seeding of the permanent mixture.	2021 Modified Mine Plan
Reclamation monitoring will begin during concurrent reclamation at Stibnite Gold Project facilities. Quantitative and qualitative monitoring of reclamation success will begin the first growing season after final reclamation is completed and will continue until success criteria are satisfied.	2021 Modified Mine Plan
Soil stability will be estimated for all reclaimed areas using qualitative descriptors.	2021 Modified Mine Plan
Slope stability will be monitored during the erosion inspections.	2021 Modified Mine Plan
If the performance of reclaimed areas is not satisfactory, appropriate maintenance activities will be implemented. Maintenance activities may include one or more of the following: • Sediment removal from sediment basins, stormwater drainage channels, and diversions as necessary to maintain their design capacity; • Diverting surface water away from reclaimed areas where erosion jeopardizes attainment of reclamation standards; • Stabilizing rills, gullies, and other erosion features or slope failures that have exposed development rock; • Noxious weed and invasive plant species control; and, • Re-seeding or re-applying reclamation treatments in areas where it is determined through monitoring and agency consultation that reclamation will not meet standards.	2021 Modified Mine Plan
The Project Operator will submit an annual report to the Forest Service and the other federal and state agencies that are responsible for issuing authorizations applicable to reclamation for the preceding calendar year. The annual report will contain descriptions of the reclamation activities completed during the previous year, a summary of areas reclaimed, a discussion of the results of the reclamation monitoring conducted, and corrective actions implemented.	2021 Modified Mine Plan
The Project Operator or its designated contractor(s) will perform long-term maintenance as necessary, including maintaining and monitoring the Mitigation Area (including stream and wetlands) in perpetuity once the final performance standards are met or until such responsibility is relinquished to an appropriate third party (Forest Service, etc.) as approved by the U.S. Army Corps of Engineers.	2021 Modified Mine Plan
The Project Operator will plant stream reclamation reaches and wetland reclamation areas with native plant species that are present in PAB (palustrine aquatic bed), PEM (palustrine emergent marsh), PSS (palustrine scrub-shrub), and palustrine forested wetlands and riparian areas along streams throughout the Mitigation Area.	2021 Modified Mine Plan
Riparian fringe and floodplain wetlands will be established on the broad, gently sloping floodplains on both sides of the reclaimed stream channels.	2021 Modified Mine Plan
Valley margin wetlands will only be established where there is an upgradient water source sufficient to produce enough saturation and near surface water tables for wetland conditions.	2021 Modified Mine Plan

Description	Reference
Wetland reclamation will begin after the end of mine construction, with the first reclaimed wetlands occurring in the East Fork Meadow Creek drainage. Additional reclamation will occur in and after operational year 3 and continue through operations to closure year 25.	2021 Modified Mine Plan
Salvaged O and A horizon soils from wetland or hydric soils (seed bank materials over or in combination with mineral soils uplands and wetland subsoils (growth media) will be used to create wetland soil conditions.	2021 Modified Mine Plan
The Project Operator will salvage and preserve the growth media and seedbank materials of wetlands and riparian areas that will be impacted by the Stibnite Gold Project. These salvaged soils, containing native seed banks, will be used to aid in establishment of wetland and riparian vegetation in the stream and wetland reclamation areas (i.e., stockpiled materials to be utilized for concurrent reclamation will reside in stockpiles for a shorter period of time, but the majority of the stockpiled material will be stored for approximately 15 years during the period between mine construction and mine closure. The viability of the stockpiled material will decrease due to stockpiling. Therefore, the Reclamation Closure Plan incorporates use of soil amendments to increase viability when appropriate).	2021 Modified Mine Plan
Soil will be amended with additional compost and other sources of organic matter necessary to successfully reclaim wetlands at the Stibnite Gold Project (i.e., the material will be sourced on site from sources such as food compost from the Worker Housing Facility).	2021 Modified Mine Plan
A qualified landscape biologist, botanist, forester, or ecologist will make recommendations to the Project Operator related to the need for soil treatments and other maintenance, based on site observations and monitoring studies. Recommendations for maintenance will be included in the monitoring reports submitted to the responsible agencies (U.S. Army Corps of Engineers and Environmental Protection Agency). The Project Operator or their contractors will perform required maintenance.	2021 Modified Mine Plan
The Project Operator will conduct monitoring annually for at least 5 years to determine the progress of each restoration area in meeting the ecological performance standards. If, after 5 years, it is determined that the performance standards have not been met, monitoring will continue every other year until the performance standards have been achieved. The monitoring schedule will coincide with the appropriate season relative to the field data to be gathered. The Project Operator proposes to lead annual site visits for U.S. Army Corps of Engineers, Environmental Protection Agency, Idaho Department of Lands, Idaho Department of Fish and Game, and other interested agency personnel to facilitate agency review of restoration areas.	2021 Modified Mine Plan
Valley margin wetlands will only be established where there is an upgradient water source sufficient to produce enough saturation and near surface water tables for wetland conditions.	2021 Modified Mine Plan
Riparian fringe and floodplain wetlands are proposed to be restored adjacent to the major streams within the Mitigation Area. Major streams within the Mitigation Area include Meadow Creek, East Fork South Fork Salmon River, Midnight Creek, Hennessy Creek, East Fork Meadow Creek, Fiddle Creek, and West End Creek. Riparian fringe and floodplain wetlands will be established on the broad, gently sloping floodplains on both sides of the restored stream channels.	2021 Modified Mine Plan
Wetland restoration will begin after the end of mine construction (after mine life year -1), with the first restored wetlands occurring in the East Fork Meadow Creek drainage. Additional restoration will occur in and after operational year 3 and continue through operational year 25.	2021 Modified Mine Plan
If feasible, the Project Operator may develop a restoration nursery to facilitate propagation of plant species that will be installed in stream and wetland restoration areas.	2021 Modified Mine Plan
Revegetation with a variety of native herbaceous and woody species to improve functions and values, including providing terrestrial and wildlife habitat, improving stream bank stability, and reducing sediment delivery, stream restoration reaches, and wetland restoration areas.	2021 Modified Mine Plan
Both historically and newly disturbed areas will be stabilized and seeded and/or replanted in accordance with Forest Service and Idaho Department of Lands approved guidelines and standards as final landforms are available for reseeding.	2021 Modified Mine Plan
Due to the limited growth media material at the Project site, the Project Operator will implement a composting program to create soil for use in reclamation activities at the Project site.	2021 Modified Mine Plan

Description	Reference
For vegetation in areas to be disturbed by mining operations, the Project Operator will cut and push vegetation into windrows where it will be slashed and burned or chipped and used in growth medium amendment generation (e.g., compost) for use in future reclamation.	2021 Modified Mine Plan
Graded and contoured areas will be seeded or planted using broadcast, drill, or hydro-seeding methods, or hand planting applicable to the specific conditions.	2021 Modified Mine Plan
Growth medium will be placed to encourage healthy vegetative growth, which will reduce erosion, sediment run-off, and risks of debris flows and avalanches.	2021 Modified Mine Plan
Reclamation seeding will be done with native seed mixtures appropriate for the elevation and habitat. Prior to installation, types, locations, and amounts of seed will be approved by the Forest Service. No seeding or mulching will be conducted at any area where there is a population of bent-flowered milkvetch. The soil will be scarified.	2021 Modified Mine Plan
Seed mixtures will be adjusted to fit elevation and aspect ranges of the Project, along with availability of any plant seeds.	2021 Modified Mine Plan
Of the 340.5 acres disturbed along the Burntlog route, it is assumed that 216.1 acres will be reclaimed assuming: All of the staging areas and borrow sources will be reclaimed; New portions of the route will be decommissioned and reclaimed; and Portions of the route that are existing roads proposed for improvement will not be reclaimed to Portions of the route that are existing roads proposed for improvement will not be reclaimed to their original dimensions.	2021 Modified Mine Plan
The transmission line disturbances will be reclaimed during interim reclamation (temporarily disturbed areas of the new portion of transmission line that are revegetated for operations), concurrent reclamation (temporarily disturbed areas of the existing revegetated), and final closure and reclamation (decommission of the entire new portion of the transmission line permanently transmission line).	2021 Modified Mine Plan
Of the 325.3 acres of upland habitat disturbed along the transmission line, 297.9 acres will be reclaimed. The Project Operator assumes that the entire new portion of transmission line (121.7 acres) and the existing line's construction impact areas (all temporary disturbances outside of the structure work area, 66.4 acres) will be reclaimed. The Project Operator assumes that the structure work areas for the existing line (137.2 acres) will be 80 percent reclaimed (or 109.7 acres) with the area not being reclaimed classified as barren.	2021 Modified Mine Plan
East Fork Meadow Creek (Blowout Creek) was impacted by the failure of a water storage dam in 1965 creating the steep, eroding chute that conveys the streamflow. As part of the Compensatory Mitigation Plan, the Project Operator proposes to stabilize and repair the failed area of East Fork Meadow Creek in the actively eroding chute and raise groundwater levels in the meadow upstream of the former dam site to restore wetland hydrology. A retention structure will raise groundwater levels in the meadow and a coarse rock drain will address ongoing erosion of the channel side slopes that currently deliver sediment directly to the creek, while facilitating construction of a permanent surface channel. This will be a voluntary mitigation and restoration effort, as the East Fork Meadow Creek chute and upper meadow are unrelated to and unaffected by the proposed mine features. The lower portion of the East Fork Meadow Creek alluvial fan will be an important borrow area for this and other restoration projects and is included in Project disturbance. During construction and early mining, grade control and water retention features will be constructed near the old reservoir water retention dam location to elevate the groundwater level and stream water surface sufficiently to restore wetland hydrology in the surrounding meadow. The retention structure will impound portions of the meadow channel, which will fill with sediment over time. A coarse rock drain will be constructed within the chute downstream of the failed dam site to isolate the flow of East Fork Meadow Creek from the actively eroding chute side slopes and to prevent further erosion of the gully bottom, facilitating subsequent restoration of a surface channel on top of the drain. As the rock drain fills with sediment, it will become closed off from the stream channel. If the rock drain has not silted-in at the end of mine operations, the rock drain will be disconnected from surface inflow at the upstream end through excavation and replacement with less-permeable materials, or by grouting. The existing alluvial fan in lower East Fork Meadow Creek, located adjacent to Meadow Creek, will be partially removed, mostly during mine operations for borrow materials, and the area restored. A surface diversion will be constructed at the margin of the lower alluvial fan to facilitate borrow excavation, and this stream reach subsequently restored.	2021 Modified Mine Plan
Each stream within the Project site was divided into design reaches based on proposed valley gradient, fish use, and hydrology. Reference sites were identified and evaluated (Rio ASE 2021). Design criteria, including proposed channel geometries, were developed for each reach based on evidence derived from (1) geographic information system and field measurements from reference sites, (2) empirical formulae developed from local and regional data, and (3) published design guidelines available in the scientific literature (e.g.,	Compensatory Mitigation Plan, Section 9 and Appendix D

