

**MINE RECLAMATION PLAN
FOR THE
ESSEX OVERHEAD PIT**

Prepared For:
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Submitted To:
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APPENDICIES

- 1 *Biological Resource Assessment*. Leatherman BioConsulting, Inc. October 2023.
- 2 *Revegetation Plan* for Essex Overhead Quarry. Leatherman BioConsulting, Inc. June 2023.F
- 3 Cultural Resources Investigation, ECORP Consulting April 2018 (not available for public review); revised, County of San Bernardino, Jesse Yorck, M.A., RPA – Principal Investigator November 2020 (not available for public review).
- 4 *Paleontological Resources Assessment Report and PRIMP*, L & L Environmental, Inc., April 2023 (not available for public review).

MAP SHEETS (attached)

- 1 Essex Overhead Pit Mine Plan
- 2 Essex Overhead Pit Reclamation Plan

MINE RECLAMATION PLAN FOR THE ESSEX OVERHEAD PIT

BACKGROUND

The San Bernardino County Department of Public Works (DPW) is submitting an application to the San Bernardino County Land Use Services Department (LUS) for a Mine Reclamation Plan (Plan) for the Essex Overhead Pit. The proposed mine is located on County owned lands to the southwest of the intersection of U.S. Highway 66 (Route 66 and/or National Trails Highway (NTH) and the Essex Overpass for the Burlington Northern & Santa Fe (BNSF) railroad tracks, approximately 1.3 miles northeast of Essex in the eastern Mojave Desert within San Bernardino County (see Figures 1 and 2).

The mine site consists of approximately 245 acres within the SW ¼ Sec. 29, Township 8 North, Range 17 E (T8N, R17E), San Bernardino Base Meridian (SBBM) within USGS Fenner, CA 7.5 Quadrangle. The entire proposed mine site is within portions of Assessor's Parcel Numbers (APNs) 0655-151-01 (230.9 acres) and 0655-162-01 (14.16 acres) and consists of three components, two on the west side of the BNSF railroad tracks, and one on the east side. Phase I (North Pit) and Phase II (South Pit) lie within one parcel (APN 0655-151-01) west of the tracks. The component on the east side of the rail line will remain undisturbed and this reclamation plan will not apply. A portion of the northwesterly property (identified as the North Pit) was developed as a quarry in 1930/1931 and is located on an approximate 42-acre portion of the site. The quarry was developed for the construction of Route 66 in the 1930s.

In the Mojave Desert, summer monsoons often wash away material from road shoulders, road abutments, and wing walls that are located at every bridge along the NTH. Locating sites to borrow materials used for road repairs are challenging due to public agency ownership and protected designations of surrounding lands as well as the expense of hauling materials over long distances from distant storage areas. Most of this area is public lands managed by the Bureau of Land Management (BLM) Needles field office. These areas including the NTH are mostly within the Mojave Trails National Monument established in 2016 and adjacent wilderness areas, limiting potential material sites. The few privately owned sites large enough for borrow activities and proximal to NTH were purchased by the County in 2019. These sites will reduce time, fuel usage, and trip distances from transporting material from more distant material sources.

The DPW desires to develop and utilize a long-term materials and storage site to provide construction aggregate materials for repair, maintenance, and fill in the local and regional area for roads, shoulders and bridge crossings, to facilitate stockpiling and recycling of removed materials, and to provide stockpiling of soils for reclamation activities. Through a collaborative effort with the BLM and development of a Corridor Management Plan, the DPW is the responsible agency for the long-term maintenance of the NTH. The BLM has agreed to coordinate efforts to support DPW's efforts to maintain NTH within the Mojave Trails National Monument while maintaining historic aspects and resources of the NTH. The historic NTH is used for site-seeing and recreation and by local users as a secondary transportation route. Materials quarried, processed and recycled at the site may also be made available for other regional government infrastructure improvement and repair projects.

To meet the objectives of developing and permitting the mine and materials storage site, the DPW has prepared this Mine Reclamation Plan that will allow for the long-term extraction of materials to provide for repair and maintenance activities and for use of the site for spoils material stockpiling and recycling. The site will provide aggregate materials to repair roads, bridges, wash crossings, and road shoulders for various roads, culverts, and other DPW sites for annual maintenance and/or emergency repair due mainly to storm events and possible seismic events.

1.0 MINE PLAN

DPW is submitting a Mine and Reclamation Plan application for the development and use of the Essex Overhead Pit. This application would annually provide up to 10,000 cubic yards (cy) or 15,000 tons of material for various roads, culverts, and other DPW sites for annual maintenance and/or emergency repair due mainly to storm events. The annual amounts may vary from zero to up to 50,000 tons or more depending on scheduled road maintenance and repair and emergency repairs caused by flooding or possibly earthquakes. The reclaimed end use of the North Pit will be revegetated open space (22.21 acres) and the South Pit (25.13 acres) will be used for a long-term DPW material maintenance and storage yard. Approximately 197 acres or 80% of the two parcels will not be disturbed.

The proposed project site is located on County owned lands to the southwest of the intersection of Route 66 (NTH) and the Essex Overpass of the BNSF railroad tracks, approximately 1.3 miles northeast of Essex in the eastern Mojave Desert. The Essex Overhead Pit, consisting of two individual pits, will occupy approximately 47 acres of the western portion of the 230.9-acre APN 0655-151-01, west of the railroad tracks. Approximately 0.7 acres of APN 0655-162-01 (14.16 acres) located on the west side of the tracks will also be part of the pit area. The eastern portions of the two parcels (approximately 155 acres) located east of the railroad tracks will be conserved as open desert lands. This document will focus on the western portion of the property where mining and reclamation activities will take place.

Elevations of the mine pits range from approximately 1,725 feet above mean sea level (amsl) in the southwest corner to approximately 1,820 feet amsl in the northeast corner of the site; slightly increasing in elevation from the SW to NE.

The NTH with a 200-foot right-of-way (ROW) is aligned along the west and north sides of the site. Setbacks from this ROW are 50 feet on the northwest and the setbacks increase towards the southwest along the ROW. SCE has a 30-foot easement on the west side within the site parcel. The western edge of the pits will be setback 50 feet from the actual location of the power line. A 30-foot-wide drainage easement bisects the North and South Pits which will be avoided by operations with setbacks of 50 feet.

The BNSF 200-foot-wide ROW with active railroad tracks is aligned NNE to SSW along the east side of the planned pits. In addition, archaeological surveys determined that the original NTH alignment is located adjacent to and the immediate west of the railroad ROW. To avoid any potential impacts to historical resources and to avoid any impacts to the railroad ROW, a cultural resource setback of 200 feet is to be established on the west side of the railroad ROW on the east side of the pits.

The undisturbed portions of the project site are mainly vegetated with scattered creosote bush. The NTH, powerline, and railroad lines, the adjacent properties to the north, east, and south are vacant, undisturbed desert lands. Most of the areas to the west are also vacant desert lands except for a number of rural buildings located on private lands to the northwest across the NTH.

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San Bernardino, CA 92415

Operator: San Bernardino County Department of Public Works
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909-387-7910
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Representative: Lilburn Corporation
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San Bernardino, California 92408
909-890-1818
Frank Amendola; frank@lilburncorp.com

Countywide Plan: Land Use Category – Open Space (OS)
Zoning – Resource Conservation (RC)

APNs: portions of 0655-151-01 (230.9 acres) and 0655-162-01 (14.10 acres); SW¼ of Section 29, T8N, R17E, SBBM.

Parcel Size: Approx. 245 acres total on two parcels; no disturbances on east side of railroad tracks.

