

# **Stibnite Gold Project EIS**

## **Appendix B**

404(b)(1) Analysis Framework

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# Clean Water Act Section 404 (b) (1) Evaluation Framework for the Stibnite Gold Project

Prepared for



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December 16, 2019

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## List of Abbreviations

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CEQ	Council on Environmental Quality	SGMP	Stibnite Gold Mitigation Plan
CFR	Code of Federal Regulations	SGP	Stibnite Gold Project
CMP	Conceptual Mitigation Plan	TES	Threatened and Endangered
CWA	Clean Water Act	TSF	Tailings Storage Facility
DA	Department of the Army	USACE	U.S. Army Corp of Engineers
District	Stibnite-Yellow Pine Mining District	USFS	U.S. Forest Service
DRSF	development rock storage facility	WCI	Watershed Condition Indicator
EFSFSR	East Fork of the South Fork of the Salmon River	WOTUS	Waters of the United States
EIS	environmental impact statement		
EPA	Environmental Protection Agency		
ESA	Endangered Species Act		
FSH	Forest Service Handbook		
Guidelines	CWA Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material		
HUC	hydrologic unit code		
IP	intrinsic potential		
IRA	inventoried roadless area		
LAU	Lynx Analysis Units		
LEDPA	least environmentally damaging practicable alternative		
MGII	Midas Gold Idaho, Inc.		
Midas Gold	Midas Gold Idaho, Inc.		
MWAM	Montana Wetland Assessment Method		
NF	National Forest		
NFS	National Forest System		
NIDGS	Northern Idaho Ground Squirrel		
NEPA	National Environmental Policy Act		
OM	occupancy model		
OW	open water		
PEM	palustrine emergent marsh		
PFO	palustrine forested		
PRO	Plan of Restoration and Operations		
PSS	palustrine shrub-scrub		
Project	Stibnite Gold Project		
RCA	Riparian Conservation Area		
ROD	Record of Decision		
SFA	Stream Functional Assessment		

## Section 1

# Introduction

As part of the review and permitting process for the Stibnite Gold Project (SGP or Project) proposed by Midas Gold Idaho, Inc. (MGI or Midas Gold), the U.S. Army Corps of Engineers (USACE) must evaluate the compliance of the proposed Project with the Clean Water Act (CWA) Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material (Guidelines). The Guidelines are identified under 40 CFR 230, and prepared by the U.S. Environmental Protection Agency (EPA). The Guidelines are the substantive criteria used by the USACE for evaluation of an application for a Department of the Army (DA) permit pursuant to Section 404 (DA permit).

This framework document serves two primary purposes:

- To inform the public of the USACE decision-making process with respect to the 404(b)(1) compliance evaluation of the SGP and to invite the public to participate and provide comments relevant to that future evaluation.
- To present the preliminary framework of environmental criteria that ultimately will be used to determine the Least Environmentally Damaging Practicable Alternative (LEDPA) as described in 40 CFR 230.10 (a).

This document is a framework for evaluation of compliance with the Guidelines. This document was developed by Midas Gold, and is a Midas Gold document, however this document incorporates comments and feedback from the USACE regarding the process and analysis necessary to support the USACE's future decision. It will be revised and updated following the publication of the Draft environmental impact statement (EIS) and after Midas Gold submits a complete DA permit application package. Some sections of this document may include a brief narrative of the intent of the section as described by general USACE Guidance and/or may include applicable regulations to support the reviewer in understanding the guidelines. Each section is then followed by how the USACE Walla Walla District has responded (if applicable), the referenced section of the Draft EIS, or information derived by Midas Gold.

The U.S. Forest Service (USFS) is the lead federal agency preparing an EIS pursuant to the National Environmental Policy Act (NEPA) (40 Code of Federal Regulations [CFR] Parts 1500 – 1508) for the Project's Plan of Restoration and Operations (PRO) (Midas Gold 2016a). The USACE is a cooperating agency in the preparation of the EIS and currently intends to adopt the USFS Final EIS to use in support of its future decision on the DA permit as described in the guidelines (40 CFR 230.10 4; 40 CFR. 1506.3). The permit application will be subject to review and modification as part of the evaluation and permitting processes for the Project. The EIS evaluates environmental effects of the proposed Project, alternatives, and describes mitigation measures that can be used to avoid and minimize environmental impacts.

The NEPA alternative analysis and impact assessment in the EIS will provide much of what is needed to evaluate compliance with the Guidelines. The Guidelines provide that USACE Districts should not conduct or document separate alternatives analyses for NEPA and the 404(b)(1) Guidelines, where possible and appropriate. The USFS and the USACE have coordinated their alternatives analysis for the SGP.

The proposed Project would result in a discharge of dredge and fill materials into waters of the United States (WOTUS). Section 404 of the CWA establishes a regulatory program to regulate the

discharge of dredge and fill materials into WOTUS, including wetlands, through issuance of permits. This document is based on the information from the Draft EIS completed for the Project by the USFS and which USACE is a Cooperating Agency. The USACE will not finalize the Guidelines compliance determination for the SGP until after Midas Gold has submitted a complete DA permit application package, the USACE Public Notice process has occurred, and the USFS has published a Final EIS. The DA permit is currently intended to be submitted for review following the public comments period on the Draft EIS.

This document is not intended to replace any of the findings or conclusions in the Draft EIS; it will build on the alternatives and impact analysis developed in the Draft EIS, with a focus on the specific decision-making framework required by the Guidelines. The USACE and the USFS have preliminarily concurred that the range of alternatives included in the Draft EIS are sufficient to meet both agencies' requirements under their authorities. The Draft EIS establishes the range of reasonable alternatives to the proposed Project, which USACE as a cooperating agency helped develop.

The Draft EIS analyzes the potential direct, indirect, and cumulative impacts associated with the Project under each of the Draft EIS action alternatives. This serves as the starting point for the USACE's evaluation of the impact of alternatives and alternative components on WOTUS and special aquatic sites. Information from the Draft EIS has been referenced into this document or incorporated as available. This document was developed by Midas Gold concurrent with the Draft EIS developed by the USFS and AECOM. Efforts were made to ensure consistency in descriptions however this document is not intended to replace or supersede the content of the Draft EIS.

Section 1 in this document presents the Applicant's Proposed Project, the Project Purpose and Need, the USACE Basic Project Purpose, and a determination of Water Dependency. Section 2 presents the Factors Used to Analyze Practicable Alternatives, the Proposed Action, No Action, and Alternatives considered. Sections 3 through 12 outline what will be evaluated and presented in the Draft 404(b)(1) evaluation, with placeholders [*in italics*] for future evaluation and discussion.

## 1.1 Applicant's Proposed Project

Midas Gold plans to redevelop portions of the Stibnite-Yellow Pine Mining District (District), as outlined in the PRO submitted to the USFS and the Idaho Department of Lands in September 2016 and deemed complete by the USFS in December 2016. The PRO was subsequently amended and revised in response to questions from the Forest Service, collection of additional information and completion of additional analyses. The PRO and subsequent documents make up the description of the Applicant's Proposed Project.

### 1.1.1 Project Background

Located in Valley County in central Idaho, the District is characterized by historical mining activities and unpatented (federal land) and patented (private land) mining claims with known deposits of gold, silver, tungsten, and antimony. The District is in the Boise National Forest but is administered by the Krassel Ranger District of the Payette National Forest.

Mining began in the District in the late 1800s and continued on and off through 1997. Two main phases of mining activity have occurred at the Project and include antimony, gold, and tungsten mining in the 1920s to the 1950s, and a second phase that began in 1974 and ended in 1997. Historical mining activities at the Project have created numerous legacy impacts including underground mine workings, multiple open pits, development rock dumps, tailings deposits, heap leach pads, spent heap leach ore piles, a mill and smelter site, three town sites, camp sites, a

ruptured water dam (with its associated erosion and downstream sedimentation), and partially reclaimed or un-reclaimed haul roads.

Beginning in 2009, Midas Gold began to acquire mining claims throughout the District from prior owners or by staking claims on its own behalf. With federal and state approval, Midas Gold initiated mineral exploration activities in 2009 as part of the Project to better define the mineral deposit potential for the area. This work included using the existing road network and construction of several temporary roads to access drill sites, build drill pads, drill on both National Forest System (NFS) and private lands, and access disturbed areas for reclamation when exploration work ends. Proposed Project facilities, as described in the PRO, include an ore processing facility, three open pits (Hangar Flats, West End, and Yellow Pine), a temporary tunnel diversion of the East Fork of the South Fork of the Salmon River (EFSFSR), four development rock storage facilities (DRSFs), a lined tailings storage facility (TSF), haul roads, an access road, a power line, employee housing, and ancillary facilities and infrastructure. Additional details on proposed onsite and offsite Project activities, facilities, and infrastructure are provided in Chapter 2 of the Draft EIS.

Further details about the Project area and onsite and offsite activities, facilities, and infrastructure associated with the Project are provided in the sections below, in the PRO (Midas Gold 2016a), and in the Draft EIS.

