United States Department of Agriculture

Draft Record of Decision

Resolution Copper Project, January 2021

Authorization of Special Uses and Road Use

U.S. Forest Service
Tonto National Forest
Pinal and Gila Counties, Arizona

Abstract

The final environmental impact statement (FEIS) for the Resolution Copper Project and Land Exchange analyzes the potential environmental effects from the disposition of National Forest System (NFS) land and development of the proposed Resolution Copper Mine near Superior, Arizona. Under the Southeast Arizona Land Exchange and Conservation Act (16 U.S.C. § 539p) Congress mandated that the U.S. Forest Service dispose of certain NFS land by exchange. Congress further specifies that proposed mining operations on land to be conveyed in the exchange are not to be regulated by the Forest Service.

The Forest Service does regulate uses of NFS land outside of the exchange area that will be required to conduct mining operations. This draft record of decision (ROD) documents the Forest Service decision to authorize uses of NFS land by issuing a road use permit and special use authorizations for pipeline and power line corridors associated with the Resolution Copper Project.

Draft Record of Decision

Authorization of Special Uses and Road Use
Resolution Copper Project

LEAD AGENCY: U.S. Department of Agriculture
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DATE DECISION SIGNED: _____

COOPERATING AGENCIES: U.S. Army Corps of Engineers
U.S. Department of the Interior Bureau of Land Management
U.S. Environmental Protection Agency
Arizona State Land Department
Arizona Department of Environmental Quality
Arizona Department of Water Resources
Arizona Game and Fish Department
Arizona State Mine Inspector
Pinal County Air Quality Control District

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ACRONYMS AND ABBREVIATIONS

ACRONYM / ABBREVIATION	DEFINITION
ACHP	Advisory Council on Historic Preservation
ADEQ	Arizona Department of Environmental Quality
AGFD	Arizona Game and Fish Department
ASLD	Arizona State Land Department
AZPDES	Arizona Pollutant Discharge Elimination System
BLM	Bureau of Land Management
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
DEIS	draft environmental impact statement
EIS	environmental impact statement
EO	Executive Order
FEIS	final environmental impact statement
forest plan	Tonto National Forest Land and Resource Management Plan
Forest Service	U.S. Forest Service
FWS	U.S. Department of the Interior Fish and Wildlife Service
GDE	groundwater-dependent ecosystem
GPO	General Plan of Operations
HPTP	historic properties treatment plan
kV	kilovolt
MARRCO	Magma Arizona Railroad Company
MOU	memorandum of understanding
MSHA	Mine Safety and Health Administration
NEPA	National Environmental Policy Act
NFS	National Forest System
NHPA	National Historic Preservation Act
NPAG	non-potentially acid generating
PA	Programmatic Agreement
PAG	potentially acid generating

ACRONYM / ABBREVIATION	DEFINITION
PL	Public Law
project	Resolution Copper Project and Land Exchange
Resolution Copper	Resolution Copper Mining, LLC
ROD	record of decision
ROS	recreation opportunity spectrum
SHPO	State Historic Preservation Office
SRP	Salt River Project
SUA	special use authorization
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
VQO	Visual Quality Objective

PREFACE

In December 2014, the Tonto National Forest accepted a proposed General Plan of Operations (GPO) submitted to the Tonto National Forest by Resolution Copper Mining, LLC (Resolution Copper). Resolution Copper is proposing to develop an underground copper mine currently on National Forest System (NFS) land that is to be conveyed to Resolution Copper near the town of Superior in Pinal County, Arizona, approximately 60 miles east of Phoenix, where Resolution Copper currently holds unpatented mining claims. Resolution Copper is a limited liability company that is owned by Rio Tinto (55 percent) and BHP (45 percent). Rio Tinto is the managing member. The portion of the Resolution Copper Mine deposit explored to date is located primarily on NFS land that is open to mineral entry under the General Mining Law of 1872. The land exchange, and the proposed mine, will also include land within the Oak Flat Withdrawal Area that has been withdrawn from entry under the Mining Laws.

In December 2014, Congress mandated a land exchange pending completion of the environmental impact statement (EIS), as outlined in the Southeast Arizona Land and Conservation Act, 16 United States Code (U.S.C.) § 539p (which is referred to in this document as Public Law (PL) 113-219). The NFS land to be conveyed to Resolution Copper encompasses the copper deposit. PL 113-291 further specified the following:

> *Prior to conveying Federal land under this section, the Secretary shall prepare a single environmental impact statement under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), which shall be used as the basis for all decisions under Federal law related to the proposed mine and the Resolution mine plan of operations and any related major Federal actions significantly affecting the quality of the human environment, including the granting of any permits, rights-of-way, or approvals for the construction of associated power, water, transportation, processing, tailings, waste disposal, or other ancillary facilities.*

The EIS therefore considered the environmental impacts not only of the mining proposal and all connected actions, but also of the land exchange itself. However, the decisions to be made by the Forest Service are limited to authorization of the proposed uses of NFS land outside of the land to be exchanged, since PL 113-291 mandates the land exchange if certain requirements are met, and specifies that mining operations to be conducted on the NFS land to be conveyed are to be regulated under State and local laws that pertain to mining operations on private land (16 U.S.C. § 539p(c)(8)). Accordingly, mining operations within the area to be conveyed by the Forest Service in the exchange will not be subject to regulation by the Forest Service, since Forest Service regulation of mining operations pertains only to mining operations conducted on NFS land under the jurisdiction of the Secretary of Agriculture (36 Code of Federal Regulations (CFR) § 228.2). Further, PL 113-291 requires that the EIS consider impacts to cultural and archaeological resources that may be located on Federal land, and identify measures that may be taken to minimize potential impacts to those resources (16 U.S.C. § 639p(c)(9)(C)). Based on this analysis, and consultation with Indian Tribes, the Forest Service is required to consult with Resolution Copper to find mutually acceptable measures to address concerns of the Indian Tribes and minimize adverse effects on the affected Indian Tribes resulting from mining and related activities on the Federal land conveyed to Resolution Copper (16 U.S.C. 539p(c)(3)).

PL 113-291 directs: “Not later than 60 days after the date of publication of the final environmental impact statement, the Secretary shall convey all right, title, and interest of the United States in and to the Federal land to Resolution Copper” (16 U.S.C. 539p(c)(3)).

This draft record of decision (Draft ROD) is being published in conjunction with the final environmental impact statement (FEIS) for the Resolution Copper Project and Land Exchange.[1] The Final ROD will not be signed until after conclusion of the pre-decisional objection process, as required under 36 CFR 218 Subparts A and B. As a result of this timing, it is likely that the decision described in this Draft ROD document will be made after transfer of the Oak Flat Federal Parcel to Resolution Copper.

Following the land exchange, all mineral extraction operations will take place on private land. In addition, Resolution Copper has indicated that it intends to place the tailings storage facility on private lands or Arizona State Trust lands. As a result, the only decision to be made by the Forest Service concerns the proposed use of NFS roads, and the use of NFS land for a tailings pipeline corridor and power line corridors across NFS lands. The authorization for uses of NFS lands and roads associated with the Resolution Copper Project would be implemented by issuance of authorizations under 36 CFR 251 Subpart B and 36 CFR 212 Subpart A, since they will be associated with mining operations that take place exclusively on private land, and not on Federal land under the Mining Laws.

This document has been written to reflect the conditions at the point in time the Final ROD will be published, not the conditions at the time the Draft ROD was published.

This Draft ROD is being shared with those on the project mailing list, as well as the general public via the Internet. Questions regarding this Forest Service draft decision document can be directed to Mary Rasmussen, Project Team Leader, Tonto National Forest, Phoenix, Arizona. Her email is: mary.rasmussen@usda.gov.

[1] The titles of the FEIS and Draft ROD intentionally differ. The FEIS includes analysis of both the Resolution Copper mine project, and the congressionally mandated land exchange. This Draft ROD addresses decisions only related to the Resolution Copper mine project, as there is no discretion or decision to be made with respect to the land exchange or approval of a mine plan.

PART 1 INTRODUCTION

1.1 About This Document

The U.S. Forest Service (Forest Service), in cooperation with the U.S. Army Corps of Engineers (USACE), U.S. Department of the Interior Bureau of Land Management (BLM), U.S. Environmental Protection Agency, Arizona State Land Department (ASLD), Arizona Department of Environmental Quality (ADEQ), Arizona Department of Water Resources, Arizona Game and Fish Department (AGFD), Arizona State Mine Inspector, and Pinal County Air Quality Control District, prepared an environmental impact statement (EIS) to review the potential environmental impacts of the Resolution Copper Project and Land Exchange (herein called the project).

In addition to the proposed action, four action alternatives were considered, along with the no action alternative. Public scoping for this project began in 2016 and resulted in the identification of the issues described in part 5.3 of this draft record of decision (Draft ROD). The Final EIS (FEIS) (U.S. Forest Service 2021) was released to the public in January 2021, along with this Draft ROD. This Forest Service ROD is specific to the authorization of special uses on National Forest System (NFS) lands.

This ROD is organized into eight parts:

- *Part 1 – Introduction* provides background information about the proposed Resolution Copper Mine from Resolution Copper Mining LLC (Resolution Copper), which has mineral claims for the Oak Flat area.
- *Part 2 – Decision* explains the authorities of the Forest Service to regulate use and occupancy of NFS lands for special use permit activities associated with development of the Resolution Copper Project.
- *Part 3 – Principal Reasons for the Decision* explains the circumstances and rationale behind the Forest Service decisions.
- *Part 4 – Applicant-Committed Environmental Protection Measures, Monitoring, and Mitigation* specifies the requirements necessary for implementation of special use permit activities.
- *Part 5 – Public Involvement and Issues* describes the public involvement process, a summary of public comments, a description of government consultation, and a summary of the issues.
- *Part 6 – 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 7 – Legally Required Findings* lists the laws and regulations that were considered during the decision-making process.
- *Part 8 – Administrative Review Opportunities* describes the opportunity provided for pre-decisional administrative review under 36 Code of Federal Regulations (CFR) 218 Subparts A and B, identifies the contact person for the project, and documents the signature authorizing this decision.

1.2 Proposed Resolution Copper Mine Project

1.2.1 Project Overview (as originally proposed)

In November 2013, Resolution Copper submitted a General Plan of Operations (GPO) to the Tonto National Forest for development and operation of a large-scale mine near Superior, Arizona. The proposed GPO sought authorization for surface disturbance on NFS lands for mining operations and processing of

copper and molybdenum. The proposed mine would be located in the Tonto National Forest Globe and Mesa Ranger Districts. The Forest Service determined that the proposed GPO was complete in December 2014. The GPO describes the full breadth of activities that would take place for construction, operation, closure, and reclamation of the mine 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 project will progress through three distinct phases: construction (years 1 to 9), operations (years 6 to 46), and closure and reclamation (years 46 and beyond). The type of copper deposit that would be mined at the East Plant Site is a porphyry deposit, a lower-grade deposit that requires higher mine production rates to be economically viable. The copper deposit that Resolution Copper proposes to mine averages 1.54 percent copper (i.e., every ton of ore would on average contain 31 pounds of copper). Operational projections are removal of 1.4 billion tons of ore and production of 40 billion pounds of copper using a mining technique known as panel caving. Using this process, a network of shafts and tunnels is constructed below the ore body. Access to the infrastructure associated with the panel caving would be from vertical shafts in an area known as the East Plant Site, located on an area known as Oak Flat. This area would include mine shafts and a variety of surface facilities to support mining operations. As originally proposed in 2013, portions of the East Plant Site were located on NFS lands and would have been subject to Forest Service regulation; however, these operations will now be occurring on private lands following the land exchange and will be subject to regulations outside the Forest Service.

While all mining will be conducted underground, removing the ore would cause the ground surface to collapse, creating a subsidence area at Oak Flat. The crater will start to appear in year 6 of active mining. The subsidence area ultimately will be between 800 and 1,115 feet deep and roughly 1.8 miles across. The EIS evaluated alternative mining techniques that could avoid subsidence, and explains why the Forest Service determined that those mining techniques were not reasonable alternatives to consider in detail. As the mine will be on private land, the Forest Service will not be approving any mining method.

Under Resolution Copper's proposed plan, mined ore will be crushed underground and then transported underground approximately 2.5 miles west to an area known as the West Plant Site (the location of the old Magma Mine in Superior, Arizona), where ore will be processed to produce copper and molybdenum concentrates. As originally proposed, a portion of the West Plant Site would have been located on NFS lands, which would have been subject to Forest Service regulatory jurisdiction. Resolution Copper later modified this portion of the West Plant Site to avoid use of NFS land (see "Changes to the Proposed Action during the NEPA Process" below).

Once processed, the copper concentrate will be pumped as a slurry through a 22-mile pipeline to a filter plant and loadout facility located near Florence Junction, Arizona, where copper concentrate will be filtered and then sent to off-site smelters via rail cars or trucks. The molybdenum concentrate will be filtered, dried, and sent to market via truck directly from the West Plant Site.

The copper concentrate slurry pipeline corridor will be located along an existing, previously disturbed right-of-way known as the Magma Arizona Railroad Company (MARRCO) corridor. The MARRCO corridor will also host other infrastructure for the mine, including water pipelines, power lines, pump stations, and groundwater wells. Resolution Copper holds an existing right-of-way for those portions of the MARRCO corridor that cross NFS lands.

Tailings produced at the West Plant Site will be pumped as a slurry through several pipelines to a tailings storage facility. The tailings storage area will gradually expand over time. As originally proposed, the tailings storage facility was to have been located on NFS lands, which would have been subject to Forest Service regulatory jurisdiction. Resolution Copper later modified that part of the proposed mine plan to avoid use of NFS land (see "Changes to the Proposed Action during the NEPA Process" below).

All power to the mine will be supplied by the Salt River Project (SRP). Portions of the proposed electrical infrastructure will be located on NFS land and will require Forest Service authorization.

Water for the process will come from a variety of sources. Filtrate from the filter plant, recycled water from the tailings storage facility, and recovered water from the concentrator complex will be recycled for use in the mining process. Additional water will be obtained from dewatering of the mine workings, potential direct delivery of Central Arizona Project water, and pumping from a well field along the MARRCO corridor.

Reclamation will be conducted to achieve post-closure land use objectives, including closing and sealing the mine shafts, removing surface facilities and infrastructure, and establishing self-sustaining vegetative communities using local species. The proposed tailings storage facility will be reclaimed in place, providing for permanent storage of mine tailings.

1.2.2 Changes to the Proposed Action during the NEPA Process

In March 2016, the Tonto National Forest undertook preparation of an EIS in order to (1) consider the effects of anticipated mining operations that would be reasonably incident to extraction, transportation, and processing of copper and molybdenum, and (2) consider the effects of the exchange of lands between Resolution Copper and the United States as directed by the Southeast Arizona Land and Conservation Act, 16 United States Code (U.S.C.) § 539p (which is referred to in this document as Public Law (PL) 113-219).

During this process, a number of alternatives to the proposed action were considered for purposes of the environmental analysis. These include the following:

- Facilities near the West Plant Site on NFS lands were redesigned to avoid the need to use NFS lands.
- A number of tailings storage facility alternatives were considered, including the location evaluated in Alternative 6 – Skunk Camp, under which the tailings storage facility will be located off of Federal lands, on private and Arizona State Trust lands (which Resolution Copper will need to acquire). Alternative 6 became the preferred alternative in the FEIS.

As a result of these changes and the congressionally mandated land exchange, the elements of the mine project to be located on NFS land, and thus subject to Forest Service regulations, have changed since initial submittal of the GPO. The activities or surface disturbance associated with the East Plant Site, subsidence area, West Plant Site, and tailings storage facility will no longer take place on NFS lands. These components of the project therefore will require no decision or authorization by the Forest Service.

The sole remaining uses of NFS lands associated with the Resolution Copper Project are

- several new or upgraded power lines,
- a pipeline corridor to convey tailings slurry from the West Plant Site to the tailings storage facility, and
- the upgrade, maintenance, construction, and use of NFS roads.

The decisions in the Draft ROD apply only to these project components as analyzed in the EIS.

PART 2 DECISION

2.1 Introduction and Decision Authority

The Forest Service and USACE are making separate but coordinated decisions related to the proposed Resolution Copper Project. These decisions are based on the FEIS and applicable laws, regulations, and policies. The Forest Service is making a decision regarding whether and how to authorize the use and occupancy of NFS land for mine-related pipeline and power line infrastructure crossing NFS lands, along with maintenance, reconstruction, and use of NFS roads.

Any associated uses of NFS land for pipelines and utilities are special uses and are regulated under 36 CFR 251.50 because they are associated with mining on private property, and therefore do not involve operations conducted under the United States Mining Laws. Authorization for a special use or occupancy of NFS lands requires submittal of a special use application (SF-299). This application process is designed to ensure that authorizations to use and occupy NFS lands are in the public interest (36 CFR 251, Subpart B). Once submitted, this application is subject to initial screening (36 CFR 251.54(e)(1)). After completion of the initial screening, a secondary screening is undertaken (36 CFR 251.54(e)(5)). After consideration of the screening criteria, the Forest Service may decide to accept an application for processing (36 CFR 251.54(g)). In processing the application, the Forest Service must consider the potential environmental effects of authorizing the proposed uses of NFS land in accordance with the National Environmental Policy Act (NEPA), and the Forest Supervisor must proceed to either approve or deny the authorization. The special use authorization must include terms and conditions (36 CFR 251.56), including minimizing damage to the environment, protecting the public interest, and requiring compliance with water and air quality standards.

The following applications have been submitted to the Tonto National Forest:

- SRP would be the owner and operator of the power line to the tailings storage facility, largely co-located with the tailings slurry pipelines. SRP would be responsible for construction, operation, and maintenance of the power line and would hold the special use permit. SRP submitted an SF-299 Special Use Permit application on November 11, 2020. Tonto National Forest staff carried out initial and secondary screenings and accepted the application on November 18, 2020. These documents are found in appendix Q of the FEIS.
- Resolution Copper submitted an SF-299 Special Use Permit application on September 7, 2020. Tonto National Forest staff carried out initial and secondary screenings and accepted the application on September 28, 2020. These documents are found in appendix Q of the FEIS.

The FEIS analysis determined that the selection of Alternative 6 would not require any amendment to the Tonto National Forest Land and Resource Management Plan (forest plan).

It is expected that the USACE will issue an individual permit under Section 404 of the Clean Water Act for dredge and fill of waters of the U.S. associated with the tailings storage facility and the tailings pipeline corridor. Because of separate agency authorities, the Forest Service and USACE each prepare a separate ROD for their respective decision. The decision of each agency is developed in close coordination with the other because operations are interconnected and the FEIS was required to support both decisions. This Forest Service decision presumes that the USACE will select the preferred alternative (Alternative 6 – Skunk Camp) identified in the FEIS, as opposed to the no action alternative.

2.1.1 Authorization of Special Use for Salt River Project Power Lines

My decision approves the issuance of a special use authorization (SUA) in order to allow the construction, operation, maintenance, and reclamation of transmission lines by SRP across NFS lands. These include the following:

- A new 3.6-mile, 230-kilovolt (kV) power line from the Silver King substation to Oak Flat substation, to serve the East Plant Site.
- A new 16.9-mile power line from the existing Silver King substation to the Skunk Camp tailings storage facility. Preliminary assessment of line voltage options show that either a 69-kV or 115-kV voltage level would be adequate to supply power to the tailings storage facility; the design is for a 115-kV line. The power line would almost entirely follow the same corridor as the tailings pipelines, except for a section between the Silver King substation and the tailings pipeline corridor where the 115-kV line parallels the existing 230-kV power line. Approximately 296 acres of NFS lands would be included in the power line corridor, which is collocated with the pipeline corridor described below. An additional 28 acres of NFS lands would be required outside the collocated corridor for power poles and access roads or trails.[2]
- Maps of the SUA routes are included as appendix A. It should be noted that SRP must obtain a Certificate of Environmental Compatibility from the Arizona Corporation Commission, following what is known as the "line siting" process. The SUA would not be issued to SRP until this process is complete.

2.1.2 Authorization of Special Use for Resolution Copper Pipelines

My decision approves the issuance of an SUA in order to allow the construction, operation, maintenance, and reclamation of tailings and water pipelines by Resolution Copper across NFS lands, including the following:

- A 19.6-mile pipeline corridor from the West Plant Site to the Skunk Camp tailings storage facility. Approximately 593 acres of NFS lands would be part of the pipeline corridor.
- Maps of the SUA routes are included as appendix A.

2.1.3 Road Use Permit

My decision approves the commercial use of NFS roads in accordance with 36 CFR 212, Subpart A, which will include the construction, reconstruction, use, and maintenance of NFS roads in the vicinity of the West Plant Site and the MARRCO corridor. Resolution Copper has submitted a revised Road Use Plan describing the planned uses (Resolution Copper 2020b).[3] The Road Use Plan as submitted includes the following components (a final Road Use Plan will be included with the appropriate request for authorization):

- There are 17 proposed access points from NFS roads along the MARRCO corridor for use for both construction and operation/maintenance purposes.
- Several NFS roads intersect the MARRCO corridor. The sections of NFS roads that cross the pipeline will be temporarily closed in coordination with the Forest Service and/or other relevant land management agencies (e.g., ASLD), and then reestablished to their existing maintenance level after construction.

[2] These acreages reflect the conditions after the land exchange has occurred.

[3] Any existing routes will be maintained in compliance with the Final ROD for Travel Management on the Tonto National Forest, which is anticipated to be signed before the Resolution Copper Final ROD, and in compliance with the published Motor Vehicle Use Map, which is produced yearly by the Tonto National Forest. The revised Road Use Plan is available as a reference to the FEIS and includes a detailed list of the specific roads to be used.

- The tailings storage facility will not impact NFS roads. However, the tailings pipeline and the various power line corridors will cross NFS roads. The pipeline infrastructure will be buried via trench installation during construction (except for tunnel and bridge span sections). The sections of NFS roads that cross the pipeline will be temporarily closed in coordination with Forest Service and ASLD as needed, and then reestablished to their existing maintenance level after construction in coordination with Forest Service, ASLD, and Pinal County as needed. Two new road segments (PNR-1 and PNR-2) would need to be constructed on Tonto National Forest land for access to the tailings pipeline and power line corridor.
- Approximately 20 NFS roads will be maintained by Resolution Copper at a range of maintenance levels.

As the Forest Service responsible official, I have decided to issue SUAs to permit these activities associated with the Resolution Copper Project under regulations codified at 36 CFR 251 Subpart B, and permission for road use under regulations codified at 36 CFR 212 Subpart A, and to determine the terms and conditions of such authorizations.

PART 3 PRINCIPAL REASONS FOR THE DECISION

My decision is based on review of the FEIS and 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. My decision is also informed by the legislative direction provided in PL 113-291 to "facilitate and expedite" the land exchange between Resolution Copper and the United States.