Mine Area: Approx. 47 acres for two pits plus one acre for roads. Approx. 197 acres to be left undisturbed

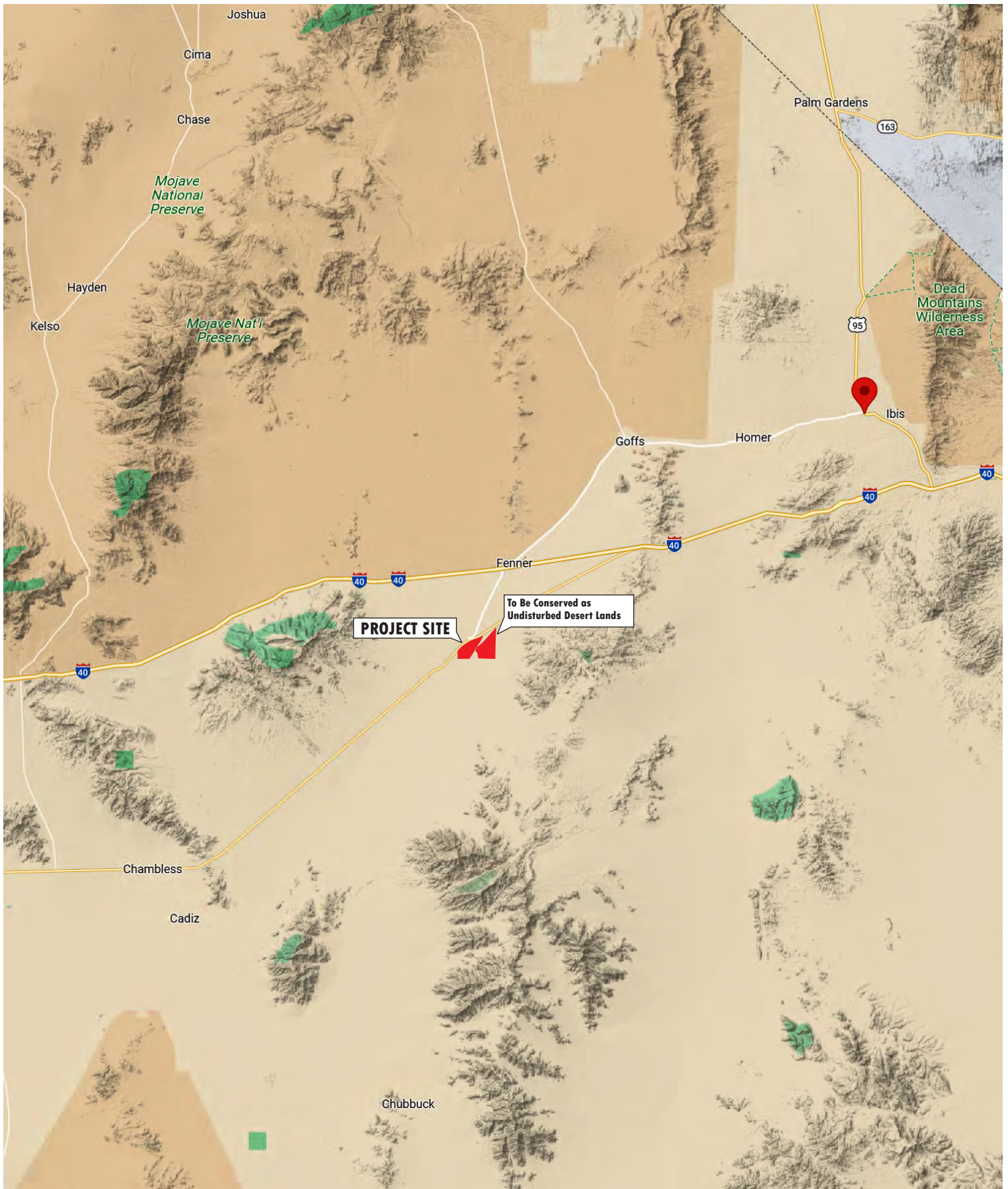
Estimate Operating Life: 100 years from County LUS approval (assumed by October 1, 2024).

Estimated Operations Termination Date: June 30, 2124 (with approval by October 1, 2024) or 100 years from date of County LUS approval.

Area to be Reclaimed: 22 acres of the North Pit to be revegetated desert; open space. 25 acres of South Pit to be reclaimed as a maintenance and material storage yard. one acre of access roads to remain.

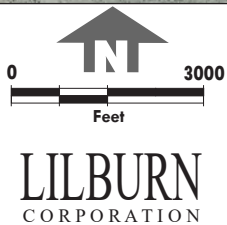
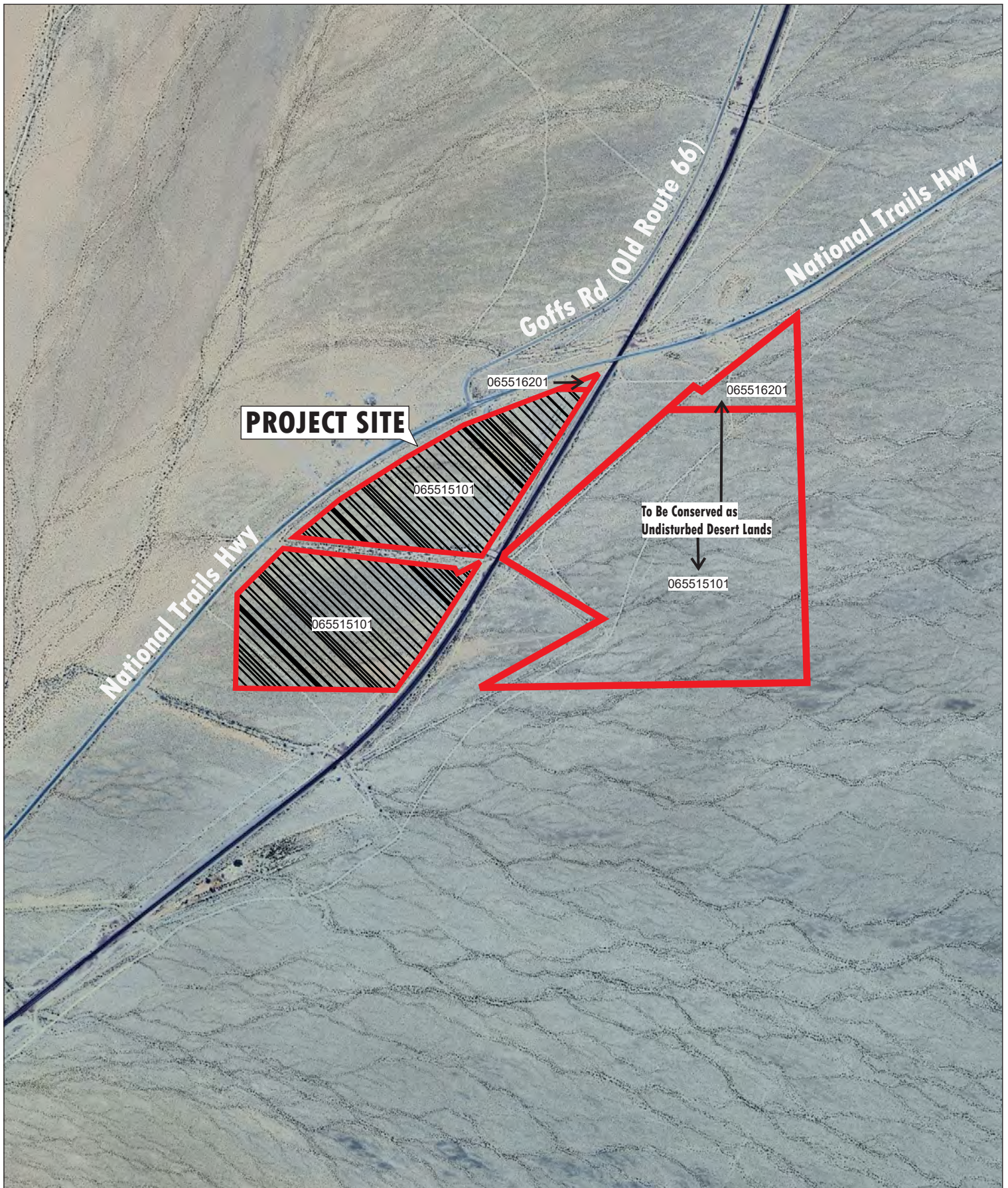
Estimated Reclamation Completion: October 31, 2126

Reclaimed End Use: Open space on approx. 22 acres of North Pit; DPW Maintenance and Material Storage Yard on approx. 25 acres of South Pit plus one acre for access roads.