Description	Reference
National Marine Fisheries Service Anadromous Salmonid Passage Facility Design). Refinements to post-mining-topography (primarily changes to valley slope and width) were made to improve the intrinsic potential and associated habitat conditions within select reaches where possible. The channel geometry and reach-specific design criteria were revised then evaluated using standard at-a-station hydraulic calculations to ensure appropriate sediment transport and physical habitat conditions will be achieved. The reach-specific design criteria were then applied to a design template illustrating the reach plan view, a representative meander plan and profile, and representative cross sections. From these plans, design quantities were calculated to quantify construction costs as well as proposed habitat functional value using Watershed Condition Indicators for comparison with baseline conditions (Rio ASE 2021). Typical bank treatments and in-channel features (i.e., large woody debris, log jams, boulder clusters, and pools) were developed to support the design criteria, provide habitat diversity, and facilitate bank stabilization until riparian vegetation becomes established. Finally, a generalized revegetation and planting plan was developed for specific riparian, wetland, and upland zones to improve long-term bank stability, woody debris recruitment, overhead cover, shade, terrestrial and wetland habitat, and soil productivity. Wetland and riparian vegetation provide surface roughness to slow floodwaters, which reduces erosion and encourages sediment deposition. It also provides habitat for wildlife, birds, and insects, and shade that moderates stream water temperatures. In addition, wetland and riparian vegetation can provide a sediment- and pollutant-filtering buffer as well as diverse native wetland and riparian plant communities. These communities, consisting of graminoids, forbs, woody shrubs, and trees, provide a large variety of habitat features including food sources, large woody debris, and various rooting depths that provide stream bank stability. In general, species composition and percent cover of wetland and riparian vegetation profoundly affect wetland ecosystem functions and habitat quality for wildlife. Stream restoration reaches and wetland restoration areas will be revegetated with a variety of native herbaceous and woody species. Seed mixes, live stakes, and nursery-grown container plants and plugs of native graminoids, forbs, shrubs, and trees will be utilized for revegetation. Plant species for revegetation were chosen based on existing riparian and wetland vegetation observed during surveys of the Project area and reference sites. Around streams, the width of riparian plantings will be 18 feet. The inner two feet of plantings will consist of riparian species typical to area stream banks and wetlands. These species include waterweed (*Elodea candesis* and *Elodea Nuttalii*), Bolander's quillwort (*Isoetes bolanderi*), alpine pondweed (*Potomogeton alpinus*), ribbonleaf pondweed (*Potomogeton epihydrus*), white water crowfoot (*Ranunculus aquatilis*), and common bladderwort (*Utricularia macrohiza*). These plantings will occur on approximately two-foot centers. The outer 16 feet of plantings will consist of forested wetland vegetation species due to their ability to generate shade for surface water. These species include thinleaf alder (*Alnus incana*), bluejoint reedgrass (*Calamagrostis canadensis*), redosier dogwood (*Cornus sericea*), largeleaf avens (*Geum macrophyllium*), twinberry honeysuckle (*Lonicera involucrate*), Engelmann's spruce (*Picea engelmannii*), prickly currant (*Ribes lacustre*), Drummond's willow (*Salix drummondiana*), Pacific willow (*Salix lasiandra*), slender hairgrass (*Deschampsia elongata*), slender wheatgrass (*Elymus trachycaulus*), and slender cinquefoil (*Potentialla gracilis*). Tree planting will occur on approximately six-foot centers. The stream design has been developed to approximate a geomorphically appropriate quasi-equilibrium state, while enabling each stream reach to evolve naturally over time in response to changing environmental drivers and potential future disturbances (i.e., fire, climate change, etc.). Built into the Stibnite Gold Project stream design are a diversity of treatments and channel prescriptions allowing a certain amount of variability and associated uncertainty in the channel response over time. For example, by using appropriate streambed, bank, and floodplain materials; allowing channels to migrate across appropriately sized floodplains; incorporating horizontal and vertical control at strategic locations; and incorporating bioengineered bank stabilization treatments and revegetation, the design mimics the stability and diversity observed in natural reference streams. This approach provides some amount of resilience to disturbances and sets the Project up for long-term resiliency and sustainability.	

<table>
<tr><th>Description</th><th>Reference</th></tr>
<tr><td>Design stream reach EF3 (parts A-D) is the portion of the restored East Fork South Fork Salmon River that crosses the backfilled Yellow Pine pit. The entirety of the pit backfill will be covered with a geosynthetic liner and the restored stream channel will be constructed in soil cover materials placed on top of another geosynthetic liner that underlies the stream corridor.
Objectives for the channel design will be restoration of fish passage, improvement of spawning and rearing habitat, and improvement of wetland function. The stream channel design parameters were based on four reference sites and were calculated to be:
<table>
<tr><th>Parameter</th><th>Channel</th><th>Bankfull</th><th>Floodplain</th></tr>
<tr><td>Slope (feet/feet)</td><td>0.0457</td><td>0.0457</td><td>0.0564</td></tr>
<tr><td>Discharge (cubic feet per second)</td><td>7.2</td><td>215</td><td>636</td></tr>
<tr><td>Max Water Depth (feet)</td><td>0.75</td><td>2.3</td><td>0.6</td></tr>
<tr><td>Top Width (feet)</td><td>22.55</td><td>27.1</td><td>235.8</td></tr>
<tr><td>Bottom Width (feet)</td><td>-</td><td>22.55</td><td>230.0</td></tr>
<tr><td>Cross-Section Area (square feet)</td><td>8.47</td><td>45.75</td><td>179.83</td></tr>
<tr><td>Wetted Perimeter (feet)</td><td>22.60</td><td>28.01</td><td>236.83</td></tr>
<tr><td>Hydraulic Radius (feet)</td><td>0.37</td><td>1.63</td><td>0.76</td></tr>
<tr><td>Channel Velocity (feet per second)</td><td>0.48</td><td>4.74</td><td>5.77</td></tr>
<tr><td>Floodplain Velocity (feet per second)</td><td>-</td><td>-</td><td>2.43</td></tr>
<tr><td>Channel Shear Stress (pounds/square feet)</td><td>1.07</td><td>4.66</td><td>6.25</td></tr>
<tr><td>Floodplain Shear Stress (pounds/square feet)</td><td>-</td><td>-</td><td>2.00</td></tr>
<tr><td>Width-to-Depth Ratio (feet/feet)</td><td>-</td><td>16.0</td><td>-</td></tr>
<tr><td>D50 Mobile Sediment (millimeter)</td><td>89</td><td>276</td><td>370</td></tr>
</table></td><td>Stream Design Report, Appendix D.2</td></tr>
<tr><td>The Stibnite Lake feature is designed to mimic the effects of the existing Yellow Pine pit lake on moderating maximum daily water temperatures.
The Stibnite Lake feature will have a surface area of 10,400 meters (approximately 850 feet long by 130 feet wide) with a volume of 62,000 cubic meters (17 million gallons). The residence time for water in the Stibnite Lake feature will be between approximately 1.4 days in the summer when flowthrough will be approximately 17.8 cubic feet per second and 2.0 days in the fall when flowthrough will be approximately 12.8 cubic feet per second.</td><td>Stream and Pit Lake Network Temperature Model Report</td></tr>
<tr><td>The restored channel designs define enhancements as the manipulation of physical, chemical or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function.</td><td>Stream Design Report, Section 1</td></tr>
</table>

Description	Reference
Enhancement of streams as part of the Stibnite Gold Project stream design will include improvements to physical channel processes and habitat largely within the existing stream channel. This will be accomplished by selectively installing large woody debris and rock structures, eliminating fish passage barriers, creating pools, enabling improved sediment sorting, and generally increasing hydraulic and habitat diversity. Enhancement efforts also include floodplain reconnection and reestablishment of riparian vegetation, achieved by excavation of legacy fill material down to bankfull level.	
The current Compensatory Mitigation Plan describes a plan to locate the compensatory wetland and stream mitigation sites within the same subbasins as the associated wetland and stream impact sites. However, although the proposed compensatory mitigation sites will be within the subbasins where impacts occur, they will all be located around the mine site where the majority of wetland impacts will occur, with no mitigation sites proposed outside the mine site area (i.e., along the access roads, the transmission line, etc.). The current location and configuration of mitigation sites identified in the Compensatory Mitigation Plan were selected based on suitable hydrology and compatibility with watershed-scale features and on the likelihood that compensatory mitigation wetlands will be sustainable within five years (Tetra Tech 2021). The anticipated need for wetland and stream credits was based on the wetland and stream debits that will occur under the proposed mine plan. Final wetland impacts will be assessed based on the 2021 Modified Mine Plan and any agreed upon off-site compensatory mitigation projects will be finalized at a later day, and a final mitigation plan will be prepared, including a final assessment of functional units lost and created, and then the final credits and debits will be documented in an application for Clean Water Act Section 404 permit.	Compensatory Mitigation Plan
Reclamation cover material (e.g., growth media) used in places including but not limited to the tailings storage facility and tailings storage facility buttress will be evaluated for contaminants prior to use during reclamation. Acceptable metal and contaminant concentrations and sampling and testing methodology will be documented in a sampling and analysis plan developed prior to reclamation.	2021 Modified Mine Plan
Topsoil and any brush removed will be stockpiled separate from fill material and used in reclamation.	2021 Modified Mine Plan
<u>On-Site Stream Channel Restoration and Enhancement: Meadow Creek and Tributaries</u> Stream channel restoration and enhancement of: • 24,164 feet of perennial channel, • 9,204 feet of non-perennial channel, • 1,293 feet of transitional perennial channel, and • 159 feet of transitional non-perennial channel. Transitional channel refers to the portions of Hennesy Creek and Midnight Creek where stream restoration will entail recontouring mine disturbance to match existing slopes and grades. Channel restoration and enhancement consists of establishing channel geometries with coarse substrates that account for stream gradient, intrinsic potential, fish habitat, fish use, and sediment transport. Bank treatments and in-channel features (i.e., large wood debris, log jams, boulder clusters, and pools) will be incorporated into the channels to facilitate bank stabilization and habitat diversity. Revegetation will develop riparian, wetland, and upland zones for long-term bank stability, woody debris recruitment, overhead cover, shade, terrestrial and wetland habitat, and soil productivity.	Compensatory Mitigation Plan, Appendix D, Sheets 7 through 42 and 112 through 132.
<u>On-Site Stream Channel Restoration and Enhancement: Hangar Flats Pit Backfill</u> Stream channel restoration and enhancement of: • 8,798 feet of perennial channel, • 6,324 feet of non-perennial channel, and • 5,418 feet of transitional non-perennial channel.	Compensatory Mitigation Plan, Appendix D, Sheets 43 through 61 and 112 through 132.

Description	Reference
Channel restoration and enhancement consists of establishing channel geometries with coarse substrates that account for stream gradient, intrinsic potential, fish habitat, fish use, and sediment transport. Bank treatments and in-channel features (i.e., large wood debris, log jams, boulder clusters, and pools) will be incorporated into the channels to facilitate bank stabilization and habitat diversity. Revegetation will develop riparian, wetland, and upland zones for long-term bank stability, woody debris recruitment, overhead cover, shade, terrestrial and wetland habitat, and soil productivity.	
On-Site Stream Channel Restoration and Enhancement: East Fork Meadow Creek (Blowout Creek) Stream channel restoration and enhancement of 5,452 feet of perennial channel. Channel restoration and enhancement consists of establishing channel geometries with coarse substrates that account for stream gradient, intrinsic potential, fish habitat, fish use, and sediment transport. Bank treatments and in-channel features (i.e., large wood debris, log jams, boulder clusters, and pools) will be incorporated into the channels to facilitate bank stabilization and habitat diversity. Revegetation will develop riparian, wetland, and upland zones for long-term bank stability, woody debris recruitment, overhead cover, shade, terrestrial and wetland habitat, and soil productivity.	Compensatory Mitigation Plan, Appendix D, Sheets 62 through 71 and 112 through 132.
On-Site Stream Channel Restoration and Enhancement: Garnet Creek Stream channel restoration and enhancement of: • 3,800 feet of perennial channel, • 193 feet of transitional perennial channel, and • 1,185 feet of transitional non-perennial channel. Channel restoration and enhancement consists of establishing channel geometries with coarse substrates that account for stream gradient, intrinsic potential, fish habitat, fish use, and sediment transport. Bank treatments and in-channel features (i.e., large wood debris, log jams, boulder clusters, and pools) will be incorporated into the channels to facilitate bank stabilization and habitat diversity. Revegetation will develop riparian, wetland, and upland zones for long-term bank stability, woody debris recruitment, overhead cover, shade, terrestrial and wetland habitat, and soil productivity.	Compensatory Mitigation Plan, Appendix D, Sheets 100 through 107 and 112 through 132.
On-Site Stream Channel Restoration and Enhancement: Fiddle Creek Stream channel restoration and enhancement of 1,798 feet of perennial channel. Channel restoration and enhancement consists of establishing channel geometries with coarse substrates that account for stream gradient, intrinsic potential, fish habitat, fish use, and sediment transport. Bank treatments and in-channel features (i.e., large wood debris, log jams, boulder clusters, and pools) will be incorporated into the channels to facilitate bank stabilization and habitat diversity. Revegetation will develop riparian, wetland, and upland zones for long-term bank stability, woody debris recruitment, overhead cover, shade, terrestrial and wetland habitat, and soil productivity.	Compensatory Mitigation Plan, Appendix D, Sheets 86 through 90 and 112 through 132.
On-Site Stream Channel Restoration and Enhancement: East Fork South Fork Salmon River Stream channel restoration and enhancement of: • 15,204 feet of perennial channel, and • 1,958 feet of non-perennial channel. Channel restoration and enhancement consists of establishing channel geometries with coarse substrates that account for stream gradient, intrinsic potential, fish habitat, fish use, and sediment transport. Bank treatments and in-channel features (i.e., large wood debris, log jams, boulder clusters, and pools) will be incorporated into the channels to facilitate bank stabilization and habitat diversity. Revegetation will develop riparian, wetland, and upland zones for long-term bank stability, woody debris recruitment, overhead cover, shade, terrestrial and wetland habitat, and soil productivity.	Compensatory Mitigation Plan, Appendix D, Sheets 72 through 85 and 112 through 132.