### 1.1.2 Project Area

The Project site is located near Stibnite, Idaho, approximately 100 miles northeast of Boise, Idaho, 38 miles east of McCall, Idaho, and approximately 10 miles east of Yellow Pine, Idaho. **Figure 1-1** illustrates the Project location.

Located in the Salmon River Mountains, a high-relief mountainous physiographic province in central Idaho, the terrain within the Project site consists of narrow valleys surrounded by steep mountains. Elevations along valley floors range from 6,000 to 6,600 feet above mean sea level. The surrounding mountains reach elevations over 8,500 feet above mean sea level. The main drainage basin in the Project site is the EFSFSR. The EFSFSR is joined by Johnson Creek 16 miles downstream near Yellow Pine.

The following terms are used throughout this document for Project features and locations:

- **Project area** includes all Project features, including both the mine area (Project site) and offsite facilities (**Figure 1-2**).
- **Project site** includes the mine area (**Figure 1-3**).
- **Offsite facilities** include infrastructure and facilities outside of the mine area.

The Project area is encompassed by two subbasins (hydrologic unit code [HUC] 8) and seven watersheds (HUC 10) with tributaries of the EFSFSR, including Sugar Creek, Meadow Creek, Johnson Creek, Riordan Creek, Burntlog Creek, and Trout Creek. The Project area also includes Cabin Creek and Warm Lake Creek, which are tributary streams to the South Fork of the Salmon River. (**Figure 1-4**). Diverse wetlands are located throughout Project area drainages and slopes that drain to the valleys downslope and include wetlands classified as palustrine emergent marsh (PEM), palustrine shrub-scrub (PSS), palustrine forested (PFO), and open water (OW) (Cowardin, *et al.* 1979). The primary uses or activities in the area have been mineral exploration, mining, logging, and dispersed recreation.

During non-winter conditions (roads clear of snow), the Project can be accessed from the city of Cascade by traveling northeast on Warm Lake Road (National Forest [(NF)] road NF-22) for about 37 miles to Landmark, then north on Johnson Creek Road (NF-413) for 28 miles to Yellow Pine, and 14

miles east on Stibnite Road (NF-412) (Figure 1-1). The site can also be accessed from McCall during non-winter conditions by traveling east on Lick Creek Road (NF-48) for 33 miles to East Fork Road, then 16 miles to Yellow Pine, and 14 miles on Stibnite Road (NF-412). During winter, the site can be accessed only from Cascade by traveling 24 miles northeast on Warm Lake Road (NF- 22) to the intersection with South Fork Road (NF-674), then north on South Fork Road for 32 miles to East Fork Road, 16 miles east on East Fork Road to Yellow Pine, and 14 miles on Stibnite Road (NF-412).