LOCATION MAP
Essex Overhead Pit
Mine Reclamation Plan
County of San Bernardino, California

FIGURE 1



VICINITY MAP

Essex Overhead Pit
Mine Reclamation Plan
County of San Bernardino, California

FIGURE 2

1.1 MINING OPERATIONS

Refer to Sheet 1 and Figure 3 for the Mine Plan/Mine Plan Cross Section.

Mining operations will be undertaken over a period of up to 100 years beginning in 2024 and extending until 2124. An estimated 10,000 cy or 15,000 tons annually would be excavated on an intermittent basis over the course of the life of mine. The annual amounts may vary from zero to up to 50,000 tons or more depending on scheduled road maintenance and repair and emergency repairs. The operational areas will be fenced as determined in the field with a combination of desert tortoise fencing and 4-strand wire according to the protocols in Chapter 8 of the Desert Tortoise Field Manual (USFWS 2009).

Phase I or North Pit

Mining will take place in two phases; Phase I will be approx. 22 acres and will be referred to as the North Pit; and Phase II, referred to as the South Pit (approx. 25 acres) will be utilized when Phase I is mined out. Mining of the North Pit will be conducted from approximately 1,795 feet amsl on the southwest rim to 1,820 feet amsl on the northeast rim with an average depth of 60 feet or an average floor elevation of 1,748 feet amsl. Mining will be conducted with a 3H:1V or 18° overall slope. The aggregate volume for the North Pit is estimated at 1.255 million cy or about 1.9 million tons based on 1.5 tons/cy. Material not suitable for fill or other construction needs is roughly estimated at 10% of the volume.

Setbacks of a minimum of 50 feet will be established along the north side of the pit adjacent to the NTH ROW; adjacent to the powerline and power poles along the west side of the pit; and along the south side of pit adjacent to the drainage easement; and a 200-foot setback will be established on the east side of the pit to avoid potential impacts to cultural resources and the railroad ROW.

Within the setbacks above, a combined desert tortoise exclusion fence with 4-strand wire fencing and 18 to 24 inches of above ground and 12 inches below ground of galvanized wire fence material (1-inch horizontal by 2-inch vertical) as approved by the U.S. Fish and Wildlife Service. Warning signs shall be placed on the outside boundary of the pits to warn the public of mining operations. Access into the mining area will be from the NTH with 36-foot-wide compacted gravel roads (24-foot-wide road surface and 6-foot shoulders on both sides) extending to the pits. The access road entrances will be protected by security gates. Once off the project site, the street-legal transport trucks will utilize NTH to construction sites.

Mining of the site is achieved with one loader, one excavator, and a dozer to break, move, and load material directly into single truck trailer or double truck trailers with capacity of up to approximately 10 to 25 cy (typical). A complete list of the typical equipment to be used on-site and for transport to various construction sites in the vicinity is included in Table 1. There will be no permanent crushing, screening, or conveying conducted on-site nor permanent buildings or a scale on-site. On occasion as needed, a portable crusher/screen plant will be utilized on-site to crush/screen excavated material and to recycle road materials removed from damaged road and drainage crossings (bridges, culverts). Excavated material (raw or processed) road demolition

material, recycled material, and soils may be stockpiled onsite for use as needed for maintenance and repair.

Phase II or South Pit

Mining of the South Pit will be conducted from approximately 1,780 feet amsl on the southwest rim to 1,800 feet amsl on the northeast rim with an average depth of 60 feet or an average floor elevation of 1,730 feet amsl. Mining will be conducted with a 3H:1V or 18° overall slope. The aggregate volume for the South Pit is estimated at 1.64 million cy or about 2.47 million tons based on 1.5 tons/cy. Waste is roughly estimated at 10% of the volume.

Setbacks of a minimum of 50 feet will be established along the north side of the pit adjacent to the drainage easement and adjacent to the powerline and power poles along the west side of the pit; and a 200-foot setback established on the east side of the pit to avoid potential impacts to cultural resources and the railroad ROW.

These setbacks will include desert tortoise and 4-strand wire exclusion fencing with warning signs on the outside edge of the property and secured gates at the access roads. Access into the mining area will be from the NTH with 36-foot-wide compacted gravel roads with 6-foot-wide shoulders on both sides extending to the pits. Once off the project site, the street-legal transport trucks will utilize NTH to construction sites. Mining will be conducted as described above under the North Pit.

Truck traffic will be entirely based on the need for DPW to maintain and repair the NTH, which may vary from zero to an average of 15,000 tons/year. Based on street-legal 25-ton trucks, approximately 2 to 5 trucks may access the site per an average day when operational or 4 to 10 truck trips with smaller 15-ton dump trucks. To minimize dust generation, a water truck will be retained for use during excavations and loading of haul trucks. The mine operator shall spray water working mine areas and access roads onsite on a regular basis and more frequently as needed during windy conditions. Water used for dust control will be obtained from the Caltrans Essex Maintenance Station located approximately 1.5 miles southwest via a water truck. Un-surfaced haul road and access road will also have dust controlled with and/or covered with road base material as needed.

Table 1
Mobile Mine and Transport Equipment (Typical)

Equipment Type	Typical Number	Hours/day	Purpose
Dozer	1	4 - 8	Excavate and loosen material. Access construction and maintenance
2 to 5 Axle Dump / Material Haul Trucks	2	4 - 8	Transportation of material
Excavator	1	4 - 8	Excavate and load material into trucks.
Loader	1	4 - 8	Excavate and load material into trucks.
Water Truck	1	4	Water for dust control on mining areas, haul roads, and stockpiles.

Source: DPW 2024; Note that equipment listed is typical and makes and models will vary

Site operations will be conducted as needed intermittently primarily from 5:30 am till 8 pm (daylight hours only), up to 6 days per week: Monday through Saturday. Occasionally operations may be conducted on Sundays depending on possible emergency road repair, construction and maintenance needs. All refuse shall be disposed into approved trash bins and removed by the operator or a commercial vendor. Portable toilets will be used on-site when in operation and serviced by the operator or by a commercial vendor. Bottled water will be provided to employees.

1.2 MINE WASTE

Although portions of the site have been disturbed in the past, those areas with topsoil will have the top 6 to 12 inches of surface material pushed into the storage stockpiles or perimeter berms shown on the mine plan no higher than six feet in height. Minimal amounts of overburden or waste material are expected (less than 10%) and these volumes will be used to backfill slopes or spread over areas where mining has been completed.

There will be no imported waste materials or chemicals brought to the project site or stored on-site besides fuel and equipment maintenance fluids during active mining periods. Broken road materials may be transported to the site for recycling. Maintenance and fueling will be conducted by a mobile maintenance truck if needed and Best Management Practices (BMPs) will be implemented. All used fluids will be removed from the equipment and from the site following standard regulations. No fuel or used fluids will be stored long-term on-site.

1.3 ORE PROCESSING

The mined material will typically be loaded directly into trucks for transport to DPW construction sites. No permanent crushing or screening plant facilities are planned on-site. On occasion as needed, a portable crusher/screen plant will be utilized on-site to crush/screen excavated material and to recycle road materials removed from damaged road and drainage crossings. Excavated material (raw or processed), road demolition material, recycled material, and soils may be stockpiled onsite for use as needed for road maintenance and repair. When a plant is used onsite, these plants will be powered by portable generators. All process plants and generators will be permitted through the Mojave Desert Air Quality Management District (MDAQMD) as required.