I have taken into consideration the degree to which the applicant-committed environmental protection measures,[4] monitoring, and mitigation measures will reasonably reduce potential impacts to the environment, and the predicted effects of the action alternatives on resources, including soils, vegetation, wildlife, including special status species, noise, transportation and access, air quality, the quantity and quality of surface water and groundwater, cultural resources, tribal values and concerns, socioeconomics, scenery, recreation, environmental justice, and public safety. All practicable means to avoid or reduce environmental harm have been adopted. I have ensured that a thorough evaluation of the potential environmental impacts in the FEIS was accomplished through coordination with other ongoing and planned studies by State and Federal agencies in cooperation with Resolution Copper.

My decision to authorize pipelines and power lines across NFS lands is based on a review not only of the impacts of these structures, but of the entire mining operation as proposed by Resolution Copper. The decision to authorize these linear features on NFS lands is predicated on Resolution Copper's decision to use Alternative 6 – Skunk Camp for tailings disposal.

I recognize that each of the action alternatives would result in significant environmental and social impacts and that the no action alternative is the environmentally preferable alternative (see part 6.2 of this document for further detail). My rationale for selecting Alternative 6 – Skunk Camp for the authorization of proposed uses of NFS lands and roads includes the commitments in part 4 of this document and is detailed below.

3.1 Water Quality

1. Alternative 6 – Skunk Camp will provide a greater protection of water quality than any other action alternative. The tailings storage facility presents the greatest risk of impacts to water quality through the release of tailings seepage (which contains elevated levels of dissolved metals and other contaminants) into the environment, not just during operations but for many decades after closure. All action alternatives would result in tailings seepage entering the environment, and all action alternatives would require seepage capture systems located downgradient from the tailing storage facility. Capture of seepage at the Skunk Camp location is simpler than other alternatives, and therefore more effective with less risk of impact to water quality downstream from the tailings storage facility. The geography of the Dripping Spring Wash basin requires a single seepage collection pond, compared with multiple ponds (up to nine) for other action alternatives.
2. Any tailings storage facility will require appropriate water quality permits from ADEQ prior to operation, to ensure compliance with State water quality standards. This includes permits for stormwater discharges under the Arizona Pollutant Discharge Elimination System (AZPDES) program and permits under the Aquifer Protection Permit program. Resolution Copper will be responsible for obtaining these permits.

   While no Forest Service authorizations or actions are required for activities that will not occur on NFS land, the EIS analyzes potential effects of the proposed mining operation and alternatives as a whole.

[4] See part 4 of this ROD for a description of what constitutes an "applicant-committed environmental protection measure."

The analysis showed that Alternatives 2, 3, and 4 either could not demonstrate concentrations of dissolved metals and other contaminants below numeric water quality standards, or would require extremely high seepage collection efficiencies to maintain concentrations of dissolved metals and other contaminants below these thresholds. Further, due to the proximity to Queen Creek, there are limitations to the ability to install additional seepage controls for these alternatives. The analysis showed that both Alternatives 5 and 6 not only can meet these acceptable thresholds, but also allow substantial flexibility for installing additional seepage controls as needed if indicated by monitoring during operations.

Alternative 6 ultimately demonstrated the best ability to control seepage of any action alternative. Two separate water quality analyses for Alternative 6 were conducted. The analysis of anticipated effects on water quality in the draft EIS (DEIS) was based on a mixing-cell model. The analysis of anticipated effects on water quality in the FEIS supplemented the DEIS analysis with a numerical groundwater flow model that incorporated additional site-specific information collected at the Skunk Camp location, including aquifer tests, boreholes, water level measurements, and water quality sampling. Both models demonstrate the ability to keep concentrations of dissolved metals and other contaminants below numeric water quality standards under normal conditions. The FEIS water quality model additionally demonstrates that even under low-flow conditions, concentrations of dissolved metals and other contaminants in downstream surface waters would remain below numeric water quality standards.

3. Alternative 6 also allows the greatest margin for error and opportunity for any additional needed mitigation in the event that modeling estimates are incorrect. The nearest surface water (the Gila River) is located approximately 12 miles downstream. This is the longest distance to perennial surface waters of any action alternative. This means that there is substantial space and opportunity to install additional seepage controls—such as pumpback systems—in the event that predictions turn out to be inaccurate and that monitoring identifies unanticipated degradation of water quality.

3.2 Groundwater-Dependent Ecosystems

1. The Alternative 6 tailings storage facility and pipeline corridor do not directly impact any groundwater-dependent ecosystems (GDEs), which include springs and perennial streams, or special aquatic sites like wetlands. Alternatives 2, 3, and 4 all would physically disturb springs.
2. The Alternative 6 location results in less reduction in runoff to support downstream perennial waters. Alternatives 2, 3, and 4 would reduce average annual flow in Queen Creek at Whitlow Ranch Dam from 6.5 to 9 percent (of which 3.5 percent is caused by the subsidence area, not the tailings storage facility). By contrast, Alternative 6 would reduce average annual flow in the Gila River by 0.5 percent below Dripping Spring Wash.

3.3 Recreation and Scenic Resources

1. All alternatives would impact scenic resources. However, the Skunk Camp location is relatively remote, and the impact is more confined than the other action alternatives. Alternatives 2, 3, and 4 would be seen from most locations in the Superior basin, as well as from key sensitive areas such as the Superstition Wilderness, Picketpost Mountain, Boyce Thompson Arboretum, and Apache Leap. Alternative 5 would be seen from Florence and elsewhere in the East Salt River valley, and from the White Canyon Wilderness. The Alternative 6 – Skunk Camp location generally can only be seen within the Dripping Spring Wash valley, and from locations to the north in the Pinal Mountains.
2. The Skunk Camp location in Dripping Spring Wash is less used for recreation than the other alternatives. Alternatives 2, 3, and 4 all would occupy highly used recreation lands in and around the town of Superior, and Alternative 5 would prohibit recreational use of some of the BLM lands

nearest to the East Salt River valley. Additionally, because the Alternative 6 tailings storage facility occupies the upper end of the Dripping Spring Wash valley, there is less restriction of through-access to other recreation areas.

3. Alternative 6 is the only alternative that does not substantially impact the Arizona National Scenic Trail, either with trail crossings by tailings pipelines or proximity of the tailings storage facility to trail users.
4. The Alternative 6 – Skunk Camp location consolidates large-scale mining activity on the larger landscape of central Arizona. Alternatives 2, 3, and 4 are largely surrounded by Forest Service lands that have not been disturbed by mining. The Skunk Camp location is in close proximity to the ASARCO Ray Mine open pit; the ASARCO land exchange parcels, which are expected to be mined in the future; the Christmas mine; and the recently permitted Ripsey Wash tailings facility.

3.4 Public Safety and Long-Term Management

1. The analysis included an evaluation for the safety of the tailings storage facilities and the potential for catastrophic failure. All alternatives are built to the same design standards and safety factors, and therefore no alternative is inherently safer than another. However, certain designs are more resilient and more able to withstand unexpected events or accumulated errors. The Skunk Camp location allows for a less complicated cross-valley embankment, with a single face, tied into bedrock on both sides, whereas Alternatives 2, 3, and 5 would require free-standing embankments with three sides. The approximate crest length of the Alternative 6 embankment is 3 miles, which is substantially less than Alternatives 2 and 3 (10 miles) and Alternative 5 (7 miles of non-potentially acid generating (NPAG) embankment and 4 miles of potentially acid generating (PAG) embankment).
2. The locations of Alternative 5 and 6 allow for the construction of a true centerline-type embankment, in contrast to the modified-centerline embankment that must be used at the Alternative 2 or 3 location due to space concerns. As noted, all embankments are built to the same design standards and safety factors; however, centerline construction is more robust and resilient than modified-centerline construction when unplanned circumstances are encountered.
3. After purchase of Arizona State Trust lands, the Alternative 6 tailings storage facility would be located entirely on private lands. Public lands would not be encumbered in perpetuity with a reclaimed mine structure, and neither the Forest Service nor the BLM would have to devote resources to managing a reclaimed facility in perpetuity.

3.5 Socioeconomics

The socioeconomic analysis identified both positive and negative impacts. The positive impacts are largely independent of alternative. On average, the mine is projected to employ over 1,400 workers, pay about $149 million per year in total employee compensation, and purchase about $490 million per year in goods and services. Including direct and multiplier effects, the proposed mine is projected to increase average annual economic value in Arizona by about $1.2 billion. The mine is also projected to generate an average of $80 to $120 million per year in State and local tax revenues, as well as more than $200 million per year for the Federal government. Negative impacts include a loss of hunting revenue, strain on street and road networks and other public services, and decreases in property values near the tailings storage facility. Based on the socioeconomics study, reductions in property values are predicted in the immediate vicinity of the tailings facility, and property values could be further exacerbated by impacts to private water supplies. While private property would still be impacted by Alternative 6, the overall impact would be less than other alternatives, which have more private lots in close proximity.

3.6 Tribal Values

None of the action alternatives are acceptable to the consulting Tribes, as all would impact tribal values and cultural heritage. Specific concerns have been consistently expressed by the Tribes throughout the process about the impacts of the required land exchange, the impacts from the mining operations, and the proposed tailings storage facility in the vicinity of sacred sites, including Apache Leap, Picketpost Mountain, and the Superstition Wilderness. In general, each of the consulted Tribes consider the impacts from the land exchange and related mining activities to their tribal values as a loss that cannot be mitigated. However, given the land exchange requirements put forth in PL 113-291, I have limited discretion to completely eliminate impacts to expressed tribal values.

I find that Alternative 6, along with the commitments described in part 7.1 of the ROD, while not alleviating overall impacts to tribal values and still having impacts to cultural resources, is preferable as the activities there will have lesser impact to these specific sacred areas than the other action alternatives considered.

3.7 Meeting Project's Purpose and Need

The purpose of and need for the project that formed the foundation for the NEPA process was (1) to consider the effects of anticipated mining operations that would be reasonably incident to extraction, transportation, and processing of copper and molybdenum, and (2) to consider the effects of the exchange of lands between Resolution Copper and the United States.

The decision to authorize pipeline and power line features on NFS lands is predicated on Resolution Copper's decision to use Alternative 6 – Skunk Camp for tailings disposal. For the collective reasons stated above, this alternative best meets the purpose of and need for the project, as stated in chapter 1 of the FEIS. Authorizing pipeline and power line features across NFS land to the Alternative 6 tailings storage location results in reduced impacts with respect to water quality, water resources, public safety, recreation and scenic values, and tribal values.

PART 4 APPLICANT-COMMITTED ENVIRONMENTAL PROTECTION MEASURES, MONITORING, AND MITIGATION

Applicant-committed environmental protection measures are features incorporated into the design of the project by Resolution Copper to reduce potential impacts on resources. The effects of these measures are accounted for in the analysis of environmental consequences disclosed in the FEIS.

However, not all applicant-committed environmental protection measures detailed in the FEIS are applicable to the decision by the Forest Service on special use and road authorizations. Measures applicable to uses on NFS land will be included as terms and conditions in the Forest Service authorizations. These measures are described in this section. The remainder of the applicant-committed environmental protection measures are listed in appendix B. Many of these measures would be required under other binding agreements or by other State or Federal agencies. Any such mechanisms that would make these measures binding also are described in appendix B.

After analyzing project impacts, the EIS identified a substantial mitigation and monitoring strategy for the Resolution Copper Project to avoid, minimize, rectify, reduce, or compensate for resource impacts. These mitigation and monitoring measures are detailed in appendix J of the FEIS, and Resolution Copper has committed to implementing these measures both on and off of NFS land. Further, they may be required by other State and Federal agencies through their permits. Mitigation and monitoring measures applicable to uses on NFS land will be included as terms and conditions in the Forest Service authorizations; these measures are described in this section. The remainder of the mitigation/monitoring measures are listed in appendix B. As with applicant-committed environmental protection measures, many of the mitigation and monitoring measures would be required under other binding agreements or by other State or Federal agencies. Any such mechanisms that would make these measures binding also are described in appendix B.

Three regulatory processes that were conducted in parallel with the FEIS process are considered:

1. The Forest Service expects that required mitigation and monitoring will include compensatory mitigation requirements approved by the USACE as part of issuing an individual permit under Section 404 of the Clean Water Act. This mitigation will not be a term and condition of the Forest Service authorizations for use of NFS land, and therefore appears only in appendix B.
2. The Programmatic Agreement developed under Section 106 of the National Historic Preservation Act and in compliance with PL 113-291 is discussed in detail in part 7.1 of the Draft ROD, and these measures appear in appendix B. The Programmatic Agreement is a separate binding agreement that includes activities both on and off NFS lands. The requirements of the Programmatic Agreement for activities off NFS land will not be terms and conditions of the Forest Service authorizations for use of NFS land. Programmatic Agreement requirements for treatment of historic properties on NFS land will be included as terms and conditions of the Forest Service authorizations for use of NFS land.
3. The Biological Opinion issued by the U.S. Department of the Interior Fish and Wildlife Service (FWS) after consultation under Section 7 of the Endangered Species Act (included as appendix P of the FEIS) contains a number of conservation measures. Many of these conservation measures are applicable to the pipeline and power line corridors that require authorization for use of NFS land. Those measures will be included as terms and conditions of the Forest Service authorizations for use of NFS land, and therefore are included in this section. Other conservation measures contained in the Biological Opinion not related to use of NFS land appear only in appendix B.

4.1 General

The special use and road use authorizations will contain general conditions of approval, to allow proper administration of uses of NFS lands. As authorized under 36 CFR 251.56, these conditions are allowable to

- carry out the purpose of the applicable statutes and rules;
- minimize damage to scenic and esthetic values, and fish and wildlife habitat, and otherwise protect the environment;
- comply with applicable air and water quality standards under Federal or State law;
- comply with State standards for public health and safety, environmental protection, and siting, construction, operations, and maintenance;
- protect Federal property and economic interests;
- manage efficiently the lands subject to the use;
- protect other lawful users of the lands adjacent to or occupied by the use;
- protect lives and property;
- protect the interests of individuals living in the general area who rely on resources for subsistence;
- require siting to cause the least damage to the environment, taking into consideration feasibility; or
- otherwise protect the public interest.

4.2 Geology and Subsidence

In the GPO (Resolution Copper 2016a), Resolution Copper committed to various measures to reduce impacts from subsidence. Additional subsidence monitoring and mitigation measures by Resolution Copper are identified in a revised subsidence monitoring plan (Davies 2020) developed by Resolution Copper as part of the NEPA process. The monitoring and mitigation actions in the revised subsidence monitoring will reduce impacts from subsidence to Apache Leap, Queen Creek Canyon, or Devil's Canyon, including potential impacts to the pipeline and power line corridors on NFS land.

The Forest Service also has required several additional conditions for the subsidence monitoring, developed in response to comments received on the DEIS. These are described as mitigation measure "**FS-GS-01:[5] New stipulations on subsidence monitoring plan**" in appendix J of the FEIS.

The subsidence monitoring as proposed by Resolution Copper as an applicant-committed environmental protection measure, in addition to the additional stipulations required by the Forest Service as a mitigation measure, will be included as terms and conditions for authorizing use of NFS lands.

4.3 Soils, Vegetation, and Reclamation

In the GPO (Resolution Copper 2016b), Section 4.5, "Water Resources," Resolution Copper outlined a variety of measures to reduce impacts on soils by uses on NFS lands:

- Road embankment slopes will be graded and stabilized with vegetation or rock as practicable to prevent erosion.

[5] The designations for each mitigation and monitoring measure, such as "FS-GS-01," are unique identifiers used in appendix J of the FEIS.

- During construction and operations, diversions will be constructed around the affected areas to minimize erosion. A number of best management practices, including check dams, dispersion terraces, and filter fences, also will be used during construction and operations.
- Off-road vehicle travel across Tonto National Forest will generally be avoided.

Resolution Copper also developed a noxious weed plan (Resolution Copper 2019) during the NEPA process to reduce impacts on vegetation by uses on NFS lands:

- Newly reclaimed areas on Tonto National Forest will be monitored for weeds and invasive plants for the first 5 years after reclamation. Infestations of invasive species would be treated as soon as they are identified, or as soon as weather conditions are appropriate for treatment.
- Additionally, elsewhere Resolution Copper stipulated that on NFS lands, seed mixes used in reclamation will be certified free of seeds listed on the Forest Service's noxious weed list and contain only species native to the project area. Seed mixes will be developed from a native species seed list approved by the Forest Service.

Additional conservation measures specific to Arizona hedgehog cactus were also developed as part of consultation with the FWS, and are included in the final Biological Opinion (see FEIS appendix P). These measures apply to uses on NFS lands, including pipeline construction and maintenance, and power line construction and maintenance, which includes vegetation management for fire safety purposes. These conservation measures state:

- Prior to any ground-disturbing activities, suitable habitat within the project area will be surveyed for Arizona hedgehog cactus.
- Before construction begins within the Arizona hedgehog cactus known range, a biological monitor—a Forest Service–approved entity—will establish and clearly flag Arizona hedgehog cactus avoidance areas where individual cacti will be left in place based on preconstruction surveys.
- Prior to any ground-disturbing activities, a biological monitor will salvage Arizona hedgehog cacti that are inside the construction footprint in areas where ground disturbance will occur.
- Healthy salvaged Arizona hedgehog cacti that occur in areas that will be disturbed will be replanted outside the construction footprint but within the action area on Federal lands.
- Prior to relocation and salvage efforts, Resolution Copper will work with the FWS and the Forest Service to develop an Arizona hedgehog cactus relocation, salvage, and monitoring plan. The plan will provide criteria for determining which cacti are suitable for immediate relocation as well as measures to collect seed or to salvage healthy stems from individuals that otherwise cannot be salvaged.
- A mechanical mower for routine vegetation maintenance will not be used within Arizona hedgehog cactus occupied habitat.
- For vegetation maintenance and line maintenance work, vehicles will drive only on existing roads and utility access routes to access the right-of-way. Vehicles will not be driven off-road within the right-of-way.
- During vegetation management work, crews will check for Arizona hedgehog cactus under target plants prior to treatment. If crews find a cactus, they will implement appropriate conservation measures to avoid the cactus.
- During manual vegetation maintenance work, if an Arizona hedgehog cactus occurs underneath and is shaded by a shrub to be cut, the target shrub will be left untreated. In very rare

circumstances, the nurse plant may be selectively trimmed in a manner to maintain the same shading protection for the Arizona hedgehog cactus. No more than 30 percent of the nurse plant may be trimmed.

The project Reclamation and Closure Plan (Tetra Tech Inc. 2020) and the tailings storage facility Reclamation and Closure Plan (KCB Consultants Ltd. 2020) expand on environmental protection measures that would be part of reclamation of project facilities, including those on NFS lands. The Forest Service has required implementation of these reclamation and closure plans in mitigation measure "**FS-SV-03: Revised reclamation and closure plans**" in appendix J of the FEIS.

The Forest Service also is requiring that resource salvage take place, including for the pipeline and power line corridors on NFS lands. This is detailed in mitigation measure "**FS-SV-01: Resource salvage**" in appendix J of the FEIS.

The activities proposed by Resolution Copper as applicant-committed environmental protection measures, including those developed during Section 7 consultation, as well as the Forest Service mitigation requirements to allow resource salvage and implement reclamation plans, will be included as terms and conditions for authorizing use of NFS lands.

4.4 Transportation and Access

The GPO (Resolution Copper 2016b) outlines applicant-committed environmental protection measures by Resolution Copper in Appendix K, "Road Use Plan." This plan was subsequently updated (Resolution Copper 2020b) to include measures developed during the NEPA process. The Forest Service has required implementation of these new measures, as detailed in "**FS-TA-01: New mitigation aspects of revised road use plan**" in appendix J of the FEIS. The following applicant-committed measures are related to transportation and access, including use of NFS roads:

- Public access to the lands in the vicinity of the East Plant Site will be maintained via State Route 177 and NFS Road 315 as well as U.S. Route 60 and NFS Road 469 (until access is no longer possible).
- A number of best management practices for road construction and maintenance were identified in the GPO:
    - To the extent practicable, vegetation will not be removed except from those areas to be directly affected by road reconstruction activities.
    - Cut-and-fill slopes for road reconstruction will be designed to prevent soil erosion.
    - Drainage ditches with cross drains will be constructed where necessary. Disturbed slopes will be revegetated, mulched, or otherwise stabilized to minimize erosion as soon as practicable following construction.
    - Road embankment slopes will be graded and stabilized with vegetation approved by the Forest Service or rock as practicable to prevent erosion.
    - Runoff from roads will be handled through best management practices, including sediment traps, settling ponds, berms, sediment filter fabric, wattles, etc. Design of these features will be based on an analysis of local hydrologic conditions.
    - Off-road vehicle travel will generally be avoided.
    - During construction and operations, diversions will be constructed around affected areas to minimize erosion. A number of best management practices, including check dams, dispersion terraces, and filter fences, also will be used during construction and operations.

The activities proposed by Resolution Copper as applicant-committed environmental protection measures will be included as terms and conditions for authorizing use of NFS lands.

4.5 Air Quality

In the GPO (Resolution Copper 2016b), Resolution Copper has committed to a variety of measures to reduce potential impacts on air quality, including measures involving NFS roads:

- Dust control on roads, including regular watering, road base maintenance and dust suppression, and setting reasonable speed limits on access roads within the operational footprint.

The activities proposed by Resolution Copper as applicant-committed environmental protection measures will be included as terms and conditions for authorizing use of NFS lands.

4.6 Water Resources

In the GPO (Resolution Copper 2016b), Resolution Copper has committed to various measures to reduce impacts on surface water quantity or quality, including by uses on NFS lands:

- To the extent practicable, stormwater flows upgradient of the facilities will be diverted around the disturbed areas and returned to the natural drainage system.
- Runoff from roads, buildings, and other structures will be handled through best management practices, including sediment traps, settling ponds, berms, sediment filter fabric, wattles, etc.

The Forest Service also is requiring monitoring and mitigation for GDEs that occur on NFS lands. This is described in mitigation measure "**FS-WR-01: GDEs and water well mitigation**" in appendix J of the FEIS. The "Monitoring and Mitigation Plan for Groundwater Dependent Ecosystems and Water Wells" (Montgomery and Associates Inc. 2020a) developed by Resolution Copper during the NEPA process outlines a monitoring plan to assess potential impacts on each groundwater-dependent ecosystem, identifies triggers and associated actions to be taken by Resolution Copper to ensure that GDEs are preserved, and identifies mitigation measures for each GDE if it is impacted by future mine dewatering. The stated goal of the plan is "to ensure that groundwater supported flow that is lost due to mining activity is replaced and continues to be available to the ecosystem."

The Forest Service also is requiring mitigation for surface water losses that occur on NFS lands. This is described in mitigation measure "**FS-WR-04: Replacement of water in Queen Creek**" in appendix J of the FEIS. This measure requires that water be discharged to Queen Creek to offset losses in average annual runoff caused by the capture of precipitation within the subsidence area.

The activities proposed by Resolution Copper as applicant-committed environmental protection measures, as well as the Forest Service mitigation requirements to mitigate impacts to GDEs and Queen Creek, will be included as terms and conditions for authorizing use of NFS lands.