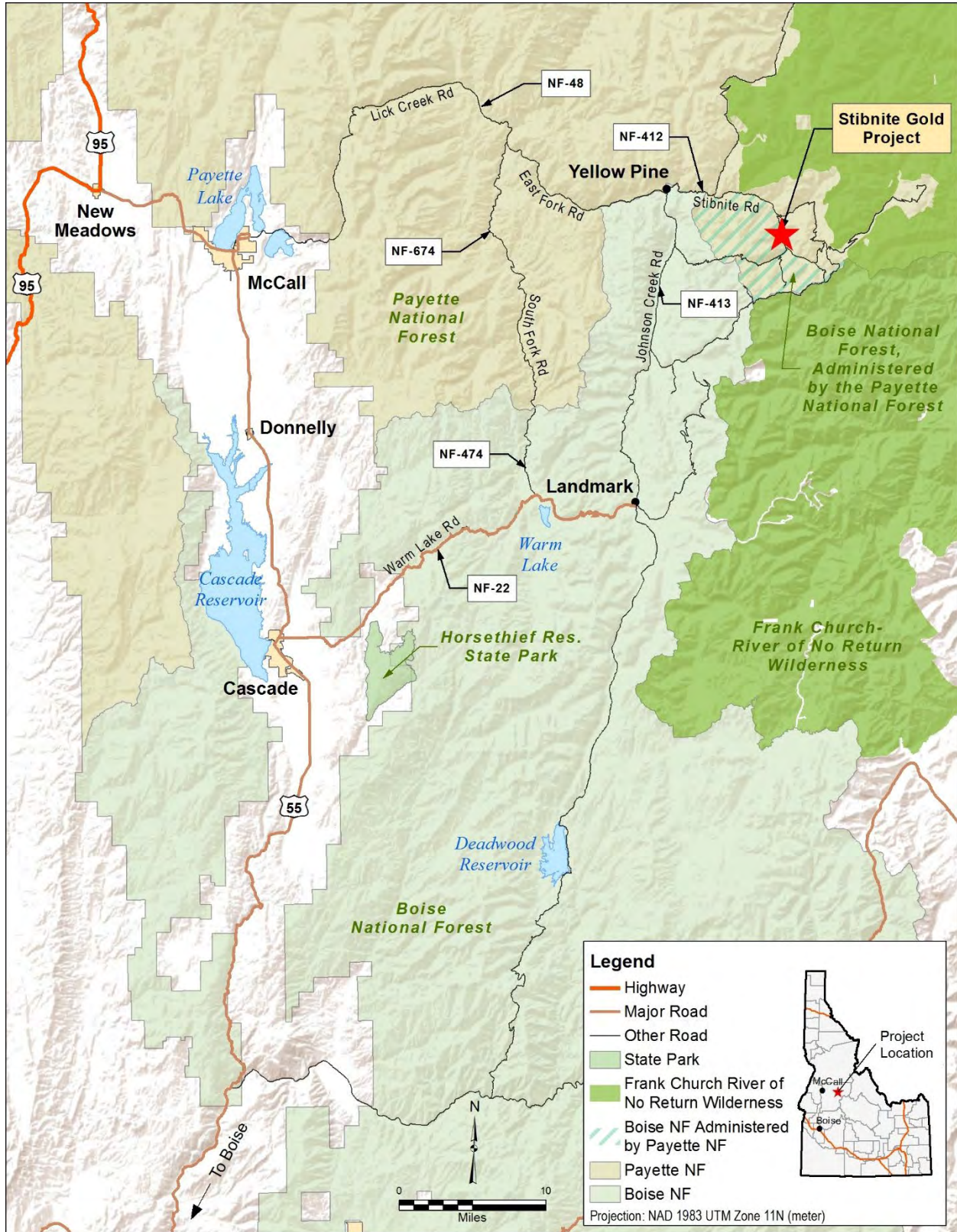


Figure 1-1. Project Location Map

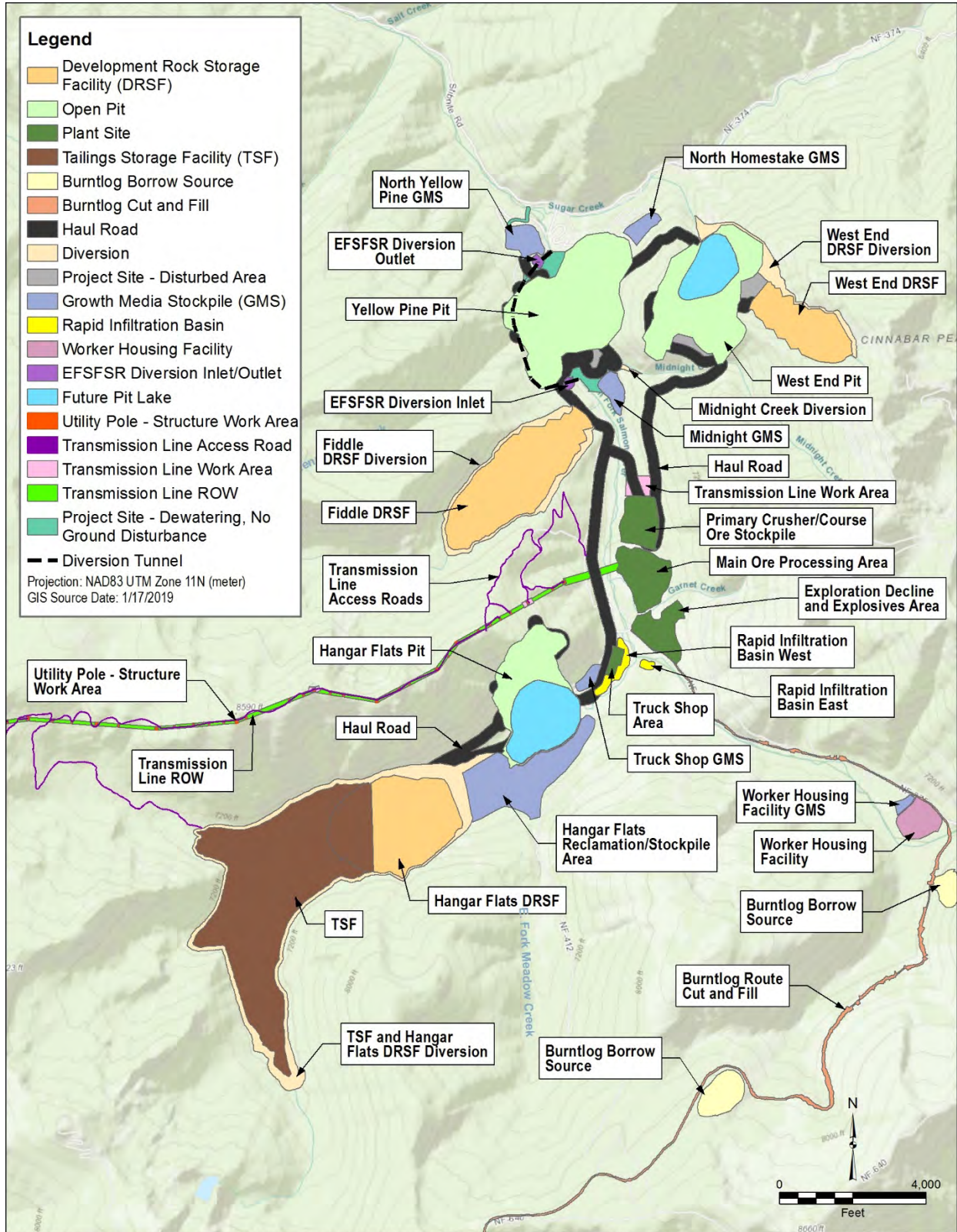


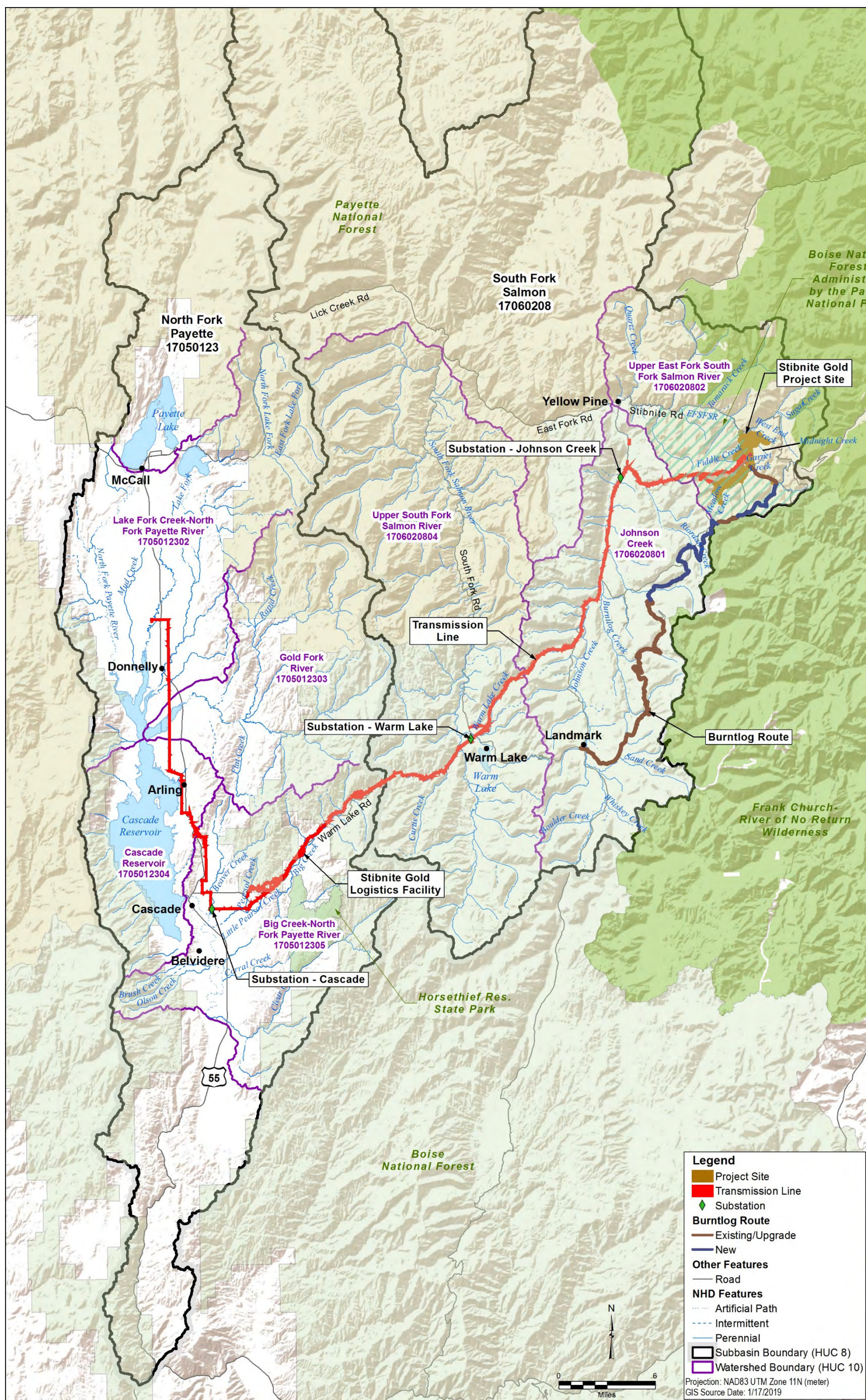


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Figure 1-2. Project Area







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Figure 1-4. Project Area Watersheds



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## 1.2 Project Purpose and Need

Chapter 1 Section 1.4 of the Draft EIS includes a thorough discussion of the Purpose and Need of the Project. The following sections (1.3, 1.4, and 1.5) were incorporated from Chapter 1 of the Draft EIS.

As described in that section, Midas Gold, the Applicant, has stated the purpose and need for the Project is:

“to economically develop and operate a modern mining operation at the Stibnite site to extract and supply minerals for various uses and produce a financial return and benefits from its property rights and investment, while providing environmental restoration from legacy mining impacts at the site and socioeconomic benefits for the surrounding area.”

## 1.3 Basic Project Purpose

The USACE has determined that the basic purpose of the project is:

“...to mine gold, silver, and antimony from ore.” (Draft EIS Chapter 1).

The USACE uses the basic project purpose to determine if a project is “water dependent.”

## 1.4 Water Dependency

The basic purpose – to mine gold, silver, and antimony from ore – does not require access or proximity, or siting within, a special aquatic site to fulfill the basic purpose. Therefore, consistent with its regulations, the USACE has found that the Project is not water dependent, and practicable alternatives that do not involve a special aquatic site (i.e. Wetlands) were presumed to be available and presumed to have less adverse impact.

## 1.5 Overall Project Purpose

Under its regulations, the USACE uses the overall project purpose for evaluating practicable alternatives under the Guidelines and in its determination of which alternative is the LEDPA that would meet the overall project purpose. The USACE has determined that the overall project purpose for the SGP is:

“...to mine, gold, silver, and antimony from ore deposits associated with Midas Gold’s mining claims and rights in Valley County, Idaho.” (Draft EIS Chapter 1)

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## Section 2

# Proposed Action and Alternatives

## 2.1 Alternatives Development

Chapter 2 of the Draft EIS includes a thorough discussion of alternatives development. The following section (2.1.1) was incorporated from Chapter 2 of the Draft EIS. As described in that section, as part of the NEPA process, the USFS conducted an extensive alternatives development, screening, and evaluation process with the participation of the USACE. Alternatives were developed based on the NEPA purpose and need for the action by the Forest Service with input from the USACE as a cooperating agency. Action alternatives were developed to respond to a key issue or issues identified through the scoping process (see Section 1.11.1 of the Draft EIS). Development of the alternatives was guided by requirements for alternatives under regulations and rules implementing the NEPA (40 Code of Federal Regulations [CFR] Parts 1500 – 1508) and Section 404 of the CWA (33 CFR Part 230).

Alternatives were developed to address scoping comments, anticipated impacts to the human environment and natural resources, and internal USFS and cooperating agency discussions. Additionally, Midas Gold has identified design features and other potential improvements for consideration that may reduce environmental effects. The process for development and consideration of alternatives followed 40 CFR 1502 and Council on Environmental Quality (CEQ) guidance [CEQ 1983, 1986]).

The following criteria were used by the USFS in the EIS process to develop and evaluate the range of reasonable alternatives for the SGP as identified in Chapter 2 of the Draft EIS:

- Does the alternative meet the purpose and need to which the agencies are responding? (as described in Chapter 1: 36 CFR 220.5; Forest Service Handbook [FSH] 1909.15).
- Does the alternative comply with federal, state, and local laws and regulations?
- Would implementation of the alternative potentially reduce environmental effects to a resource? (36 CFR 220.5; FSH 1909.15)
- Is the alternative technically feasible from an available technological perspective? (CEQ 40 Most Asked Questions – Answer 2A [CEQ 1986]; FSH 1909.15.14.4)
- Are there any construction, operation, or maintenance constraints that cannot be overcome by the alternative?
- Is the alternative economically feasible? (CEQ 40 Most Asked Questions – Answer 2A [CEQ 1986])

For the USACE to use the EIS as a supporting evaluation for its permit decision, there must be an alternative that is the LEDPA in accordance with the USACE Guidelines at 40 CFR 230.10(a) as it pertains to Section 404 of the CWA.