1.4 PRODUCTION WATER

Water use on-site will be utilized to minimize fugitive dust generation. A water truck will be used for wetting-down material and roads during mining activities and for wetting-down haul trucks prior to site departure. Approximately 4,000 gallons of water a day may be used for dust suppression activities. The 4,000-gallon water truck (typical) will fill at the Caltrans Essex Maintenance Station about 1.5 miles southwest. It is not anticipated that there will be any excess water from the dust control procedures; therefore, no recycling is required or planned.

1.5 EROSION AND SEDIMENTATION CONTROL

DPW is required to comply with Statewide National Pollutant Discharge Elimination System (NPDES) and will prepare and implement a Storm Water Pollution Protection Plan (SWPPP) including applicable BMPs. The control of drainage, erosion, and sedimentation of the mine site will be contained in the enclosed pits and by implementing the following primary BMPs as applicable:

- Limiting surface disturbance to the minimum area required for active operations;
- Monitoring erosion on slopes and implementation of one or more soil stabilization practices as applicable for the site such as: earthen berms or dikes; silt fence; fiber rolls; straw bales; gravel bags; sediment basin(s); and straw mulch.
- Stabilizing disturbed areas through grading slopes to 3H:1V; and
- After project completion - final revegetation of slopes will be by seeding with native species.

The final slopes will gently slope at 3H:1V into the closed pit floor. There are no major drainage or run-off channels that will be affected by the mining. The large 100-foot-wide drainage easement bisecting the two pits will be avoided with setbacks of 50 feet established or greater. Only direct precipitation will affect the pits and will be collected within the pits and allowed to evaporate or percolate. Any rainfall occurring at higher elevations to the east of the rail line is collected in a dike system directing water to a culvert under the rail line, through the project site from an east to west direction. The slopes are designed at very gentle 3H:1V that would reduce possible slope erosion and runoff channeling down the slopes. There will be no run-off away from the pits.

During the course of mining and the final design of the 3H:1V slope contouring, some erosion may occur during heavy rainfall on the slopes. Erosion sediment caused by rainfall will be retained at the bottom of the pit and rills or channels in the slopes backfilled. Any water retained within the pits will not impact adjacent properties or local roads due to its containment.

After each major storm event or annually, any final slopes will be visually inspected to determine if any substantial erosion is evident such as sheet, rill or gully erosion. A major storm event is defined as precipitation totals of 0.5 inches per 24-hour period. Any rills or gullies in excess of 8 square inches in cross sectional area and are more than 10 linear feet located on final slopes shall be arrested using methods listed above.

Revegetation will be used for the long-term control of erosion on the slopes. Access points and mined surfaces will be water sprayed as necessary to reduce wind erosion during operations.

1.6 BLASTING

There will be no blasting on this project site, therefore, no explosives will be used or stored on site.

2.0 RECLAMATION PLAN

2.1 LAND USE

The Essex Overhead Pit is on vacant County owned land located to the southwest of the intersection of Route 66 or NTH and the Essex Overpass BNSF railroad tracks. A portion of the northwesterly property (identified as the North Pit) was developed as a quarry in 1930/1931 for use in the construction of Route 66 in the 1930s. Natural vegetation or re-growth on-site consists of primarily creosote sage bush - white burr sage scrub. The NTH borders the site on the west and north while the ATSF railroad lines extend along the entire east side of the two planned mining pits. A power line runs NE to SW parallel to the NTH within the site property on a 30-foot-wide easement. Besides the NTH, powerline, and railroad lines, the adjacent properties to the north, east, and south are vacant, undisturbed desert lands. Most of the areas to the west are also vacant desert lands except for a number of rural buildings located on private lands to the northwest across the NTH. The portion of the overall property on the east side of the railroad tracks is vacant, desert lands that will not be developed.

The mine site is generally level rising approximately 40 feet from the southwest to the northeast with existing elevations ranging from 1,780 to 1,820 feet amsl. The Countywide Plan land use category is open space (OS), and the site is zoned as Resource Conservation (RC). Mining is an allowable use with approval of a conditional use permit and a reclamation plan per the County's Mining Ordinance, Division 8, Chapter 88.03 of the Development Code.

The surrounding land uses are as follows:

- North: NTH and vacant desert land.
- South: Vacant desert land. The historic railroad stop of Essex is located 1.25 miles southwest, now mostly abandoned except for a few rural residences and the Caltrans Essex Maintenance Station.
- East: Railroad tracks to east of planned mining area; vacant desert land within site parcel to east.
- West: NTH; scattered abandoned rural structures to the west of NTH and vacant desert land.

2.2 VISIBILITY

The mine site is located adjacent to and east of the NTH and west of the railroad tracks about 1.25 miles northeast of Essex. Access to the site will be from the NTH. The mine site had been partially disturbed by historical mining in the 1930s for the development of the NTH. Mining will be conducted in two shallow pits. As the pits are developed with depth, operations onsite will be partially hidden from view from passing motorists. No permanent process plants will be located on-site. The mine site location is currently affected by views of abandoned structures to the west, a powerline and the railroad lines.

2.3 VEGETATION

For a complete description of the on-site vegetation, refer to the *Biological Resources Assessment* prepared by Leatherman BioConsulting, Inc. (May 2023) included in Appendix 1 of this Plan.

The Project site vegetation is dominated by shrubs and herbaceous understory creosote bush-white sage scrub (*Larrea tridentate*-*Ambrosia dumosa* Shrubland Alliance). Within the wash located outside of the property boundary between the two planned pits, vegetation consists of desert willow – smoke tree scrub (*Chilopsis linearis* – *Psoralea argemonea* Shrubland Alliance).

A variety of subdominant plants also occur in low densities on-site including cheesebush (*Ambrosia salsola*), incienso brittlebush (*Encelia farinosa*), rayless encelia (*Encelia frutescens*), and woolly eriophyllum (*Eriophyllum lanosum*). Other than the creosote bush, most of the shrubs are less than 3 feet tall and canopy is open. Cacti in the survey area include pencil cholla, beavertail cactus, and cottontop cactus. Few annual plants were observed, even during the spring survey in April 2023. Common species observed include devil's spineflower (*Chorizanthe rigida*), Booth's camissonia (*Eremothera boothii*), Fremont pincushion (*Chaenactis fremontii*), slender pectocarya (*Pectocarya platycarpa*) and desert lily (*Hesperocallis undulata*). Non-native annual plants throughout the site included Sahara mustard (*Brassica tournefortii*), red brome (*Bromus rubens*), and Mediterranean schismus (*Schismus barbatus*). The scrub habitat appeared to be in poor condition due to the prolonged drought in the region. Many of the perennial shrubs appeared to be dead or were brown and leafless, and most of the cacti were dead. No Joshua trees (*Yucca brevifolia*), a California candidate species for listing, occurred on the Project site.

Eight special status plant species are known to occur in the vicinity of the Project site and were targeted during the surveys. No special status plant species, including federal or state threatened, endangered, or candidate plant species, were observed during the general or focused surveys. Table 2 in Appendix 1 lists the potential for these species to occur within the Project site.

Though no special status plants were observed, annual plants with potential to occur may not have germinated or otherwise been detected. To mitigate potential impacts, the operator shall implement the reclamation and revegetation requirements as described in this Reclamation Plan. In general, this includes topsoil salvage, native seed collection, salvaging and transplanting of suitable of cacti and other species protected under the California Desert Native Plant Act (CDNPA) and the San Bernardino County Code Title 8, Chapter 88.01 Plant Protection and Management, and revegetation and monitoring in compliance with this Reclamation Plan.

2.4 WILDLIFE

For a complete description of the on-site wildlife, refer to the *Biological Resource Assessment* prepared by Leatherman BioConsulting, Inc. (May 2023) included in Appendix 1 of this Plan.