Description	Reference
On-Site Stream Channel Restoration and Enhancement: Hennessy Creek Stream channel restoration and enhancement of: • 1,345 feet of perennial channel, and • 692 feet of transitional perennial channel. Channel restoration and enhancement consists of establishing channel geometries with coarse substrates that account for stream gradient, intrinsic potential, fish habitat, fish use, and sediment transport. Bank treatments and in-channel features (i.e., large wood debris, log jams, boulder clusters, and pools) will be incorporated into the channels to facilitate bank stabilization and habitat diversity. Revegetation will develop riparian, wetland, and upland zones for long-term bank stability, woody debris recruitment, overhead cover, shade, terrestrial and wetland habitat, and soil productivity.	Compensatory Mitigation Plan, Appendix D, Sheets 97 through 99 and 112 through 132.
On-Site Stream Channel Restoration and Enhancement: Midnight Creek Stream channel restoration and enhancement of: • 1,331 feet of perennial channel, and • 2,549 feet of transitional perennial channel. Channel restoration and enhancement consists of establishing channel geometries with coarse substrates that account for stream gradient, intrinsic potential, fish habitat, fish use, and sediment transport. Bank treatments and in-channel features (i.e., large wood debris, log jams, boulder clusters, and pools) will be incorporated into the channels to facilitate bank stabilization and habitat diversity. Revegetation will develop riparian, wetland, and upland zones for long-term bank stability, woody debris recruitment, overhead cover, shade, terrestrial and wetland habitat, and soil productivity.	Compensatory Mitigation Plan, Appendix D, Sheets 91 through 96 and 112 through 132.
On-Site Stream Channel Restoration and Enhancement: West End Creek Stream channel restoration and enhancement of 1,690 feet of non-perennial channel. Channel restoration and enhancement consists of establishing channel geometries with coarse substrates and an energy dissipation pool that accounts for sediment transport.	Compensatory Mitigation Plan, Appendix D, Sheets 108 through 111 and 124 through 130.
On-Site Wetlands Restoration: Meadow Creek Wetlands restoration of: • 3.07 acres of palustrine aquatic bed (PAB) Riparian Fringe and Floodplains Wetlands, • 26.33 acres of palustrine emergent marsh (PEM) Riparian Fringe and Floodplains Wetlands, • 21.68 acres of palustrine shrub-scrub (PSS) Riparian Fringe and Floodplains Wetlands, • 83.03 acres of palustrine forested (PFO) Riparian Fringe and Floodplains Wetlands, • 1.56 acres of PEM Valley Margin Wetlands, • 1.10 acres of PSS Valley Margin Wetlands, and • 1.36 acres of PFO Valley Margin Wetlands. Revegetation of floodplains along gently sloping segments of restored stream channels will develop Riparian Fringe and Floodplains Wetlands. Deposition and placement and revegetation of fan-like landforms at locations where rivulets from the native steeply sloping valley side walls meet the reclaimed margins of the tailings storage facility will develop Valley Margin Wetlands.	Compensatory Mitigation Plan, Appendix D, Sheets 133 and 134.

Description	Reference
On-Site Wetlands Restoration: Hangar Flats Pit Backfill Wetlands restoration of: • 20.04 acres of PEM Riparian Fringe and Floodplains Wetlands, • 2.55 acres of PSS Riparian Fringe and Floodplains Wetlands, and • 14.46 acres of PFO Riparian Fringe and Floodplains Wetlands. Revegetation of floodplains along gently sloping segments of restored stream channels will develop Riparian Fringe and Floodplains Wetlands.	Compensatory Mitigation Plan, Appendix D, Sheet 133.
On-Site Wetlands Restoration: East Fork Meadow Creek (Blowout Creek) Wetlands restoration of: • 4.34 acres of PAB Riparian Fringe and Floodplains Wetlands, • 1.03 acres of PEM Riparian Fringe and Floodplains Wetlands, and • 3.28 acres of PSS Riparian Fringe and Floodplains Wetlands. A grade control and groundwater cutoff structure will raise the water level in East Fork Meadow Creek and allow shallow groundwater to recharge. Revegetation of floodplains along gently sloping segments of restored stream channels will develop Riparian Fringe and Floodplains Wetlands.	Compensatory Mitigation Plan, Appendix D, Sheet 135.
On-Site Wetlands Restoration: Fiddle Creek Wetlands restoration of: • 1.35 acres of PSS Riparian Fringe and Floodplains Wetlands, and • 1.27 acres of PFO Riparian Fringe and Floodplains Wetlands. Revegetation of floodplains along gently sloping segments of restored stream channels will develop Riparian Fringe and Floodplains Wetlands.	Compensatory Mitigation Plan, Appendix D, Sheet 133.
On-Site Wetlands Restoration: East Fork South Fork Salmon River Wetlands restoration of: • 19.44 acres of PEM Riparian Fringe and Floodplains Wetlands, • 2.80 acres of PSS Riparian Fringe and Floodplains Wetlands, and • 7.43 acres of PFO Riparian Fringe and Floodplains Wetlands. Revegetation of floodplains along gently sloping segments of restored stream channels will develop Riparian Fringe and Floodplains Wetlands.	Compensatory Mitigation Plan, Appendix D, Sheet 133.

Description	Reference
On-Site Wetlands Restoration: Yellow Pine pit backfill and Stibnite Lake feature Wetlands restoration of: • 0.07 acres of PAB Riparian Fringe and Floodplains Wetlands, • 2.26 acres of PEM Riparian Fringe and Floodplains Wetlands, • 0.80 acres of PSS Riparian Fringe and Floodplains Wetlands, and • 16.70 acres of PFO Riparian Fringe and Floodplains Wetlands. Revegetation of floodplains along gently sloping segments of restored stream channels will develop Riparian Fringe and Floodplains Wetlands.	Compensatory Mitigation Plan, Appendix D, Sheet 133.
On-site Restoration Work Stream Isolation and Re-watering Project incorporation of site preparation, staging, and sequencing stream crossing work has been developed for instream restoration work as described in the Fish and Aquatic Resources Mitigation Plan, Section 5.4.7 (Brown and Caldwell, Rio ASE, and BioAnalysts 2021). A planning team with representation from project management, engineering, and fish biology will be assembled to coordinate with construction personnel and equipment operators to plan the staging and sequence for work area isolation, fish capture and removal, and dewatering i.e., • scheduling with in an appropriate in-stream work window , • establishing the length of channel to be isolated for each crossing, • conducting work area isolation and fish salvage in consideration of habitat requirements, flow and temperature conditions, and exposure to turbidity or other unfavorable conditions, and • dewatering via a bypass flume or culvert with diversion by sandbags, sheet piling, or cofferdam. When stream segments require dewatering, they will be isolated using a method appropriate for the location, including block nets, sandbags, diversion, pumps, sheetpiling, flashboards, coffer dams, and other structures. The specific method will depend on the stream segment location, diversion sequencing, operational requirements, segment length, segment slope, flow conditions, depth, and fish salvage (see below). All isolation barriers will be monitored during installation and operation. Partial dewatering will generally be conducted during low-flow periods to facilitate stream segment isolation and fish salvage. Whenever possible, dewatering will not begin until fish have been captured and removed for relocation. However, depending on the location and water depth, it may be necessary to partially draw down the water first to perform fish removal. Partial dewatering before fish salvage operations begin may also improve fish capture efficiency by reducing the total volume of stream habitat that needs to be salvaged. In those cases, dewatering pumps will be screened to meet National Oceanic and Atmospheric Administration Fisheries and Idaho Department of Fish and Game standards to avoid entrainment of juvenile fish. Fish capture from work area isolation will consist of: • slowly reducing flow in the work area to allow some fish to leave volitionally, • installation of block nets upstream and downstream of the isolation area with the nets secured to stream channel bed and banks until fish capture is complete and exclusion of fish from the work area is necessary, • hourly monitoring of block nets during instream disturbance in the work area, • if block nets are in place for more than one day, they will be monitored daily to ensure they are secured to banks and are free of organic accumulation plus monitored every four hours for fish impingement if located in bull trout spawning and rearing habitat (unless a variance is granted by the Forest Service), • seining the isolated area to capture and relocate fish, • if areas are isolated overnight, minnow traps will be placed overnight in conjunction with seining, • collecting any remaining fish by hand or dip nets as dewatering continues, and	Fish and Aquatic Resources Mitigation Plan, Section 5.4.7

Description	Reference
• if all other techniques have been exhausted, electrofishing may be used to capture remaining fish under electrofishing conservation measures. Captured fish will be relocated as quickly as possible to pre-planned release areas using aerated and shaded transport buckets holding limited numbers of fish of comparable size to minimize predation. Dead fish will not be stored in transport buckets but will be left on the streambank to avoid mortality counting errors. Sediment controls will include the implementation and use of the following as needed in appropriate locations: • in-stream work will conform with the work, turbidity, and dewatering procedures as specified in design conservation measures (RioASE 2023) and adhere to Bonneville Power Administration Habitat Improvement Program conservation measures, • placement of fine mesh silt fences and straw waddles, • minimization of equipment wet crossings with vehicles and machinery crossing at right angles to the main channel whenever possible, • no construction equipment stream crossings will occur within 300 feet upstream or 100 feet downstream of an existing redd or spawning fish, • after construction, temporary stream crossings will be removed and banks restored while adhering to turbidity requirements, • coffer dams and diversion structures will have one foot of freeboard, • dewatering pump discharge will be released onto floodplain areas away from wetlands and construction activities where discharge will fully infiltrate prior to reaching wetlands and surface waters unless otherwise approved, • any return flows from dewatering discharge will meet turbidity requirements, • bag fill materials will be clean, washed, and rounded material meeting standard specifications for drain rock, streambed aggregate, streambed sediments, or streambed cobbles, • work activities within the ordinary high-water channel will conform with the water quality standards established for the project. Upon completion of the instream work, flow diversions will be removed slowly to allow gradual rewatering of the isolated stream segment to minimize turbidity. Once the stream segment is rewatered, the upstream and downstream block nets will be removed. Erosion and sediment control for in-water work will be consistent with controls used for other aspects of the project. Turbidity monitoring and protocols will include: • turbidity monitoring will be required and shall be completed in accordance with designated protocols (for the type of planned work), • work will be performed in a manner that does not cause turbidity exceedances within the waterway, • Areas will be pre-washed before rewatering. Turbid wash water will be detained and pumped to the floodplain or sediment capture areas rather than discharging to fish-bearing channels. • Starting in early morning, one third of new channel flow will be introduced over a period of 1 to 2 hours. • The second third of flow will be introduced over the next 1 to 2 hours. • The final third of flow will be introduced once downstream turbidity verified to be within acceptable range. • if turbidity exceedances do occur, the work will stop to address the turbidity issues, and • construction discharge water will be collected to remove debris and sediment and will meet turbidity requirements for discharging back to receiving streams.	
Off-Site Stream Channel Restoration and Enhancement: Upper Lemhi River The existing single-threaded channel of a reach of the Upper Lemhi River will be bifurcated and obstructed using natural materials at multiple locations to induce flow into relic channels on the flood plain. This activity will be augmented by 5,721 feet of complete channel excavation and 6,663 feet of partial channel excavation on private land. A conservation easement for the private land is being pursued to ensure the durability of the activity.	Compensatory Mitigation Plan, Section 9.1.2.1