4.7 Wildlife

In the GPO (Resolution Copper 2016b) and in the Biological Opinion (included as appendix P of the FEIS), Resolution Copper has committed to a variety of measures to reduce potential impacts on wildlife, including by uses on NFS lands:

- Designing lines and structures in accordance with "Reducing Avian Collision with Power Lines" (Avian Power Line Interaction Committee 2012), in order to minimize the potential risk for bird collisions with transmission lines. Line marking devices, i.e., flight diverters, will be placed at the proposed crossings of Queen Creek, Devil's Canyon, and Mineral Creek, especially in areas where there is suitable habitat for the yellow-billed cuckoo.

- Managing noxious and invasive weeds. Resolution Copper prepared a "Noxious Weed and Invasive Species Management Plan on National Forest System Lands" (Resolution Copper 2019). Resolution Copper will also prepare reports 2 years after construction begins and every 5 years during operations. These reports will update the Tonto National Forest and FWS on surveys, control, and activities related to noxious and invasive weed management.
- Conducting pre-construction surveys for Sonoran desert tortoise and Gila monster before surface ground-disturbing activities start. A biological monitor will monitor for Sonoran desert tortoise and Gila monster during construction activities. The monitor will flag Sonoran desert tortoise and Gila monster shelter sites/burrows. These flagged areas will be inspected, and any Gila monsters or tortoises discovered will be relocated outside of project activity areas.
- Informing project crews of the potential to encounter Sonoran desert tortoise and Gila monster within the surface project area. Work crews will be instructed to check below equipment prior to moving, and to cover and/or backfill holes that can potentially entrap these species. If these species are observed, work crews will stop work until the biological monitor has relocated these species out of harm's way.
- Establishing tortoise crossings, as needed and applicable within areas containing suitable habitat.
- Ensuring all ground-disturbing activity associated with the tailings pipeline and power line work near Mineral Creek and Gila chub designated critical habitat occurs outside the ordinary high-water mark and designated critical habitat.
- Using trenchless/non-surface impact methods (such as horizontal drilling or micro-tunneling) in areas where project facilities intersect Mineral Creek, to avoid surface disturbance within the ordinary high-water mark and designated critical habitat.
- Clearly defining the perimeter of the construction footprint with flagging or other appropriate markers to restrict heavy equipment use and other surface-disturbing activities to areas within the construction footprint. The biological monitor will be present at all times during construction and help ensure that construction activities and equipment remain within designated limits and outside the ordinary high-water mark and designated critical habitat.
- Developing a stormwater pollution prevention plan (SWPPP) to reduce potential project-related increases in sedimentation to Mineral Creek.
- Ensuring that a qualified biological monitor is present in work areas that contain suitable habitat for the southwestern willow flycatcher and yellow-billed cuckoo along Mineral Creek during all surface-disturbing activities between May and September each year.
- Conducting annual yellow-billed cuckoo surveys in Devil's Canyon and Mineral Creek immediately upstream and downstream of disturbance areas and crossings. Annual surveys will begin 2 years prior to surface-disturbing activities. Surveys will continue until pipeline construction has been completed, including reclamation of temporary construction disturbance.
- Avoiding vegetation clearing and ground-disturbing activities associated with pipeline construction, as well as reclamation and closure activities, within 500 feet of the ordinary high-water mark of Mineral Creek in areas where surveys have detected the presence of yellow-billed cuckoo, from May 1 through September 30 each year, to remain outside the breeding season for yellow-billed cuckoo and to prevent direct effects on the species (injuries or fatalities to adults, eggs, or young).
- Avoiding when possible large trees (greater than 12 inches in diameter), including Fremont cottonwood and willow species, as well as dense stands of vegetation.

- Cutting riparian trees to ground level when they are removed. When possible, root masses will be left intact to help stabilize soils and provide opportunities for regrowth through adventitious shoots (e.g., in the case of willows).
- Conducting yellow-billed cuckoo surveys every 5 years during mine operations in Devil's Canyon and Mineral Creek in potentially suitable habitats immediately upstream and downstream of project areas (crossings) to monitor cuckoo presence in the area and prevent/minimize direct effects on cuckoos.
- Avoiding large-scale, major noise-producing activities within 500 feet of the ordinary high-water mark of Mineral Creek in areas where surveys show the presence of possible, probable, or confirmed breeding of yellow-billed cuckoos, to the extent possible (e.g., maintenance activities associated with pipeline replacement and cleaning that may affect cuckoo habitat during the breeding season (May 1 to September 30, annually)).

Resolution Copper included a Wildlife Management Plan as an appendix to its original GPO. After publication of the DEIS, Resolution Copper consulted with the AGFD in response to comments submitted by AGFD on the DEIS. The revised Wildlife Management Plan (Resolution Copper 2020c) includes a number of these new measures. The Forest Service is requiring that the revised plan be implemented. This is detailed in mitigation measure "**FS-WI-01: Revised Wildlife Management Plan**" in appendix J of the FEIS.

Resolution Copper also committed to the following: implementing conservation actions for reptiles and Sonoran desert tortoise, as detailed in measure "**FS-WI-02: Reptile and Sonoran Desert Tortoise (ESA-CCA) Plan**" in appendix J of the FEIS; mitigating loss of habitat for bats, as detailed in measure "**FS-WI-03: Mitigation of loss of abandoned mine or cave habitat for bats**" in appendix J of the FEIS; and maintaining or replacing access to wildlife waters, as detailed in measure "**FS-WI-04: Maintain or replace access to stock tanks and Arizona Game and Fish Department wildlife waters**" in appendix J of the FEIS. The Forest Service is requiring that these three measures be implemented.

The activities proposed by Resolution Copper as applicant-committed environmental protection measures, as well as the Forest Service mitigation requirements to implement the revised wildlife plan, implement reptile and Sonoran desert tortoise conservation measures, mitigate bat habitat, and maintain access to wildlife waters, will be included as terms and conditions for authorizing use of NFS lands.

4.8 Recreation

Applicant-committed environmental protection measures by Resolution Copper include the following to protect recreation resources from uses of NFS lands:

- To prevent exposure of the public to geological hazards, Resolution Copper will use fencing, berms, locking gates, signage, natural barriers/steep terrain (25 to 30 percent or greater), and site security measures to limit access roads and other locations near areas of heavy recreational use.

The Tonto National Forest has developed a recommended multi-use trail plan to mitigate recreational impacts. The recommendations include 9.3 miles of motorized trail and 11.5 miles of non-motorized trail that will be located on and managed by Tonto National Forest. Resolution Copper has committed to funding the construction and maintenance of the new multi-use trail network on the Tonto National Forest, with the further intent that investment funding can be supported by additional grants and funds from recreational groups and other organizations to further expand recreational opportunities. The Forest Service is requiring that the multi-use trail plan be implemented, as detailed in "**FS-RC-03: Mitigation for adverse impacts to recreational trails (Tonto National Forest multi-use trail plan)**" in appendix J of the FEIS.

The activities proposed by Resolution Copper as applicant-committed environmental protection measures, as well as the Forest Service mitigation requirements to implement the multi-use trail plan, will be included as terms and conditions for authorizing use of NFS lands.

4.9 Public Health and Safety

4.9.1 Tailings and Pipeline Safety

Applicant-committed environmental protection measures for tailings and pipeline safety include those outlined in the tailings design documents (Klohn Crippen Berger Ltd. 2018), a pipeline protection and integrity plan specific to the Skunk Camp location (Golder Associates Inc. 2020), and the GPO (Resolution Copper 2016b). The Forest Service is requiring that the pipeline integrity plan be implemented, as detailed in measure "**FS-PH-03: Skunk Camp Pipeline Protection and Integrity Plan**" in appendix J of the FEIS. As part of preparing these plans, Resolution Copper completed a failure modes analysis for the tailings pipelines. The analysis informed the following design measures for the tailings pipelines, which enhance the safety of the pipelines on NFS lands:

- Install pipe bridges for concentrate pipeline over Queen Creek outside the ordinary high-water mark of that drainage.
- Where the tailings pipeline crosses Devil's Canyon and Mineral Creek, the pipeline corridor will pass overhead or beneath the streams, with no disturbance to riparian habitat or waters within the ordinary high-water mark.
- Fabricate and test all tailings pipelines in accordance with the requirements of American Society of Mechanical Engineers (ASME) standards or equivalent for quality assurance and quality control purposes. A quality assurance/quality control system will be in place during construction (required by code and standards). A post-construction hydrostatic test will be conducted to prove the integrity of the newly installed pipeline.
- Locate pressure indicators on non-buried pipelines intermittently along water and tailings pipelines. Flow indicators will be placed near the tailings pumps and at the end of the line. A leak detection system will connect via fiber-optic cable to the control room at the West Plant Site and the control room at the tailings facility if a separate facility exists.
- Bury pipelines where feasible, given the geological setting, and buried pipelines will be appropriately wrapped. Field assessments will confirm the characterization of the pipeline route, including site-specific geophysical survey to approximate the extent of any suspected subsurface voids, and routing adjustments within the approved corridor will avoid unstable slopes or areas.
- Install sacrificial anodes at determined intervals on select sections of tailings pipelines to mitigate corrosion of pipeline sections. Installation of sacrificial anodes will follow appropriate best practices for proper placement in order to minimize the potential for migration of metals resulting from dissolved or decayed metallic anodes.
- Locate shut-off valves at booster pump stations.
- Tailings pipelines will be sleeved under major crossings. Expansion loops will be incorporated along the pipeline corridor.
- Maintain a minimum of 3.3 feet of horizontal and vertical separation between pipelines and existing utilities or infrastructure.
- The tailings pipeline will likely be carbon steel and pressurized.
- Contain aboveground tailings pipelines in a secondary containment ditch where possible and paint them with an epoxy coating to prevent degradation.

In addition, a number of operational or management control measures for pipelines have been identified:

- Development of a tailings pipeline operations manual to summarize inspections and maintenance protocols (Operations, Maintenance, and Surveillance manual).
- Resolution Copper will have equipment available and/or contractors readily available on-site for pipeline repair. The pipeline access road will provide access to the full length of the line.
- There will be regular periodic patrols along the pipelines to look for leaks; containment spills, sediment build-up, and breaches; drainage sediment build-up, blockages, and wash-outs; access road erosion and damage; pipe bridges and over/underpass damage; landslides; third-party interference; and other potential hazards.
- The Operations, Maintenance, and Surveillance manual will be followed for immediately investigating, reporting, and implementing a response plan for suspected leaks from the tailings pipeline. Aberrations in flow rate, pump operation, and pressures will trigger investigations and emergency response if needed, as well as coordination with any agencies with surface management responsibility, such as the Forest Service.
- A tailings pipeline spill prevention and response plan (pipeline management plan) will be prepared as part of the comprehensive pipeline integrity program. The program will include maintenance of records, regular review of leak monitor data, regular corridor inspections, regular internal inspections using "smart-pigs," development of spill response plans, and having pre-positioned equipment and teams trained to respond to spills.

4.9.2 Fire Safety

In appendix M of the GPO (Resolution Copper 2016b), Resolution Copper has committed to various measures to reduce impacts on fuels and fire management:

- Any vegetation cleared from the site will be temporarily stored on-site at a location with minimal fire risk, well within a cleared area away from ignition sources. Handheld and large equipment (e.g., saws, tractors) used for vegetation clearing will be equipped with working spark arresters. Resolution Copper will take additional precautions if work is to be conducted during the critical dry season, which may include larger amounts of extinguishing agents, shovels, and possibly a fire watch.
- Parking will be prohibited on vegetated areas and proper disposal of smoking materials will be required. All surface mine vehicles will be equipped with, at a minimum, fire extinguishers and first aid kits.
- Resolution Copper will establish an emergency service or maintain contracts and agreements with outside emergency response contractors for emergency response support services to surface facilities on a 24/7 on-call basis. Fire emergency and response procedures specific to underground operations will be prepared and implemented.

4.9.3 Hazardous Materials

Applicable emergency response protection plans include the following:

- Spill Prevention Control and Countermeasures Plan (appendix O of the GPO)
- Emergency Response and Contingency Plan (appendix L of the GPO)
- Stormwater Pollution Prevention Plan (appendix W of the GPO)
- Fire Prevention and Response Plan (appendix M of the GPO)

- Environmental Materials Management Plan (appendix V of the GPO)
- Explosives Management Plan (appendix P of the GPO)
- Hydrocarbon Management Plan (appendix U of the GPO)

The activities related to pipeline safety, fire safety, and hazardous materials proposed by Resolution Copper as applicant-committed environmental protection measures, as well as the Forest Service mitigation requirements to implement the tailings pipeline protection and integrity plan, will be included as terms and conditions for authorizing use of NFS lands.

4.10 Scenic Resources

Applicant-committed environmental protection measures by Resolution Copper with respect to impacts to scenic resources from use of NFS lands include the following:

- Use non-reflective earth-tone paints on buildings and structures to the extent practicable.
- Build rust colored towers or use wooden poles on transmission lines.
- Bury tailings and other pipelines to the extent practicable.
- Use a reclamation seed mix of weed-free native species consistent with surrounding vegetation.
- Use colors that blend in with the desert environment.

Resolution Copper also has committed to minimizing visual impacts from transmission lines by using best management practices or other guidelines on NFS lands, as detailed in measure "**FS-SR-01: Minimize visual impacts from transmission lines**" in appendix J of the FEIS**.**

The activities proposed by Resolution Copper as applicant-committed environmental protection measures, as well as the Forest Service mitigation requirement to implement visual impact mitigations, will be included as terms and conditions for authorizing use of NFS lands.

4.11 Cultural Resources

A number of measures related to cultural resources were developed as part of the Programmatic Agreement (PA) and are described in more detail in part 7.1 of this Draft ROD, "Tribal Consultation and Coordination (Executive Order 13175) and Consultation with Tribes on Indian Sacred Sites (Executive Order 13007)." The PA is a separate binding agreement that includes activities both on and off NFS lands. The requirements of the PA for activities off NFS land will not be terms and conditions of the Forest Service authorizations for use of NFS land. PA requirements for treatment of historic properties on NFS land will be included as terms and conditions of the Forest Service authorizations for use of NFS land.

PART 5 PUBLIC INVOLVEMENT AND ISSUES

5.1 Public Involvement Process

The public had multiple opportunities to provide input and comment on the Resolution Copper Project and the NEPA process undertaken by the Forest Service.

5.1.1 Scoping

The purpose of the scoping process is to obtain input from agencies and members of the public on the extent of the proposed project, the range of alternatives, and the content of the issue analysis in the EIS. The scoping process is described fully in section 1.6.1 of the FEIS.

The public scoping period commenced on March 18, 2016, with the Forest Service publication of the Notice of Intent to prepare an EIS in the Federal Register. The Forest Service planned for a 60-day public scoping period from March 18, 2016, to May 17, 2016. Numerous individuals and several organizations requested an extension of the public scoping period, as well as additional public scoping meetings. The Forest Supervisor, Tonto National Forest, accommodated these requests by extending the public scoping period through July 18, 2016, resulting in a total overall scoping period of 120 days.

Tonto National Forest staff held five scoping meetings in the project area that provided the public with an opportunity to ask questions, learn about the proposed project, and provide comments on issues and concerns that should be addressed in the EIS and alternatives that should be evaluated. Internal scoping efforts included several meetings and field trips with the NEPA interdisciplinary team, cooperating agencies, and Tribes.

In total, 133,653 submittals were collected during public scoping. Scoping comments were analyzed and categorized and result in the identification of 14 issues, divided into 29 sub-issues, to be evaluated during the NEPA process. These issues are as follows:

- Tribal values and concerns
- Socioeconomics
- Environmental justice
- Cultural resources
- Public health and safety, including tailings and pipeline safety, wildfires, and hazardous materials
- Water resources, including groundwater drawdown from mine dewatering; potential impacts to springs, streams, and other GDEs; potential impacts to water supplies and wells; potential impacts to groundwater and surface water quality; and potential impacts to surface water runoff amounts
- Biological resources, including threatened, endangered, and other special-status species
- Air quality
- Long-term land suitability
- Recreation
- Scenic resources, including dark sky impacts
- Transportation and access
- Noise and vibration

- Land ownership and boundary management

5.1.2 Project Update and Alternatives Development Workshop

As part of the EIS process, the Forest Service is required to investigate alternatives to various aspects of the proposed action. During the alternatives development process, in March 2017 the Forest Service hosted two in-person public workshops and one online workshop to (1) update the public on the status of the EIS process, (2) describe the alternatives development process, and (3) solicit input on the criteria being used to evaluate alternative tailings storage facility locations. The public responses showed that the tailings storage location was their primary concern, with protection of streams and springs having the highest concern. The Forest Service used the information gathered to inform the evaluation and comparison of alternative tailings storage facility locations during the alternative development process.

5.1.3 Public Comments on the Draft Environmental Impact Statement

The DEIS public comment period disclosed analyses and anticipated impacts from the proposed project and alternatives considered. The August 9, 2019, publication of the Notice of Availability for the DEIS in the Federal Register initiated the comment period. In addition to the Federal Register notice, the Forest Service used other outreach and means of notification, including more than 15,200 postal mailings and more than 23,000 emails to the project mailing list, social media posts, news releases, website announcements, 16 newspaper notices (in English and Spanish), and posters physically displayed at 37 various local bulletin boards and areas in the project vicinity. The Forest Service held six public meetings in local communities in the vicinity of the project during the 90-day public comment period, which ended on November 7, 2019.

The locations of these meetings were chosen because they mirrored locations used during the scoping period. Meetings were held mid-week during the evening hours in Superior, San Tan Valley, Kearny, Globe, Queen Valley, and Tempe, Arizona. The Forest Service added the Tempe meeting as a result of public requests for a meeting closer to central Phoenix. The Forest Service conducted a seventh meeting with the San Carlos Apache Tribe during a special Tribal Council meeting on November 22, 2019. This occurred within an extended 135-day comment period for Tribes, which ended on December 22, 2019.

Tonto National Forest received, analyzed, and responded to over 29,000 submittals on the DEIS. Comments were reviewed and categorized based on topic. Over 5,200 individual comments extracted from the submittals were assessed. Responses to these comments are included in appendix R of the FEIS, and the FEIS was revised based on comments received.

5.2 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. Nine cooperating agencies with jurisdictional authority and/or applicable special expertise cooperated in the development of this EIS. These are as follows:

- Arizona Department of Environmental Quality
- Arizona Department of Water Resources
- Arizona Game and Fish Department
- Arizona State Land Department
- Arizona State Mine Inspector

- Bureau of Land Management
- Pinal County Air Quality Control District
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency

Arizona State Parks (Arizona State Historic Preservation Office) declined status as a cooperating agency; however, the agency has a consulting role under Section 106 of the National Historic Preservation Act (NHPA).

The cooperating agencies assisted with EIS preparation in a number of ways, including providing research and baseline data information, reviewing scientific reports, identifying issues, assisting with the formulation of alternatives, and reviewing preliminary DEIS content and other EIS materials. Of particular importance was the participation of cooperating agencies in the Groundwater Modeling Workgroup and Water Resources Workgroup, both before and after the publication of the DEIS. In these workgroups, cooperating agencies assisted the Tonto National Forest by providing their professional viewpoints on a wide variety of water-related topics, including groundwater modeling, mitigation and monitoring, and water quality impacts.

Government-to-government tribal consultation is described in detail in part 7.1 of the Draft ROD.

5.3 Summary of Public Comment on Draft Environmental Impact Statement

Comments are summarized in appendix R of the FEIS, along with the responses to those comments. The Tonto National Forest received public comments on the DEIS on virtually every issue raised during scoping. Of the 5,209 individual comments coded, 51 percent were considered non-substantive, generally expressing opposition or support for the project but containing no specific actionable comments. From the remaining comments, several issues stood out as receiving the most comments, and in general, the most complex and detailed comments.

5.3.1 NEPA, Regulatory, or Procedural Comments

These comments generally focused on whether the DEIS is sufficient with respect to the requirements of NEPA, focused on whether the comment periods provided by the Forest Service were adequate, or expressed concerns over the land exchange and the appraisal process. These comments represented roughly 10 percent of the individual comments that were coded.

5.3.2 Water-Related Comments

These comments focused largely on the scarcity of water in Arizona and the appropriateness of the project's water use in the face of climate change, Colorado River shortages, and drought. Many comments questioned whether the project's water use was accurately portrayed in the DEIS. These comments also included several detailed expert reports commenting on the groundwater modeling and water quality analyses in the DEIS. These comments represented roughly 9 percent of the individual comments that were coded.

5.3.3 Mitigation-Related Comments

One primary goal of the Tonto National Forest in publishing the DEIS was to identify mitigation suggestions for the impacts disclosed for the project, so that these mitigation concepts could be explored

and potentially incorporated into the FEIS. The process the Tonto National Forest undertook to explore these mitigation concepts is described in section 2.3.1.2 of the FEIS, and the final outcomes (required or voluntary measures) are described in appendix J of the FEIS. These comments represented roughly 7 percent of the individual comments that were coded.

5.3.4 Other Issues

Other issues with relatively high numbers of comments include alternatives-related comments (5 percent), tribal values (3 percent), and socioeconomics (3 percent). Many comments were received directly from tribal members about the sacredness and importance of Oak Flat to them, their lives, their culture, and their children. Many expressed their sadness and anger that their sacred place would be destroyed and that they would lose access to their oak groves and ceremonial grounds.

Based on these comments, it was determined that the DEIS discussion of tribal impacts (section 3.14) failed to capture the true magnitude and nature of the impacts, as being shared with the Tonto National Forest during scoping comments, DEIS comments, and tribal consultation. In response, the Tonto National Forest added information on the history of Oak Flat and its significance to the Tribes; expanded the plant resources list with information gathered by the tribal monitors; included tribal monitor survey results conducted since the DEIS for special interest areas; and disclosed information from the ethnographic report while respecting the sensitive nature of that data. More importantly, in order to demonstrate in their own words the tribal members' heartbreak and pain caused by this project, the Tonto National Forest also included excerpts from the congressional testimony of Wendsler Nosie Sr., Chairman Terry Rambler, and Naelyn Pike, as well as personal perspectives and comments from tribal members collected during the DEIS comment period.

PART 6 ALTERNATIVES CONSIDERED

6.1 Alternatives Considered in Detail in the Final Environmental Impact Statement

NEPA requires consideration of a range of reasonable alternatives that can accomplish the purpose of and need for the proposed action. The Forest Service evaluated a range of alternatives to the Resolution Copper GPO, each of which

- responds to key issues raised during public scoping; project purpose and need; and applicable Federal and State laws and regulations;
- considers input from resource specialists, mining experts (project team), cooperating agency representatives, Tribes, and stakeholders; and
- is technically feasible to implement—but with differing environmental impacts and tradeoffs.

The proposed action and alternatives, including the preferred alternative (Alternative 6 – Skunk Camp), are described in detail in chapter 2 of the FEIS. The alternatives include the no action alternative and five action alternatives (out of more than 30 considered) at four separate locations, including one location not on Federal land.