The Project is composed primarily of desert scrub dominated by creosote bush and is suitable for wildlife species that occur in similar areas in the Project vicinity and throughout the region. Fish

and amphibian species do not occur on the Project site due to a lack of suitable aquatic or moist habitat. A variety of reptiles, birds, and mammals are expected to occur or were observed or detected during the surveys. A list of the wildlife species observed within the survey area is presented in Appendix 1. Common wildlife species observed or expected to occur on the Project site include the following among others: the side-blotched lizard (*Uta stansburiana*), observed during the surveys; gopher snake (*Pituophis catenifer*), desert sidewinder (*Crotalus cerastes*), Zebra-tailed lizard (*Callisaurus draconoides*), and western whiptail (*Aspidoscelis tigris*).

Habitat on the Project site provides suitable foraging and nesting habitat for many bird species. Some birds may be year-around residents, but many species only occur during the summer (nesting) or winter. Other species pass through during migration only. Species observed or expected to occur seasonally include red-tailed hawk (*Buteo jamaicensis*), black-throated sparrow (*Amphispiza bilineata*), phainopepla (*Phainopepla nitens*), loggerhead shrike (*Lanius ludovicianus*), verdin (*Auriparus flaviceps*), and common raven (*Corvus corax*).

Several mammals were observed or detected by the presence of their sign including scat, tracks, and burrows. Potential dens of both coyote (*Canis latrans*) and kit fox (*Vulpes macrotis*) were observed although none were active. Additional common mammal species expected to occur include kangaroo rats (*Dipodomys spp.*), desert cottontail (*Sylvilagus auduboni*) and white-tailed antelope squirrel (*Ammospermophilus leucurus*).

A total of ten special status wildlife species have been reported in the Project region. These species and their potential to occur within the Project site are listed in Table 3 in Appendix 1. No special status wildlife was observed during survey, but desert tortoise burrows (none of which showed signs of recent use) were observed in the survey area. Several of the special status wildlife species identified during the literature search are not expected to occur on the Project site at all, while others may use the site occasionally. Those with potential to occur are addressed below.

Desert Tortoise

The Mojave Desert tortoise is listed as threatened under both the state and federal Endangered Species Acts and a candidate species for state endangered listing. Suitable habitat and soils occur throughout the Project site. No live tortoises or recent sign were observed during focused tortoise surveys; however, nine burrows ranging in quality from Class 2/3 burrows (definitely made by desert tortoises) to Class 5 (possibly tortoise but deteriorated) were observed in the survey area. The lack of recent sign indicates that tortoises may not currently use the Project site and suggests they have not used it in recent years.

The lack of tortoises and recent sign may be the result of several factors that make the site less favorable compared with surrounding habitat. The location of the Project in a strip of habitat between National Trails Highway and the railroad increases the risk of mortality for tortoises that move in and out the Project site area, reducing the number of tortoises likely to use the area over time. In addition, most of the vegetation on the Project site appeared to be dead or dying due to lack of water from the prolonged drought throughout the region, and adjacent habitat along the highway, railroad, and adjacent Southern California Edison easements is relatively disturbed

from past and current operational uses. The introduction of nonnative plant species, primarily Mediterranean grass (*Schismus barbatus*) and Sahara mustard (*Brassica tornefortii*), further contributes to the lower quality of the habitat.

Despite the lack of recent sign on the Project site, there is the possibility that a tortoise could pass through or take up residence on the Project site when it is active in the spring or fall season. Therefore, the following precautionary measures are recommended to avoid potentially impacting any desert tortoise that may wander on site during operations of the pits within suitable desert tortoise habitat:

- *Worker Environmental Awareness Program* - Prior to any construction activities or site development at the site, DPW will implement a Worker Environmental Awareness Program (WEAP) to educate on-site workers about sensitive environmental issues associated with the Project. The program will be administered to all on-site personnel, including the County's DPW personnel, contractors, and all subcontractors, on the first day of work prior to commencing work on the site. The WEAP will emphasize the protected species that have potential to occur on or near the Project site, including the Mojave Desert tortoise, burrowing owl, nesting birds, and desert kit fox, among other plant and wildlife species.
- *Desert tortoise exclusion fence shall be installed around the perimeter of active mine phases with required biological monitoring during fence construction;*
- *Vehicle speeds shall not exceed 20 miles per hour on access roads enforced by speed limit signs and employee training program;*
- *No cross-country travel with motorized vehicles outside of the project area or access roads by project personnel shall be permitted;*
- *Workers shall inspect for desert tortoise under vehicles prior to moving them;*
- *No firearms, dogs or other pets shall be allowed within the project area; and*
- *All trash and food items shall be promptly contained within closed, common raven-proofed containers and will be removed weekly from the project site to reduce the attractiveness of the area to common ravens*

Desert tortoise are protected by applicable State and/or federal laws, including but not exclusive to the California Endangered Species Act (CESA) and federal Endangered Species Act (ESA). As such, if a desert tortoise is found on-site during work activities, all activities likely to affect the animal(s) should cease immediately and regulatory agencies should be contacted to determine appropriate management actions.

Burrowing Owl

Burrowing owl (BUOW) is not listed under the State or federal ESA but is considered both a State and federal species of special concern (SSC). The BUOW is a migratory bird protected under the Migratory Bird Treaty Act (MBTA) and by State law under the California Fish and Game Code.

No burrowing owls or sign of their presence were detected during surveys of the Project site in the winter and spring. However, suitable habitat for the burrowing owl occurs throughout the Project site and surrounding habitat, and the presence of multiple burrows that are of a size suitable for use by burrowing indicate that owls could occupy the site at some time in the future. The following precautionary measure is recommended to avoid potential impacts to BUOW prior to new disturbance:

- *A pre-construction survey shall be conducted should be completed according to CDFG guidelines (CDFW 2012), with one survey being conducted within 14 days of planned construction and a second survey conducted within 24 hours of grading to verify the continued absence of BUOW species in the area of operations. If burrowing owl or an occupied burrow is observed on-site during the survey, avoidance of occupied burrows during the nesting season (February 1 through August 31) with a 600 -foot setback is required by CDFW.*

Loggerhead Shrike

Loggerhead shrike (*Lanius ludovicianus*) breeds in brushlands and open woodlands with grass over. It is the most widely distributed vertebrate in the western Mojave Desert, but it is not common anywhere in the desert (BLM 2005). One individual was observed near the Project site during the surveys conducted in December 2022. This species could nest in the wash between the Phase I and II pits adjacent to the Project site and forage throughout the survey area, but it likely does not nest within the Project site.

Desert Kit Fox

The desert kit fox is a small fox native to the western United States including the Mojave and Sonoran deserts of California (Ingles 1965). Although the desert kit fox is not designated by federal, state, or local agencies as a special-status species, CDFW regulations prohibit the take of this species. Thus, to be compliant with CDFW regulations, the project must avoid the capture or accidental mortality of desert kit foxes. Several burrows possibly attributable to desert kit fox were detected on the Project site during focused tortoise surveys.

Given the presence of suitable burrows, the extent of suitable habitat in the region, and this species' high mobility and willingness to tolerate human disturbance, kit foxes could take up residence in the survey area at any time in future, even though it appears to be unoccupied currently.

Nesting Birds

The federal MBTA provides protection for nesting birds that are both residents and migrants whether or not they are considered sensitive by resource agencies. The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The USFWS, in coordination with the CDFW administers the MBTA. CDFW's authoritative nexus to MBTA is provided in FGC Sections 3503.5 which protects all

birds of prey and their nests and FGC Section 3800 which protects all non-game birds that occur naturally in the State.

Vegetation suitable for nesting birds, including the logger head shrike discussed above, exists within and adjacent to the Project area. Most birds are protected by the MBTA. In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season, which is generally February 15 to August 15, and by conducting a worker environmental awareness training. However, if all work cannot be conducted outside of nesting season, a Project-specific Nesting Bird Management Plan can be prepared to determine suitable buffers.