As identified in Chapter 2 of the Draft EIS, to develop a reasonable range of alternatives in compliance with NEPA, the USFS separated the Project into components that could be identified as discrete activities, operations, or facilities (e.g., mine pits, access roads, ore process, etc.). Information from Midas Gold's design process as presented in Appendix G of the PRO also was considered. For each component, conceptual alternatives were formulated that could potentially

avoid or reduce resource impacts identified during scoping and internal Forest Service and cooperating agency discussions. Each component alternative was evaluated for inclusion in an action alternative. Component alternatives include but were not limited to: alternate tailings and development rock storage facility locations, ore processing methods, water management methods, transportation and transmission line corridors, and offsite facility locations. Various components were combined to create conceptual action alternatives that together met Midas Gold's project purpose.

An action alternative is defined in Chapter 2 of the Draft EIS as a combination of component alternatives that when implemented together would provide for the construction, operation, closure, and reclamation of the mine. Conceptual alternatives that met the criteria discussed above, were carried forward for further consideration and as described in the Draft EIS.

The component alternatives were combined into three action alternatives, in addition to the proposed action (Alternative 1) that address specific key issues or resource impacts, such as Inventoried Roadless Areas (IRAs), WOTUS, aquatic and wildlife resources, and air quality as described in the Draft EIS.

Each action alternative carried forward for analysis in the EIS fulfills the purpose and need to which the agencies are responding. Each component was developed to a similar level of detail that allows for a comparative analysis of the potential adverse and beneficial environmental impacts.

### **2.1.1 Alternatives Recommended for Further Analysis in the EIS**

The USFS, with input from the cooperating agencies (Agencies), decided which alternative components will be carried forward for analysis in the Draft EIS (see Chapter 2 of Draft EIS). A more detailed description and analysis of each potential alternative is provided in Chapter 2 of the Draft EIS.

**Alternative 1** is Midas Gold's proposed action, the PRO.

Since submitting the PRO, Midas Gold has continued to review their proposed action and has suggested component alternatives that may reduce environmental impacts. In lieu of submitting an amendment to their 2016 Stibnite Gold Project Plan of Restoration and Operations, Midas Gold proposed an additional alternative (Brown and Caldwell 2019a).

**Alternative 2** is a modified proposed action, developed by Midas Gold, that is similar to the Alternative 1 for many components; however, it incorporates modifications that were designed in part or in whole to reduce environmental impacts. The component alternatives were developed by Midas Gold as well as by the Agencies to avoid or minimize potential impacts to aquatic resources, wetlands, ESA listed and candidate species habitat, cultural resources, public health and safety, recreation, and IRAs (Brown and Caldwell 2019a).

**Alternative 3**, developed by the Agencies, incorporates component alternatives that may reduce impacts to water and aquatic resources, recreation, IRAs, ESA listed and candidate species habitat and communities by relocating the TSF and associated DRSF. However, this alternative may have offsetting impacts to other resources, which will be analyzed in Chapter 4 of the Draft EIS. Alternative 3 also includes changes to other mine components, such as worker housing, access and haul roads, because of relocating the TSF and associated DRSF.

**Alternative 4**, developed by the Agencies, includes component alternatives developed to address potential impacts from mine site facilities, transportation routes, and offsite facilities to water and aquatic resources, wildlife habitat, public access and safety, and IRAs. Alternative 4 includes a mine access road that is relocated based on the route described in Alternative 1, changes to public

access, relocation of the offsite maintenance facility (as described in Alternative 1), and modifications to drainage controls.

**Alternative 5** is the No Action Alternative that provides an environmental baseline for comparison with the action alternatives. It assumes the continuation of existing and approved activities (i.e., approved exploration activities and reclamation obligations under Midas Gold's Golden Meadows Exploration Project Plan of Operations and Environmental Assessment) (USFS 2015). Selection of the No Action Alternative would mean that the proposed activities under the action alternatives considered in this EIS would not take place, although it would not preclude Midas Gold from subsequently submitting another Plan of Operations per their rights under General Mining Law. It should be noted that the No Action Alternative is not consistent with Forest Service regulation and rights provided by the General Mining Law of 1872, as amended, which gives the right to locate, claim, and mine valuable minerals on public lands open to mineral entry, subject to reasonable regulation.

As described in Draft EIS Chapter 2, Alternatives Considered but Eliminated in the Draft EIS, alternatives that did not meet the evaluation criteria of meeting the purpose and need, offering an environmental advantage for at least one resource, and be technically and economically feasible were five alternative components, heap leaching, offsite gold processing, complete pit backfill, a TSF and DRSF upstream of Fern Creek, and no public access through the mine site were dismissed from further consideration (Draft EIS Appendix B). Some alternatives were eliminated before the feasibility analysis because the rationale for elimination was clear and did not require additional review of information for a feasibility determination.

### 2.1.2 Alternatives Practicability Analysis

As a cooperating agency, the USACE worked with the USFS to establish the range of reasonable alternatives in the Draft EIS. The next step is for the USACE to evaluate the practicability of alternatives to determine whether a practicable alternative to the proposed action exists that "would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences (40 CFR 230.10[a]) also known as the LEDPA.

To determine this, the USACE will evaluate the Draft EIS alternatives and alternative components using the definition of practicability by the Guidelines.

### 2.1.3 Practicability Analysis Methods

A practicable alternative is one that is available and capable of being done after taking into consideration cost, existing technology, and logistics and still meet the overall project purpose.

As part of the practicability analysis, the USACE worked with USFS to obtain information from Midas Gold to evaluate the logistical and technological constraints associated with the Draft EIS alternatives. In full compliance with NEPA guidelines, all information provided by Midas Gold has been and will continue to be validated and verified by third-party reviewers.

Midas Gold has completed extensive analysis on existing technology and logistics related to the practicability of the alternative components. Third-party reviews of the information provided by the Applicant is ongoing. The reviews will be incorporated into the USACE decision-making process and will be presented in the Final EIS for public consideration prior to the ROD. At this time, the USACE considers all four alternatives described above to be practicable.

## 2.2 Factors Used to Analyze Environmental Consequences

### 2.2.1 Environmental Factors

To support the evaluation of the range of alternatives to be considered in the Draft EIS, Midas Gold in consultation with the USACE, proposes the following environmental factors from the available information in the Draft EIS to be used in the comparison and determination of the LEDPA. These criteria are recommended as appropriate factors for their direct or indirect representation of function and value, and commensurate level of detail for all alternatives. These factors will also support the evaluation of Potential Effects to be considered from the Guidelines. Midas Gold and USACE request comment on the appropriateness of these factors, and to whether or not additional or other factors may better represent a given environmental resource or Potential Effect from the Project.

*The following factors are proposed to be considered, and have been displayed for each alternative in the following tables.* Midas intends to populate these tables from the analysis and results developed from the Draft EIS.

The description of the environmental factors considered in **Tables 2-1, 2-2, 2-3, 2-4, and 2-5** in the following sections and how each factor was used to rate/rank the site is included here.

**Stream Impacts (feet) and Stream Functional Loss (Functional Units):** The Stream Functional Assessment (SFA) Methodology Report and Stream Functional Assessment Ledger (Rio ASE 2019) was developed as an adaptation of the USFS's Watershed Condition Indicator (WCI) Matrix (Appendix B in USFS 2003) that reflects important stream functions and values related to fish species of interest in the PNF, specifically Chinook salmon (*Oncorhynchus tshawytscha*), steelhead (*Oncorhynchus mykiss*), bull trout (*Salvelinus confluentus*), and westslope cutthroat trout (*Oncorhynchus clarki lewisi*). The SFA is used in the Stibnite Gold Mitigation Plan (SGMP) to assess habitat quality and quantity over the life of the proposed Project using structural and functional values combined to yield functional units of measure, for debits associated with stream impacts and credits associated with proposed stream mitigation. The SFA Report includes multiple appendices that fully describe the basis for the SFA, the methodology, and the resulting Stream Functional Assessment Ledger (SFA Ledger).

The results of the stream functional assessment were integrated into a Microsoft Excel spreadsheet ledger that enables the transparent accounting and tracking of impacts (debits) and compensatory mitigation (credits) over time. The SFA Ledger divides all affected jurisdictional streams into unique reaches, aggregates all SFA element scores into a reach functional index (quality), and multiplies each reach functional index by the length and size (based on stream order) of the reach to calculate the functional value of each reach in terms of functional units (quality and quantity). The result is a common unit of measurement (a functional unit) applied to each reach, enabling comparison between reaches over time. This process has also been repeated for different time periods including existing (baseline), interim (impacted during mining operations), and restored (post-mining) for the life of the Project and out-years allowing a year-by-year evaluation of impacts versus mitigation.