Description	Reference
Off-Site Fish Barrier Removal: Hargrave Creek and Big Creek (Payette River Subbasin) One culvert on Hargrave Creek (second order stream) will be installed per Aquatic Organism Passage Design Criteria to remove a complete barrier and allow volitional fish passage to 7,895 feet of stream. Two culverts on Big Creek (second order stream) will be installed per Aquatic Organisms Passage Design Criteria to remove two complete barriers and allow volitional fish passage to 2,268 feet of stream and 7,827 feet of stream, respectively.	Compensatory Mitigation Plan, Section 9.1.2.2 Stibnite Gold Project Payette Watershed Fish Passage Evaluation
Off-Site Wetlands Credit Purchase: North Fork Payette River 1.6 acres of wetlands credits (12.58 wetland functional units) will be purchased from the Salmon Meadows Wetland Bank.	Compensatory Mitigation Plan, Section 2.2.1 404(b)(1) Evaluation Framework, Section 4.2.3
Monitoring Plan for Restored Stream Channels Following completion of restoration construction, annual monitoring will be implemented for a period of five years followed by bi-annual monitoring thereafter until stream restoration achieves designed ecological performance standards. The stream monitoring will include: • restored stream channel as-builts (first year only), • physical channel conditions (widths, slopes, bank conditions), • riparian vegetation (number of species, percent cover, noxious weeds), and • functional assessment (after year five).	Compensatory Mitigation Plan, Section 12.1
Monitoring Plan for Wetlands Following completion of wetlands restoration, annual monitoring will be implemented for a period of five years followed by bi-annual monitoring thereafter until stream restoration achieves designed ecological performance standards. The stream monitoring will include: • hydrology (water levels, water marks, drift lines, sediment deposits, drainage patterns), • riparian vegetation (number of species, percent cover, noxious weeds), • soils (organic wetland soil, organic matter on soil surfaces, soil color as an indicator of hydric soil, development of redoximorphic features), • wetland delineation (after year five), and • functional assessment (after year five).	Compensatory Mitigation Plan, Section 12.2

Description	Reference
Maintenance Plan for Restored Channels and Wetlands Per restored stream channel and wetland monitoring results, periodic maintenance will be conducted including: • repair of damaged, eroded, or unstable slopes, • removal of excess silt and/or debris, • soil treatments, • noxious weed control, • vegetation protection, • supplemental irrigation, • supplemental planting and/or seeding, • garbage removal, and • vandalism damage repair.	Compensatory Mitigation Plan, Section 10
Long-Term Management for Restored Channels and Wetlands Following attainment of performance objectives, the Mitigation Area (i.e., restored streams and wetlands) will be inspected every 10 years in perpetuity by the Project Operator or its designated contractor until responsibility is relinquished to an appropriate and approved third party through a conservation easement or similar real estate agreement. The management will include evaluation of: • Does the floodplain contain streams, wetland, and riparian areas as originally designed? • Do the Mitigation Area floodplains remain free from excessive erosion? • Do the vegetation communities in wetlands appear health and remain intact? • Do the Mitigation Areas remain free of Idaho-listed noxious weeds? • Is signage and placarding in place and legible? • Are any trails or viewpoints in good repair and safe? • Do the Mitigation Areas remain free of any unintended roads, trails, or camping areas? Excluding any act of God, it will be the responsibility of the conservation easement holder to ensure the Mitigation Area is returned to as near the original design and associated success criteria as possible.	Compensatory Mitigation Plan, Sections 5 and 13

9.3.12 Water Resources

Description	Reference
The Meadow Creek channel will be routed over the final tailings storage facility and tailings storage facility embankment and buttress, resulting in a long, relatively flat surface and a short, steep face. On top of the tailings storage facility surface, Meadow Creek will be contained within a broad floodplain corridor bound laterally by erosion-resistant terraces and vertically by a subsurface armor layer over a low-permeability stream liner.	2021 Modified Mine Plan
The Project Operator will stabilize and restore East Fork Meadow Creek (Blowout Creek). East Fork Meadow Creek wetland restoration will consist of restoring and enhancing palustrine aquatic bed (PAB), palustrine emergent (PEM), Palustrine scrub-scrub (PSS) wetlands that were impacted when a historical dam failed on East Fork Meadow Creek. Headcutting and shallow aquifer dewatering have impaired and reduced functions of the wetland vegetation classes. A grade control and groundwater cutoff structure is proposed to raise the water level in East Fork Meadow Creek as well as recharge the shallow groundwater system and reduce stream headcutting. A coarse rock drain will be constructed within the chute downstream of the failed dam to isolate the flow of East Fork Meadow Creek from the actively eroding chute side slopes and to prevent further erosion of the gully bottom, facilitating subsequent restoration of a surface channel on top of the drain. The Project Operator will stabilize the steep, confined, erosive middle reach to address the significant fine sediment load currently produced from this reach and restore the downstream, relatively low-gradient reach. The stabilization of East Fork Meadow Creek is described in Section 2.4.5.10 of the FEIS and based on the design appearing in the Compensatory Mitigation Plan, Attachment D, Drawings 64 and 65.	2021 Modified Mine Plan
The Project Operator will lead annual site visits for U.S. Army Corps of Engineers, Environmental Protection Agency, Idaho Department of Fish and Game, and other interested agency personnel as needed to facilitate agency review of mitigation areas if desired. Final reporting and data archival requirements will be subject to permit conditions; however, it is anticipated that until the U.S. Army Corps of Engineers concurs that mitigation sites meet success criteria, monitoring reports will be prepared by the Project Operator annually and submitted to U.S. Army Corps of Engineers Walla Walla District, Environmental Protection Agency, Idaho Department of Fish and Game, Idaho Department of Lands, National Oceanic and Atmospheric Administration Fisheries, U.S. Fish and Wildlife Service, the Forest Service, and other interested agencies, Stibnite Gold Project partners, and stakeholders. After success criteria are met, permit conditions will set the frequency for long-term monitoring and reporting.	2021 Modified Mine Plan
Pre-construction water management activities will include the installation of surface water management features and implementation of best management practices to reduce erosion and sediment delivery to streams. These water management features and best management practices could include sedimentation ponds; run-on water diversion ditches, trenches, and/or berms; runoff water collection ditches; silt fence; water bars; culverts; energy dissipation structures; terraces; and other features specified in construction permits.	2021 Modified Mine Plan
Groundwater pumped from the dewatering wells will be considered to be contact water and will be managed through forced evaporation or active water treatment when the volume of pumped water exceeds the ore processing facility demand.	2021 Modified Mine Plan
Channel segments constructed over fill or excavated in permeable materials will be constructed over a geosynthetic liner to reduce seepage. A transition layer of sand and gravel followed by riprap or similar will be placed over the liner for erosion protection.	2021 Modified Mine Plan
Secondary containment for pipelines will consist of an open geosynthetic-lined trench, pipe-in-pipe, or backfilled geomembrane-wrapped trench, depending on location, and the pipeline corridor will drain to one of two pipeline maintenance ponds, one at the truck shop and one at the ore processing facility.	2021 Modified Mine Plan
A lined tailings pipeline maintenance pond will be located at the ore processing facility, to which tailings and process water in the tailings distribution or water reclaim pipelines will drain by gravity during maintenance shutdowns or if there is a leak in either pipeline. The pond will typically be empty except during maintenance or unforeseen problems with the tailings pipeline, pumping system, or tailings storage facility. The pond is designed to contain the contents of the pipelines and the runoff from the pond and lined pipeline corridor from a 100-year, 24-hour storm event plus snowmelt.	2021 Modified Mine Plan
Underdrain collection sumps and downgradient monitoring wells will be used for tailings storage facility leak detection.	2021 Modified Mine Plan

Description	Reference
Water treatment will continue until metal concentrations from each source have stabilized at levels that meet water quality standards for discharge.	2021 Modified Mine Plan
A truck wash facility will include an oil-water separation system and water treatment facilities to enable reuse of the wash water.	2021 Modified Mine Plan
The underdrain system will convey spring and seep flows beneath both facilities to a collection sump at the buttress toe where the flows will be monitored for water quality prior to release into the stream system or capture for use in the processing circuit or treatment prior to discharge, depending on water quality.	2021 Modified Mine Plan
During operations, runoff generated from direct precipitation on the tailings storage facility will be retained in the tailings storage facility water pool for reclaim to the ore processing circuit.	2021 Modified Mine Plan
Surface water diversions will be constructed surrounding all major facilities such as the tailings storage facility, development rock storage facilities, process plant, open pits, and the Stibnite Worker Housing Facility.	2021 Modified Mine Plan
Surface water diversions will be designed to convey water without eroding during high flow and flood events (100-year, etc.) appropriate to the risk level of the facility.	2021 Modified Mine Plan
Contact water from mine facilities (development rock storage facilities, ore stockpiles, open pits, etc.) will be collected with ditches, sumps, and ponds, and generally reused for process makeup. Excess contact water will be evaporated or treated to meet discharge standards and discharged via permitted National Pollutant Discharge Elimination System outfalls.	2021 Modified Mine Plan
Runoff generated from precipitation on general infrastructure areas, including haul roads, laydown yards, and reclamation areas will be routed in channels or through culverts towards stormwater basins where sediment can collect, and water can evaporate, percolate into the ground, or be discharged as appropriate.	2021 Modified Mine Plan
Runoff from roads, building sites, and parking lots will be intercepted and processed using sediment traps and ponds, berms, and filtration materials. Design and implementation of these features will be based on local hydrologic conditions and Environmental Protection Agency, Forest Service, Idaho Department of Environmental Quality, and Idaho Department of Lands requirements and recommendations.	2021 Modified Mine Plan
Runoff generated from direct precipitation on the development rock storage facilities, mine pits, ore stockpiles, ore processing facility area, and truck shop area will be collected in stormwater basins where water can collect and be evaluated for treatment and discharge or used as process makeup water for mine operations.	2021 Modified Mine Plan
Diversions, underdrains, underdrain outlets, and contact water ponds will utilize low-permeability liners or solid-wall pipes as required to maintain segregation of clean and potentially mine-impacted water, promote geotechnical stability, and/or prevent water loss.	2021 Modified Mine Plan
If ore grade, mineralized, or legacy materials are encountered during construction of the mine features, stormwater runoff from these areas will be contained and managed as contact water.	2021 Modified Mine Plan
Non-contact stormwater will be diverted around mining facilities in controlled conveyances with erosion and sediment control best management practices as needed.	2021 Modified Mine Plan
The Project Operator will strive to minimize the volume of tailings storage facility water treated and released to surface waters during reclamation and post-closure such that it will not exceed the difference between precipitation on the tailings storage facility and any areas contributing to it and evaporation from the same areas on an annual basis.	2021 Modified Mine Plan
Treat all contact water that is to be discharged directly to surface waters to the extent required to meet Idaho Pollutant Discharge Elimination System requirements, except stormwater runoff from areas of the mine eligible for coverage under the Multi-Sector General Permit.	2021 Modified Mine Plan
Design the water treatment system (water treatment plant and storage ponds) with sufficient capacity to manage seasonal flow variability, with the consideration that flows during the spring snowmelt period that occur in an extremely wet year (e.g., the 95th percentile wet weather year) may be temporarily stored in the mine pits to reduce the maximum instantaneous flow rate to the treatment system.	2021 Modified Mine Plan