Given that the location of the mine must remain where the ore body is, and the processing facilities are located on previously disturbed private land, much of the alternatives development process focused on the tailings storage facilities. One consistent public concern raised during scoping was the location of the tailings storage facility proposed in the Resolution Copper GPO. Concerns identified with the original location (known as the Near West site) included impacts to recreational use, impacts to the viewshed from the town of Superior and surrounding lands, and safety, air quality, and water quality concerns because of the proximity to Queen Valley. Scoping meetings and tribal consultation also made clear that this location was in close proximity to a number of sites of cultural importance to tribes. In addition to the *Chi'chil Bildagoteel* Historic District (Oak Flat), a tailings storage facility at the Near West location would impact Apache Leap and the Apache Leap Special Management Area, the Superstition Mountains, and Picketpost Mountain. As a result of these impacts, the alternatives development process considered locations for tailings storage facilities away from the Superior area, even though these would require pumping of tailings over longer distances. Ultimately, this led to the tailings locations for Alternatives 5 and 6. Alternative 6 is identified as the preferred alternative in the FEIS, in part because it is relatively remote and not in proximity to the culturally important features identified around Superior.

Ore extraction and processing activities as proposed in the GPO remain similar between all action alternatives, but the environmental impacts and tradeoffs among the five action alternatives vary due to the differences summarized below.

- Tailings embankment design. Alternatives 2 and 3 would use a modified-centerline embankment, Alternative 4 (as dry-stack tailings) would not require an embankment, and Alternatives 5 and 6 would use centerline embankments, with downstream embankments for the separate potentially acid generating tailings cells. In addition, Alternative 6 is constructed as a single-face, cross-valley embankment, compared with Alternatives 2, 3, and 5, which all would be free-standing (not tied into bedrock) with multiple faces.
- Tailings deposition method. All of the alternatives would transport the tailings to the tailings storage facility in pipelines as a slurry. The alternatives then differ on the treatment of the tailings prior to deposition. Alternatives 2, 5, and 6 would all use thickened slurry tailings (50 to 70 percent solids). Alternative 3 would use ultrathickened tailings with even less water content

(70 percent solids). Alternative 4 would use filtered tailings (over 85 percent solids), which are no longer considered a slurry, but instead are handled and stacked as solids using conveyors and mechanical equipment.

- Geographic location and affected surroundings of the proposed tailings storage facility. Tailings for Alternatives 2 and 3 are placed at the location proposed by Resolution Copper in the GPO, on Tonto National Forest lands, west of the town of Superior. This area has high recreation use and high visibility. The proximity to Queen Creek also makes control of seepage from the tailings storage facility difficult to control. Alternative 4 (a dry-stack facility) is located on Tonto National Forest lands adjacent to the West Plant Site. This area is also highly visible, the terrain is steep and challenging, and control of seepage is also a concern. Alternative 5 is located on BLM-managed and Arizona State Trust lands east of the town of Florence, almost 30 miles from the mine. This area is more remote than the other locations, but still in relatively close proximity to the town of Florence and a highly used recreation area. Seepage losses are greater at this location because the foundation is porous alluvial material, but the distance downstream to the Gila River is great enough that there is adequate opportunity to capture and control seepage. Alternative 6 (the preferred alternative) is the most remote location, roughly adjacent to the Ray Mine, in Dripping Spring Wash, on private and Arizona State Trust lands. Alternative 6 offers the best ability to control seepage and protect water quality, has the least visibility, and is located in an area with relatively little recreation use.

6.2 Environmentally Preferred Alternative

CEQ regulations (40 CFR 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 NEPA Section 101, and that will cause the least damage to the biological and physical environment and best protect, preserve, and enhance historic, cultural, and natural resources. As described in part 3 of the Draft ROD, of the action alternatives the Alternative 6 tailings storage location results in reduced impacts with respect to water quality, water resources, public safety, recreation and scenic values, and tribal values.

The no action alternative analyzed in the FEIS would have the least environmental impact of all the analyzed alternatives and is the environmentally preferred alternative. Under the no action alternative, the proposed Resolution Copper Project would not be approved for mining or any associated development. This would eliminate the risk of local environmental impacts from mining, including preventing a subsidence area, eliminating the water use required for the mine, and eliminating the need for a tailings storage facility.

The no action alternative cannot be selected in this Draft ROD because the land exchange was mandated by Congress, and the Forest Service does not regulate mining operations on private land. The FEIS necessarily analyzed the possibility that the land exchange would not occur, and under this scenario the Forest Service would regulate mining operations in the area to be mined on Oak Flat. The land exchange is not discretionary since it was mandated by Congress (16 U.S.C. § 539p). Per the land exchange, Oak Flat will be private property; and as recognized by PL 113-291, the Forest Service does not regulate mining operations on private property.

6.3 Alternatives Eliminated from Detailed Analysis

The Forest Service analyzed other potential alternatives as well, seeking to minimize project impacts, but ultimately these alternatives were eliminated from detailed analysis. These are detailed in appendix F of the FEIS and included the following:

- Assessment of alternative mining techniques, other than the proposed block caving method. Using other underground techniques potentially had great benefits, potentially preventing a subsidence crater from developing and allowing for backfill of tailings underground. Ultimately, however, no alternative mining methods were considered reasonable.
- Assessment of placement of tailings in brownfield sites, particularly old mine pits in central and southern Arizona. No reasonable brownfield locations were found during this assessment.
- Assessment of over a dozen other locations for the tailings storage facility, including areas in the Superior Basin, in the East Salt River valley, south of the Gila River (where Alternative 5 is located), and east of the proposed mine (where Alternative 6 is located).

PART 7 LEGALLY REQUIRED FINDINGS

My decision is specific to authorization of road use, power lines, and pipelines of the project. However, the following subparts demonstrate the legal, regulatory, and procedural compliance of the project in its entirety.[6]

7.1 Tribal Consultation and Coordination (Executive Order 13175) and Consultation with Tribes on Indian Sacred Sites (Executive Order 13007)

7.1.1 Tribal Consultation

Federal agencies are required to consult with American Indian Tribes as part of the Advisory Council on Historic Preservation (ACHP) regulations, Protection of Historic Properties (36 CFR 800), implementing Section 106 of the NHPA. Accordingly, the NHPA outlines when Federal agencies must consult with Tribes and the issues and other factors this consultation must address. Pursuant to Executive Order (EO) 13175, 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.

EO 13007 requires Federal agencies, to the extent practicable, to accommodate access to and use of sacred sites by Indian religious practitioners, and to avoid adversely affecting the physical integrity of such sacred sites.

Additionally, PL 113-291 mandates that the Forest Service engage in government-to-government consultation with affected Indian Tribes concerning issues of concern related to the land exchange. Subsequent to this tribal consultation, the Forest Service was mandated to consult with Resolution Copper and "seek to find mutually acceptable measures to address tribal concerns and minimize the adverse effects to affected Tribes resulting from mining and related activities on the Federal land conveyed to RCM." Surface disturbance will result in significant and irreversible impacts to *Chí'chil Biłdagoteel* Historic District (Oak Flat), a traditional cultural property listed in the National Register of Historic Places.

The Tonto National Forest has been conducting tribal consultation related to various Resolution Copper projects, the land exchange, and the Apache Leap Special Management Area environmental assessment. 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. A full list of consultation efforts is contained in appendix S of the FEIS. The following affected Tribes are involved in the consultation process:

- Fort McDowell Yavapai Nation
- Gila River Indian Community
- Hopi Tribe
- Mescalero Apache Tribe
- Pueblo of Zuni
- Salt River Pima-Maricopa Indian Community

[6] This list is not exhaustive. For a complete list of all applicable laws, regulations, and agency policies for this project, see chapters 1 and 3 of the FEIS, and the project record.

- San Carlos Apache Tribe
- Tonto Apache Tribe
- White Mountain Apache Tribe
- Yavapai-Apache Nation
- Yavapai-Prescott Indian Tribe

Additional Tribes were included in consultation with the introduction of the Peg Leg alternative location. These Tribes, included at the BLM's request, are as follows:

- Ak-Chin Indian Community
- Fort Sill Apache Tribe
- Pascua Yaqui Tribe
- Tohono O'odham Nation

7.1.2 Development of Programmatic Agreement

As noted in part 7.6, the Forest Service complied with Section 106 of the NHPA through the development of a PA in consultation with the State Historic Preservation Office (SHPO), ACHP, USACE, BLM, Tribes, and other consulting parties; the final version of the PA circulated for signature can be found in appendix O of the FEIS. Several components of the PA directly address treatment of historic properties:

1. **Oak Flat Historic Properties Treatment Plan (HPTP):** The Forest Service has completed preparation of an archaeological historic properties treatment plan for the Oak Flat Federal Parcel to resolve adverse effects on historic properties eligible for the National Register of Historic Places under Criterion D. The implementation of the Oak Flat HPTP will begin as soon as the PA is fully executed. The work is not likely to be completed prior to the land transfer. However, the transfer will not disrupt the completion of the measures listed in the HPTP.
2. **GPO Research Design and Treatment Plans:** The Forest Service has prepared an archaeological research design (GPO Research Design) in consultation with the SHPO, Tribes, and appropriate managing agencies to guide the development of treatment plans to address adverse effects on historic properties within the other Resolution Copper GPO project areas, and the Section 404 permit compensatory mitigation parcels (i.e., West Plant Site, MARRCO corridor, tailings facility, etc.), depending on the final alternative that is selected. The Forest Service determined, in consultation with the signatories and consulting parties, that the multiple treatment plans approach, rather than a single GPO HPTP, is needed because the GPO covers several large areas, each with its own cultural background and topography. The individual treatment plans will be tiered to the GPO Research Design, and tailored to fit the mitigation needs of each GPO project area. The work identified in the treatment plans will be completed prior to the proposed ground-disturbing activities in the GPO project areas.
3. **Visual, Atmospheric, Auditory, Socioeconomic, and Cumulative Effects Mitigation Plan(s)**: Within 9 months of the issuance of the Final ROD, the Forest Service will prepare, in consultation with SHPO and the other consulting parties, a draft plan or plans outlining a process to mitigate visual, atmospheric, auditory, and cumulative effects (indirect or direct) identified within the visual/auditory/atmospheric/socioeconomic area of potential effects.
4. **Archaeological Database Funds:** In recognition of the substantial loss of cultural resources and historic properties on State Trust lands, Resolution Copper will fund the creation and/or enhancement of existing electronic archaeological databases to assist the State of Arizona with management of these assets.

Section 3003 of PL 113-291 required Resolution Copper and the Forest Service to develop mutually acceptable measures to address tribal concerns and minimize the adverse effects to affected Tribes. During government-to-government consultation, the affected Tribes provided the Forest Service with numerous suggestions on ways to help minimize the adverse effects of the proposed project on areas and resources of tribal interest. The mitigation measures that the Forest Service developed in response to tribal input are contained in the PA. The PA describes the separate mitigation measures in addition to actions related to Section 106 compliance, and is the document through which Resolution Copper commits to implementing those measures.

Resolution Copper has committed to create three compensatory mitigation funds for five tribal programs that will be available to the 11 consulting Tribes. The administration and management of the three funds will be the responsibility of a to-be-determined 501(c)(3) organization(s). The National Forest Foundation is a candidate for the administration of those programs and funds, which require coordination with the Forest Service, although the final selection is yet to be made. Funding for the programs is timed to specific milestones/actions and will be memorialized in a separate agreement between the Forest Service and Resolution Copper. The five programs are as follows:

1. **The Emory Oak Collaborative Tribal Restoration Initiative**: Funds the implementation of the treatments for the Emory Oak Collaborative Tribal Restoration Initiative, a multi-year restorative fieldwork program for Emory oak groves located in the Tonto and Coconino National Forests. Developed through consultation with the Forest Service and Tribes, the program is designed to restore and protect Emory oak groves that are accessed by Apache communities for traditional subsistence gathering and ensure their sustainability for future generations. The program funds the long-term restorative treatment, maintenance, and monitoring for the Emory oak, and includes research, cultural activities, and educational activities.
2. **Tribal Monitoring Program**: Funds the long-term continuation of the existing Tribal Monitor Program and administration, program development, training, and funding for monitors working on NHPA Section 106 and 110 projects on public lands.
3. **Tribal Youth Program**: Funds the development of a Tribal Youth Program in partnership with the Forest Service and consulting Tribes to provide cultural and educational opportunities to Tribal Youth on Forest Service lands.
4. **Tribal Cultural Fund**: Funds to address unique and specific tribal proposals brought forth by Tribes during government-to-government consultation. The fund will provide a mechanism to fulfill tribal requests that do not fit under the other funding programs, such as direct funding to assist tribal projects, programs, and infrastructure.
5. **Tribal Education Fund**: Funds scholarships for 2-year and 4-year programs of study for members of the consulting Tribes.

Several other non-financial measures were included in the PA as well, to address the concerns of the affected Tribes and minimize the adverse effects from mining and related activities on the conveyed lands. These include the following:

1. **Resource Salvage**. The Forest Service is facilitating the salvage of resources (e.g., culturally important plants and mineral resources) to address the loss of access to traditional collection areas and a loss of access to the *Chí'chil Biłdagoteel* Historic District within the Oak Flat Federal Parcel (selected lands). To the extent practicable and in collaboration and partnership with Tribes, an inventory will be conducted to identify the natural resources within the Oak Flat Federal Parcel area, pipeline corridor, and tailings storage facility footprint. When the inventory is complete, the resources will be "salvaged" (collected) and the material gathered will be distributed amongst the Tribes for traditional and cultural use.

2. **Access to Oak Flat:** Resolution Copper will provide access to the surface of the Oak Flat Campground to members of the public and Tribes, to the maximum extent practicable and consistent with health and safety requirements, until the operation of the mine precludes public access for safety reasons. An Oak Flat Campground and Access Management Plan is complete and follows the current management practices of the Tonto National Forest for the site (Resolution Copper 2020a). The plan ensures access to Oak Flat Campground to the public and tribal members and provides stipulations for closing the campground to accommodate tribal ceremonies and other activities. Resolution Copper will allow access to and use of the Oak Flat Campground until such time as mining activities make further use unsafe.

7.1.3 American Indian Religious Freedom Act of 1978 and Religious Freedom Restoration Act of 1993

The American Indian Religious Freedom Act states that no Federal lands may be managed in a manner that undermines and frustrates a traditional Native American religion or religious practice, except management decisions for those lands where it is necessary to protect a compelling government interest. The law states, "In making such a management decision, the Federal agency shall attempt to accommodate the various competing interests and shall, to the greatest extent feasible, select the course of action that is least intrusive on traditional Native religions or religious practices."

The Religious Freedom Restoration Act states that the government shall not substantially burden a person's exercise of religion, with the following exception. A government may substantially burden a person's exercise of religion only if it demonstrates that application of the burden to the person: (1) is in furtherance of a compelling governmental interest; and (2) is the least restrictive means of furthering that compelling governmental interest. The act allows for judicial relief for a person whose religious exercise has been burdened in violation of this act.

The Forest Service has a responsibility to ensure that decisions affecting NFS lands do not substantially burden the rights of Native Americans and others to practice their religion.

The exchange of lands with Resolution Copper is congressionally mandated and is not part of this ROD. The decisions to authorize special uses on NFS land for the pipelines, power lines, and use of roads do not substantially burden the rights of Native Americans and others to practice their religion. Therefore, I find that the selected Federal action complies with the American Indian Religious Freedom Act and the Religious Freedom Restoration Act.

7.1.4 Summary of Compliance with Executive Orders 13175 and 13007, and with Section 3003 of PL 113-291

In addition to binding requirements for treatment of historic properties and for implementing measures to address impacts to resources of tribal interest, the PA also serves to clearly acknowledge the continued tribal opposition to the project. As articulated in the final version of the PA circulated for signature included with the FEIS (appendix O), representatives of the Hopi Tribe, Mescalero Apache Tribe, Pueblo of Zuni, San Carlos Apache Tribe, Tonto Apache Tribe, and White Mountain Apache Tribe have crafted the following statement:

> The Tribes have had the opportunity to be active in the consultation, review, and comment processes of the project and it has been made clear to the Forest Service that no Tribe supports the desecration/destruction of ancestral places where ancestors have lived, as these are considered alive and sacred. It is a tribal cultural imperative that these places should not be disturbed for any reason. For tribal members, continued access to the land and all its resources is necessary for their culture and they have expressed that access should be accommodated for present and future generations. Tribal members have communicated that participation in the design of this destructive activity has caused considerable emotional stress and brings direct harm to the traditional way of life to Tribes; however, it is still deemed necessary to ensure ancestral homes and ancestors receive the most thoughtful and respectful treatment possible.

I acknowledge the opposition to the Resolution Copper Project by the consulted Tribes. Through the development of alternatives I have sought to place the tailings storage facility away from sensitive cultural places, including Apache Leap, Picketpost Mountain, and the Superstition Mountains. Through consultation I have sought with tribal input to identify and require mutually acceptable measures to address the concerns of the affected Tribes and minimize the adverse effects from mining and related activities on the conveyed lands. These measures are incorporated into and required by the PA.

I find that the selected Federal action complies with EOs 13175 and 13007, and with Section 3003 of PL 113-291.

7.2 National Forest Management Act of 1976 and the Tonto National Forest Revised Forest Plan

The National Forest Management Act of 1976 requires that all development, maintenance, permits, contracts, and other instruments for the use and occupancy of NFS land be consistent with Forest Service land and resource management plans.

A review of all components (184 total) of the 1985 forest plan, as amended through 2017,[7] was conducted to identify the need for amendment due to the effects of the project, including both the land exchange and the proposed mine plan of operations. The Tonto National Forest then analyzed the effects of any forest plan amendment in the FEIS.

The 1985 forest plan consistency review indicated that amendments would be necessary only if Alternative 2, 3, or 4 became the selected alternative in the project decision, and that the resulting forest plan amendment for those alternatives would solely reconcile the Visual Quality Objective (VQO) and recreation opportunity spectrum (ROS) management classes for one standard and guideline in Management Area (MA) 2F and one standard and guideline in management area MA 3I. The changes in VQO and ROS management classes resulting from Alternative 6 were found to be consistent with the existing management class percentages for the Tonto National Forest. Therefore, I find that the authorized uses do not require an amendment to the forest plan.

7.3 National Environmental Policy Act

The Resolution Copper Project has the potential to result in significant effects on the environment. Therefore, in accordance with the provisions of NEPA, this decision considers alternatives and mitigation developed to minimize degradation to the environment. In addition, Congress required in PL 113-291 that the Tonto National Forest prepare a single EIS "which shall be used as the basis for all decisions under Federal law related to the proposed mine and the Resolution mine plan of operations and any related

[7] While the Tonto National Forest is currently revising their forest plan, until the Final ROD for the revised forest plan is signed, current management of the Forest is directed by the 1985 forest plan, as amended.

major Federal actions significantly affecting the quality of the human environment, including the granting of any permits, rights-of-way, or approvals for the construction of associated power, water, transportation, processing, tailings, waste disposal, or other ancillary facilities."

My conclusions are 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 acknowledgement of 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 EIS. Specifically with respect to water resources, including analysis of impacts from groundwater modeling and water quality, and subsidence-related impacts, the Forest Service undertook substantial multidisciplinary investigation. The Tonto National Forest formed multiple workgroups with qualified professionals from multiple agencies and interested parties to ensure that the full range of professional opinions was considered and disclosed.

The FEIS discloses potential project impacts and makes environmental information available to agency decision makers, other agencies, Tribes, and the public. Therefore, I find that the selected Federal action complies with the National Environmental Policy Act, as amended.

7.4 Organic Administration Act of 1897

The Organic Administration Act, as amended, authorizes the Forest Service to regulate use and occupancy on NFS lands. The Forest Service's special use regulations are promulgated at 36 CFR 251, Subpart B (see part 2 above in this document). The selected action includes feasible and practicable measures to minimize adverse environmental impacts to NFS surface resources (see FEIS appendix J and part 4 above in this document) to ensure compliance with applicable environmental laws and regulations. Therefore, I find that the selected Federal action complies with the 1897 Organic Administration Act, as amended.

7.5 Endangered Species Act

Under Section 7 of the Endangered Species Act, the Forest Service must consult with the FWS 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" that the Secretary of the Interior determines to be critical (16 U.S.C. 1536).

A Biological Assessment was prepared for the Resolution Copper Project to identify endangered or threatened species likely to be affected by this decision. The Biological Assessment states that implementation of this decision "may affect and is likely to adversely affect" endangered Arizona hedgehog cactus and "may affect but is not likely to adversely affect" Gila chub, Gila chub designated critical habitat, northern Mexican gartersnake, southwestern willow flycatcher, yellow-billed cuckoo, and yellow-billed cuckoo proposed critical habitat. The FWS issued a Biological Opinion in December 2020 containing concurrence with these effects determinations. Therefore, I find that the selected Federal action complies with the Endangered Species Act.

7.6 National Historic Preservation Act

Section 106 of the NHPA requires Federal agencies to identify historic properties, assess effects of their undertakings on historic properties, and afford the ACHP an opportunity to comment on such undertakings. The 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 officials and other parties with an interest in the effects of the undertaking on historic properties.

The Forest Service initiated consultation with the SHPO on March 31, 2017; with the ACHP on December 7, 2017; and with 11 Tribes on the prefeasibility exploration plan for the Resolution Copper Project via a letter dated June 6, 2008, for the land exchange via a letter dated August 4, 2015, and with four additional Tribes on December 3, 2018.

The Forest Service determined that due to the complexity of the project, a PA would be needed to modify the Section 106 processing moving forward. The Forest Service has developed a PA in consultation with the SHPO, ACHP, Tribes, and other consulting parties. The PA 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 PA, the Forest Service has complied with its Federal responsibilities under the National Historic Preservation Act.

7.7 Migratory Birds

The Migratory Bird Treaty Act of 1918, as amended, makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. In January 2001, President Clinton signed EO 13186 requiring Federal agencies (specifically, those taking actions that may negatively impact migratory birds) to develop a memorandum of understanding (MOU) with the FWS to promote the recommendations of various migratory bird programs and conservation considerations. The Forest Service developed an MOU with the FWS in 2008. The needs of migratory birds have been incorporated into the Tonto National Forest planning process, and specific mitigation measures are required in this decision.

Potential impacts to migratory birds are described in section 3.8.4.2 of the FEIS. Unintentional take will likely impact individual birds and local migratory bird populations, varying by species due to life history traits and habitat use. Potential population-level impacts will likely be greater for species that breed in the analysis area and less for species that use the area only during migration or as wintering habitat. However, impacts on regional and overall migratory bird populations will likely be negligible. Appropriate measures to minimize those impacts, such as ground clearing new mining areas outside of nesting seasons, are described in part 4 of this document.

While the selected action could result in unintentional take of migratory bird species, approval of these special use authorizations considers these impacts and includes measures to minimize impacts. Therefore, I find the selected Federal action complies with the Migratory Bird Treaty Act, as amended.

7.8 Water Pollution Control Act of 1972 (Clean Water Act)

The Federal Water Pollution Control Act of 1972 (PL 92-500), as amended in 1977 (PL 95-217) and 1987 (PL 100-4), is also known as the Clean Water Act (CWA). The CWA establishes a non-degradation policy for all federally proposed projects to be accomplished through planning, application, and monitoring of best management practices. Identification of best management practices is mandated by Section 319 of the Water Quality Act of 1987, which states, "It is national policy that programs for the control of non-point sources of pollution be developed and implemented." Sediment control best management practices are required for road construction and maintenance. The stormwater permit(s), if needed, will also require best management practices for operational control of runoff and sediment.