**Wetlands Impacts (Acres) and Wetland Functional Loss (Functional Units):** Montana Wetland Assessment Method (MWAM) and Wetland Functional Assessment Ledger – In consultation with USACE, Midas Gold is assessing wetland function using the MWAM (Berglund and McEldowney 2008). The MWAM is a functional assessment approach for quantifying wetland impacts and mitigation that is regionally appropriate for Idaho. USACE agrees that MWAM is an acceptable method to evaluate the effects of the proposed project and proposed mitigation for unavoidable impacts to wetlands from the Project (HDR 2016).

The MWAM produces a unitless numeric value for each wetland assessment area analyzed. This numeric value is multiplied by the acreage of the assessment area to produce a functional unit. Through this process, acres of wetlands within the assessment that are disturbed can be converted to functional units of wetlands that are lost and would need to be replaced via the compensatory mitigation process. Likewise, the same MWAM is used to create a unitless numeric value for wetlands that are enhanced, restored, or created to satisfy compensatory mitigation. The functional units generated via this process can be used to compensate for those that are impacted by Project disturbance. To track the impacted functional units and those that are part of the compensatory mitigation process, Midas Gold developed a comprehensive spreadsheet ledger that accounts for each wetland delineated across the Project site and offsite areas and the functional units associated with each of those wetlands. This spreadsheet also accounts for the functional units that are predicted to be associated with the restored wetlands across the mitigation area.

The detailed conceptual design plans for the stream, wetland, riparian, and upland wildlife habitat restoration discussed in the SGMP and its component plans are based on the design reports cited above and Appendix D of the Conceptual Mitigation Plan and, in the case of wildlife habitat restoration, are in the Wildlife Habitat Mitigation Plan. These reports provide the basis for future detailed designs during implementation and for calculating the estimated loss of habitat functional values (debits) and, in the case of compensatory mitigation, gains in habitat functional values (credits).

**Other Waters Impacts (Acres) Other Waters Functional Loss (Functional Units):** Other standing waters data that are not classified as wetlands or streams such as ponds and lakes. Other waters are a subset of the delineated wetlands and have been evaluated accordingly.

**Water Quality (Riparian Conservation Area [RCA] and 303d listed 4a & 5 streams):** This comparison estimated the length of road (in feet and miles) and the amount of direct disturbance (in acres) within RCAs that occur adjacent to 303d listed streams. Idaho DEQ's listing and publicly available data of impaired streams was used to identify which streams within RCAs that were also adjacent to 303d listed streams.

#### **Federally Listed Threatened and Endangered (TES) Species:**

- **Bull Trout:** An Occupancy Model (OM), developed by Isaac et. al. (2017), was adapted by Ecosystem Sciences (2019a) and applied to estimate for each stream reach the likelihood that bull trout or westslope cutthroat trout would occupy each reach of the study area based on summer stream temperature, flow, and reach slope. The analysis included the change in occupancy probability based on changes to summer stream temperature, flow, and slope for each stream reach which can then be used to characterize changes in reach specific and total suitable habitat.
- **Steelhead and Chinook Salmon:** An Intrinsic Potential (IP) habitat model, originally developed by Burnett et al. (2007) and refined by fisheries researchers, was adapted and applied by Ecosystem Sciences (2019b). Estimates of IP were derived from reach-scale stream attributes (gradient, stream size, and valley constraint) that influence availability of the fine-scale habitat features (e.g., pools, spawning gravel, and large wood) preferred by salmonids, and provides a measure of the suitability for spawning. Estimates of the amount of stream habitat with low, medium, and high scoring represents the relative potential for separate steelhead and Chinook salmon spawning and initial rearing as a function of stream reach physical characteristics (Cooney, et.al. 2006).
- **Wolverine (Proposed as Threatened):** The analysis addressed the acres of potential wolverine habitat impacted; with wolverine habitat considered within persistent snow layers identified

within the Upper East Fork of the South Fork of the Salmon River watershed (HUC 1706080202) (USFS 2012).

- **Canada Lynx (Threatened):** The analysis addressed the acres of Lynx Analysis Units (LAUs) potentially affected. LAUs were delineated across the Payette and Boise National Forests using fifth-level hydrologic unit boundaries whenever possible; when fifth-level hydrologic units were not appropriate, a combination of sixth-level hydrologic units were used. The SGP and associated transmission line and access roads lie within 12 LAUs within the two Forests.
- **Northern Idaho Ground Squirrel (Threatened):** The analysis addressed the acres of Northern Idaho Ground Squirrel (NIDGS) suitable modeled habitat potentially affected. The USFS NIDGS Habitat Model used five parameters to predict potential northern Idaho ground squirrel habitat: LANDFIRE existing vegetation types; LANDFIRE canopy cover; land type/soils; slope; and aspect. Land type was used as a surrogate for soils information. Cover types were selected to represent vegetative features of northern Idaho ground squirrel sites and included canopy cover of < 30% and < 40% in selected classes (Crist and Nutt 2008). Surveys were conducted to determine presence of NIDGS in these habitats.
- **Whitebark Pine (Candidate):** The analysis addressed the amount of modeled suitable whitebark Pine impacted. A potential habitat model was created for whitebark pine by matching its habitat characteristics information with attributes of available GIS data including potential vegetation groups, lithology layers, and constrained to elevations above 6,500 feet (AECOM 2019). The modeled area within the SGP footprint was surveyed in 2019 and whitebark pine locations mapped (Tetra Tech 2019). Surveys were conducted to determine presence of whitebark pine in these modeled habitats.

**Other Factors:** *[Placeholder for other factors considered].*

## 2.3 Alternative 1 - Proposed Action

*[Placeholder for discussion of Applicant's Proposed Action].*

Factors currently considered to analyze environmental consequences for Alternative 1 – Proposed Action are shown below in **Table 2-1**. The table identifies each of the factors specified in Section 2.2.1, above.



Table 2-1. Alternative 1 Environmental Factors

Facilities/Components (mine facilities and components as described for analysis in the Draft EIS)		Environmental Factors																			Other Factors			
		Maximum Disturbance (Acres)	Stream Impacts (Feet)	Stream Functional Loss (Functional Units)	Wetlands (Acres)	Wetland Functional Loss (Functional Units)	Other Waters Impacts (Acres)	Other Waters Functional Loss (Functional Units)	Water Quality			TES Federally Listed												
									RCA (Acres)	303d (Acres)		Bull Trout (Feet)	Steelhead (Feet)			Chinook Salmon (Feet)			Wolverine (Proposed as Threatened) (Acres of Potential Habitat)	Canada Lynx (Threatened) (Acres of LAU)		Northern Idaho Ground Squirrel (Threatened) (Acres of Modeled Habitat)	Whitebark Pine (Candidate) (Acres of Modeled Potential Habitat)	
										4a	5		H	M	L	H	M	L						
Project Site	Haul Road	EFSFSR TSF Haul Road																						
		Haul Road																						
	Open Pit	Hangar Flats Pit																						
		West End Pit																						
		Yellow Pine Pit																						
	Plant Site	Exploration Decline and Explosives Area																						
		Main Ore Processing Area																						
		Primary Crusher/ Course Ore Stockpile																						
		Rapid Infiltration Basin East																						
		Rapid Infiltration Basin West																						
		Truck Shop Area																						
	Reclamation/ Stockpile Area	Hangar Flats Reclamation/St ockpile Area																						
	TSF	EFSFSR TSF																						
		TSF Embankment																						
		TSF																						
	Worker Housing Facility	Worker Housing Facility																						

Table 2-1. Alternative 1 Environmental Factors

Facilities/Components (mine facilities and components as described for analysis in the Draft EIS)		Environmental Factors																			Other Factors						
		Maximum Disturbance (Acres)	Stream Impacts (Feet)	Stream Functional Loss (Functional Units)	Wetlands (Acres)	Wetland Functional Loss (Functional Units)	Other Waters Impacts (Acres)	Other Waters Functional Loss (Functional Units)	Water Quality		TES Federally Listed																
									RCA (Acres)	303d (Acres)		Bull Trout (Feet)	Steelhead (Feet)			Chinook Salmon (Feet)			Wolverine (Proposed as Threatened) (Acres of Potential Habitat)	Canada Lynx (Threatened) (Acres of LAU)		Northern Idaho Ground Squirrel (Threatened) (Acres of Modeled Habitat)	Whitebark Pine (Candidate) (Acres of Modeled Potential Habitat)				
										4a	5		H	M	L	H	M	L									
Project Site Access Road	Road Borrow Source	Burntlog Road Borrow Source																									
	Road Cut/Fill	Burntlog Road Cut/Fill																									
		Blowout Road Cut/Fill																									
		Johnson Creek Rd/Stibnite Road Cut/Fill																									
	Road Staging Area	Burntlog Road Staging Area																									
	Public Access Road	Meadow Creek Lookout – NFS Road 1290																									
		Public Access During Mining – Option 1																									
		Public Access During Mining – Option 2																									
Landmark Maintenance Facility	Landmark Maintenance Facility																										
Transmission Line	Transmission Line Access Road	Transmission Line Access Road																									
	Transmission Line ROW	Transmission Line ROW																									
	Transmission Line Structure Work Area	Transmission Line Structure Work Area																									
	Logistics Facility	Logistics Facility																									
<b>TOTALS</b>																											

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## 2.4 Alternatives - 2, 3, and 4

*[Placeholder for discussion of Alternative 2].*

Factors used to analyze environmental consequences for Alternatives 2, 3, and 4 are shown below in Tables 2-2, 2-3, and 2-4. The tables identify each of the factors specified in Section 2.2.1, above.