Description	Reference
Implementation of water management and collection will be subject to adaptive management per monitoring of water quantity and water quality effects of the Project, particularly important for subsurface flow management—dewatering and groundwater drainage.	2021 Modified Mine Plan
Maximum treatment system flow capacity of 4,000 gallons per minute was selected as the design capacity of the water treatment plant to manage up to the 95th percentile year condition in conjunction with the water management measures.	2021 Modified Mine Plan
West End pit lake water will be treated, if necessary, with temporary equipment used when needed, or actions taken to prevent discharge entirely. The water level in the pit will be monitored and, if it rises above a preset threshold elevation, a temporary treatment system will be mobilized and operated until the level has subsided to below that threshold and is projected to continue declining.	2021 Modified Mine Plan
During operations, contact water from Stibnite Gold Project facilities (e.g., the tailings storage facility including its embankment and buttress, development rock, stockpiles, open pits) and occasionally pit dewatering water, will be directed to one of five site contact water collection ponds and subsequently directed to the water treatment plant. Open pit dewatering water that is not directed to site contact water collection ponds will be pumped directly to the water treatment plant. A treatment process consisting of sodium hypochlorite oxidation, two-stage iron coprecipitation, and solids separation with contingent mercury precipitation via organic sulfide precipitant addition between iron precipitation stages was selected. Influent waters will be stored in lined storage ponds for flow equalization and pumped into the water treatment plant. This operational water treatment generally targets dissolved nitrate, metals, and oxyanions in influent solution, primarily arsenic and antimony. Addition of the mercury-sequestering precipitant is included as a contingency for the design to account for uncertainties regarding the effectiveness of iron coprecipitation in reducing dissolved mercury and methylmercury concentrations to levels below applicable receiving stream standards. Residual solids from the treatment plant will be placed in the tailings storage facility. Under an Idaho Pollutant Discharge Elimination System permit, the water treatment plant effluent will be directed to Meadow Creek at a location upstream of the Hangar Flats pit when flow augmentation is required and otherwise to the East Fork South Fork Salmon River for the remainder of operations (i.e., when Hangar Flats groundwater pumping results in decreased Meadow Creek baseflow). Treated water will be tested for compliance with Idaho Department of Environmental Quality water quality standards. The water chemistry and characteristics (i.e., temperature, turbidity) of receiving water will also be monitored.	Water Management Plan, Section 6.2
Thirty-three (33) surface water monitoring locations proposed in the Water Resources Monitoring Plan are located upstream and downstream of Project activities and facilities such as the worker housing area, the tailings storage facility, open pit mining operations, the ore processing area, and the downstream boundary of the mine operations area on the East Fork South Fork Salmon River. In addition to streamflow, other parameter information will be obtained at these locations (e.g., water temperature and chemistry). The monitoring information collected will be used to inform water management and water protection activities.	Water Resources Monitoring Plan, Section 4.2.1, Table 4-1, Figures 4-3, 4-5, 4-7, and 4-9.
The temporary and mine operating period stream diversions will be constructed and operated to meet or exceed minimum design criteria for surface flow events (100-year, 24-hour event except for the East Fork South Fork Salmon River Tunnel which uses a 500-year, 24-hour event), freeboard (one-foot), and bankfull width (1.5-year event). The stream diversions will consist of either 1) rock-cut channels along steep slopes and in areas with shallow or at-surface bedrock, 2) excavated earthen channels and berms constructed of alluvium or colluvium, or 3) pipes. Some diversions will have sections that are fully conveyed in culverts of pipes in areas where constructing an open channel such as steep hillslopes or underneath roads or mine features, or where needed to limit warming of the diverted stream. Diversion channel segments constructed in erodible materials will be lined with riprap or other erosion-resistant lining, where needed, to prevent erosion; the rock-cut channels will be non-erodible and not require riprap lining.	Water Management Plan, Table 2-1. Water Management Plan, Section 6.1.4
Stream diversion channel segments constructed over fill or excavated in permeable materials will be lined with a geosynthetic liner (e.g., high-density polyethylene, linear low-density polyethylene, or geosynthetic clay liner) to prevent seepage where it will create undesired loss of water or geotechnical instability (such as within the groundwater drawdown influence of pits during operations). If a geosynthetic liner is used, a bedding layer or geotextile may be placed under the liner as needed, and a transition layer of sand and gravel or geotextile followed by riprap placed over the liner for erosion protection. Some channel segments (particularly outfall chutes) will be lined with geocomposite products such as HydroTurf (a composite of high-density polyethylene, engineered turf, and concrete binder), which combines erosion protection and seepage prevention in a single product. The	Water Management Plan, Section 6.1.4

Description	Reference
stream diversion segments anticipated to be constructed with a geosynthetic liner include the non-rock-cut segments of Meadow Creek at the tailings storage facility, the Meadow Creek stream restoration corridor at Hangar Flats pit, and open channel (i.e., non-piped) segments of West End Creek above West End pit.	
Pre-construction water management activities will include the installation of surface water management features and implementation of BMPs to reduce erosion and sediment delivery to streams. These water management features and BMPs could include sedimentation ponds; run-on water diversion ditches, trenches, and/or berms; runoff water collection ditches; silt fence; water bars; culverts; energy dissipation structures; terraces; and other features specified in construction permits. Prior to initiating construction, a Notice of Intent for a Construction General Permit (CGP) will be submitted along with the Stormwater Pollution Prevention Plan (SWPPP), and erosion prevention and sediment control BMPs will be used to manage runoff. BMPs recommended by the Idaho Department of Lands and Idaho Department of Environmental Quality include silt fencing, straw wattles, sedimentation ponds, water bars, flow spreaders, energy dissipators and other features (Idaho Department of Lands 1992; Idaho Department of Environmental Quality 2005). During construction, the BMPs will be inspected and maintained as required by the CGP (i.e., weekly inspections of the condition of BMPs plus turbidity monitoring which become a daily inspection for the day following precipitation events greater than 0.25 inches; weekly and daily reports are maintained on site). If necessary, corrective actions will be taken and the SWPPP will be updated to reflect changes to the BMPs and stormwater management practices. Once construction activities have been completed and the disturbed areas have been stabilized, a Notice of Termination for the CGP will be submitted. After that time, stormwater will be managed using BMPs recommended by the Idaho Department of Lands and Idaho Department of Environmental Quality. General stormwater that is not mine contact water will be managed under an Idaho Multisector General Permit while stormwater that is mine contact water will be collected for consumptive use or water treatment as described in Section 2.4.5.10 of the FEIS. Although Valley County does not have specific stormwater requirements regarding post-construction stormwater management, the 2010 Valley County Comprehensive Plan states: “Valley County has adopted Idaho Department of Environmental Quality’s Catalog of Stormwater BMPs for Idaho Cities and Counties along with a Valley County specific addendum table to assist local agencies and developers with the selection, design, installation and maintenance of BMPs to reduce stormwater pollution.”	Refined Proposed Action 2021 Modified Mine Plan, Section 3.6.1 Water Management Plan, Section 6.1.1 Refined Proposed Action 2021 Modified Mine Plan, Section 3.3.2
Dust emission controls (i.e., water sprays) will be employed to reduce dust from the ore processing in the crushing and conveying operations. Ore grinding will occur within an enclosed building. Dust control will be employed along transportation corridors and active mining areas using aquatic safe dust suppression chemicals and application methods to reduce the transmission of particulates to wildlife corridors and natural areas (i.e., application along roadway centerline).	2021 Modified Mine Plan, Section 3.8 2021 Modified Mine Plan, Table 4-2
Preconstruction weed treatments such as mechanical control and herbicide application will be limited to areas expected to have unavoidable ground-disturbing activities. Any herbicide use will be in accordance with the South Fork Salmon River Sub-Basin Noxious and Invasive Program (Forest Service 2010b). Specific measures for mixing, loading, and disposal of herbicides as well as response to any spills are described in the Stibnite Gold Project Weed Management Plan. The existing Weed Management Plan (ESOP-023) for the Golden Meadows Exploration Project will be expanded to cover the Stibnite Gold Project. The Plan references Title 22 Chapter 24 (22-2407) of the Idaho Code and the Forest Service' South Fork Salmon River Sub Basin Noxious and Invasive Weed Management Program. The existing program has been implemented in collaboration with the Valley County Weed Management Program. The Weed Management Plan is part of the Plan of Restoration and Operations submittal. Aquatic safe herbicides will be used during vegetation management activities and noxious weed control along with adherence to chemical label restrictions, federal and state rules on usage plus proper equipment usage for chemical application by trained personnel. Noxious weed management in areas with whitebark pine will be controlled manually or by herbicide approved for use on Forest lands where the label doesn’t restrict use in conifer stands. Herbicides such as Pictoram (Tordon TM) that are known to have a high degree of mortality in woody species, will not be used in vicinity of whitebark pine. No aerial applications of herbicide will be made in whitebark pie stands. Herbicide use will be limited to spot treatment in the vicinity of whitebark pine and will maintain a minimum distance of 3.3 feet (1 meter) from a whitebark pine tree. Ground-based broadcast applications will maintain a minimum distance of 10 feet (3 meters) from the trunk of a whitebark pine tree. Inspection all access routes, drill platforms, pad locations and sump construction sites will be conducted prior to Project-related activities and if they are found to be weed-infested, then treatment the weed infestation with herbicides or by manually removing infestations will be conducted prior to ground disturbing activity.	2021 Modified Mine Plan, Table 4-2

Description	Reference
The Stibnite Gold Project includes several design features incorporated into the mine plan that are meant to minimize or avoid transportation related risks. These include road construction design standards to reduce sedimentation and dust impacts, road design features and maintenance protocols to address geologic hazards, road construction material choices to avoid surface water impacts, bridge restrictions and load hauling rules to increase safety, and a dedicated facility for road maintenance. Guidelines and standards for designing National Forest System Roads as published in the Forest Service handbook 7709.56 (published in 2010 with partial amendments in 2011 and 2014) were used as the primary basis for the design criteria. The Forest Service handbook incorporates design standards for two lane service roads from American Association of State Highway and Transportation Officials (AASHTO's) Guidelines for Geometric Design of Very Low-Volume Roads (average daily traffic [ADT] less than 400). Valley County has adopted the 'Greenbook' AASHTO standards. AASHTO's Guidelines of Very Low-Volume Local Roads (ADT less than 400) provides a functional classification for Rural Resource Recovery Roads specifically for logging and mining operations. Road construction material for either of the mine access routes will come from borrow sources that are located along the access route. Borrow site material quality assessment and construction material specifications are included in documentation supporting the Feasibility Study Access Road Design memorandum (Parametrix 2018), which recommends targeting Forest Service standard specifications for aggregate quality. Road construction materials for haul roads on the Stibnite Gold Project will be sourced from quartzite development rock from the West End mine pit that demonstrates relatively low arsenic concentrations compared to other available development rock. An evaluation of estimated haul road runoff water quality based on the use of this material was prepared by SRK Consulting, Inc. 2020. It concluded that runoff from haul road surfaces will not exceed any of the strictest applicable water quality criteria. Modeling of haul road fugitive dust is addressed in Appendix A of the 2021 Modified Mine Plan Air Quality Analysis Addendum (Air Sciences 2021) which concludes that dust control measures will limit dust emissions to acceptable levels. Road surfaces will be stabilized and managed to minimize transport of sediment, dust, and other materials, especially near watercourses with inspections at the beginning of spring and fall seasons at a minimum. Crushed rock will be placed on access roads as needed to provide a durable surface and limit sediment transport into nearby streams. Erodible (i.e., non-rock cut) slopes along roads will be mulched, hydro-seeded, or covered with rock or coarse gravel to minimize the potential for sediment mobilization. During winter road maintenance, snow will be removed by plowing to the roadway surface when practical. Care will also be taken to avoid disposing of collected snow, which may contain sand or gravel, into nearby streams and rivers. Coarse sand (with less than 20 percent fines) will be used for winter sanding of the main access road and haul roads in combination with a fine to medium gravel as needed, (approximately 1/4 - 5/8-inch sizing).	Transportation Management Plan, Section 3.1.1 Transportation Management Plan, Section 3.3.11