The Forest Service is responsible for ensuring that operations on NFS lands obtain the proper permits and certifications to demonstrate they comply with applicable Federal and State water quality standards, including regulations issued pursuant to the CWA. My decision to approve these special uses requires

- that in accordance with Section 401 of the CWA, the proponent obtain a water quality certification from the ADEQ, unless the ADEQ waives its issuance;[8] and
- that in accordance with Section 402 of the CWA, the proponent obtain any appropriate 402 stormwater or surface water discharge permits from the ADEQ, if determined by that agency to be required. ADEQ has primacy for implementing this provision of the CWA; and
- that in accordance with Section 404 of the CWA, if the USACE has determined that a permit for any dredge or fill activities to waters of the U.S. is required, as is currently understood, the proponent must obtain the Section 404 permit to be in compliance with the CWA.

The issuance of these permits, along with the USACE's permit decision and conditions on the 404 permit, constitute compliance with CWA requirements. Therefore, with these conditions in place, I find that the selected Federal action complies with the Clean Water Act.

7.9 Federal Noxious Weed Act of 1974 and Invasive Species (Executive Order 13112)

The Noxious Weed Act was established for the control and eradication of noxious weeds, and the regulation of the movement in interstate or foreign commerce of noxious weeds and potential carriers thereof, and for other purposes. Similarly, EO 13112 directs Federal agencies (in part) to prevent the introduction of invasive species; provide for their control; and minimize the economic, ecological, and human health impacts that invasive species cause.

Resolution Copper and SRP are required as a condition of the special use authorizations to update their invasive species management plan in coordination with the Tonto National Forest. The invasive species management plan will address the treatment and control of noxious weeds throughout all pipeline and power line corridors. Preparation and implementation of this plan will meet the requirements of the Noxious Weed Act. Therefore, with these conditions, I find that the selected Federal action complies with EO 13112 and the Noxious Weed Act.

7.10 Wetlands (Executive Order 11990) and Floodplains (Executive Order 11988)

EO 11990 requires Federal agencies to avoid, to the extent possible, the long- and short-term adverse effects associated with the destruction or modification of wetlands. Federal agencies must find that there is no practicable alternative to new construction located in wetlands, and that the selected action includes all practicable measures to minimize harm to wetlands. Agencies may take into account economic, environmental, and other pertinent factors in making this finding.

Section 404 of the CWA authorizes the USACE to issue permits for activities that will result in the placement of dredged or fill material in waters of the U.S., which include special aquatic sites like wetlands. Before a permit can be issued, Section 404(b)(1) guidelines require that projects avoid impacts to the extent possible, minimize impacts that cannot be avoided, and provide compensatory mitigation for impacts that occur. The estimated total impacts to waters of the U.S. from the tailings storage facility footprint, pipeline corridor, and associated facilities is 188.3 acres. Resolution Copper will be required by conditions in the special use authorization to obtain Section 404 approval from the USACE prior to

[8] The ADEQ issued the Section 401 water quality certification for the Resolution Copper Project on December 22, 2020.

impacting potentially jurisdictional waters of the U.S., if the USACE determines that a permit is required. The issuance of the Section 404 permit will affirm my finding that the selected Federal action complies with EO 11990.

EO 11988, as amended by EO 13690, requires Federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. Federal agencies must take floodplain management into account, consistent with the Federal Flood Risk Management Standard, when formulating or evaluating water and land use plans and require land and water resources use appropriate to the degree of flood hazard involved.

Operations under these special uses will have limited impacts on floodplains. The pipeline corridor crosses Queen Creek, Devil's Canyon, and Mineral Creek, but does not impact mapped floodplains. Instead, the corridor spans Queen Creek and Devil's Canyon, and uses a trenchless crossing for Mineral Creek. Due to the limited area of impacted floodplains, I find that approval of these special uses complies with Executive Order 11988.

7.11 Clean Air Act of 1963

The Clean Air Act (CAA), as amended, is designed to control air pollution on a national level by establishing a Federal program for monitoring and controlling air pollution by regulating air emissions from stationary and mobile sources. The Forest Service is responsible for ensuring that uses on NFS lands comply with applicable Federal and State air quality standards, including the CAA requirements. Consequently, Resolution Copper will be required to obtain a State of Arizona or Pinal County air quality permit if applicable for their activities on NFS land. Whichever agency has primacy over implementation of CAA regulations—the ADEQ or the Pinal County Air Quality Control District—would determine the necessity of such permitting.

The issuance of an air quality permit, if required, constitutes compliance with CAA requirements. Therefore, with these permits in place, I find that the selected Federal action complies with the Clean Air Act, as amended.

7.12 Environmental Justice (Executive Order 12898)

EO 12898 requires Federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects on minority and low-income populations when implementing their respective programs, including American Indian programs. The Resolution Copper Project FEIS analysis of environmental justice follows the CEQ's guidance on environmental justice, the U.S. Environmental Protection Agency's guidance on environmental justice, and the U.S. Department of Agriculture's regulation on environmental justice. The U.S. Department of Agriculture's regulations indicate that an effect on a minority or a low-income population is disproportionately high and adverse if the adverse effect is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the nonminority population and/or non–low-income population.

The FEIS analysis found that implementation of the Resolution Copper Project will result in impacts considered both high and disproportionate on environmental justice communities, including impacts to scenic resources and dark skies, impacts to transportation networks, and impacts associated with tribal values and cultural resources. The town of Superior would experience the most direct impacts due to its immediate proximity to Resolution Copper Project operations (see section 3.15.4 of the FEIS).

Assessing and addressing the tribal value and cultural resource impacts to Native American Tribes was, and remains, a high priority of the Tonto National Forest, and one purpose of pursuing the PA.

Based on mitigation measures identified in appendix J of the FEIS that address effects on scenic resources, dark skies, transportation networks, and impacts associated with tribal values and resources, I find that the selected Federal action complies with Executive Order 12898.

7.13 Special Uses

The Tonto National Forest Land and Resource Management Plan allows 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 linear corridors for pipelines and power lines. The portions of the project that are authorized in this ROD meet the special uses screening criteria and considerations put forth at 36 CFR 251 Subpart B.

7.14 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. Resolution Copper would comply with applicable State and Federal hazardous waste regulations. There is an exclusion for "solid waste from the extraction, beneficiation, and processing of ores and minerals;" therefore, the tailings transported by the pipelines are not considered hazardous waste (40 CFR 261.4(b)(7)). No hazardous waste would be generated, stored, handled, or disposed of on NFS lands. Therefore, I find that the selected Federal action complies with the Resource Conservation and Recovery Act.

PART 8 ADMINISTRATIVE REVIEW OPPORTUNITIES

This proposed decision to authorize the use of NFS land and roads is subject to predecisional objection pursuant to 36 CFR 218, Subparts A and B. Objections will only be accepted from those who submitted project-specific written comments during scoping or other designated comment periods. Issues raised in objections must be based on previously submitted comments unless based on new information arising after the designated comment period(s).

Objections must be submitted within 45 days following the publication of the legal notice in the *Arizona Capitol Times*, the Tonto National Forest paper of record. The date of this legal notice is the exclusive means for calculating the time to file an objection. Those wishing to object should not rely upon dates or time frames provided by any other source. It is the objector's responsibility to ensure evidence of timely receipt (36 CFR 218.9).

Objections, including attachments, must be addressed to the Reviewing Official, Regional Forester, filed via mail or express delivery to 333 Broadway Boulevard SE, Albuquerque, New Mexico 87102; by facsimile to (505) 842-3800; or by email to objections-southwestern-regional-office@usda.gov. An automated response will confirm the electronic objection has been received. If an automated response is not received, it is the sender's responsibility to ensure timely filing by other means. Electronic objections must be submitted in Microsoft Word, portable document format (PDF), or rich text format (RTF). The subject line for electronic submissions should contain the words "Resolution Copper Project".

At a minimum, an objection must include the following (36 CFR 218.8(d)):

1. Objector's name and address as defined in 36 CFR 218.2, with a telephone number, if available.
2. Signature or other verification of authorship upon request (a scanned signature for electronic mail may be filed with the objection).
3. When multiple names are listed on an objection, identification of the lead objector as defined in 36 CFR 218.2. Verification of the identity of the lead objector must be provided upon request or the reviewing officer will designate a lead objector as provided in 36 CFR 218.5(d).
4. The name of the proposed project, the name and title of the responsible official, and the name(s) of the national forest(s) and/or ranger district(s) on which the proposed project will be implemented.
5. A description of those aspects of the proposed project addressed by the objection, including specific issues related to the proposed project; if applicable, how the objector believes the environmental analysis or draft decision specifically violates law, regulation, or policy; suggested remedies that would resolve the objection; and supporting reasons for the reviewing officer to consider.
6. A statement that demonstrates the connection between prior specific written comments on the particular proposed project or activity and the content of the objection, unless the objection concerns an issue that arose after the designated opportunity for comment (see 36 CFR 218.8(c)).

Including documents by reference is limited to incorporation of all or any part of a Federal law or regulation, agency directives and land management plans, documents referenced by the agency in specific proposed project documentation, or comments previously provided by the objector during an opportunity to comment. If the objector included copies of cited and/or supporting materials with their comments, they are not required to submit them again ("comments previously provided"). All other documents must be included with the objection.

8.1 Implementation Timeline

When no objection is filed within the objection filing period (per 36 CFR 218.26 and 218.32), the reviewing officer must notify the responsible official. Approval of the proposed project or activity documented in the ROD may occur on, but not before, the fifth business day following the end of the objection filing period (36 CFR 218.12(c)(1 and 2)).

When an objection is filed, the responsible official may not sign the ROD subject to the provisions of 36 CFR 218.12 until the reviewing officer has responded in writing to all pending objections (see 36 CFR 218.11(b)(1)). Additionally, the responsible official may not sign the ROD subject to the provisions of 36 CFR 218 until all concerns and instructions identified by the reviewing officer in the objection response have been addressed (36 CFR 218.12(b)). Once the responsible official has complied with any instructions from the reviewing officer, the ROD can be signed, and implementation can take place immediately.

8.2 Contact Person

For additional information concerning this decision or the Forest Service administrative review process, contact Mary Rasmussen, Project Team Leader, Tonto National Forest Supervisor's Office, located at 2324 East McDowell Road, Phoenix, Arizona 85006. She may be reached via email at mary.rasmussen@usda.gov.

Signature and Date

As the Forest Service responsible official, I certify that this agency decision was informed by all of the alternatives, information, analyses, and objections submitted by State, Tribal, and local governments and public commenters for consideration by the lead and cooperating agencies in developing the environmental impact statement.

_____ _____

Tom Torres **Date**
Acting Forest Supervisor
Tonto National Forest

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APPENDIX A

SUMMARY OF APPLICANT-COMMITTED ENVIRONMENTAL PROTECTION MEASURES, MONITORING, AND MITIGATION NOT INCLUDED AS TERMS AND CONDITIONS FOR AUTHORIZED USE OF NATIONAL FOREST SYSTEM LANDS

This appendix describes applicant-committed environmental protection measures, mitigation, and monitoring measures that are not related to uses of NFS land and are therefore not being required as terms and conditions of authorizing uses of NFS land. Many of the measures listed in this appendix will be required under other legally binding agreements or by other State or Federal agencies, and this is noted for each measure when applicable. Other measures listed in this appendix remain solely voluntary on the part of Resolution Copper, though Resolution Copper has publicly committed to implementing them and future binding agreements could incorporate them.

Soils, Vegetation, and Reclamation

Arizona State Land Department Right-of-way Permits

The applicant-committed environmental protection measures related to soils, vegetation, and reclamation that were described in part 4 of the ROD may also be included as conditions in right-of-way permits or other authorizations for the portions of the tailings pipeline and power line corridors that cross Arizona State Trust land.

Arizona State Mine Inspector

As noted in part 4 of the ROD, the Forest Service is requiring implementation of reclamation plans for uses on NFS land. The reclamation activities applicable to NFS land are part of a larger reclamation plan for the entire Resolution Copper facility, including the East Plant Site, West Plant Site, filter plant and loadout facility, and tailings storage facility.

The Arizona State Mine Inspector regulates mining activities on private land in Arizona, and the primary action required is the implementation of reclamation activities at the site, including requirements for certification, plan updates, annual reporting, and financial assurance. Resolution Copper currently holds a plan authorizing the reclamation of surface disturbances at the East Plant Site and West Plant Site.

Implementation of reclamation plans for all mine activities, not just those on NFS land, will be required by the Arizona State Mine Inspector, who will determine what reclamation is appropriate under pertinent regulations.

Biological Opinion

The many applicant-committed environmental protection measures related to soils, vegetation, and reclamation that were described in part 4 of the ROD are also included as conservation measures in the Biological Opinion signed by the FWS on December 31, 2020 (appendix P of the FEIS). The analysis of impacts to threatened and endangered species contained in the Biological Opinion, and notably impacts to the endangered Arizona hedgehog cactus, accepts that the conservation measures will occur as described as a foundation for the analysis of impacts.

One specific conservation measure included in the Biological Opinion was developed during Section 7 consultation. Resolution Copper committed to recording a conservation easement on portions of the JI Ranch. The conservation easement's purpose shall be for the protection of the Arizona hedgehog cactus and will be at least 100 acres, comprising one or multiple parcels excluding roads and trails, for the life of the project. The Forest Service included this as measure "**FS-SV-02: JI Ranch**" in appendix J of the FEIS.

The Biological Opinion includes a reinitiation clause. Reinitiation considerations include new information that reveals effects of the agency action (authorizing use of NFS land) that may affect listed species or critical habitat in a manner or to an extent not considered in the Biological Opinion, or if the action is subsequently modified in a manner that causes an effect on the listed species or critical habitat not

considered in the Biological Opinion. If Resolution Copper does not implement these conservation measures as assumed in the Biological Opinion, reinitiation of consultation under Section 7 of the Endangered Species Act may be warranted.

Programmatic Agreement

As noted in part 4 of the ROD, the Forest Service is requiring resource salvage on NFS lands. Resource salvage on Oak Flat and other mine areas not on NFS land is required under the Programmatic Agreement, with specific consideration given to tribal members. The PA is a binding agreement executed between Resolution Copper, the Forest Service, the U.S. Army Corps of Engineers, the Bureau of Land Management, the Arizona State Land Department, the Arizona State Museum, the Arizona State Historic Preservation Office, the Salt River Project, and the Advisory Council on Historic Properties.

Voluntary Measures and Other Future Agreements

As a voluntary measure, Resolution Copper has agreed to continue cooperative management of the 7B Ranch until BLM management can be implemented. This would involve private arrangements with The Nature Conservancy, which has not yet been undertaken and may or may not occur as planned. This is detailed as measure "**RC-SV-04: Voluntary cooperative management of 7B Ranch**" in appendix J of the FEIS.

Noise and Vibration

Voluntary Measures and Other Future Agreements

The GPO (Resolution Copper 2016b) outlines applicant-committed environmental protection measures by Resolution Copper in the "Environmental Protection Elements" section, including these measures pertinent to noise and vibration:

- Mining activities, primary crushing and conveying, will take place underground, and exhaust fans will be equipped with silencers for noise reduction. Milling will take place within a fully enclosed building.

Resolution Copper has also committed to addressing noise and vibration near the tailings facility specific to the presence of residential areas in Section 29, Township 3 South, Range 15 East, including the following measures prior to ground-disturbing activities: paving Dripping Springs Road, setting the speed limit to 15 mph, and requiring the deliveries of equipment and materials to occur during the daytime. Resolution Copper has also already purchased properties in the footprint and vicinity of the tailings storage facility. This is detailed as measure "**RC-NV-01: Dripping Springs Road mitigations**" in appendix J of the FEIS.

At this time, these measures remain solely as voluntary measures, unrelated to use on NFS land. These measures may or may not occur as planned.

Air Quality

Air Quality Permits from Pinal County and ADEQ

The various dust control measures identified in part 4 of the ROD are likely to be required not only for uses on NFS land, but also as part of air quality permits. Resolution Copper currently holds an air quality control permit that pertains to the historical mining (reclamation) and development and exploratory mining exploration facilities operated by Resolution Copper. A similar air quality permit will be required for the full operations.

The tailings facility lies within Gila County. Gila County relies on ADEQ to issue air permits within the county. At this time, it is anticipated that air permits would be obtained from the Pinal County Air Quality Control District for operations solely within Pinal County (East Plant Site, West Plant Site, filter plant and loadout facility), and from ADEQ for the tailings storage facility. Pinal County may also issue dust permits for construction, earthwork, and land development. Additional measures that Resolution Copper has committed to that may be required by the air quality permits include the following:

- Dust control on roads, including regular watering, road base maintenance and dust suppression, paving select access roads to the East Plant Site and West Plant Site with asphalt, and setting reasonable speed limits on access roads within the operational footprint.
- Dust control at the tailings storage facility, including delivering tailings to the storage facility via distribution pipelines and continuously wetting the tailings during active deposition. During non-active periods, dust emissions would be managed by establishing a temporary vegetative cover on construction areas that would be inactive and exposed for longer than 12 months, wetting inactive beaches and embankment surfaces with irrigation from sprinkler systems, and treatment with chemical or polymer dust suppressants, if necessary.
- Dust control at East Plant Site, including periodic water and/or chemical dust suppressant, normal mining controls such as wet drilling and the wetting of broken rock, application of water suppression spray to control dust ore conveyance, dedicated exhaust ventilation systems and/or enclosures for crushers and transfer points underground, performing primary crushing and conveying underground, and saturating underground exhaust ventilation.
- Dust control at West Plant Site, including housing main active ore stockpiles in fully covered buildings, applying water suppression spray to control dust ore conveyance, processing ore in a new enclosed building, and enclosing conveyor transfer points within the concentrator building. Once arriving at the concentrator complex, the ore would either be processed immediately or stockpiled in an enclosed structure for future processing.
- Dust control during shipping, including bagging molybdenum concentrate at the concentrator facility before shipping and enclosing loadout building and storage shed.

Other applicant-committed environmental protection measures committed to by Resolution Copper include those outlined in the "Final Air Quality Impacts Analysis Modeling Plan" (Air Sciences Inc. 2018) and Resolution Copper's current air quality permit. Measures that may be required by the air quality permits include the following:

- use of low-sulfur diesel in mobile and stationary equipment;
- use of a scrubber to control sulfur dioxide emissions from the drying of molybdenum concentrate at the West Plant Site;
- use of Tier 4 diesel engines (or greater); and
- use of fencing, berms, locking gates, signage, natural barriers/steep terrain (25 to 30 percent or greater), and site security measures to limit access roads and other locations near areas of heavy recreational use. These same methods would be required to limit public access within the mine site (i.e., the air modeling boundary) to prevent public exposure to mine emissions.

Solar Participation Agreement

In November 2019, Resolution Copper entered into a Solar Participation Agreement with the Salt River Project Agricultural Improvement and Power District to obtain solar power from a 100-megawatt solar photovoltaic generating facility expected to go online in January 2022. In furthering its commitment to increase its reliance on renewable energy, Resolution Copper subscribed to 4.6 percent of the generating

facility's solar power. Accordingly, by entering into the agreement, Resolution Copper has sourced renewable energy credits constituting approximately 25 percent of Resolution Copper's estimated baseload in 2022. Resolution Copper will continue to explore other opportunities to obtain renewable energy credits as the project moves forward. This is detailed as measure **"RC-AQ-01: Salt River Project solar participation agreement"** in appendix J of the FEIS.

Water Resources

Arizona Department of Environmental Quality Water Permits

In the GPO and subsequent design documents, Resolution Copper has committed to various measures to reduce impacts on water quality:

- groundwater levels will be monitored at designated compliance monitoring wells located downstream of the tailings storage facility seepage recovery embankments in accordance with the requirements of the Aquifer Protection Permit program;
- all potentially impacted water will be contained on-site during operations and will be put to beneficial use, thereby reducing the need to import makeup water;
- stormwater controls (described in detail in section 3.7.2 of the FEIS);
- engineered seepage controls (described in detail in section 3.7.2 of the FEIS);
- to the extent practicable, stormwater flows upgradient of the facilities will be diverted around the disturbed areas and returned to the natural drainage system;
- permanent diversion channels will be designed for operations and closure; and
- runoff from roads, buildings, and other structures will be handled through best management practices, including sediment traps, settling ponds, berms, sediment filter fabric, wattles, etc.

Resolution Copper will be required to obtain two permits from ADEQ: an Aquifer Protection Permit for discharges to groundwater, and a stormwater permit under the Arizona Pollutant Discharge Elimination System, which would include both operational and construction stormwater discharges. The measures described above likely will be required as part of these two permits.

Resolution Copper has also developed a water quality monitoring plan for surface water and groundwater resources located in Dripping Spring Wash downgradient of the tailings storage facility (Montgomery and Associates Inc. 2020b). The Skunk Camp Water Quality Monitoring Plan includes monitoring of numerous wells and springs along or adjacent to Dripping Spring Wash, and in the Gila River just downstream of its confluence of Dripping Spring Wash. While portions of this plan overlap with permitting requirements, this monitoring plan exceeds the likely monitoring requirements to be implemented under the two ADEQ water quality permits. The monitoring above and beyond the ADEQ permits reflects a voluntary measure, unrelated to use on NFS land. These measures may or may not occur as planned.

Compensatory Mitigation under Section 404 Individual Permit

Resolution Copper has proposed a package of compensatory mitigation as part of the Clean Water Act Section 404 permitting process. This compensatory mitigation is detailed in measure "**FS-WR-02: 404 Compensatory Mitigation Plan**" in appendix J of the FEIS. This package has been approved by the USACE and is included in appendix D of the FEIS. The three compensatory mitigation parcels approved under the Section 404 permitting process are the MAR-5 Wetland/Olberg Road site, the Queen Creek site, and the H&E Farm site.

Voluntary Measures and Other Future Agreements

Resolution Copper also has committed to various measures to reduce the amount of water used by the project, including the following:

- recycling as much water as possible for reuse;
- sourcing approximately one-half of Resolution Copper's water needs from long-term storage credits (surface water stored underground); and
- including the beneficial reuse of existing low-quality water sources, such as impacted underground mine dewatering water, in the project water supply.

The primary water supply for the Resolution Copper Project is obtained from the Desert Wellfield, located in the East Salt River valley, which is within the Phoenix Active Management Area. Under Arizona water law, all groundwater pumped within an Active Management Area must obtain a groundwater right from the Arizona Department of Water Resources. While Resolution Copper has obtained long-term storage credits to offset groundwater use, this is not required under water use regulations.

At this time, these measures remain solely as voluntary measures, unrelated to use on NFS land. These measures may or may not occur as planned.