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Table 2-2. Alternative 2 Environmental Factors

Facilities/Components (mine facilities and components as described for analysis in the Draft EIS)			Environmental Factors																				Other Factors		
			Maximum Disturbance (Acres)	Stream Impacts (Feet)	Stream Functional Loss (Functional Units)	Wetlands (Acres)	Wetland Functional Loss (Functional Units)	Other Waters Impacts (Acres)	Other Waters Functional Loss (Functional Units)	Water Quality			TES Federally Listed												
										RCA (Acres)	303d (Acres)		Bull Trout (Feet)	Steelhead (Feet)			Chinook Salmon (Feet)			Wolverine (Proposed as Threatened) (Acres of Potential Habitat)	Canada Lynx (Threatened) (Acres of LAU)	Northern Idaho Ground Squirrel (Threatened) (Acres of Modeled Habitat)		Whitebark Pine (Candidate) (Acres of Modeled Potential Habitat)	
											4a	5		H	M	L	H	M	L						
Project Site	Disturbed Area - Other	Disturbed Area - Other																							
	Diversion	EFSFSR Diversion Inlet																							
		EFSFSR Diversion Outlet																							
		Fiddle DRSF Diversion																							
		Midnight Creek Diversion																							
		TSF and Hangar Flats DRSF Diversion																							
		West End DRSF Diversion																							
	DRSF	EFSFSR DRSF																							
		Fiddle DRSF																							
		Hangar Flats DRSF																							
		West End DRSF																							
	GMS	Midnight GMS																							
		North Homestake GMS																							
		North Yellow Pine GMS																							
		Truck Shop GMS																							
		Worker Housing Facility GMS																							

Table 2-2. Alternative 2 Environmental Factors

Facilities/Components (mine facilities and components as described for analysis in the Draft EIS)		Environmental Factors																						
		Maximum Disturbance (Acres)	Stream Impacts (Feet)	Stream Functional Loss (Functional Units)	Wetlands (Acres)	Wetland Functional Loss (Functional Units)	Other Waters Impacts (Acres)	Other Waters Functional Loss (Functional Units)	Water Quality			TES Federally Listed										Other Factors		
									RCA (Acres)	303d (Acres)		Bull Trout (Feet)	Steelhead (Feet)			Chinook Salmon (Feet)			Wolverine (Proposed as Threatened) (Acres of Potential Habitat)	Canada Lynx (Threatened) (Acres of LAU)	Northern Idaho Ground Squirrel (Threatened) (Acres of Modeled Habitat)		Whitebark Pine (Candidate) (Acres of Modeled Potential Habitat)	
										4a	5		H	M	L	H	M	L						
Project Site	Haul Road	EFSFSR TSF Haul Road																						
		Haul Road																						
	Open Pit	Hangar Flats Pit																						
		West End Pit																						
		Yellow Pine Pit																						
	Plant Site	Exploration Decline and Explosives Area																						
		Main Ore Processing Area																						
		Primary Crusher/ Course Ore Stockpile																						
		Rapid Infiltration Basin East																						
		Rapid Infiltration Basin West																						
		Truck Shop Area																						
	Reclamation/ Stockpile Area	Hangar Flats Reclamation/St ockpile Area																						
	TSF	EFSFSR TSF																						
		TSF Embankment																						
		TSF																						
	Worker Housing Facility	Worker Housing Facility																						



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*[Placeholder for discussion of Alternative 3].*

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Table 2-3. Alternative 3 Environmental Factors

Facilities/Components (mine facilities and components as described for analysis in the Draft EIS)		Environmental Factors																			Other Factors		
		Maximum Disturbance (Acres)	Stream Impacts (Feet)	Stream Functional Loss (Functional Units)	Wetlands (Acres)	Wetland Functional Loss (Functional Units)	Other Waters Impacts (Acres)	Other Waters Functional Loss (Functional Units)	Water Quality			TES Federally Listed											
									RCA (Acres)	303d (Acres)		Bull Trout (Feet)	Steelhead (Feet)			Chinook Salmon (Feet)			Wolverine (Proposed as Threatened) (Acres of Potential Habitat)	Canada Lynx (Threatened) (Acres of LAU)		Northern Idaho Ground Squirrel (Threatened) (Acres of Modeled Habitat)	Whitebark Pine (Candidate) (Acres of Modeled Potential Habitat)
										4a	5		H	M	L	H	M	L					
Project Site	Disturbed Area - Other	Disturbed Area - Other																					
	Diversion	EFSFSR Diversion Inlet																					
		EFSFSR Diversion Outlet																					
		Fiddle DRSF Diversion																					
		Midnight Creek Diversion																					
		TSF and Hangar Flats DRSF Diversion																					
		West End DRSF Diversion																					
	DRSF	EFSFSR DRSF																					
		Fiddle DRSF																					
		Hangar Flats DRSF																					
		West End DRSF																					
	GMS	Midnight GMS																					
		North Homestake GMS																					
		North Yellow Pine GMS																					
		Truck Shop GMS																					
		Worker Housing Facility GMS																					

Table 2-3. Alternative 3 Environmental Factors

Facilities/Components (mine facilities and components as described for analysis in the Draft EIS)		Environmental Factors																					
		Maximum Disturbance (Acres)	Stream Impacts (Feet)	Stream Functional Loss (Functional Units)	Wetlands (Acres)	Wetland Functional Loss (Functional Units)	Other Waters Impacts (Acres)	Other Waters Functional Loss (Functional Units)	Water Quality			TES Federally Listed										Other Factors	
									RCA (Acres)	303d (Acres)		Bull Trout (Feet)	Steelhead (Feet)			Chinook Salmon (Feet)			Wolverine (Proposed as Threatened) (Acres of Potential Habitat)	Canada Lynx (Threatened) (Acres of LAU)	Northern Idaho Ground Squirrel (Threatened) (Acres of Modeled Habitat)		Whitebark Pine (Candidate) (Acres of Modeled Potential Habitat)
										4a	5		H	M	L	H	M	L					
Project Site	Haul Road	EFSFSR TSF Haul Road																					
		Haul Road																					
	Open Pit	Hangar Flats Pit																					
		West End Pit																					
		Yellow Pine Pit																					
	Plant Site	Exploration Decline and Explosives Area																					
		Main Ore Processing Area																					
		Primary Crusher/ Course Ore Stockpile																					
		Rapid Infiltration Basin East																					
		Rapid Infiltration Basin West																					
		Truck Shop Area																					
	Reclamation/ Stockpile Area	Hangar Flats Reclamation/St ockpile Area																					
	TSF	EFSFSR TSF																					
		TSF Embankment																					
		TSF																					
	Worker Housing Facility	Worker Housing Facility																					

Table 2-3. Alternative 3 Environmental Factors																							
Environmental Factors																							
Facilities/Components (mine facilities and components as described for analysis in the Draft EIS)		Maximum Disturbance (Acres)	Stream Impacts (Feet)	Stream Functional Loss (Functional Units)	Wetlands (Acres)	Wetland Functional Loss (Functional Units)	Other Waters Impacts (Acres)	Other Waters Functional Loss (Functional Units)	Water Quality			TES Federally Listed										Other Factors	
									RCA (Acres)	303d (Acres)		Bull Trout (Feet)	Steelhead (Feet)			Chinook Salmon (Feet)			Wolverine (Proposed as Threatened) (Acres of Potential Habitat)	Canada Lynx (Threatened) (Acres of LAU)	Northern Idaho Ground Squirrel (Threatened) (Acres of Modeled Habitat)		Whitebark Pine (Candidate) (Acres of Modeled Potential Habitat)
										4a	5		H	M	L	H	M	L					
Project Site Access Road	Road Borrow Source	Burntlog Road Borrow Source																					
	Road Cut/Fill	Burntlog Road Cut/Fill																					
		Blowout Road Cut/Fill																					
		Johnson Creek Rd/Stibnite Road Cut/Fill																					
	Road Staging Area	Burntlog Road Staging Area																					
	Public Access Road	Meadow Creek Lookout - NFS Road 1290																					
		Public Access During Mining - Option 1																					
		Public Access During Mining - Option 2																					
Landmark Maintenance Facility	Landmark Maintenance Facility																						
Transmission Line	Transmission Line Access Road	Transmission Line Access Road																					
	Transmission Line ROW	Transmission Line ROW																					
	Transmission Line Structure Work Area	Transmission Line Structure Work Area																					
	Logistics Facility	Logistics Facility																					
<b>TOTALS</b>																							

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*[Placeholder for discussion of Alternative 4].*

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Table 2-4. Alternative 4 Environmental Factors