Description	Reference
Personnel who transport, handle, or use mine processing reagents, fuel, or other materials that have the potential to be released and impact surface water and groundwater quality will receive appropriate training in best management practices, spill response procedures, and reporting requirements. Schedules will be developed for planned dates and times for transport of fuel. The schedules will be communicated with staff and drivers so that timing of fuel transport is known, and arrangements can be made to minimize possible hazards. Fuel hauling will be done with single chassis units (i.e., no pup trailers are allowed). Transportation of fuel will be done during daylight hours. Spill response equipment is located along portions of the access route and in the Project Operator Spill Response trailer. Prior to material hauls, areas of "flat water" along the route will be communicated to appropriate hazardous materials response personnel to identify areas of potential booming in waterways adjacent to the route. Documented annual inspections of commercial transport vehicles are required by 49 CFR 396.17-23. Inspections will be conducted by a qualified U.S. Department of Transportation inspector. Commercial transport vehicles will also be inspected by the drivers prior to transport. Transport companies are required to document DOT annual inspections and vehicle inspections. In addition, daily inspection of transport vehicles will occur as required by Mine Safety and Health Administration requirements. Material transporters to the site will be required to check in at the Stibnite Gold Logistics Facility. Safety inspections of all transport vehicles will be conducted by the Project Operator personnel prior to transportation of fuel and materials. Safety measures during hazardous road conditions will be applied including signage visible during nighttime and inclement weather, road edge delineators visible above snow accumulations, and detention of traffic at the Stibnite Gold Logistics Facility, mine site, or point of origin during storm events, wildfires, or other hazardous conditions. Material transporters to the site will be required to provide documentation of successfully completed training in responding in the event of spills or other releases of transported materials and will have spill cleanup kits on the vehicle at all times. Material transporters to the site will be familiarized with the transportation route prior to transportation of fuel. Pilot vehicles will be used to escort shipments of fuel, chemicals, reagents, or antimony concentrate from the site. The pilot vehicles will have radio contact with the site and the transport vehicle. Pilot and emergency response vehicles will carry appropriate spill containment and first aid equipment. The pilot vehicle will advise oncoming traffic to park until the convoy passes and will regulate the speed of the transporting vehicle so that it does not exceed posted speed limits and safety conditions inherent to the road. Road signs will be placed at both the start and end of the route while a convoy is operating, indicating to the public that a fuel convoy is in progress and to use caution.	Transportation Management Plan, Section 3.2 Transportation Management Plan, Section 3.2.5
As determined in the *Decision Notification and Finding of No Significant Impact, Golden Meadows Exploration Project, Krassel Ranger District, Payette National Forest, January 2016: Details of Decision Attachment A, pg. A-38 (pg. in PDF file).* "Helicopter flight times will be minimized over area waterways, especially flights over Meadow Creek, East Fork South Fork Salmon River, and the Glory Hole, in accordance with Federal Aviation Administration regulations, to the greatest extent possible. Stream corridors will not be used as routine helicopter flyways."	DR-FONSI for the Golden Meadows Exploration Project
Under the 2021 Modified Mine Plan, the volume and types of hazardous materials transported, stored, and used at the mine site and off-site facilities will increase from the current conditions of the permitted exploration operations. Substantial quantities of fuels, lubricants, and chemicals will be transported annually via large trucks, and will be stored in aboveground storage tanks, bins, totes, and drums, within the required secondary containment designed to prevent spill releases to the environment. There will be no long-term storage of wastes on-site and waste disposal will occur at licensed off-site facilities. <u>Liquid Petroleum Products and Wastes</u> Aboveground storage tanks will be used for fuels and other petroleum fluids, including gasoline, diesel fuel, lubricants, coolants, hydraulic fluids, and propane at the mine site, as outlined in a SPCC Plan required for the mine site under Section 311(j)(1)(C) of the Clean Water Act. The storage tank facility for gasoline, diesel fuel, and propane will be located near the maintenance workshop with additional propane storage at the ore processing facility area, the underground portal area, and the worker housing facility.	2021 Modified Mine Plan, Section 5.1.3

Description	Reference
Motor oils, lubricants, antifreeze, and solvents will be shipped to the mine site on trucks. These will be stored in approved containers located within, or directly adjacent to, the maintenance shop and contained within secondary containments to prevent spills into the environment. All used petroleum products, waste antifreeze, and used solvents will be collected in approved containers, transported off site, and disposed or recycled. All liquid petroleum products will be managed in closed tanks or containers that are located within secondary containment areas such that a complete release of petroleum from the largest tank or container with the secondary containment area will be retained in the area without release to the environment. The procedures in the SPCC Plan will cover all activities related to receipt, storage, and dispensing petroleum products in a manner that will minimize spills and prevent releases outside of the secondary containment areas. Inspections, security, and maintenance activities of all petroleum storage facilities will minimize the potential for spills from tanks and containers, and prompt cleanup of any such spills. The 2021 Modified Mine Plan includes the operation of four new substations and upgrades to five existing substations, which will require quantities of dielectric oils (i.e., mineral oils). These oils will be contained within the substation equipment and as per the site-specific SPCC plans, design of the substation yards will prevent discharges out of the yards in the event of a leak from the electrical equipment. Written spill response procedures and pre-positioned spill response supplies and tools will assist in containing and cleanup of any spills within and outside of secondary containments. Stibnite Gold Project personnel will be trained in the execution of the SPCC Plan which will be reviewed and updated as needed through all phases of the Stibnite Gold Project from construction through closure. Spills of fuel or oils outside of secondary containments will be responded to in a manner to control the size of the spill. The spilled petroleum and contaminated soil will be cleaned up and placed in steel bins or drums to be shipped off site for treatment or disposal. <u>Solid Waste Management</u> All municipal waste and construction and demolition waste generated by the Stibnite Gold Project will be collected in wildlife-resistant containers and hauled offsite for disposal in a municipal waste landfill. Small scale composting associated with organic materials generated at the worker housing facility may be conducted at the Fiddle growth media stockpile. <u>Hazardous Waste Management</u> Material the meets the classification of hazardous waste will be collected and stored according to Idaho regulations implementing federal Resource Conservation and Recovery Act regulations on hazardous waste management. Such wastes will be accumulated in approved containers at designated collection locations in the facilities. These containers will be transferred to a 90-day storage site at the facilities prior to shipping to an offsite, permitted hazardous waste disposal facility. The handling of hazardous waste, from generation through off-site disposal, will be done in concert with written procedures to comply with all applicable parts of the Idaho hazardous waste regulations. This will include written contingency plans identifying response and notifications actions in the event of a spill of hazardous waste at the Stibnite Gold Project. The largest quantity of hazardous waste routinely produced by gold mines is laboratory assay wastes containing lead. These materials are solids like slag, cupels, crucibles, and the like. These wastes are contained in steel bins that are sealed at the mine site before being shipped off site to permitted hazardous waste disposal facilities. In the unlikely event of a spill of these materials the spilled material could be readily recovered with mechanical means appropriate to the spill event, placing the material and any contaminated soil in a suitable container by a person equipped with appropriate personal protection equipment. The recovered material will be replaced into the accumulation bins. Autoclave refractory liner bricks are typically non-hazardous when new. They can become contaminated with metals during use at mine sites such that they must be handled as hazardous wastes when removed during maintenance relining of an autoclave. This will be determined at the Stibnite Gold Project through operational experience during maintenance activities when the autoclave liner was rebuilt. Spent refractory material will be properly managed and disposed-based on its characteristics when the waste was generated. Smaller quantities of hazardous waste typically consist of waste maintenance materials such as solvents, paints, batteries, lamps, and electrical equipment. These materials will be accumulated in steel drums positioned near the points of generation of these materials. Any drums of liquid hazardous waste will be placed in secondary containment. Any spills will immediately be contained and remediated according to the site contingency plans.	

Description	Reference
Mercury and Mercury Containing Materials In the gold and silver leaching process, small amounts of mercury will also be dissolved from the ore and follow the gold and silver through the rest of the process. During the carbon stripping process, a small amount of mercury may not desorb from the activated carbon. This residual mercury will volatilize in the carbon reactivation kiln and be controlled with a venturi scrubber and sulfur-impregnated carbon columns in the kiln off-gas stream. Solid waste from this process (i.e., the carbon canisters and filter packs) will be disposed offsite in a permitted solid waste or hazardous waste disposal facility depending on the mercury characteristics of the wastes.	
Section 6 of Idaho Department of Lands's Best Management Practices for Mining in Idaho (Idaho Department of Lands 1992) will be observed, including if water is encountered in exploration holes, water zones will be sealed off during abandonment to prevent crossflow.	Section 6 of Idaho Department of Lands's Best Management Practices for Mining in Idaho (Idaho Department of Lands 1992)
The Project Operator will implement surface water quality baseline turbidity monitoring, as defined in the Idaho Department of Environmental Quality permit clauses.	
Drilling mud and hole plug products, if utilized, will conform to American Petroleum Institute guidelines for ensuring groundwater integrity.	American Petroleum Institute guidelines
The Project Operator will monitor stormwater runoff and stormwater BMPs as per the Stormwater Pollution Prevention Plan (SWPPP). Stormwater monitoring, inspections, and reporting will be conducted in accordance with the Idaho Pollutant Discharge Elimination System Multi-Sector General Permit and the SWPPP.	Idaho Pollutant Discharge Elimination System Multi-Sector General Permit and the SWPPP
All activities will be conducted in accordance with Idaho environmental anti-degradation policies, including Idaho Department of Environmental Quality water quality regulations at IDAPA 58.01.02 and applicable federal regulations.	IDAPA 58.01.02
Dust abatement chemicals will be used in accordance with the applicable road maintenance Biological Assessment. Apply dust- abatement additives and stabilization chemicals (typically MgCl2, CaCl2, or lignin sulphonates) to avoid run-off of applied dust abatement solutions to streams. Spill containment equipment will be available during chemical dust abatement application. Where the road surface is within 25 feet (slope distance) of surface water, dust abatement will only be applied to a 10-foot swath down the centerline of the road. The rate and quantity of application will be regulated to insure all of the chemical is absorbed before leaving the road surface.	2021 Modified Mine Plan

9.3.13 Wastes and Hazardous Materials

Description	Reference
Oils, solvents, and lubricants will be stored in approved containers located within, or directly adjacent to, the maintenance shop and contained within secondary containments to prevent spills into the environment. All used petroleum products, waste antifreeze, and used solvents will be collected in approved containers, transported off site, and disposed or recycled.	2021 Modified Mine Plan
Nitric and sulfuric acid will be transported in tanks designed to prevent spills even in the event of rollovers.	2021 Modified Mine Plan
Nitric and sulfuric acids will be stored in specialized non-corrosive, polyethylene-lined tanks located within the ore processing facility and will have secondary containment.	2021 Modified Mine Plan
Liquids will be shipped to the Stibnite Gold Project in tank trucks designed for spill prevention and escorted to the Stibnite Gold Project by pilot cars manned and equipped to handle spills.	2021 Modified Mine Plan

Description	Reference
Other legacy materials may be encountered during construction and operations. If encountered, these materials will be characterized to determine potential for reprocessing, reuse, or disposal.	2021 Modified Mine Plan
Small scale composting associated with organic materials generated at the worker housing facility may be incorporated within the centralized growth media stockpile in the Fiddle valley.	2021 Modified Mine Plan
Personnel transporting, handling, or using any hazardous chemicals (including sodium cyanide) will be trained to ensure the safe use of such materials. The Project Operator will design, construct, and manage facilities to conform to International Cyanide Management Code.	2021 Modified Mine Plan
Fuel and other petroleum products at the site will be stored in above ground containment structures, with appropriate secondary containment measures.	2021 Modified Mine Plan
The Project Operator will maintain a recycling program at the Stibnite Gold Project.	2021 Modified Mine Plan
The operator will immediately report any fuel, oil, or chemical discharges or spills greater than 25 gallons on land, or any spill directly in a stream to Idaho Department of Environmental Quality, Forest Service, U.S. Fish and Wildlife Service, and National Oceanic and Atmospheric Administration Fisheries as required by applicable federal and state regulations by phone and/or fax (or as soon as possible after on-site containment efforts are implemented as per the SPCC plan), and initiate emergency consultation.	2021 Modified Mine Plan
Helicopter flight times will be minimized over area waterways, especially flights over Meadow Creek, East Fork South Fork Salmon River, and the Yellow Pine Pit lake, in accordance with Federal Aviation Administration regulations, to the greatest extent possible. Stream corridors will not be used as routine helicopter flyways.	2021 Modified Mine Plan
All fuel transport drivers will be required to have spill response, safety, and resource awareness training. In this program, drivers will be informed of the Idaho State Emergency Medical Service, first hazardous materials responder actions, and the importance of anadromous fisheries that must be protected. In addition, each driver will participate in a safe-driver training course that is specific for the Project Operator fuel convoy. The course will cover the SOP as well as discuss causes of accidents and how to minimize risk.	2021 Modified Mine Plan
Remove, reprocess, reuse, or isolate various existing sources of pollutant loading from historical mining operations.	2021 Modified Mine Plan
Comply with regulations under Idaho's Solid Waste Management Rule and required permits, depending on the type and size of composting program implemented.	2021 Modified Mine Plan
Consult with Idaho Department of Environmental Quality and the local Health District on design and oversight of the composting program.	2021 Modified Mine Plan
Provide safe storage of chemicals and petroleum products, a SPCC plan includes measures to avoid inadvertent release of hazardous materials into the environment and describes response and remediation measures to minimize effects of an inadvertent release.	2021 Modified Mine Plan
Remove all hazardous materials and debris during restoration effort for proper facility closure during operations and post-mining restoration efforts.	2021 Modified Mine Plan
A SPCC shall be prepared in accordance with 49 CFR parts 171 through 180, including packaging, transportation, incident reporting, and incident response. Include the following items within the SPCC Plan: • During off-loading of fuel from fuel vehicles or during refueling operations have a standard marine-type fuel containment boom (which will be of sufficient length for a worst-case discharge), spill prevention kit, and fire kit readily available on site. • Store two or more spill containment and response caches along each of the fuel delivery routes. • Spill response team will carry sufficient containment equipment for one full fuel tanker. • Include the Forest Service as a party to be notified in the event of a hazardous materials spill. • Intake pumps, engines, fuel storage, fuel containment site, and other equipment with fuel or lubricants will be inspected at each refueling and periodically between refueling for leakage or spillage. • Pilot and emergency spill response vehicles will carry appropriate containment and first aid equipment. • All fuel containers will be marked with contents, owner's name and contact information.	49 CFR 171