Wildlife

Arizona State Land Department Right-of-way Permits

The applicant-committed environmental protection measures related to wildlife that were described in part 4 of the ROD may also be included as conditions in right-of-way permits or other authorizations for the portions of the tailings pipeline and power line corridors that cross Arizona State Trust land.

Biological Opinion

The many applicant-committed environmental protection measures related to wildlife that were described in part 4 of the ROD are also included as conservation measures in the Biological Opinion signed by the FWS on December 31, 2020 (appendix P of the FEIS). The analysis of impacts to threatened and endangered species contained in the Biological Opinion, and notably impacts to the endangered Arizona hedgehog cactus, accepts that the conservation measures will occur as described as a foundation for the analysis of impacts.

As described earlier in this appendix, if Resolution Copper does not implement these conservation measures as assumed in the Biological Opinion, reinitiation of consultation under Section 7 of the Endangered Species Act may be warranted.

Voluntary Measures and Other Future Agreements

In the GPO and in the Biological Opinion, Resolution Copper has committed to a variety of measures to reduce potential impacts on wildlife not related to uses on NFS land, including those outlined in appendix P of the FEIS.

- Some additional non-lethal harassment and scare devices to deter and disperse wildlife from the PAG tailings, non-contact and contact stormwater catchment basins, and process water ponds may also be considered and could include the following:
    - Plastic ball covers, vehicle lights and horns, motion-sensor lights, flags, perch deterrents, shell crackers, bird bangers, screamers, distress cries/electronic noise systems, bird scare balloons, propane cannons, and mylar scare tape.

- A bird hazing protocol would be developed for Resolution Copper employees and would include a combination of harassment techniques. Additional hazing techniques may be adjusted or added as necessary based on field observations and ongoing research efforts. The protocol would include an inspection schedule, acceptable harassment techniques, a field log procedure, and incident reporting procedures. Resolution Copper staff responsible for implementing the bird hazing program would be trained on the protocol prior to its initiation.

- Vegetation growth within the contact and non-contact stormwater catchment basins and process water ponds would be monitored and periodically removed as often as necessary to further discourage the presence of wading birds.

At this time, these measures remain solely as voluntary measures, unrelated to use on NFS land. These measures may or may not occur as planned.

Recreation

Programmatic Agreement

Two recreational measures unrelated to uses on NFS land are required under the Programmatic Agreement. Resolution Copper will ensure tribal access to the Oak Flat campground as long as safety allows, and will develop an Oak Flat Campground Management Plan prior to completion of the land exchange. This is detailed in measure "**FS-RC-02: Access to Oak Flat Campground**" in appendix J of the FEIS. Resolution Copper also will establish an alternative campground site, known as Castleberry, to mitigate the loss of Oak Flat Campground, which is a historic property. This is detailed in measure "**FS-RC-04: Establish an alternative campground site (Castleberry) to mitigate the loss of Oak Flat Campground**" in appendix J of the FEIS. The Programmatic Agreement is a binding agreement executed between Resolution Copper, the Forest Service, the U.S. Army Corps of Engineers, the Bureau of Land Management, the Arizona State Land Department, the Arizona State Museum, the Arizona State Historic Preservation Office, the Salt River Project, and the Advisory Council on Historic Properties.

Voluntary Measures and Other Future Agreements

Applicant-committed environmental protection measures by Resolution Copper include the following:

- Developing plans to reestablish a crossing on the Arizona National Scenic Trail after construction of the concentrate pipeline (along the MARRCO corridor). Further detail can be found in the Concentrate Pipeline Corridor Management Plan (M3 Engineering and Technology Corporation 2019).

Resolution Copper has committed to mitigating impacts to climbing resources, as described in the "Queen Creek Climbing and Mitigation Access Plan" (Oliver 2020), including new access to bouldering and climbing resources known as "the Inconceivables and Chill Hill Boulders." Additionally, Resolution Copper has agreed to mitigation efforts in the combined "Queen Creek Climbing Area," which includes nine discrete climbing areas: The Pond, Atlantis, Oak Flat, Euro Dog Valley, The Mine Area, Apache Leap, Northern Devil's Canyon, Upper Devil's Canyon, and Lower Devil's Canyon, Hackberry Creek/The Refuge. Some of these areas will be impacted and Resolution Copper has proposed the following mitigation:

- Oak Creek and Euro Dog Valley: May eventually be impacted by subsidence. Funds for a new access road (crossing NFS lands) to the Inconceivables and Chill Hill Boulders.

- The Mine Area: Mining impacts will likely include closure of the current access route via Magma Mine Road and closure of some of the climbing area. Resolution Copper will work with local climbing groups and climbers to evaluate the feasibility of an alternate access route (trail) on private lands.
- Apache Leap: Access via Magma Mine Road and NFS Road 315 will be closed due to mining impacts. Resolution Copper will work with local climbing groups and climbers to evaluate the feasibility of an alternate access route (trail) across private lands. Although access from NFS Road 2440 via the Cross Canyon Road would not be impacted by mining activities, there may be possible restrictions for climbing as a result of the climbing management plan for Apache Leap Special Management Area.
- Upper Devil's Canyon: Access from NFS Road 2438 and/or 2439 via NFS Road 469 (Magma Mine Road) will most likely remain. However, in the event that parts of NFS Road 2438 are closed due to subsidence, Resolution Copper will work with local climbing groups and climbers to evaluate the feasibility of an alternate access route.
- Lower Devil's Canyon, Hackberry Creek/The Refuge: Access will remain from the south from NFS Road 315 via State Route 177, but access from Magma Mine Road will be closed.

These activities are detailed in measure "**RC-RC-05: Mitigation for impacts on climbing resources**" in appendix J of the FEIS.

Resolution Copper also has agreed to open Signal Mountain Road on the JI Ranch for public access to the Tonto National Forest for wildlife-related recreation through an agreement with the AGFD. This is detailed in measure "**RC-RC-06: Mitigation for public access to JI Ranch through AGFD cooperative agreement**" in appendix J of the FEIS. These actions are currently agreed to in concept, but may eventually be executed in a road agreement with AGFD.

At this time, these measures remain solely as voluntary measures, unrelated to use on NFS land. These measures may or may not occur as planned.

Public Health and Safety

Arizona Department of Environmental Quality Water Permits

Applicant-committed environmental protection measures for tailings and pipeline safety include those outlined in the tailings design documents (Klohn Crippen Berger Ltd. 2018), a Pipeline Protection and Integrity Plan specific to the Skunk Camp location (Golder Associates Inc. 2020); the Concentrate Pipeline Corridor Management Plan (M3 Engineering and Technology Corporation 2019), and the GPO (Resolution Copper 2016b).

The following measures that enhance the safety of the tailings storage facility have been incorporated into the tailings design for Alternative 6:

- Use a centerline embankment for NPAG tailings
- Use full downstream embankment for PAG tailings
- Perform thickening of both PAG, NPAG, and NPAG overflow tailings
- Segregate PAG tailings into smaller separate cells.

A failure modes analysis has already been completed to identify all potential failure modes and to align them with design measures appropriate to address those modes (Klohn Crippen Berger Ltd. 2019; Pilz 2019). The design measures are aligned with international best practice and Federal and State regulations. Resolution Copper has identified preventive measures to minimize the potential for failure, as well as reactive measures if problems develop. These are considered applicant-committed environmental protection measures and are summarized in table 3.10.1-5 in the FEIS.

Given the location of the tailings storage facility off of Federal land, many of the design and operational features developed to reduce the risk of failure of the tailings storage facility or pipelines are dictated solely by industry best practice. However, the Aquifer Protection Permit that Resolution Copper is required to obtain for the tailings storage facility includes design criteria to which Resolution Copper must adhere. The standards under the Aquifer Protection Permit are described in detail in section 3.10.1 of the FEIS.

Global Tailings Standard

As described in section 3.10.1 of the FEIS, in August 2020, the Global Industry Standard on Tailings Management was launched (International Council on Mining and Metals et al. 2020). The preamble to the new Global Industry Standard states:

> *The Global Industry Standard on Tailings Management (herein 'the Standard') strives to achieve the ultimate goal of zero harm to people and the environment with zero tolerance for human fatality. It requires Operators to take responsibility and prioritise the safety of tailings facilities, through all phases of a facility's lifecycle, including closure and post-closure. It also requires the disclosure of relevant information to support public accountability.*

International Council on Mining and Metals (ICMM) member companies will implement the Global Industry Standard as a commitment of membership. Both Rio Tinto and BHP, partners in Resolution Copper, are members of ICMM. Adherence to this standard is detailed in measure "**RC-PH-05: Adhere to Global Tailings Standard**" in appendix J of the FEIS.

Voluntary Measures and Other Future Agreements

Resolution Copper has committed to maintaining the existing hotline set up for community complaints via email and telephone, described on the Resolution Copper website. This hotline is meant to provide immediate feedback on any tailings, pipeline, transportation, hazardous material, air quality, or other adverse issues observed by the public. This is detailed in measure "**RC-PH-04: Maintain the existing hotline for community complaints**" in appendix J of the FEIS.

At this time, this measure remains solely as a voluntary measure, unrelated to use on NFS land. This measure may or may not occur as planned.

Scenic Resources

Voluntary Measures and Other Future Agreements

Applicant-committed environmental protection measures by Resolution Copper include those outlined in the dark skies analysis (Dark Sky Partners LLC 2018):

- Implement an outdoor lighting plan that would reduce potential impacts from artificial night lighting.

- Reduce illumination levels where appropriate while still meeting Mine Safety and Health Administration (MSHA) requirements for lighting sufficient to provide safe working conditions.
- Adhere to the Pinal County Outdoor Lighting Code.
- Use control systems that can turn off lights at particular times of night or are activated by detecting motion while still meeting MSHA requirements for lighting sufficient to provide safe working conditions.

At this time, these dark sky measures remain solely as voluntary measures, unrelated to use on NFS land. These measures may or may not occur as planned.

Cultural Resources

Programmatic Agreement

As detailed in part 7.1 of the ROD, a number of agreements related to cultural resources are required in the Programmatic Agreement. These include the following:

- Oak Flat Historic Properties Treatment Plan (HPTP): The Forest Service has completed preparation of an archaeological historic properties treatment plan for the Oak Flat Federal Parcel to resolve adverse effects on historic properties eligible for the National Register of Historic Places under Criterion D. The implementation of the Oak Flat HPTP will begin as soon as the PA is executed. The work is not likely to be completed prior to the land transfer. However, the transfer will not disrupt the completion of the measures listed in the HPTP. These actions are detailed in measure "**FS-CR-01: Implementation of Oak Flat HPTP**" in appendix J of the FEIS.
- GPO Research Design and Treatment Plans: The Forest Service has prepared an archaeological research design (GPO Research Design) in consultation with the SHPO, Tribes, and appropriate managing agencies to guide the development of treatment plans to address adverse effects on historic properties within the other Resolution Copper GPO project areas, and the Section 404 permit compensatory mitigation parcels (i.e., West Plant Site, MARRCO corridor, tailings facility, etc.), depending on the final alternative that is selected. The Forest Service determined, in consultation with the consulting parties, that the multiple treatment plans approach, rather than a single GPO HPTP, is needed because the GPO covers several large areas, each with its own cultural background and topography. The individual treatment plans will be tiered to the GPO Research Design, and tailored to fit the mitigation needs of each GPO project area. The work identified in the treatment plans will be completed prior to the proposed ground-disturbing activities in the GPO project areas. These actions are detailed in measure "**FS-CR-02: GPO Research Design**" in appendix J of the FEIS.
- Visual, Atmospheric, Auditory, Socioeconomic, and Cumulative Effects Mitigation Plan(s): Within 9 months of the issuance of the Final ROD, the Forest Service will prepare, in consultation with SHPO and the other consulting parties, a draft plan or plans outlining a process to mitigate visual, atmospheric, auditory, and cumulative effects (indirect or direct) identified within the visual/auditory/atmospheric/socioeconomic area of potential effects. These actions are detailed in measure "**FS-CR-03: Visual, Atmospheric, Auditory, Socioeconomic, and Cumulative Effects Mitigation Plan**" in appendix J of the FEIS.
- Archaeological Database Funds: In recognition of the substantial loss of cultural resources and historic properties on State Trust lands, Resolution Copper will fund the creation and/or enhancement of existing electronic archaeological databases to assist the State of Arizona with management of these assets. This is detailed in measure "**FS-CR-07: Archaeological database funds**" in appendix J of the FEIS.

The Programmatic Agreement is a binding agreement executed between Resolution Copper, the Forest Service, the U.S. Army Corps of Engineers, the Bureau of Land Management, the Arizona State Land Department, the Arizona State Museum, the Arizona State Historic Preservation Office, the Salt River Project, and the Advisory Council on Historic Properties.

Socioeconomics

Programmatic Agreement

Under the PA, Resolution Copper will establish a fund to be focused on the built environment located within cultural resources area of potential effects. The primary purpose of the fund is to address effects from the project on historic properties and other community infrastructure within the communities of Superior, Miami, Globe, Kearny, Hayden, and Winkelman. All funded projects must comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties, and compliance with these Standards will be determined by SHPO. Specific parameters for the Community Development Fund shall be defined through consultation between Resolution Copper, the applicable administering organization, and SHPO, and must include the following:

- availability to municipalities, counties, non-profits, private citizens, and private organizations;
- preference for projects participating in other historic preservation incentive programs;
- preference for projects agreeing to repay funds within 5 years of award, with extensions possible.

Purchase or rehabilitation of the Harding building in Superior (a specific suggestion made in public comments) is a project that may be covered by this fund.

These actions are detailed in measure "**FS-SO-01: Community Development Fund**" in appendix J of the FEIS. The Programmatic Agreement is a binding agreement executed between Resolution Copper, the Forest Service, the U.S. Army Corps of Engineers, the Bureau of Land Management, the Arizona State Land Department, the Arizona State Museum, the Arizona State Historic Preservation Office, the Salt River Project, and the Advisory Council on Historic Properties.

Town of Superior Agreements

The following applicant-committed environmental protection measures have been committed to by Resolution Copper:

- In February 2019, Resolution Copper entered into an Entrepreneurship and Innovation Center Gift Agreement with the Town of Superior, to fund a number of programs meant to diversify the economic base of the community.
- In February 2019, Resolution Copper entered into a Multigenerational Center Development Gift Agreement with the Town of Superior, to help fund the final studies, design, and construction of a multigenerational center. The goal of the center is to improve the overall quality of life for Superior residents, local employers, and their employees, expand the quality of life amenities and services that are essential to retraining and attracting residents and employers, allow for consolidation of Town services and decrease the overall administrative burden of the Town, and further develop public, private, civic, and educational sectors of the community.
- In February 2019, Resolution Copper entered into an Education Funding Agreement with the Superior Unified School District, dedicating funding to a number of classroom enhancements and educational programs over the next 4 years.

- In February 2019, Resolution Copper entered into a Park Improvement Agreement with the Town of Superior, to fund improvements to the U.S. 60 Caboose Park.
- In March 2016, Resolution Copper entered into an Emergency Response Services agreement with the Town of Superior, to fund the provision of fire and other emergency services to the mine facilities by the Town.

A projected increase in tax revenue is a factor of Resolution Copper's business impacts on the Town of Superior, driven mainly through increased sales taxes from Resolution Copper employees and contractors within the town, and to a lesser extent property and sales tax increases benefiting the Town through Pinal County and State apportionments. Resolution Copper has historically paid the Town for more public safety coverage than a standard level of service requires at a mine site. Resolution Copper is committed to public safety and will continue to work with the Town to agree annually on projected net direct costs that will be Resolution Copper's responsibility. This commitment is detailed in measure "**RC-SO-06: Agreement with Town of Superior to cover direct costs**" in appendix J of the FEIS. Discussions continue between Resolution Copper and the Town of Superior on other aspects, including road infrastructure and water resources.

It is envisioned at some point these commitments will be formalized in a binding "Good Neighbor Agreement" between Resolution Copper and the Town of Superior. At this time, these socioeconomic remain solely as voluntary measures, unrelated to use on NFS land. These measures may or may not occur as planned.

Voluntary Measures and Other Future Agreements

Through investment of an initial endowment, Resolution Copper will develop a sustainable regional economic development entity (or entities) to provide programming and investment in the Copper Triangle communities (Superior, Hayden, Winkelman, and Kearney). This new community-based entity will partner with external organizations, local municipalities, and stakeholders. Specifically, partnerships will be sought with organizations having certain expertise and tools to support and enhance the quality of life in the region, such as strategic planning for economic reinvestment and workforce development. These activities are detailed in measure "**RC-SO-03: Establish a regional economic development entity for Copper Triangle communities**" in appendix J of the FEIS.

The Resolution Copper social investment program and corporate giving program have been established to support economic development and enhance quality of life. This includes programs that help create a diverse local business community and programs that help build a healthier and safer community, including parks/pool facilities and schools. Through these programs Resolution Copper has worked with cities, towns, governments, and school districts to fund existing projects, including pool repair and upgrades as well as school programs. These requests are defined and based on the needs of those local municipalities and school districts. These activities are detailed in measure "**RC-SO-04: Resolution Copper social investment program**" in appendix J of the FEIS.

Based on regular project budgeting, Resolution Copper plans to continue funding the Community Working Group. This is detailed in measure "**RC-SO-05: Continue funding Community Working Group**" in appendix J of the FEIS.

Resolution Copper has also committed at a corporate level to hiring qualified candidates locally, with the intention to track employee proximity to the mine, and to using local suppliers and services wherever possible.

At this time these remain solely as voluntary measures, unrelated to use on NFS land. These measures may or may not occur as planned.

Tribal Values

Programmatic Agreement

As detailed in part 7.1 of the ROD, several agreements related impacts to resources of tribal interest required in the Programmatic Agreement. These include the following:

- The Emory Oak Collaborative Tribal Restoration Initiative: Funds the implementation of the treatments for the Emory Oak Collaborative Tribal Restoration Initiative, a multi-year restorative fieldwork program for Emory oak groves located in the Tonto and Coconino National Forests. Developed through consultation with the Forest Service and Tribes, the program is designed to restore and protect Emory oak groves that are accessed by Apache communities for traditional subsistence gathering and ensure their sustainability for future generations. The program funds the long-term restorative treatment, maintenance, and monitoring for the Emory oak, and includes research, cultural activities, and educational activities. These activities are detailed in measure "**FS-CR-05: Emory Oak Collaborative Tribal Restoration Initiative**" in appendix J of the FEIS.
- Tribal Monitoring Program: Funds the long-term continuation of the existing Tribal Monitor Program and administration, program development, training, and funding for monitors working on public projects. This program is detailed in measure "**FS-SO-02: Establish foundations for long-term funding, including the Tribal Monitor Program**" in appendix J of the FEIS.
- Tribal Youth Program: Funds the development of a Tribal Youth Program in partnership with the Tonto National Forest and consulting Tribes to provide cultural and education opportunities to tribal youth on NFS lands. This program is detailed in measure "**FS-SO-02: Establish foundations for long-term funding, including the Tribal Monitor Program**" in appendix J of the FEIS.
- Tribal Cultural Fund: Funds to address unique and specific tribal proposals brought forth by tribes during government-to-government consultation. The fund will provide a mechanism to fulfill tribal requests that do not fit under the other funding programs such as direct funding to assist tribal projects, programs, and infrastructure. This program is detailed in measure "**FS-CR-06: Tribal Cultural Heritage Fund**" in appendix J of the FEIS.
- Tribal Education Fund: Funds scholarships for 2-year and 4-year programs of study for members of the consulting Tribes. This program is detailed in measure "**FS-CR-08: Tribal Education Fund**" in appendix J of the FEIS.

The Programmatic Agreement is a binding agreement executed between Resolution Copper, the Forest Service, the U.S. Army Corps of Engineers, the Bureau of Land Management, the Arizona State Land Department, the Arizona State Museum, the Arizona State Historic Preservation Office, the Salt River Project, and the Advisory Council on Historic Properties.

Voluntary Measures and Other Future Agreements

Resolution Copper will donate 32 acres of privately owned land within the Apache Leap South End Parcel, in addition to 807 acres of land required by Section 3003 of PL 113-291. With this additional land, the Apache Leap Special Management Area (SMA), a sacred landscape for the Apache and Yavapai, will be 839 acres. The Apache Leap SMA is named after its signature feature, an escarpment of sheer cliff faces and hoodoos, and preserves the natural character of Apache Leap, allows for traditional uses of the area by Native Americans, and protects and conserves the cultural and archaeological resources of the area. This action is detailed in measure "**RC-CR-04: Increase size of Apache Leap Special Management Area**" in appendix J of the FEIS.

At this time, this remains solely as a voluntary measure, unrelated to use on NFS land. This measure may or may not occur as planned.

Livestock and Grazing

Voluntary Measures and Other Future Agreements

Resolution Copper will continue to work collaboratively with ranchers who hold private property and/or grazing leases/rights within the vicinity of the proposed project footprint. To minimize ranching impacts, the corridor pipeline/power line has been designed consistent with feedback from ranchers to have minimal impact on ranching land uses and day-to-day activities. In the event that other ranching and range improvements may be impacted in the future, Resolution Copper would replace those improvements as a result of the construction of the pipeline corridor. Range fencing will be opened during pipeline construction with temporary fencing installed at the end of each work day to prevent livestock migration. Permanent repairs will be made to the fencing including a gate to permit right-of-way access for inspection and maintenance activities along the pipeline corridor. These actions are detailed in measure "**RC-LG-01: Mitigation for impacts to ranching and grazing leases**" in appendix J of the FEIS.

At this time this remains solely as a voluntary measure, unrelated to use on NFS land. This measure may or may not occur as planned.