- *Preconstruction Nesting Bird Surveys are recommended prior to new land disturbing activities that fall within the bird nesting season (February 15 – August 15). The nesting bird surveys would serve to identify any active nests. If no active nests are found, no further action will be required. If an active nest is found, the biologist will set appropriate no-work buffers around the nest which will be based upon the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the biologist has determined the young birds have successfully fledged and the nest is inactive.*

2.5 RECLAMATION

The intent of the California Surface Mining and Reclamation Act of 1975 as amended (SMARA) is to “maintain an effective and comprehensive surface mining and reclamation policy with regulation of surface mining operations so as to assure that: (a) adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative uses; (b) the production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment; and (c) residual hazards to the public health and safety are eliminated” (Section 2712).

Article 9, Section 3700 of SMARA states the following: “Reclamation of mined lands shall be implemented in conformance with standards in this Article (Reclamation Standards). The standards shall apply to each surface mining operation to the extent that:

- (1) they are consistent with required mitigation identified in conformance with CEQA; and
- (2) they are consistent with the planned or actual subsequent use or uses of the mining site.”

The objectives of this Reclamation Plan are to:

- Eliminate or reduce environmental impacts from mining operations;

- Reclaim in a usable condition for post-mining end uses which will be a DPW material maintenance and storage yard in the South Pit. The North Pit will be reclaimed to open space;
- Reshape excavated slopes to achieve 3H:1V slopes in both pits and revegetate disturbed areas in the North Pit to minimize aesthetic and biological impacts; and
- Reclaim the site as necessary to eliminate hazards to public health and safety.

Reclamation of the North Pit will be undertaken at the completion of mining operations in this area. Any over-steepened slopes will be partially backfilled or recontoured to 3H:1V. Fill material for slopes will be excess material pushed up onto slopes to create 3H:1V. The fill will be compacted by tracking the dozer over the slope to achieve necessary compaction consistent with final end use of open space. Any rock or gravel on the roads to be reclaimed within the North Pit will be removed and used as fill in the pit area. Final graded slopes and the pit floor will be revegetated and reclaimed as open space.

After completion of mining, the South Pit will be reclaimed and used as a DPW material maintenance and storage yard. Fencing and locked gates will remain around the South Pit for public safety reasons and equipment protection. The completed slopes of the South Pit will be sloped to 3H:1V and seeded with the recommended seed mix in this Reclamation Plan. Refer to Figure 4 for the Reclamation Plan.

2.6 REVEGETATION

A detailed *Revegetation Plan* was prepared for the project by Leatherman BioConsulting, Inc. in June 2023 and is included as Appendix 2. A summary of the *Revegetation Plan* is provided below. The goal of the revegetation program is to establish the guidelines to monitor, maintain, and assess the results of the revegetation program through comparison to established baseline vegetation data and recommended success criteria.

The revegetation plan will implement a series of activities to revegetate portions of the site after completion of mining operations. All slopes (within the North and South Pits) and the North Pit floor will be reclaimed and revegetated. The project site is a relatively barren environment due to past grading, lack of topsoil, the extreme hot temperatures and very dry conditions. Daytime temperatures average over 100° F. from June through August and annual rainfall is less than 4 inches (Barstow Daggett AP; Western Regional Climate Center, wrcc@dri.edu).

Physical reclamation procedures will include regrading to achieve planned slopes of 3H:1V as needed; ripping compacted surfaces to a depth of about 1.5 feet to hold moisture; adding available stockpiled surface material containing banked seeds that will be re-spread over the site to a depth up to one-foot deep; planting with salvaged plants, seeding with collected and commercially available native seeds; staking or flagging reclaimed areas to eliminate additional disturbance, and monitoring and remediation as needed.

Baseline Data

Leatherman BioConsulting prepared a *Revegetation Plan* and surveyed baseline vegetation data including shrub cover, density, and species richness. To evaluate vegetative cover, a series of four 50-meter point intercept transects were established: data were recorded at each 0.5-meter interval for any plant, stem, or canopy intercepting the point. Shrub density and species richness were recorded in four 50 by 50-meter plots (2,500m²) plots located along the edge of each 50-meter transects; all shrubs rooted in the plots and the number of different shrub species were recorded. Relatively large plots were used due to the paucity of vegetation. Data from these samples are summarized in Appendix 2.

The goal of the analysis was to determine the basic characteristics of the flora that will be of value in establishing goals for the revegetation effort, including perennial cover, perennial densities, and perennial species richness (composition and frequencies). Data on perennial and annual plants were recorded, but only perennial species were considered for the purposes of calculating cover, density, and species richness values. Annual plant information was used to develop an appropriate seed mix. A total of four transects and four plots were surveyed to provide baseline data needed to determine seed types and seeding rates, and to establish the success criteria for the future revegetation effort.

The total (absolute) cover from living perennials on four 50-meter transects ranged from 0 to 10% (plants intersected transects on 0 to 10 points). The total average perennial cover was 4.5 %. The most abundant species (in fact the only perennial) in terms of cover, was creosote bush (average 4.5%) A total of one perennial and three annual species were represented on the transects.

The density of perennial plants measured on the four 2,500 m² plots averaged 114.75 plants per plot. This density equates to 4.6 plants per 100 m², a more standard measure used when plant density is higher. This translates to approximately 186 perennial plants per acre. The density of the two perennial species was 86.75 plants per 2,500 m² plot (or 3.5 per 100 m²) for creosote bush and 28 plants per plot (or one per 100 m²) for white-bursage 4.6 plants/100 m². No other living perennial species were encountered in the samples.

Perennial species richness for all samples (transects and plots) was relatively low, with only the same two perennial species recorded in all plots sampled (creosote and white-bursage). The average number of species recorded plot therefore was two. Leatherman BioConsulting, Inc.'s (2023) list of plant species observed during these and other surveys includes a total of 23 native and four non-native species, including ten perennial shrubs and trees, three species of cactus, and 14 annuals (four non-native) (*Biological Resource Assessment*; Leatherman BioConsulting, October 2023).

Soil Salvage

Topsoil represents a valuable resource in revegetation efforts, and contributes native seed, beneficial soil microorganisms, and organic and mineral nutrients crucial to revegetation success. Specifically, the top 6 to 12 inches of topsoil, including any vegetation, will be ripped and removed and placed in stockpiles for use during future revegetation activities.

Figure 4 Reclamation Plan

Topsoil would be removed and stored only as work advances in each quarry to preclude surface disturbance before it is necessary. Topsoil will be stored in stockpiles in pre-determined locations that will be left undisturbed until used in the revegetation process. The stockpiles will be clearly marked and covered with rock, seeded with a native erosion control cover, or covered with weed free mulch or matting to limit wind and water erosion. These stockpiles will be less than six feet in height.

Seed Collection

The goal of seed collection is to preserve the local genetic diversity of the existing plant community while providing seed that are well suited for growth at the site. Seed collection will be undertaken and monitored by a professional seed collecting firm or a qualified botanist. When seed collection is not possible, a certified weed free seed mix may be used in lieu of seed collected at the site. These should be purchased as pure live seed (PLS) to assure the seed is viable and weed free and collected from local sources.

The seed collection should occur at least a year before test plots and site revegetation is planned to ensure the seeds are available for the planting season. Proposed seed collection sites that are not on the Project site or surrounding parcel should be reviewed by the Restoration Ecologist before collection for approval.

Plant Salvage

Live cacti that cannot be avoided in the Project footprint will be salvaged in advance of mining activities. Transplanted cacti and associated soil may contain native seed and create sites for trapping windblown seed and providing shaded microclimates for seed germination. The cacti will be tagged and planted in the same cardinal orientation as they were originally growing. Any storage of the cacti prior to planting will be done with approval from the Restoration Ecologist following standard storage techniques for each individual species.

Site Preparation

Site preparation will include removal of all equipment, final grading of slopes, and de-compaction of the surface. Upon completion of mining in specified areas, disturbed areas and slopes will be reclaimed and revegetated within one year. Any rock or gravel on the roads to be reclaimed will be removed and used as fill in the pit area. The slopes will be ripped to a depth of 18 inches parallel to the slope to break up compacted areas and aid in holding moisture and seeds. The stored topsoil will be spread out evenly.