Environmental Factors																								
Facilities/Components (mine facilities and components as described for analysis in the Draft EIS)			Maximum Disturbance (Acres)	Stream Impacts (Feet)	Stream Functional Loss (Functional Units)	Wetlands (Acres)	Wetland Functional Loss (Functional Units)	Other Waters Impacts (Acres)	Other Waters Functional Loss (Functional Units)	Water Quality			TES Federally Listed								Other Factors			
										RCA (Acres)	303d (Acres)		Bull Trout (Feet)	Steelhead (Feet)			Chinook Salmon (Feet)			Wolverine (Proposed as Threatened) (Acres of Potential Habitat)		Canada Lynx (Threatened) (Acres of LAU)	Northern Idaho Ground Squirrel (Threatened) (Acres of Modeled Habitat)	Whitebark Pine (Candidate) (Acres of Modeled Potential Habitat)
											4a	5		H	M	L	H	M	L					
Project Site	Disturbed Area - Other	Disturbed Area - Other																						
		Diversion	EFSFSR Diversion Inlet																					
	EFSFSR Diversion Outlet																							
	Fiddle DRSF Diversion																							
	Midnight Creek Diversion																							
	TSF and Hangar Flats DRSF Diversion																							
	West End DRSF Diversion																							
	DRSF	EFSFSR DRSF																						
		Fiddle DRSF																						
		Hangar Flats DRSF																						
		West End DRSF																						
	GMS	Midnight GMS																						
		North Homestake GMS																						
		North Yellow Pine GMS																						
		Truck Shop GMS																						
Worker Housing Facility GMS																								

Table 2-4. Alternative 4 Environmental Factors

Facilities/Components (mine facilities and components as described for analysis in the Draft EIS)		Environmental Factors																					
		Maximum Disturbance (Acres)	Stream Impacts (Feet)	Stream Functional Loss (Functional Units)	Wetlands (Acres)	Wetland Functional Loss (Functional Units)	Other Waters Impacts (Acres)	Other Waters Functional Loss (Functional Units)	Water Quality			TES Federally Listed									Other Factors		
									RCA (Acres)	303d (Acres)		Bull Trout (Feet)	Steelhead (Feet)			Chinook Salmon (Feet)			Wolverine (Proposed as Threatened) (Acres of Potential Habitat)	Canada Lynx (Threatened) (Acres of LAU)		Northern Idaho Ground Squirrel (Threatened) (Acres of Modeled Habitat)	Whitebark Pine (Candidate) (Acres of Modeled Potential Habitat)
										4a	5		H	M	L	H	M	L					
Project Site	Haul Road	EFSFSR TSF Haul Road																					
		Haul Road																					
	Open Pit	Hangar Flats Pit																					
		West End Pit																					
		Yellow Pine Pit																					
	Plant Site	Exploration Decline and Explosives Area																					
		Main Ore Processing Area																					
		Primary Crusher/ Course Ore Stockpile																					
		Rapid Infiltration Basin East																					
		Rapid Infiltration Basin West																					
		Truck Shop Area																					
	Reclamation/ Stockpile Area	Hangar Flats Reclamation/St ockpile Area																					
	TSF	EFSFSR TSF																					
		TSF Embankment																					
		TSF																					
	Worker Housing Facility	Worker Housing Facility																					

Table 2-4. Alternative 4 Environmental Factors

Facilities/Components (mine facilities and components as described for analysis in the Draft EIS)		Environmental Factors																			Other Factors		
		Maximum Disturbance (Acres)	Stream Impacts (Feet)	Stream Functional Loss (Functional Units)	Wetlands (Acres)	Wetland Functional Loss (Functional Units)	Other Waters Impacts (Acres)	Other Waters Functional Loss (Functional Units)	Water Quality			TES Federally Listed											
									RCA (Acres)	303d (Acres)		Bull Trout (Feet)	Steelhead (Feet)			Chinook Salmon (Feet)			Wolverine (Proposed as Threatened) (Acres of Potential Habitat)	Canada Lynx (Threatened) (Acres of LAU)		Northern Idaho Ground Squirrel (Threatened) (Acres of Modeled Habitat)	Whitebark Pine (Candidate) (Acres of Modeled Potential Habitat)
										4a	5		H	M	L	H	M	L					
Project Site Access Road	Road Borrow Source	Burntlog Road Borrow Source																					
	Road Cut/Fill	Burntlog Road Cut/Fill																					
		Blowout Road Cut/Fill																					
		Johnson Creek Rd/Stibnite Road Cut/Fill																					
	Road Staging Area	Burntlog Road Staging Area																					
	Public Access Road	Meadow Creek Lookout - NFS Road 1290																					
		Public Access During Mining - Option 1																					
		Public Access During Mining - Option 2																					
Landmark Maintenance Facility	Landmark Maintenance Facility																						
Transmission Line	Transmission Line Access Road	Transmission Line Access Road																					
	Transmission Line ROW	Transmission Line ROW																					
	Transmission Line Structure Work Area	Transmission Line Structure Work Area																					
	Logistics Facility	Logistics Facility																					
<b>TOTALS</b>																							

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## 2.5 Alternative 5 - No Action

From Midas Gold’s perspective, the No Action would not meet the Applicant’s project need to economically develop and operate a modern mining operation at the Stibnite site to extract and supply minerals for various uses and produce a financial return and benefits from its property rights and investment, while providing environmental restoration from legacy mining impacts at the site and socioeconomic benefits for the surrounding area would not be met. Alternative 5 - No Action is discussed further in Section 2.7 of the Draft EIS.

## 2.6 Summary of Alternatives Analysis

*[Placeholder for discussion of LEDPA with reference to impact summary table below].*

Factors used to analyze environmental consequences for Alternatives 1 through 4 are shown below in Table 2-5. The table identifies each of the factors specified in Section 2.2.1, above.

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Table 2-5. Summary of Alternatives Environmental Factors

Summary of Alternative Environmental Factors																						
Alternative	Maximum Disturbance (Acres)	Stream Impacts (Feet)	Stream Functional Loss (Functional Units)	Wetlands (Acres)	Wetland Functional Loss (Functional Units)	Other Waters Impacts (Acres)	Other Waters Functional Loss (Functional Units)	Water Quality			TES Federally Listed										Other Factors	
								RCA (Acres)	303d (Acres)		Bull Trout (Feet)	Steelhead (Feet)			Chinook Salmon (Feet)			Wolverine (Proposed as Threatened) (Acres of Potential Habitat)	Lynx (Threatened) (Acres of LAU)	Northern Idaho Ground Squirrel (Threatened) (Acres of Modeled Habitat)		Whitebark Pine (Candidate) (Acres of Modeled Potential Habitat)
									4a	5		H	M	L	H	M	L					
Alternative 1 - Proposed Action																						
Alternative 2																						
Alternative 3																						
Alternative 4																						

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## Section 3

# Environmental Setting/Existing Conditions

Chapter 3 of the Draft EIS includes a discussion of the environmental setting and existing condition of the Project area.

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## Section 4

# Avoidance, Minimization, and Compensatory Mitigation

## 4.1 Measures Considered to Avoid Aquatic Impacts

### 4.1.1 Total Avoidance of Impacts to Waters of the US

*[Placeholder for discussion of whether construction of the Proposed Action would be practicable if all on site waters were avoided].*

### 4.1.2 Proposed Action

As the Proposed Action was developed, Midas Gold considered and reviewed many alternatives for Project components. Specifically, Appendix G of the PRO describes alternative assessments for the Project mining method, tailings management, ore processing, on-site infrastructure, development rock management, EFSFSR water management, fish passage during operations, Blowout Creek water and sediment management, project road access, power supply, contractor and employee housing, and employee transportation. To align the Project design features with Midas Gold's core values, design principles were incorporated into the alternative assessments (Midas Gold 2016a). One of the 11 primary design principles Midas Gold identified in Appendix G of the PRO, was to minimize or avoid, where practicable, direct disturbance to environmentally sensitive resources, such as streams and wetlands, leaving a buffer where possible. The design principles were taken into consideration along with other design criteria to identify the Project components identified in the proposed Action.

*[Placeholder for discussion of why (or why not) the Proposed Action is (or is not) the LEDPA and how many acres of wetlands and/or linear feet of stream would be impacted].*

### 4.1.3 Aquatic Impact Minimization Measures

*[Placeholder for discussion of aquatic impact minimization measures].*

## 4.2 Compensatory Mitigation

Midas Gold has prepared a Conceptual Stream and Wetland Mitigation Plan (Conceptual Mitigation Plan, or CMP) for the Proposed Action that describes stream and wetland mitigation to compensate for unavoidable impacts to jurisdictional WOTUS associated with activities that would be authorized by a DA permit for the Project.

### 4.2.1 Applicant's Proposed Mitigation Plan

*[Placeholder for description of applicant's proposed mitigation plan].*

### 4.2.2 Mitigation Requirement

*[Placeholder for description of mitigation requirement].*

### **4.2.3 Available Mitigation**

*[Placeholder for description of available mitigation].*

### **4.2.4 Conclusions**

*[Placeholder for discussion of conclusions].*

## Section 5

# Prohibitions and Significant Degradation

The following sections include direct reference to 40 CFR Section 230.10 (b) and (c) to be considered as described in the Guidelines. Applicable sections of the Draft EIS are referenced as appropriate.