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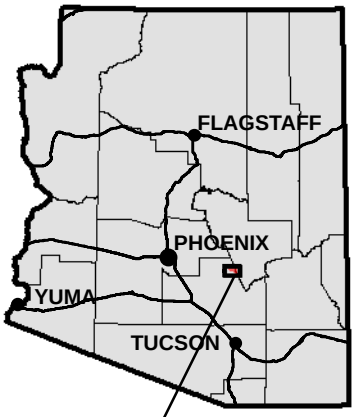
APPENDIX B

MAPS OF PIPELINE/POWER LINE ROUTES FOR AUTHORIZATION

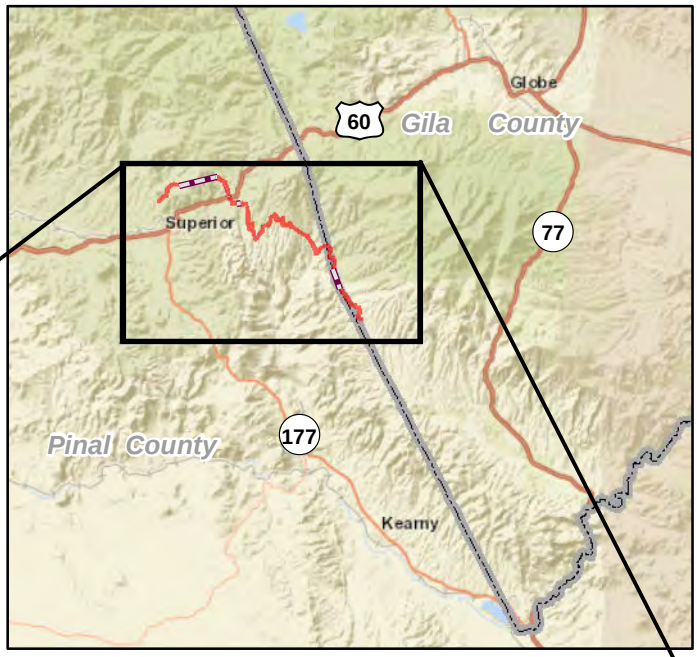
Path: M:\Jobs\800's\807.176\ENV\SkunkCamp\USFS_SpecialUsePermit\ReportFigures\Pipeline5_2020\01_VicinityMap_SCampSUPermit_6_12_2020.mxd Date: 6/19/2020 User: rwitzke

ARIZONA

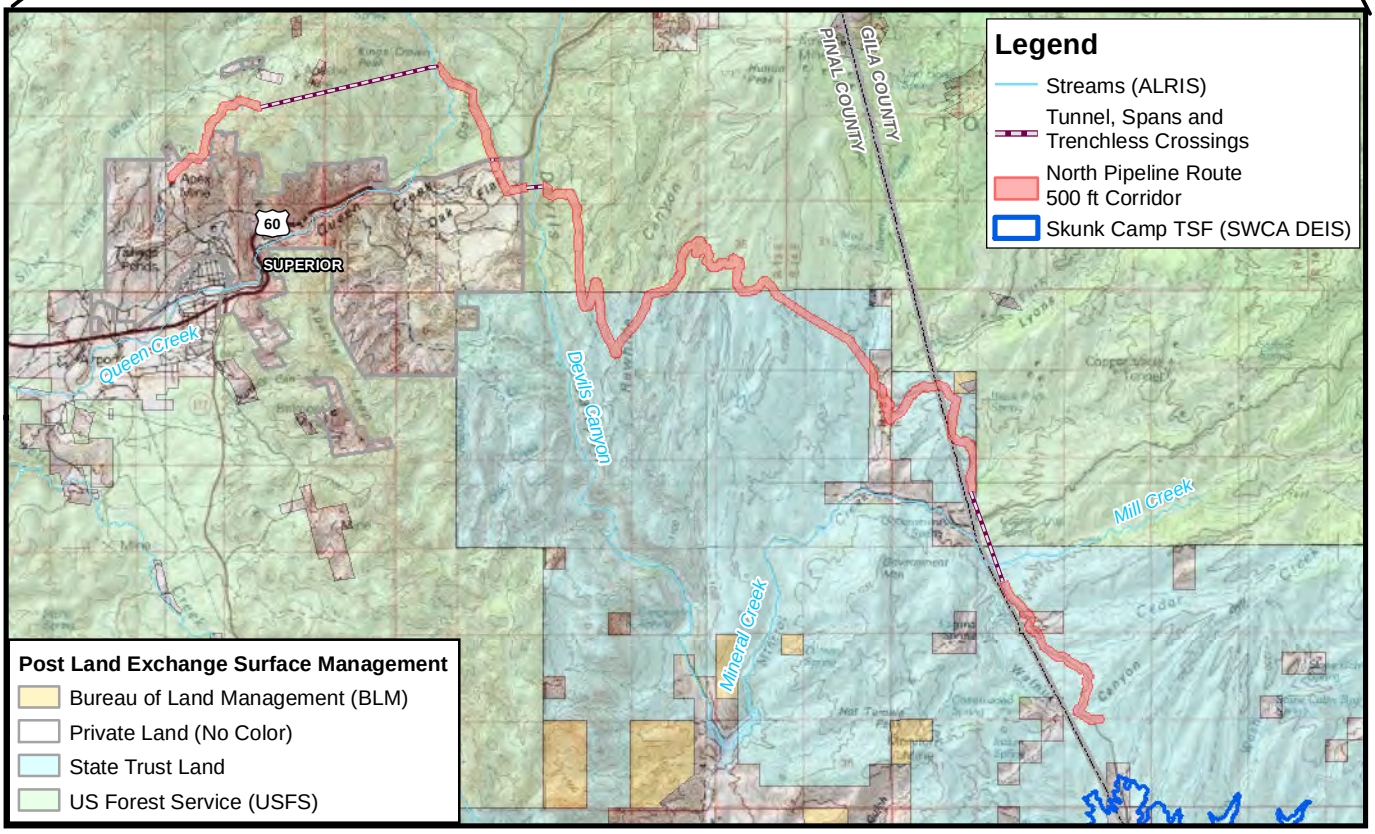


PROJECT LOCATION

PROJECT VICINITY



Approximate Scale 1 Inch = 10 Miles



T1S, R12-13E; T2S, R13-14E,
Gila and Pinal Counties, Arizona,
Mesa and Globe 1:100,000 USGS Quadrangles.
Data Sources: SWCA DEIS 2018; Golder Associates, Pipeline Data, May 2020;
BLM Post Land Exchange Surface Management, WRI Modified 2017
Image Source: ArcGIS Online World Street Map

WestLand Resources

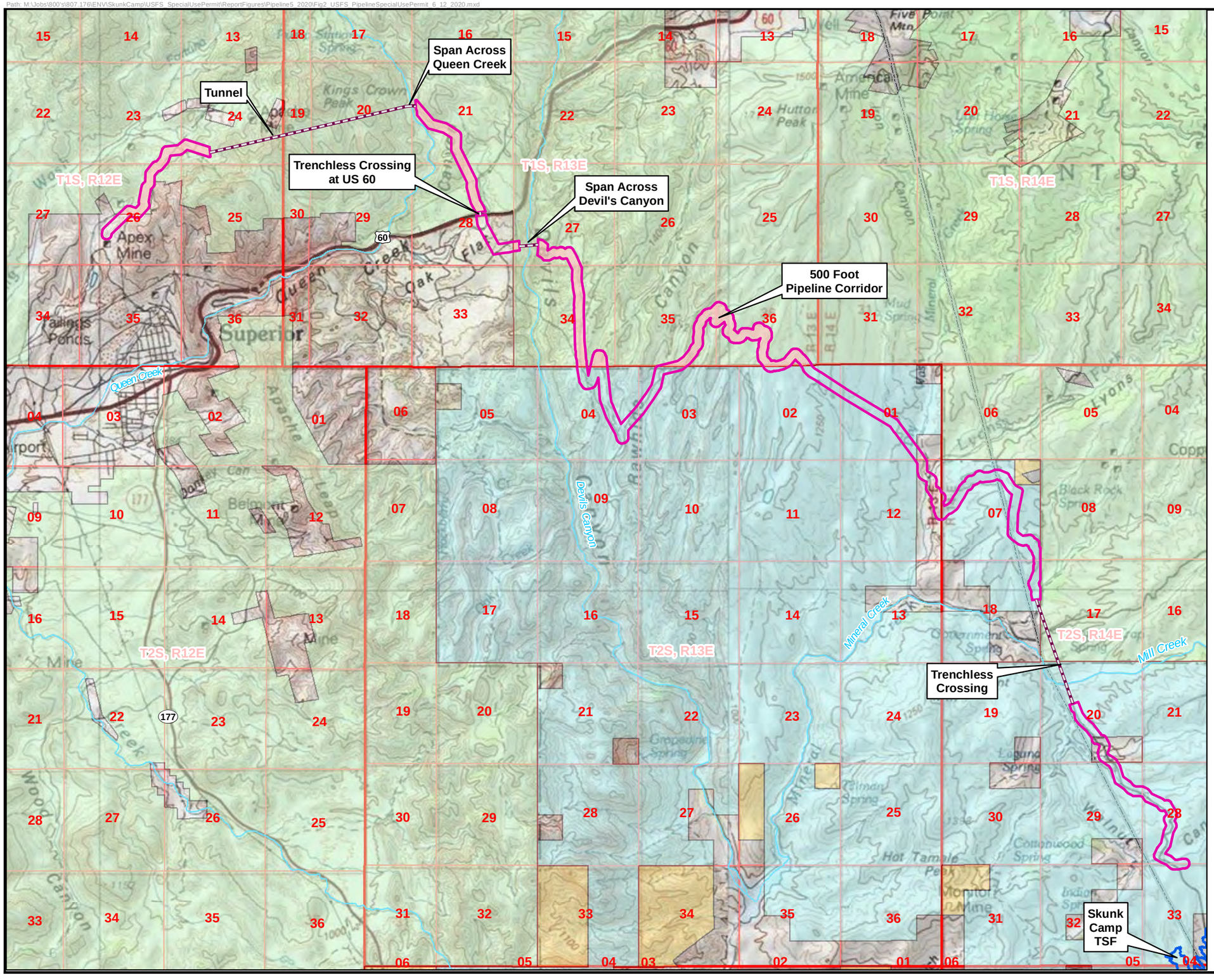
N

0 1.5 3 Miles

0 2.5 5 Kilometers

RESOLUTION COPPER
USFS Special Use Permit
Proposed North Pipeline Corridor

VICINITY MAP
Figure 1



North Pipeline Corridor on USFS Land:
T1S, R12E, Portions of Sections 23, 24, and 26,
T1S, R13E, Portions of Sections 21, 27, 28, and 34-36,
Pinal County, Arizona,
Globe and Mesa 1:100,000 USGS Quadrangles
Data Sources: SWCA DEIS 2018; Golder Associates, Pipeline Data, May 2020;
BLM Post Land Exchange Surface Management, WRI Modified 2017; and BLM PLSS Cadastral Data

Legend

- Streams (ALRIS)
- Tunnel, Spans and Trenchless Crossings
- North Pipeline Route on USFS Land (419.4 acres)
- North Pipeline Route 500 ft Corridor
- Skunk Camp TSF (SWCA DEIS)

Post Land Exchange Surface Management

- Bureau of Land Management (BLM)
- Private Land (No Color)
- State Trust Land
- US Forest Service (USFS)

N

0 2,500 5,000 Feet

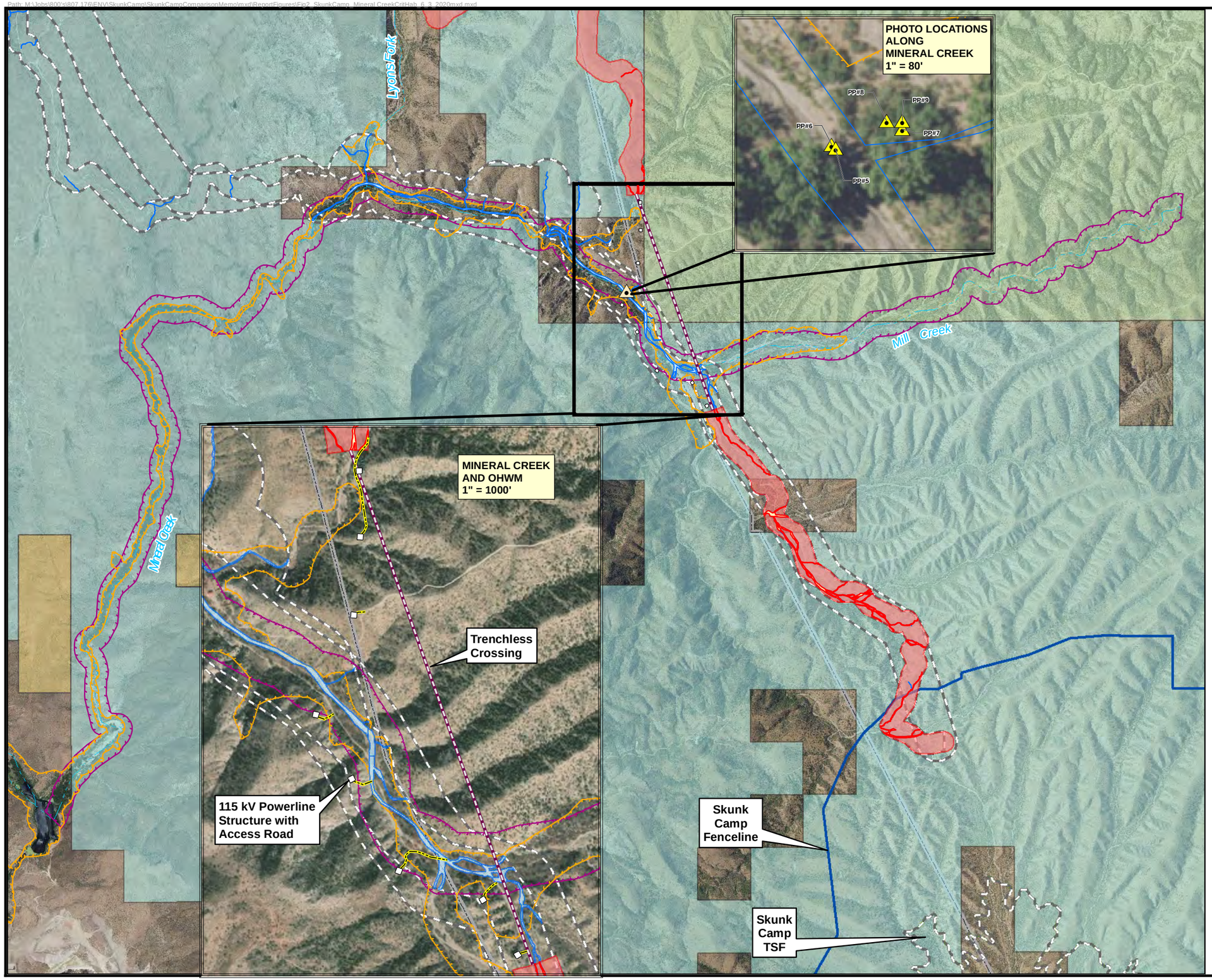
0 800 1,600 Meters

WestLand Resources

RESOLUTION COPPER
USFS Special Use Permit
Proposed North Pipeline Corridor

PROPOSED NORTH PIPELINE
FROM WEST PLANT SITE TO SKUNK CAMP

Figure 2



Pinal and Gila Counties, Arizona
Globe and Mesa 1:100,000 USGS Quadrangles
Data Sources: Post Land Exchange Surface Management, BLM, WRI Modified 2017, SWCA DEIS 8-20-2018, SRP Powerline Data, 6-2020, Golder Associates, 5-2020, and USFWS Critical Habitat.
Image Source: ArcGIS Online World Imagery, 2-6-2018

Legend

- 115 kV Power Structure
- Potential Wetland Survey Photo Point
- Streams (ALRIS)
- Skunk Camp Tunnel, Spans and Trenchless Crossings
- Skunk Camp Revised North Pipeline OHWM
- Skunk Camp North Pipeline DEIS OHWM
- North Pipeline Route 500 ft Corridor
- Skunk Camp Fenceline
- Skunk Camp Pipeline-Powerline Corridors (DEIS)

USFWS Critical Habitat

- Gila Chub Designated 2005-11-02
- Yellow-billed Cuckoo Proposed 2020-02-27

Post Land Exchange Surface Management

- Bureau of Land Management (BLM)
- Private Land (No Color)
- State Trust Land (ASLD)
- US Forest Service (USFS)

Note: Within the 500 Foot Corridor for the North Pipeline Route, only 200 feet will actually be disturbed.

N

0 1,200 2,400 Feet

0 400 800 Meters

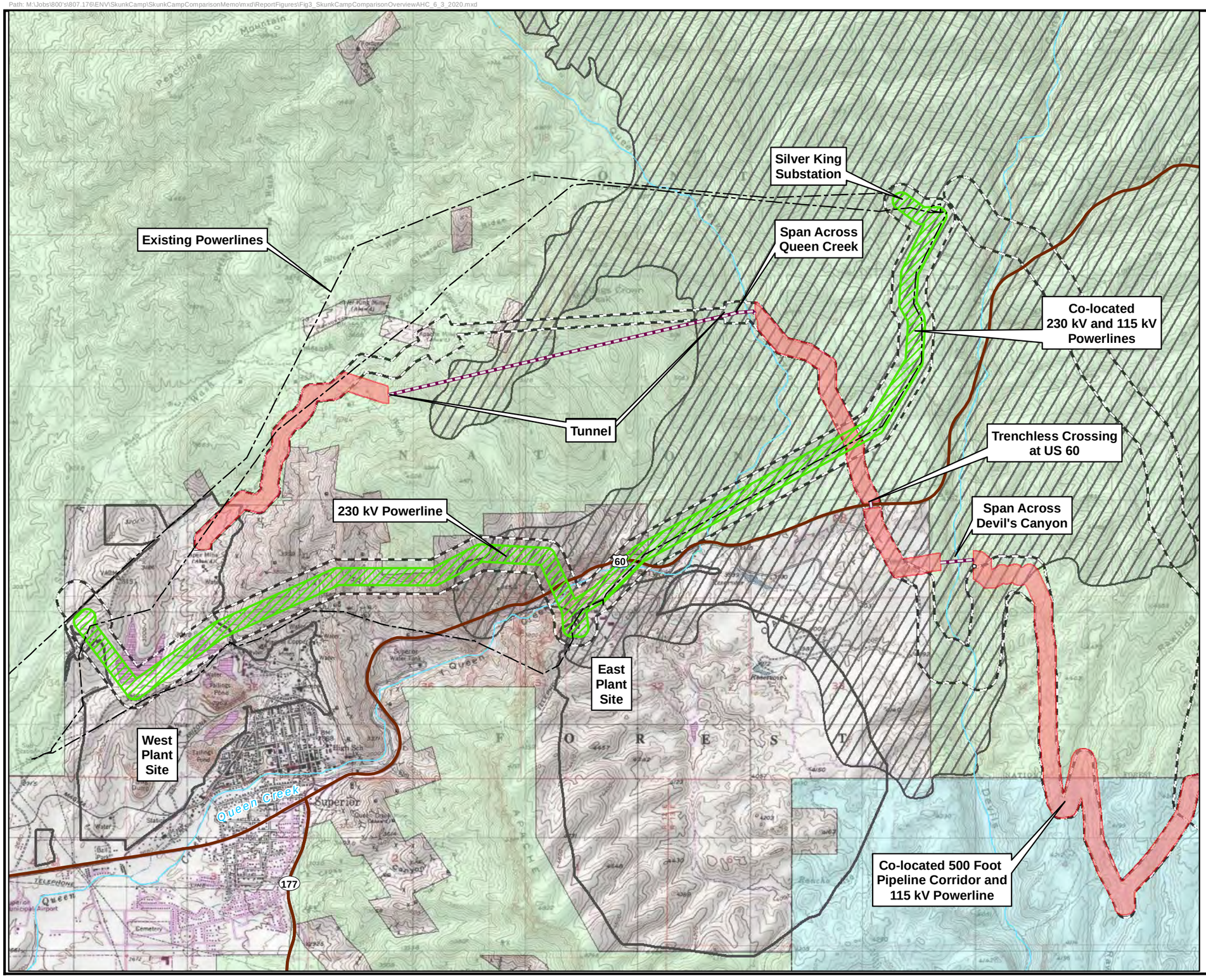
WestLand Resources

RESOLUTION COPPER

Skunk Camp Comparison Memo

USFWS CRITICAL HABITAT AND MINERAL CREEK CROSSING

Figure 2



Pinal and Gila Counties, Arizona
Globe and Mesa 1:100,000 USGS Quadrangles
Data Sources: Post Land Exchange Surface Management, BLM, WRI Modified 2017, SWCA DEIS 8-20-2018, SRP Powerline Data, 6-2020, and Golder Associates, 5-2020

Legend

- Existing Powerlines
- Skunk Camp Tunnel, Spans and Trenchless Crossings
- 230 kV Powerline 500 ft Corridor
- North Pipeline Route 500 ft Corridor
- Skunk Camp Pipeline-Powerline Corridors (DEIS)
- AHC Predicted Habitat (Baker 2013)

Post Land Exchange Surface Management

- Private Land (No Color)
- State Trust Land (ASLD)
- US Forest Service (USFS)

Note: Within the 500 Foot Corridor for the North Pipeline Route, only 200 feet will actually be disturbed.