If there is not enough salvageable topsoil for uniform re-soiling, then revegetation will be carried out by establishing random “islands” up to one-foot thick and seeded. The soil islands will include topsoil, retained organic and dead plant material, and any available processing soils and fines (sand, silt, clay). Quick-growing, shallow-rooted species will be included in the seed mix to provide short-term erosion control. By providing short-term erosion control, more favorable growing conditions will be created for climax species that will provide long-term erosion control.

Revegetation

The site will be seeded with locally collected seed from the region or using PLS that is a certified weed-free seed mix as approved by the Restoration Ecologist and LUS. Two alternative seed distribution methods are proposed. The first involves the use of an imprinter to create an irregular surface on the revegetation areas and distribute the seed mechanically. Imprinting uses a heavy drum roller pulled by a tractor. The drum roller has teeth that penetrate and breaks up the surface of the soil to create a pattern of shallow pockets in the soil. These pockets persist over a period of years and create microclimates for retention and germination of seeds, trap water and shelter seedlings from sun and wind, and decrease erosion. An alternative, less expensive method is the use of a hand-held seed spreader to distribute seed.

A unique seed mix was developed for the site's habitat occurring in the project impact area. The recommended seed mix and seeding rates are outlined in Table 2 (below) and may be modified if a native observed species is not available during that year of revegetation and/or if seed costs are exorbitant. All seeds will be pure live seed in lbs./acre.

Quick-growing, shallow-rooted species will be included in the seed mix to provide short-term erosion control. By providing short-term erosion control, more favorable growing conditions will be created for climax species that will provide long-term erosion control. The seed mix will be a subset of the native plants identified during surveys. Species recommended were the most encountered on the site and accounted for the majority of the vegetative coverage. Selection of species at the time of revegetation will be a balance of availability with some preference to species with low dispersibility.

The recommended seed mix and seeding rate is outlined in Table 2. Regardless of the source of the seed (collected locally for this specific project or obtained commercially from regional sources), the seed mix may be modified due to availability of the seed at the time of the revegetation effort.

Table 2
Proposed Seed Mix and Application Rates

Scientific Name	Common Name	PLS Lbs./Acre
<i>Ambrosia dumosa</i>	white bursage	4
<i>Ambrosia salsola</i>	cheesebush	2
<i>Amsinckia tessellata</i>	checker fiddleneck	1
<i>Baileya multiradiata</i>	desert marigold	0.5
<i>Encelia farinosa</i>	incienso brittlebush	2
<i>Festuca octoflora</i>	six weeks fescue	0.5
<i>Hilaria rigida</i>	big galleta	1
<i>Larrea tridentata</i>	creosote bush	6
<i>Malacothrix glabrata</i>	desert dandelion	0.25
Total		17.25

Source: *Revegetation Plan*, Leatherman BioConsulting 2023.

No invasive, non-native plant species will be used in the revegetation plan. Only native seeds tolerant to existing soil and rainfall conditions will be used.

Seeding will take place between November and February prior to winter rains to take advantage of winter precipitation and eliminate the need for irrigation. Reclaimed areas will be clearly staked and flagged to eliminate additional disturbance if quarry activities are ongoing.

Test Plots

In addition, the operator shall establish six 100-square meter test plots. The test plots will be located in the southeastern portion of the site on shallow slopes, refer to Sheet 1 of the Mine Plan. The plot areas shall be representative of disturbed slope areas with the following treatments: three plots will include salvaged topsoil and three plots will not. Test plots will include surface ripping/no seeding (control plot); surface ripping and seeding as described above using an imprinter with and without topsoil placement; and surface ripping and seeding as described above using hand seeding with and without topsoil placement, and surface ripping/no seeding with topsoil placement.

The test plots will be maintained and monitored, and tests conducted to refine revegetation techniques, species type, and seeding rates. If necessary, based on changing conditions and preliminary results, additional combinations of treatments may be conducted if the initial tests are not satisfactory. Alternative treatments may include various types and amounts of seeds and different surface/soil preparation methods. The results will be used to develop recommendations for changes to this plan, as needed.

Irrigation

The plant palette proposed for the site consists of primarily drought-tolerant plants species that should perform well without additional water. The average precipitation in the area should be sufficient for seed germination and root establishment of native species.

Planting in the fall, prior to the winter rains, will be sufficient for seed germination and root establishment and reduce weed growth that is typically associated with supplemental irrigation. Scarification of the soil and the creation of surface rills and furrows will allow for maximized collection of water from rain events and run-off.

Fertilization

No fertilization of the site is recommended. The native seeds used for revegetation will be tolerant of existing soil conditions. Additionally, the mechanical loosening, and creation of surface rills and furrows, will create conditions favorable for seed germination and root establishment by native species. Widespread use of fertilizers on desert sites appears to benefit non-native weedy species and not the native species sought as the goal of the revegetation plan (Clary, 1987). Soil samples may be necessary prior to planting to determine that no amendments are necessary if any contaminants are present. This will be determined by the Restoration Ecologist when observing the planting site prior to restoration implementation.

Weed Control

The purpose of the non-native invasive species control plan is to reduce or eliminate the occurrence of non-native invasive plant species that may invade the site where active and natural revegetation is taking place. Non-native invasive species (weeds) can compete with native plant species for available moisture and nutrients and consequently interfere with revegetation of the site.

Weed removal will be conducted prior to initiation of revegetation activities and annually as needed throughout the revegetation process. The occurrence of non-native invasive species on-site shall be monitored by visual inspection annually. The goal is to prevent non-native invasive species from becoming established and depositing seeds in revegetated areas. No areas will be allowed to have more than 10 percent non-native invasive species ground cover. If inspections reveal that non-native invasive species are becoming or have become established on site, then removal will be initiated. Inspections shall be made in conjunction with revegetation monitoring.

Non-native invasive species removal will be accomplished through manual, mechanical or chemical methods depending on the specific circumstances as determined by the Restoration Ecologist. For example, solitary or limited numbers of non-native invasive shrub species can be manually removed by hand (chopped) and the stumps sprayed with an approved weed killer such as Round-Up. Smaller plants (annual grasses) that cover more area may be sprayed, scraped with a tractor, or removed with a string trimmer, depending upon the size of the area of infestation and the number of desired native plants in proximity or mixed in with the non-native invasive or perennial species. However, annual exotic grasses, such as Mediterranean grass (*Schismus* sp.), are present throughout the region, even in relatively undisturbed areas, and it is not practical to try to remove these species from revegetated areas.

Reports of inspections and weed control implementation shall be part of the annual revegetation monitoring and kept on file by the Operator. The BRA (Leatherman October 2023) reported the following nonnative plant species: Mediterranean grass, red brome (*Bromus rubens*), desert chicory (*Rafinesquia neomexicana*), and Sahara mustard (*Brassica tornefortii*).

Monitoring

The Revegetation Monitoring Plan will be an ongoing effort to assess the results of revegetation on the disturbed areas of the site. The monitoring plan will be followed annually to monitor and assess completed revegetated areas (and test plots) and areas where revegetation is being planned or just beginning. A Revegetation Monitoring Report submitted by the operator to LUS will be part of the overall compliance with conditions. Revegetated areas will be assessed utilizing success criteria with successful methods being implemented for future revegetation.

Revegetation efforts will be monitored annually for five years after seeding or until revegetation meets the success criteria and is self-sustaining. This schedule may be revised depending on the results of the revegetation effort and the meeting of the success criteria. Monitoring and revegetation results will be reported to the County in an annual monitoring report.