Description	Reference
• Material Safety and Data Sheets for all products will be posted and available on site with the SPCC plan. • Intake pumps will not be situated within the active stream and ditch channel and will be placed within containment vessels capable of holding 120 percent of the pump engine's fuel, engine oil and hydraulic fluid. The smallest practical pump and intake hose will be used. • Following large storm events, the intake pumps will be inspected to determine if stream flow has encroached into the pump area and if the pump needs to be moved so it remains above flowing water. • A spill prevention and clean-up kit will be placed at the intake pump site and will consist of absorbent pads and/or boom (which will be sufficient length for a worst-case discharge), drip pan, a shovel, and a fire extinguisher. • Spare fuel for the water intake pump will be stored in approved [29 CFR 1926.152(a)(1)] fuel storage containers placed into a secondary containment vessel capable of holding at least 120 percent of the volume of the fuel in the fuel container. • A copy of the SPCC plan will be kept at an appropriate on-site facility.	

9.3.14 Other Design Features

Description	Reference
Busing and/or vanpooling will be provided for the Project Operator and contractor employees from the Stibnite Gold Logistics Facility to the Stibnite Gold Project. The associated parking area will accommodate approximately 300 vehicles. To the degree practicable, the Project Operator will mandate the use of busing and vans for employee and contractor transportation to the Stibnite Gold Project and the worker housing facility.	2021 Modified Mine Plan
The Project Operator will utilize "smart grid" technology to reduce energy consumption, such as auto dimming lights in offices.	2021 Modified Mine Plan
The Project Operator employees and contractors will be informed about relevant governmental regulations intended to protect cultural and historic resources.	2021 Modified Mine Plan
The Project Operator will repair and rehabilitate habitats adversely affected by historical mining impacts in the Stibnite Gold Project area within the disturbance footprint of the modified mine plan.	2021 Modified Mine Plan
The Project Operator will increase the ground limestone dosage to the pre-oxidized concentrate as it is fed into the autoclave to address the potential for creation of soluble arsenic. By decreasing the free acid levels (increasing the pH) in the autoclave by increasing the ground limestone dosage in the autoclave feed increases the quantity of crystalline (stable) arsenic compounds in the resultant slurry with a proportional decrease in the quantity of amorphous (unstable) arsenic compounds.	2021 Modified Mine Plan
The Project Operator will monitor levels of soluble arsenic in the tailings. If soluble arsenic levels are higher than anticipated, the Project Operator will treat the oxidized concentrate with hot arsenic cure prior to neutralization.	2021 Modified Mine Plan
The ore processing area will be designed to provide for containment of ore processing materials, chemicals, wastes, and surface runoff. Potentially hazardous chemicals and wastes will be stored within buildings or areas with both primary and secondary containment. Surface runoff within the ore processing area will be directed to a contact water pond (constructed with geosynthetic liners) for collection. Leaks or spills escaping primary and secondary containment will flow to the contact water pond for collection and will not discharge off site.	2021 Modified Mine Plan
The processing circuit will be housed in a steel frame building set on concrete foundations with interior curbing to provide secondary containment; the interior curbing will be high enough to contain 110 percent of the volume of the largest tank.	2021 Modified Mine Plan
The gold and silver leaching circuit will be designed and operated consistent with the International Cyanide Management Institute Code (https://www.cyanidecode.org) and the Initiative for Responsible Mining Assurance Standard for Responsible Mining (https://responsiblemining.net/resources/). Accordingly, impermeable secondary containment for	2021 Modified Mine Plan

Description	Reference
cyanide unloading, storage, mixing and process tanks shall be sized to hold a volume at least 110 percent of the largest tank within the containment and any piping draining back to the tank, with additional capacity for the design storm event, if applicable. Pipelines containing process water or process solution shall also use secondary containment in combination with audible alarms, interlock systems, and/or sumps as spill control measures.	
Cyanide-bearing solutions used in ore processing will be neutralized to approximately 10 milligrams per liter weak acid dissociable cyanide before the material is pumped to the tailings storage facility. Residual cyanide will be treated using a sodium metabisulfite and air system to detoxify the cyanide by oxidation to form cyanate.	2021 Modified Mine Plan
An Explosives and Blasting Management Plan will be prepared for the Stibnite Gold Project (based on the measures described in the Fish and Aquatic Resources Mitigation Plan Section 5.6 and incorporated into the Project decision). Explosives storage, transport, handling, and use will comply with applicable Department of Homeland Security, Bureau of Alcohol, Tobacco, Firearms and Explosives, and Mine Safety and Health Administration regulations.	2021 Modified Mine Plan
For safety and security reasons, no alcohol, firearms, or illegal drugs will be permitted on site.	2021 Modified Mine Plan
Air emissions, groundwater, surface water, and aquatic parameters will be monitored during mine construction, operation, closure, and post-closure as specified in the final authorizations from the regulating agencies. See Section 2.4.8 in the FEIS for an expanded description of the monitoring program.	2021 Modified Mine Plan
Monitoring will be conducted following the completion of closure and reclamation of all facilities and disturbance areas to demonstrate compliance with permit requirements and to measure the success of reclamation and mitigation.	2021 Modified Mine Plan
The draft EMMP includes the following plans for monitoring aquatic resources: Stream and Wetlands Monitoring and Management Plan and Fisheries and Aquatic Habitat Monitoring and Management Plan.	2021 Modified Mine Plan
An 8-mile temporary 16-foot-wide groomed over-snow vehicle trail will be created adjacent to Johnson Creek Road between Landmark and Trout Creek Campground during construction of the Burntlog Route.	2021 Modified Mine Plan
A 16-foot-wide groomed over-snow vehicle trail will be created south of Warm Lake Road to connect the southern end of Johnson Creek Road to the Landmark-Stanley Road. This 0.3-mile route will be used throughout construction and operations.	2021 Modified Mine Plan
During construction, approximately 11 miles of groomed over-snow vehicle trail will be maintained along Cabin Creek Road (FR 467).	2021 Modified Mine Plan
Suitable surface coatings or exterior design features will be used on Stibnite Gold Project buildings and other structures to reduce visual impacts.	2021 Modified Mine Plan
Equipment, materials, and vehicles will be stored at specified work areas or construction yards.	2021 Modified Mine Plan
The operator shall comply with all applicable Federal and State fire laws and regulations and shall take all reasonable measures to prevent and suppress fires on the area of operations and shall require their employees, contractors and subcontractors to do likewise.	36 CFR 228.11
The operator shall comply with State of Idaho fire protection procedures (as outlined in IDAPA 20.04.01) and any local Valley County Fire District regulations and shall require their employees, contractors and subcontractors to do likewise.	IDAPA 20.04.01
Several fire-response kits will be spaced strategically around the Project area and be inspected annually.	2021 Modified Mine Plan
Public firewood cutting and gathering along the Burntlog route will not be allowed.	2021 Modified Mine Plan

This page left blank intentionally.

PART 10 REFERENCES

References can be accessed on the Project Website (https://www.fs.usda.gov/project/?project=50516).

Agency for Toxic Substances and Disease Registry (ATSDR). 2003. Public Health Assessment for the Stibnite/Yellow Pine Mining Area, Stibnite, Valley County, Idaho. EPA Facility ID: IDD980665459. September 5, 2003.

Air Sciences, Inc. (Air Sciences). 2021b. Stibnite Gold Project. Supplemental HAP Air Quality Analysis Addendum ModPro2. Prepared for Perpetua Resources, Air Sciences, Inc. Project No 335-21-402, October 5, 2021.

BioAnalysts, Inc. (BioAnalysts). 2021. Evaluation of Upper EFSFSR Fish Passage Barriers – Technical Memorandum. Stibnite Gold Project. January 30, 2020.

Brown and Caldwell. 2019. Final Stibnite Gold Project Modified PRO Alternative Modeling Report. Prepared for Midas Gold Idaho, Inc. September 2019.

Brown and Caldwell. 2021a. Stibnite Gold Project. Environmental Monitoring and Management Program. Prepared for Perpetua Resources Idaho, Inc. May 2021.

Brown and Caldwell. 2021b. Stibnite Gold Project Water Management Plan. Prepared for Perpetua Resources Idaho, Inc. October 2021.

Brown and Caldwell. 2021c. Stibnite Gold Project Water Resources Monitoring Plan. Prepared for Perpetua Resources Idaho, Inc. October 2021.

Brown and Caldwell. 2021d. Site-Wide Water Balance Model Refined Proposed Action (ModPRO2) Report. Prepared for Perpetua Resources Idaho, Inc. October 2021.

Brown and Caldwell. 2021e. Stibnite Gold Project Stibnite Hydrologic Site Model Refined Modified Proposed Action (ModPRO2) Report. Prepared for Perpetua Resources Idaho, Inc. August 2021.

Brown and Caldwell. 2021f. SGP Water Rights Diversion Rate by Source for Industrial Use. Prepared for Perpetua Resources Idaho, Inc. December 6, 2021.

Brown and Caldwell. 2021g. Stream and Pit Lake Network Temperature (SPLNT) Model Refined Modified Proposed Action (ModPRO2) Report. Prepared for Perpetua Resources Idaho, Inc. July 2021.

Brown and Caldwell. 2022. Stibnite Gold Project. Development Rock Management Plan. Prepared for Perpetua Resources Idaho, Inc. May 2022.

Brown and Caldwell, McMillen Jacobs, and BioAnalysts. 2021a. Fishway Operations and Management Plan. Prepared for Perpetua Resources Idaho, Inc. October 2021.

Brown and Caldwell, McMillen Jacobs, and BioAnalysts. 2021b. Fisheries and Aquatic Resources Mitigation Plan. Prepared for Perpetua Resources Idaho, Inc. October 2021.

Dynamic Avalanche Consulting Ltd. (DAC). 2021. Stibnite Gold Access Roads Snow Avalanche Hazard Assessment for Access Roads. Prepared for Perpetua Resources.

International Council on Mining and Metals. 2020. Global Industry Standard on Tailings Management. August.

Perpetua Resources Idaho, Inc. (Perpetua). 2021a. Stibnite Gold Project, Valley County, Idaho, Revised Proposed Action ModPRO2. October 2021.

Perpetua Resources Idaho, Inc. (Perpetua). 2021b. Environmental Legacy Management Plan. Document No. ESOP-034. March.

Perpetua Resources Idaho, Inc. (Perpetua). 2021c. Plan of Development Electrical Transmission Stibnite Gold Project. September 2021.

Perpetua Resources Idaho Inc. (Perpetua). 2022. Stibnite Gold Project Transportation Management Plan. June 2022.

SRK Consulting (SRK). 2021a. Stibnite Gold Project Comprehensive Baseline Geochemical Characterization Report. Prepared for Perpetua Resources Idaho, Inc. November 2021.

SRK Consulting (SRK). 2021b. Stibnite Gold Project ModPRO2 Site-Wide Water Chemistry (SWWC) Model Sensitivity Analysis Report. Prepared for Perpetua Resources Idaho, Inc. November 2021.

Tetra Tech, Inc. (Tetra Tech). 2020. 2019 Whitebark Pine Survey Report. Prepared for Midas Gold Idaho, Inc. January 2020.