N

0 2,600 5,200 Feet

0 800 1,600 Meters

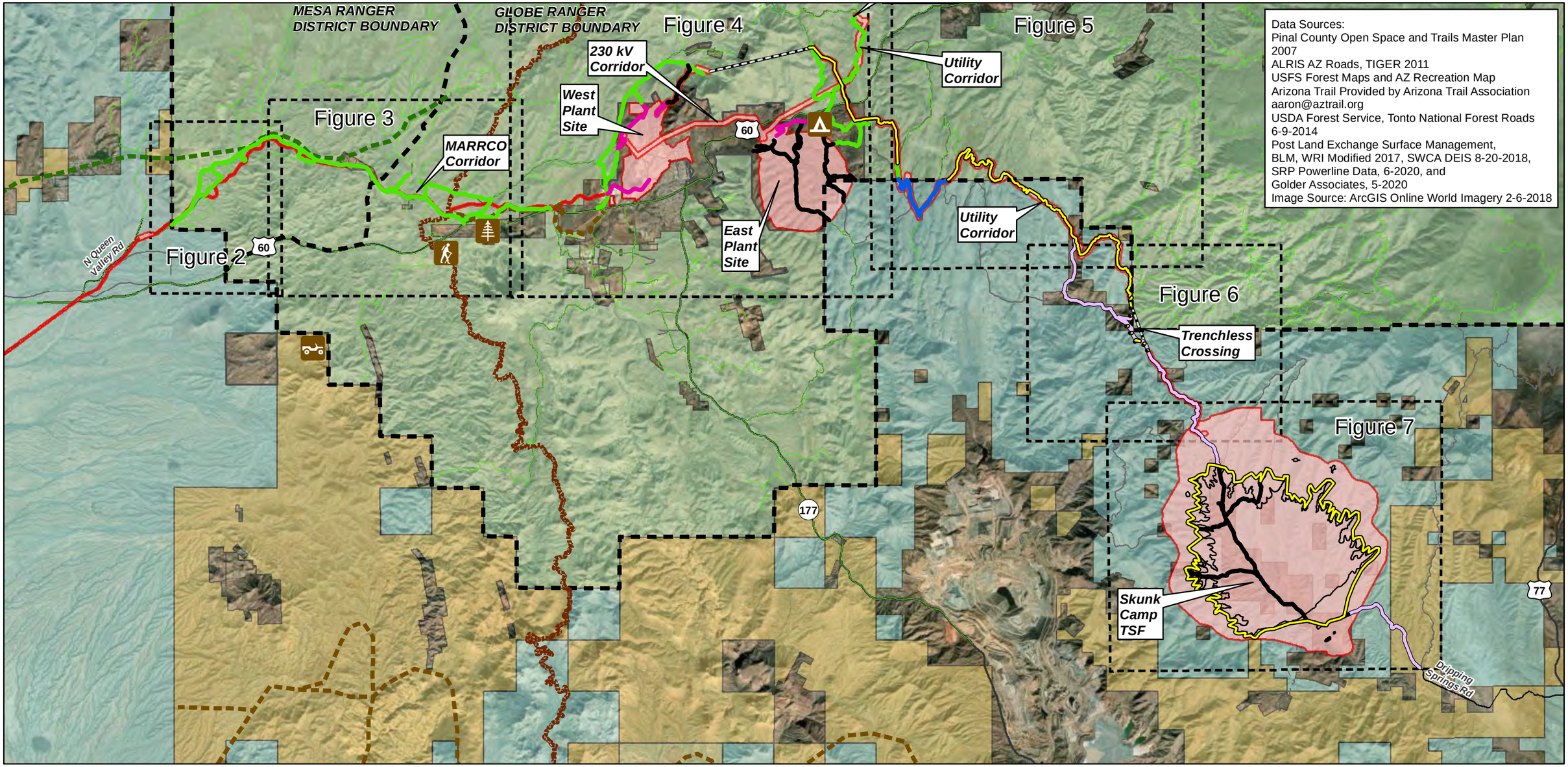
WestLand Resources

RESOLUTION COPPER

Skunk Camp Comparison Memo

ARIZONA HEDGEHOG CACTUS PREDICTED HABITAT
Figure 3

Path: M:\Jobs\800's\807.176\ENV\RoadUsePlan\mxd\Fig1_RoadUsePlan_Overview_7_8_2020_AllAccess.mxd



Data Sources:
Pinal County Open Space and Trails Master Plan 2007
ALRIS AZ Roads, TIGER 2011
USFS Forest Maps and AZ Recreation Map
Arizona Trail Provided by Arizona Trail Association
aaron@aztrail.org
USDA Forest Service, Tonto National Forest Roads 6-9-2014
Post Land Exchange Surface Management, BLM, WRI Modified 2017, SWCA DEIS 8-20-2018, SRP Powerline Data, 6-2020, and Golder Associates, 5-2020
Image Source: ArcGIS Online World Imagery 2-6-2018

Legend

- Offroad
- Arboretum
- Campground
- Trailhead
- Proposed New Road
- Existing Road To Be Decommissioned-Restricted from Public Access
- Existing State Land Road - Public Access To Be Maintained
- Existing County Road - Public Access To Be Maintained
- Existing Forest Road - Public Access To Be Maintained
- Private Road
- Trail
- Proposed Drainage Trail
- Arizona National Scenic Trail Polyline
- TNF Ranger District Boundary
- 115 kV Power Structure
- Skunk Camp Tunnel, Spans and Trenchless Crossings
- Preferred Alternative
- Skunk Camp Seepage Dam
- Sheet Index
- TNF Roads
- US Highways
- Highways
- Arterials
- Streets
- Primitive Roads
- Post Land Exchange Resolution Holdings

Post Land Exchange Surface Management

- Bureau of Land Management (BLM)
- Bureau of Reclamation
- Private Land (No Color)
- State Trust Land
- National Forest System

N

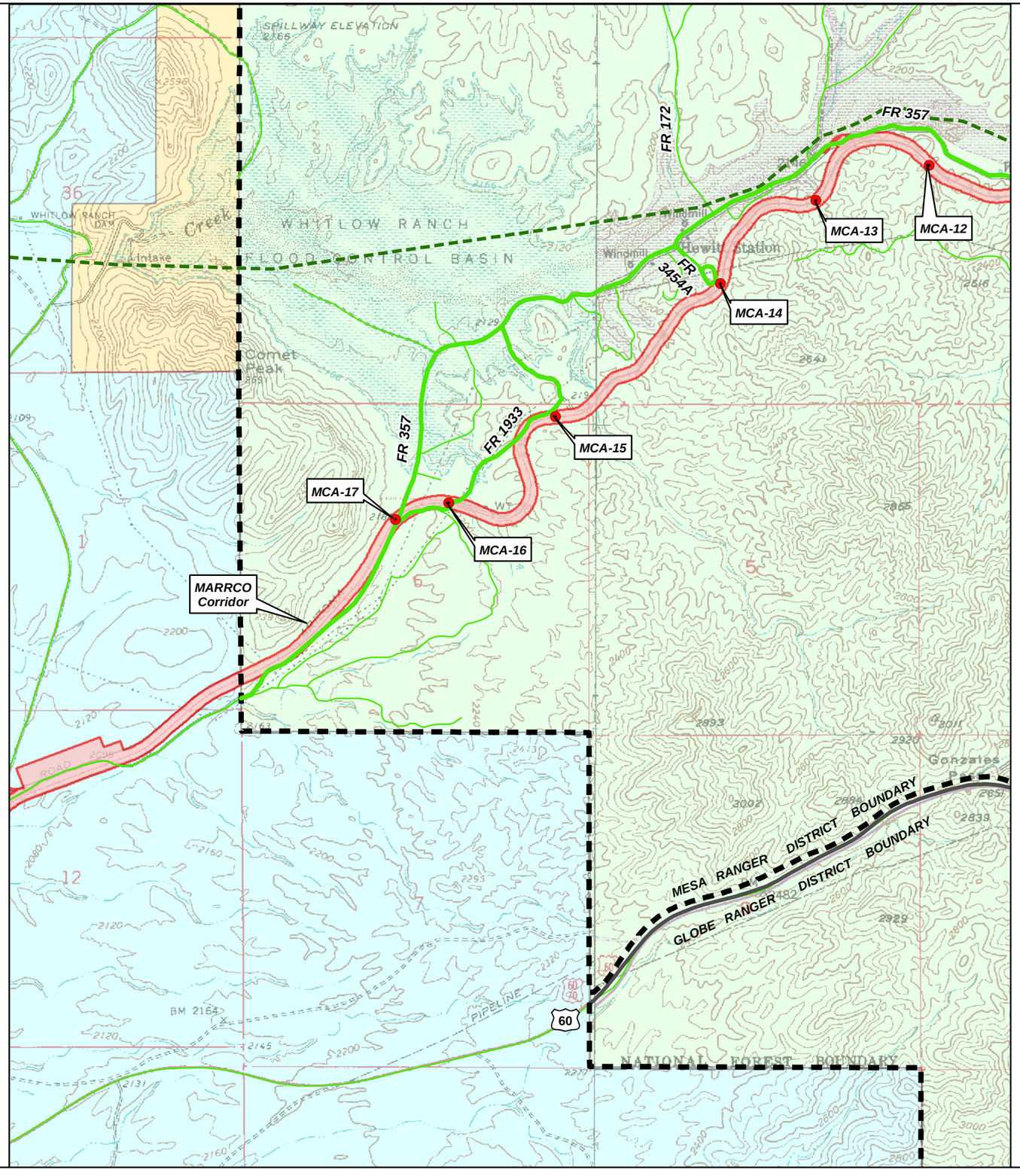
0 5,000 10,000 Feet

RESOLUTION COPPER
General Plan of Operations

ROAD USE PLAN OVERVIEW

Figure 1

Path: M:\Jobs\800's\807.176\ENV\RoadUsePlan\mxd\Fig2_MARRCO_West_7_9_2020.mxd



Legend

- MARRCO Corridor Access Point (MCA)
- Existing Forest Road - Public Access To Be Maintained
- Proposed Drainage Trail
- TNF Ranger District Boundary
- TNF Roads
- Preferred Alternative

Post Land Exchange Surface Management

- Bureau of Land Management (BLM)
- Private Land (No Color)
- State Trust Land
- National Forest System

Data Sources:
Pinal County Open Space and Trails Master Plan 2007
USDA Forest Service, Tonto National Forest Roads 6-9-2014
SWCA DEIS 8-20-2018
Post Land Exchange Surface Management, BLM, WRI Modified 2017
Image Source: Florence Junction & Picketpost Mountain USGS 7.5 Minute Quadrangles

N

0 900 1,800 Feet

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MARRCO

Figure 2

Path: M:\Jobs\800's\807.176\ENV\RoadUsePlan\mxd\Fig3_MARRCO_to_WPS_7_9_2020.mxd

MCA-12
MCA-11
MCA-10
MCA-9
MCA-8
MCA-7
MCA-6
MCA-5
MCA-4
MARRCO Corridor
Private Land
FR 357
FR 3454C
FR 252
FR 2383
FR 2381
FR 293
FR 8
FR 2397
FR 2395
FR 2396
60
Potts Canyon
Arizona Trail
Queen Creek
Gonzales Pass
Thompson Arboretum

Legend

- MARRCO Corridor Access Point (MCA)
- Arboretum
- Trailhead
- Existing Forest Road - Public Access To Be Maintained
- TNF Roads
- Lost Trail
- Proposed Drainage Trail
- Arizona National Scenic Trail Polyline
- TNF Ranger District Boundary
- Preferred Alternative

Post Land Exchange Surface Management

- Private Land (No Color)
- State Trust Land
- National Forest System

Data Sources:
Pinal County Open Space and Trails Master Plan 2007
USFS Forest Maps and AZ Recreation Map
Arizona Trail Provided by Arizona Trail Association
aaron@aztrail.org
USDA Forest Service, Tonto National Forest Roads 6-9-2014
SWCA DEIS
8-20-2018
Post Land Exchange Surface Management, BLM, WRI Modified 2017
Image Source: Picketpost Mountain
USGS 7.5 Minute Quadrangles

N

0 1,000 2,000 Feet

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MARRCO TO WEST PLANT SITE
Figure 3

Path: M:\Jobs\800's\807.176\ENV\RoadUsePlan\mxd\Fig4_WPS_EPS_7_9_2020.mxd

Silver King Substation
Span Across Queen Creek
Tunnel
Utility Corridor
FR 342
FR 229
FR 2445
FR 2446
Gate
FR 1010
FR 2458
Gate
PNR-1
Process Water Pond
Gate
230 kV Corridor
FR 2459
FR 342
Gate
Concentrator Complex
Magma Mine Road Realignment
Span Across Devils Canyon
Development Rock Stockpile
FR 229 Bypass (Along FR 8 & FR 3152)
FR 229
Gate
FR 469
FR 2439
Silver King Mine Road (Alternate Entrance to Substation) Gate
East Plant Site
FR 2433
FR 315
Gate
FR 2438
FR 650
FR 3152
FR 229
FR 2434
FR 2432
Gate
Utility Corridor
FR 8
FR 3153
Administration Building
FR 229 Bypass (Along FR 8 & FR 3152)
FR 8
East Plant Site Fracture Zone
Gate
FR 8
MARRCO Corriodor
MCA-1
East Plant Site Subsidence Zone
FR 315
MCA-2
MCA-3
60
Gate
Gate
FR 2395
West Plant Site
Alternate Road
FR 2400
60
Laydown Yard
FR 2403
LOST Trail
FR 3154
FR 230
PNR 08
FR 989
Arnett Creek
FR 988
FR 2423
FR 2424
FR 2422
FR 2426
FR 2425

Legend

- Gate
- MARRCO Corridor Access Point
- Campground
- Private Road
- Proposed New Road
- Existing Road To Be Decommissioned-Restricted from Public Access
- Existing Forest Road - Public Access To Be Maintained
- Lost Trail
- Arizona National Scenic Trail Polyline
- TNF Ranger District Boundary
- TNF Roads
- Subsidence Zone
- Fracture Zone
- Skunk Camp Tunnel, Spans and Trenchless Crossings
- Preferred Alternative

Post Land Exchange Surface Management

- Private Land (No Color)
- State Trust Land
- National Forest System

Note: Project area around disturbance area defined by modeled zone of continuous subsidence.

Data Sources:
Pinal County Open Space and Trails Master Plan, 2007
ALRIS AZ Roads, TIGER 2011
USFS Forest Maps and AZ Recreation Map
Arizona Trail Provided by Arizona Trail Association aaron@aztrail.org
SWCA DEIS 8-20-2018
Subsidence and Fracture Zone 2017
West Plant Facilities
Provided by M3 Engineering, July 6, 2020
USDA Forest Service, Tonto National Forest Roads 6-9-2014
Post Land Exchange Surface Management, BLM, WRI Modified 2017,
SRP Powerline Data, 6-2020, and
Golder Associates, 5-2020
Image Source: Picketpost Mountain & Superior USGS 7.5 Minute Quadrangles

N

0 1,500 3,000 Feet

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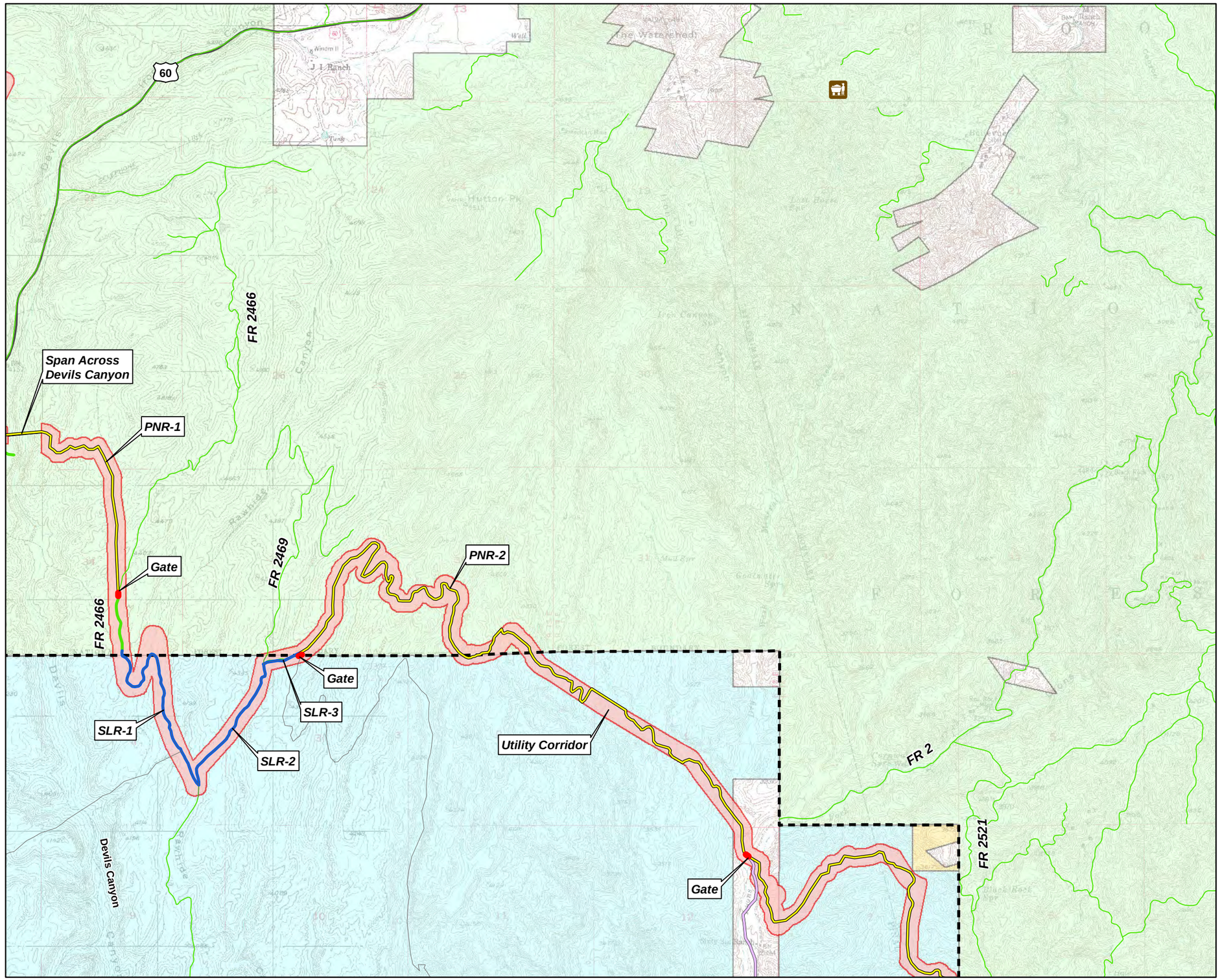
WEST AND EAST PLANT SITES
Figure 4

Path: M:\Jobs\800's\807.176\ENV\RoadUsePlan\mxd\Fig5_North_SCamp_UtilCorr_7_10_2020.mxd



Legend

- Gate
- Mine
- Proposed New Road
- Existing State Land Road - Public Access To Be Maintained
- Existing County Road - Public Access To Be Maintained
- Existing Forest Road - Public Access To Be Maintained
- TNF Ranger District Boundary
- TNF Roads
- Skunk Camp Tunnel, Spans and Trenchless Crossings
- Preferred Alternative

Post Land Exchange Surface Management

- Bureau of Land Management (BLM)
- Private Land (No Color)
- State Trust Land
- National Forest System

Data Sources:
ALRIS AZ Roads, TIGER 2011
USDA Forest Service, Tonto National Forest Roads 6-9-2014
Post Land Exchange Surface Management, BLM, WRI Modified 2017,
SRP Powerline Data, 6-2020, and
Golder Associates, 5-2020
Image Source: Superior and Pinal Ranch
USGS 7.5 Minute Quadrangles

N

0 1,400 2,800 Feet

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UTILITY CORRIDOR
Figure 5

Path: M:\Jobs\800's\807.176\ENV\RoadUsePlan\mxd\Fig6_MiddleSCampCorridors_7_10_2020.mxd

PNR-2

PNR-2

Utility Corridor

FR 2521

FR 2528

PNR-3 To Poles 184 and 185

FR 899

PNR-4 Pole 186 & Gate

Trenchless Crossing

Dripping Springs

FR 248

PNR-5 Pole 190 & Gate

PNR-6 Pole 191 & Gate

PNR-7 Pole 194 & Gate

PNR-8 Pole 195 & Gate

PNR-9 Pole 196 & Gate

Road

Utility Corridor

Skunk Camp Fenceline

Gate

Gate

Gate

Gate

Legend

- Gate
- 115 kV Power Structure
- Proposed New Road
- Existing County Road - Public Access To Be Maintained
- TNF Ranger District Boundary
- TNF Roads
- Skunk Camp Tunnel, Spans and Trenchless Crossings
- Preferred Alternative

Post Land Exchange Surface Management

- Bureau of Land Management (BLM)
- Private Land (No Color)
- State Trust Land
- National Forest System

Data Sources:
ALRIS AZ Roads, TIGER 2011
USDA Forest Service, Tonto National Forest Roads 6-9-2014
Post Land Exchange Surface Management, BLM, WRI Modified 2017,
SRP Powerline Data, 6-2020, and
Golder Associates, 5-2020
Image Source: Pinal Ranch & Hot TamalePeak USGS 7.5 Minute Quadrangles

N

0 1,000 2,000 Feet

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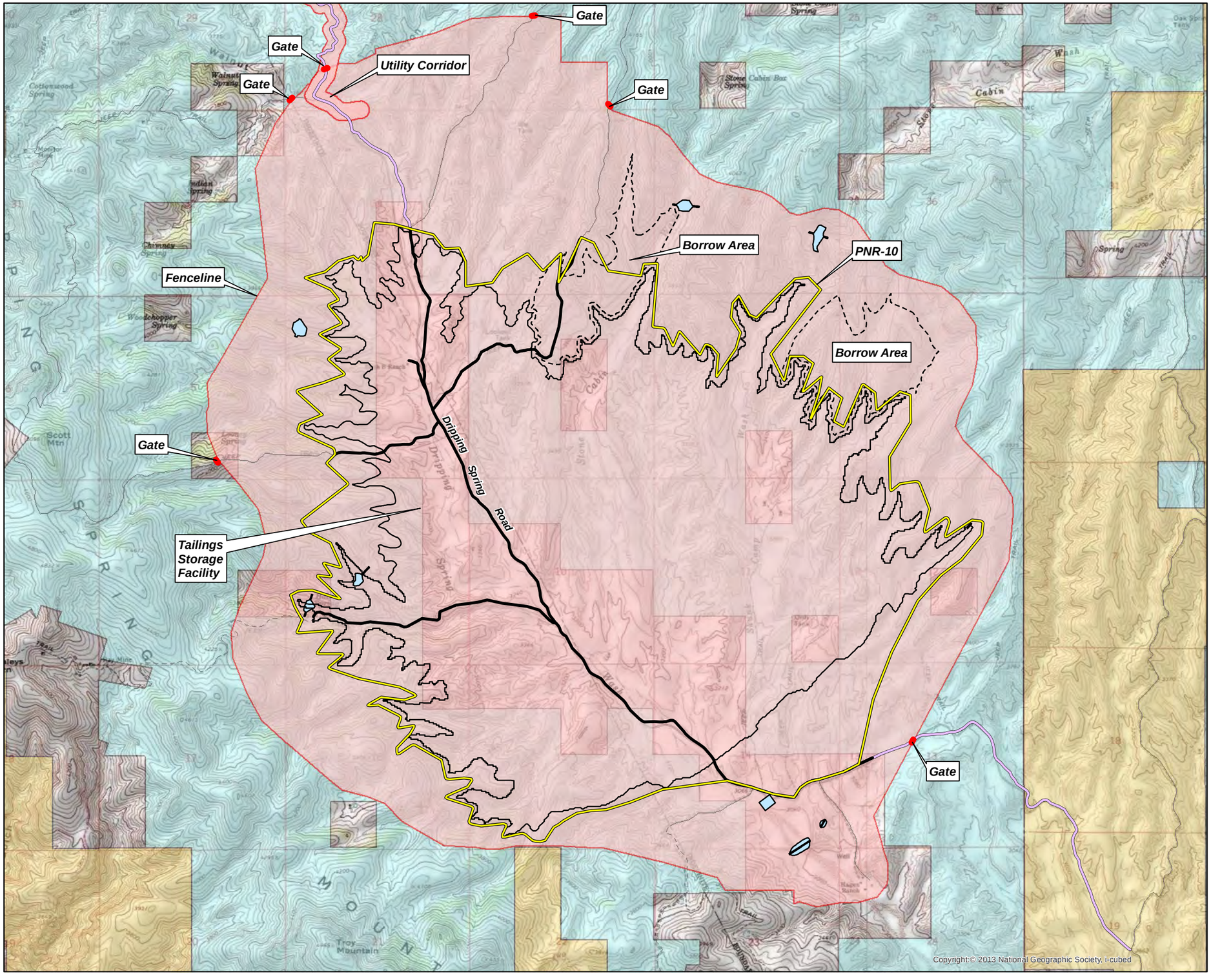
UTILITY CORRIDOR
NORTH OF TSF
Figure 6

Path: M:\Jobs\800's\807.176\ENV\RoadUsePlan\mxd\Fig7_SkunkCampTSF_7_10_2020.mxd



Legend

- Gate
- Proposed New Road
- Existing Road To Be Decommissioned-Restricted from Public Access
- Existing County Road - Public Access To Be Maintained
- Skunk Camp TSF
- Skunk Camp Diversion Dikes and Seepage Dams
- TSF Borrow Areas
- Preferred Alternative

Post Land Exchange Surface Management

- Bureau of Land Management (BLM)
- Private Land (No Color)
- State Trust Land

Data Sources:
ALRIS AZ Roads, TIGER 2011
Post Land Exchange Surface Management, BLM, WRI Modified 2017,
SWCA DEIS 8-20-2018,
SRP Powerline Data, 6-2020, and
Golder Associates, 5-2020
Image Source: Hot Tamale Peak and El Capitan Mountain USGS 7.5 Minute Quadrangles

N

0 1,400 2,800 Feet

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SKUNK CAMP TSF
Figure 7