### 5.1 Subpart C – Potential Effects on Physical and Chemical Characteristics of Aquatic Ecosystems

#### 5.1.1 Substrate (40 CFR 230.20)

Potential Effects relevant to this characteristic are described in Draft EIS Sections 3.8 and 4.8, Surface Water and Groundwater Quality. *[Placeholder for discussion of substrate].*

#### 5.1.2 Suspended Particulates and Turbidity (40 CFR 230.21)

Potential Effects relevant to this characteristic are described in Draft EIS Sections 3.8 and 4.8, Surface Water and Groundwater Quality. *[Placeholder for discussion of suspended particulates and turbidity].*

#### 5.1.3 Water (40 CFR 230.22)

Potential Effects relevant to this characteristic are described in Draft EIS Sections 3.8 and 4.8, Surface Water and Groundwater Quality. *[Placeholder for discussion of water].*

#### 5.1.4 Water Current Patterns and Circulation (40 CFR 230.23)

*[Placeholder for discussion of water current patterns and circulation].*

#### 5.1.5 Normal Water Fluctuations (40 CFR 230.24)

*[Placeholder for discussion of normal water fluctuations].*

#### 5.1.6 Salinity Gradients (40 CFR 230.25)

Salinity gradients form where saltwater from the ocean meets and mixes with freshwater from land. Because there are no marine or estuarine environments in the Project area, there are no salinity gradients in the study area.

## **5.2 Subpart D – Potential Effects on Biological Characteristics of Aquatic Ecosystems**

### **5.2.1 Threatened and Endangered Species (40 CFR 230.30)**

Potential Effects relevant to this characteristic are described in Draft EIS Sections 3.12 and 4.12, Fish and Aquatic Resources (including Threatened, Endangered, Proposed, and Sensitive Species). *[Placeholder for discussion of threatened and endangered species].*

### **5.2.2 Fish, Crustaceans, Mollusks, and other Aquatic Organisms in the Food Web (40 CFR 230.31)**

Potential Effects relevant to this characteristic are described in Draft EIS Sections 3.12 and 4.12, Fish and Aquatic Resources (including Threatened, Endangered, Proposed, and Sensitive Species). *[Placeholder for discussion of fish, crustaceans, mollusks, and other aquatic organisms in the food web].*

### **5.2.3 Other Wildlife (40 CFR 230.22)**

Potential Effects relevant to this characteristic are described in Draft EIS Sections 3.13 and 4.13, Wildlife and Wildlife Habitat (including Threatened, Endangered, Proposed, and Sensitive Species). *[Placeholder for discussion of other wildlife].*

## **5.3 Subpart E – Potential Effects on Special Aquatic Sites**

### **5.3.1 Sanctuaries and Refuges (40 CFR 230.40)**

There are no sanctuaries or refuges in the Project study area.

### **5.3.2 Wetlands (40 CFR 230.41)**

Potential Effects relevant to this characteristic are described in Draft EIS Sections 3.11 and 4.11, Wetlands and Riparian Resources. *[Placeholder for discussion of wetlands].*

### **5.3.3 Mudflats (40 CFR 230.42)**

There are no mud flats in the Project study area.

### **5.3.4 Vegetated Shallows (40 CFR 230.43)**

*[Placeholder for discussion of vegetated shallows].*

### **5.3.5 Coral Reefs (40 CFR 230.44)**

There are no coral reefs in the Project study area.

### **5.3.6 Riffle and Pool Complexes (40 CFR 230.45)**

*[Placeholder for discussion of riffle and pool complexes].*

## 5.4 Subpart F: Potential Effects on Human Use Characteristics

### 5.4.1 Municipal and Private Water Supplies (40 CFR 230.50)

Potential Effects relevant to this characteristic are described in Draft EIS Sections 3.9 and 4.9, Surface Water and Groundwater Quantity. *[Placeholder for discussion of municipal and private water supplies].*

### 5.4.2 Recreational and Commercial Fisheries (40 CFR 230.51)

*[Placeholder for discussion of recreational and commercial fisheries].*

### 5.4.3 Water-Related Recreation (40 CFR 230.52)

Potential Effects relevant to this characteristic are described in Draft EIS Sections 3.19 and 4.19, Recreation. *[Placeholder for discussion of water-related recreation].*

### 5.4.4 Aesthetics (40 CFR 230.53)

Potential Effects relevant to this characteristic are described in Draft EIS Sections 3.20 and 4.20, Aesthetics and Scenic (Visual) Resources. *[Placeholder for discussion of aesthetics].*

### 5.4.5 Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves (40 CFR 230.54)

Potential Effects relevant to these characteristics are described in Draft EIS Sections 3.23 and 4.23 Special Designations. *[Placeholder for discussion of parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves].*

## 5.5 Subpart G: Evaluation and Testing

### 5.5.1 General Evaluation of Dredged or Fill Material (40 CFR 230.60)

Potential Effects relevant to this characteristic are described in Draft EIS Sections 3.8 and 4.8, Surface Water and Groundwater Quality. *[Placeholder for discussion of general evaluation of dredged or fill material].*

### 5.5.2 Chemical, Biological, and Physical Evaluation and Testing (40 CFR 230.61)

*[Placeholder for discussion of chemical, biological, and physical evaluation and testing].*

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## Section 6

# Subpart H – Actions to Minimize Adverse Effects

The following section includes direct reference to 40 CFR Section 230.71 through 230.77 to be considered as described in the Guidelines. As discussed in Section 4.1.2 above, Midas Gold considered and reviewed many alternatives for Project components to minimize and avoid environmentally sensitive resources. Midas Gold has identified several potential measures to minimize adverse impacts which are outlined in the CMP. Midas Gold proposed mitigation measures are identified Appendix E of the Draft EIS and monitoring in Draft EIS Section 2.3. Applicable sections of the Draft EIS are referenced below as appropriate.

### 6.1 Actions concerning the location of the discharge (40 CFR Section 230.70)

The location of discharge is described in Draft EIS Section 2.3, Proposed Action. *[Placeholder for discussion of actions concerning the location of the discharge].*

### 6.2 Actions concerning the material to be discharged (40 CFR Section 230.71)

The processing and treatment of discharge is described in Draft EIS Section 2.3, Proposed Action. *[Placeholder for discussion of actions concerning the material to be discharged].*

### 6.3 Actions controlling the material after discharge (40 CFR Section 230.72)

The design of discharge locations is described in Draft EIS Section 2.3, Proposed Action. *[Placeholder for discussion of actions controlling the material after discharge].*

### 6.4 Actions affecting the method of dispersion (40 CFR Section 230.73)

The design, management, and monitoring of discharge is described in Draft EIS Section 2.3, Proposed Action. *[Placeholder for discussion of actions affecting the method of dispersion].*

### 6.5 Actions related to technology (40 CFR Section 230.74)

The design, management, and monitoring of discharge is described in Draft EIS Section 2.3, Proposed Action. *[Placeholder for discussion of actions related to technology].*

## **6.6 Actions affecting plant and animal populations (40 CFR Section 230.75)**

Midas Gold considered and reviewed many alternatives for Project components to minimize and avoid environmentally sensitive resources. Midas Gold has identified several potential measures to minimize adverse impacts which are outlined in the CMP. Midas Gold proposed mitigation measures are identified Appendix E of the Draft EIS and monitoring in Draft EIS Section 2.3. *[Placeholder for discussion of actions affecting plant and animal populations].*

## **6.7 Actions affecting human use (40 CFR Section 230.76)**

*[Placeholder for discussion of actions affecting human use].*

## **6.8 Other actions (40 CFR Section 230.77)**

*[Placeholder for discussion of other actions].*

## **6.9 Discussion**

*[Placeholder for discussion].*

## Section 7

# Determination of Cumulative Effects on the Aquatic Ecosystem

*[Placeholder for determination of cumulative effects on the aquatic ecosystem].*

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## Section 8

# Determination of Secondary Effects on the Aquatic Ecosystem

*[Placeholder for determination of secondary effects on the aquatic ecosystem].*

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## Section 9

# Findings

### 9.1 Status of other authorizations and legal requirements

*[Placeholder for status of other authorizations and legal requirements].*

### 9.2 Evaluation of Compliance with 404(b)(1) guidelines (restrictions on discharge, 40 CFR 230.10).

*[Placeholder for evaluation of compliance with 404(b)(1) guidelines (restrictions on discharge, 40 CFR 230.10)].*

### 9.3 Findings of Compliance or Non-compliance with the Restrictions on Discharge (40 CFR Section 230.12)

*[Placeholder for findings of compliance or non-compliance with the restrictions on discharge (40 CFR Section 230.12)].*

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## Section 10

# Summary of Conclusions

*[Placeholder for summary of conclusions].*

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Section 11

# Evaluation Responsibility

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PREPARED BY:

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REVIEWED BY:

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APPROVED BY:

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## Section 12

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