Tetra Tech, Inc. (Tetra Tech). 2021. Reclamation and Closure Plan Stibnite Gold Project. Prepared for Perpetua Resources Idaho, Inc. October 2021.

Tetra Tech, Inc. (Tetra Tech). 2023. Compensatory Stream and Wetland Mitigation Plan. Stibnite Gold Project, Valley County, Idaho. Prepared for Perpetua Resources Idaho, Inc. U.S. Army Corps of Engineers File Number: NWW-2013-0321. April.

U.S. Forest Service (Forest Service). 2014. Striving for Inclusion: Addressing Environmental Justice for Forest Service NEPA. June 2014.

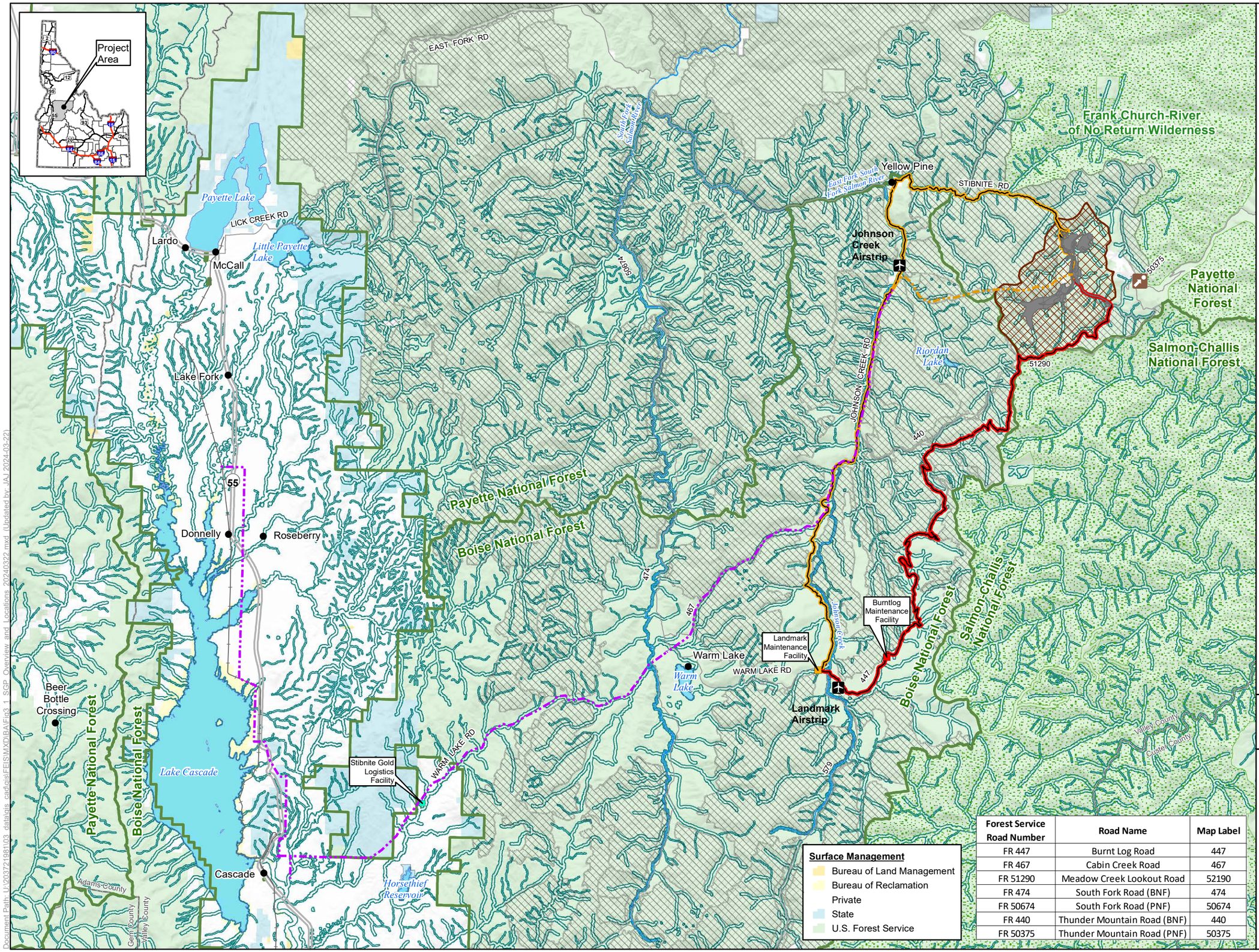
U.S. Forest Service (Forest Service). 2024. Stibnite Gold Project Final Environmental Impact Statement. Payette and Boise National Forests. July 2024.

FIGURES

This page left blank intentionally.

List of Figures

This page left blank intentionally.



LEGEND

Project Components
- SGP Features
- Operations Area Boundary

Access Roads and Trail System
- Burntlog Route
- Johnson Creek Route

Utilities
- Upgraded Transmission Line
- New Transmission Line

Offsite Facilities
- Burntlog Maintenance Facility *
- Landmark Maintenance Facility **
- Stibnite Gold Logistics Facility

Other Features
- U.S. Forest Service
- Wilderness
- IRA and/or Forest Plan Special Area
- County
- City/Town
- Monumental Summit
- Airport/Landing Strip
- Railroad
- Highway
- Road
- Stream/River
- Lake/Reservoir
- Riparian Conservation Area (RCA)

* Associated with 2021 MMP only
** Associated with Johnson Creek Route Alternative only

0 2 4 Miles
1 inch = 4 miles when printed at 11x17

Surface Management
- Bureau of Land Management
- Bureau of Reclamation
- Private
- State
- U.S. Forest Service

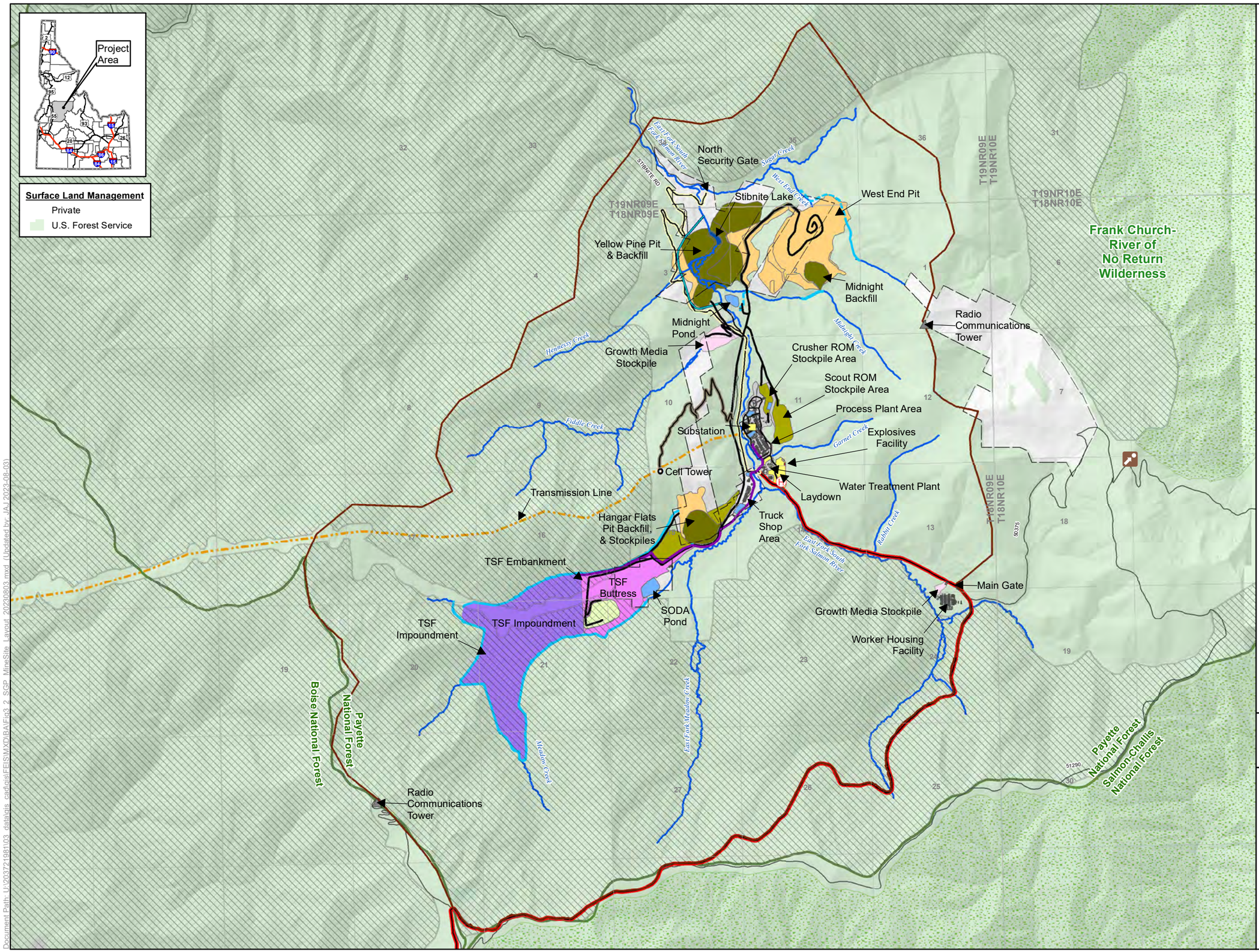
Forest Service Road Number	Road Name	Map Label
FR 447	Burnt Log Road	447
FR 467	Cabin Creek Road	467
FR 51290	Meadow Creek Lookout Road	52190
FR 474	South Fork Road (BNF)	474
FR 50674	South Fork Road (PNF)	50674
FR 440	Thunder Mountain Road (BNF)	440
FR 50375	Thunder Mountain Road (PNF)	50375

Figure 1
SGP Overview and Location
Stibnite Gold Project
Stibnite, ID

Base Layer: USGS The National Map: 3D Elevation Program. USGS Earth Resources Observation & Science (EROS) Center: GMTED2010. Data refreshed March, 2021. Other Data Sources: Perpetua; State of Idaho Geospatial Gateway (INSIDE Idaho); Boise National Forest; Payette National Forest

Map Date: 2024-03-22

Document Path: U:\2023\21061\03_data\gis_cad\gis\FEIS\MXD\BAFig3_1_SGP_Overview_and_Locations_20240322.mxd (Updated by JAJ 2024-03-22)



LEGEND

Project Components *

SGP Features

- Pit Backfill
- Growth Media Stockpile
- Mining Pit
- Laydown
- Plant Site
- TSF Buttress
- TSF Liner
- Alluvial Stockpile
- Workers Housing
- Stockpile
- Explosive Facility
- Operations Area Boundary
- Patented Claim Boundary
- Tailings Pipeline
- Clean Water Diversion **
- Clean Water Diversion - Piped **
- East Fork South Fork Salmon River Tunnel ***
- Stream ****
- Pond
- Stibnite Lake
- Light Vehicle Road
- Haul Road
- Helicopter Pad

Access Roads

- Burntlog Route
- Cell Tower Access Road
- Public Access Road

Utilities

- Transmission Line
- Substation *****
- New Cell Tower
- Existing Communication Tower

Other Features

- U.S. Forest Service
- Wilderness
- IRA and Forest Plan Special Areas
- Monumental Summit
- Road

* Project Components are associated with all Alternatives
** Some surface clean water diversions are not discernible at this figure scale (e.g., the diversions associated with the TSF/buttress north, Fiddle culvert, Midnight Outfall, Scout ROM). Please refer to Figures 2.4-14 and 2.4-15 which provide greater detail regarding the Water Management Plan and its facility/diversion locations.
*** Perennial streams are not depicted for the entire map area. Only perennial streams within the Operations Area Boundary are depicted.
**** Public Access Road associated with 2021 MMP
***** Substation locations are approximate.

0 0.35 0.7 Miles

1 inch = 0.7 miles when printed at 11x17

N

Figure 2
Operations Area Boundary and Mine Site Layout Stibnite, ID

Base Layer: Hillshade derived from LiDAR supplied by Midas Gold
Other Data Sources: Perpetua; State of Idaho Geospatial Gateway (INSIDE Idaho); Boise National Forest; Payette National Forest

Map Date: 2023-08-03