Success Criteria

The site consists of creosote bush-white burr sage scrub with minimal vegetation. Success criteria will be based on the overall quality of the revegetation results compared to the recorded baseline vegetation data. Following completion of the revegetation, the surviving perennial plant species shall be evaluated annually by the consulting botanist for relative growth as determined by cover, diversity and density. Individual specimens or areas shall receive appropriate remedial attention as necessary. Remedial actions include removing invasive weed species or reseeding. The above procedure will be repeated annually for a total of five years or until success criteria are achieved. Successful revegetation based on baseline data and DMR standards will be achieved when the reseeded areas have met the following in Table 3 five years after reclamation.

Table 3
Essex Overhead Pit
Recommended Revegetation Success Criteria

Mixed Desert Scrub (Perennials)	Baseline Mean	Success Criteria (80% of pre-disturbance)
Shrub Cover (%)	4.5% / 100 m ²	3.6% cover of native perennials / 100 m ² Quick-growing, shallow-rooted species will be included in the seed mix to provide short-term erosion control. By providing short-term erosion control, more favorable growing conditions will be created for climax species that will provide long-term erosion control.
Shrub Density (stems/100 m ²)	4.6 / 100 m ²	3.7 native perennials / 100 m ²
Species Diversity or Richness (species/100 m ²)	2 / 100 m ²	2 native perennials / 100 m ²

Source: *Revegetation Plan*, Leatherman BioConsulting 2023 (see Appendix 2).

Revegetation Monitoring

The permanence and sustainability of the revegetated plant communities will be determined annually after the initial seeding. Annual assessments of the site will be conducted by a qualified Restoration Ecologist to determine the success of the revegetation effort.

The Restoration Ecologist will conduct annual monitoring visits for the site for five years following initial seeding or until success criteria are achieved. The visits shall include qualitative and quantitative analysis. The qualitative component will include an assessment of the maintenance activities, plant health, native plant recruitment, plant mortality, wildlife onsite, and photographic documentation. General information and data that should be maintained include the locations (using GPS) and size of revegetation sites, dates of activities, types of equipment used, seed mix and application methods and rates, schedule of supplemental watering (if any), and dates and methods of any invasive plant control activities.

The quantitative monitoring will be conducted each spring following initiation of revegetation activities (seeding). Quantitative sampling will include measurements of perennial cover, densities, and species composition and richness. The site will be sampled using the same methodology used for vegetation analysis in this document for establishing baseline conditions of vegetation. For perennial cover, data would be recorded along an appropriate number of 50-m transects with cover data collected every 0.5-m. For vegetation density and richness, methods can be modified slightly to use 100-m² plots adjacent to transects to take advantage of sampling along habitat islands. All data will be recorded on a standard form and copies will be submitted as an appendix to each Annual Report. Photo documentation will also be included for representative transects in order to visually document annual vegetation changes and community development.

2.7 CLEANUP

At the completion of mining activities, all mining equipment will be removed from the project site. All debris will be removed and disposed of at a permitted facility. All mine fencing and gates around the North Pit will be removed following the site achieving its revegetation success criteria. The South Pit will be utilized as a material maintenance and storage yard and gates and fencing will remain in place to prevent unauthorized access. Any unauthorized roads will be blocked or closed permanently at the property boundary.

There are no existing or planned water wells or drill holes on-site. However, if any future on-site wells are drilled in the future, these will be closed in accordance with the California Department of Water Resources Bulletin 74-91 as revised in 1988 or the latest revision and with the San Bernardino County Department of Environmental Health (DEHS) regulations unless deemed at that time to be useful for continued use or monitoring. The wells would be closed in such a manner that they would not be a hazard to the health and safety of people and wildlife.

2.8 POST RECLAMATION AND FUTURE MINING

The reclaimed site will not preclude any future mining activities with depth or surface expansion. Upon completion of mining activities, the site will consist of a DPW material maintenance and storage yard in the 25-acre South Pit and could be used for other uses at the discretion of the DPW. The North Pit (approximately 22 acres) will be reclaimed and revegetated as open space. The remaining 197 acres around the perimeter of the pits and east of the railroad tracks of mostly undisturbed lands will remain as open space.

2.9 SLOPE AND SLOPE TREATMENT

Stabilization of the mine slopes will be accomplished concurrent with final sloping of a completed slope and during the final excavations per pit area or phase and may include some backfilling of slopes if over-steepened. Slope stabilization will improve the aesthetics of the site; reduce slope erosion; eliminate slope sliding; and eliminate hazards such as un-safe drop-offs.

Final slopes will be reclaimed at 3H:1V so backfilling will be minimized. If some minor fill is required to create final 3H:1V slopes, the fill will be compacted by tracking the dozer over the

slope to achieve appropriate compaction consistent with the final end use of DPW material maintenance and storage yard and open space. Overly compacted final-graded slopes and/or the North Pit floor may require being loosened by mechanical means to aid the reseeding effort.

Preserved topsoil (as described in Section 2.11 Soils) will be placed over this prepared compacted/loosened surface, with final treatment and subsequent revegetation to follow pursuant to Section 2.6 Revegetation. Revegetation activities will generally commence in late fall to correspond with the rainy season of the area.

2.10 PONDS, WASTES

No ponds are proposed, and chemicals are not used on-site; no processing occurs on-site. There will be no chemical waste or pollution from the mining operations.

2.11 SOILS

Per the *Revegetation Plan*, an online digital map prepared by the USDA Natural Resources Conservation Service of the soils in the Mojave Desert surrounding Essex was accessed to identify soils on the Project site (USDA 2022). The results of the online search of digital maps indicate that no digital data is available for that region. However, soils appear to be composed primarily of coarse-grained, well drained sandy loams and alluvial fan material that occur throughout many broad valley landforms in the Mojave Desert.

Identified topsoil or at minimum the top 6-12 inches of surface soils and material, will be graded into clearly marked stockpiles to preserve as much of the organic material and seeds as practicable. The stockpiles will be covered with rock, seeded with a native erosion control cover, or covered with weed free mulch or matting to limit wind and water erosion. Locations for temporary and more long-term surface material stockpiles are identified on Sheet 1 of the Mine Plan. The soil stockpiles will be located along the pit perimeters or within the pit area until the initiation of re-soiling when an area's mining has been completed. The stockpiles overall would be approximately three acres at 6-foot high (or could be number of smaller stockpile) or approximately 28,000 cubic yards salvaged for each pit. Note that the two pit areas will not be completely graded at the start of operations. Clearing and soil salvage will occur as expansion of mining takes place.

2.12 DRAINAGE AND EROSION CONTROLS

Post-reclamation drainage on-site will be contained by the resulting shallow basins. Only minor sheet flow may drain into the pit. No defined drainages will be intersected by the project site as drainages have been avoided and cut-off from upstream flow by the railroad tracks. Refer to Section 1.5 for a description of drainage and erosion controls that will be maintained after termination of mining.

2.13 PUBLIC SAFETY

Public access to the site will be restricted by the site perimeter 4-strand wire fence and locked access gates during operations and reclamation. Warning signs with contrasting background lettering will be installed every 500 feet along the approved surface mine boundary shall be installed and shall read “No Trespassing - Keep Out; Surface Mining Operation” or similar during mining. Signs will be approximately 1-foot high and 2 feet wide. Upon completion of reclamation and revegetation in the North Pit, fencing will be removed.

The reclaimed 3H:1V slopes will be of sufficient low gradient as not to cause a hazard to public safety if the public illegally trespasses onto the site. The long-term storage yard will maintain fencing and gates.

No portals, shafts, tunnels or openings have been found on the project site. If any remain on the reclamation site after mining and reclamation, they will be either closed, or gated and protected from public entry but preserved for bat and other wildlife if appropriate with LUS consultation.

2.14 MONITORING AND MAINTENANCE

The County’s LUS as lead agency to implement SMARA requires annual reporting of Mining and Reclamation activities. The reports are filed with the State Division of Mine Reclamation and LUS. Revegetated areas will be monitored over a five-year period or until success criteria are achieved following initial planting. Data on plant species diversity, cover, survival and vigor will be collected on revegetated sites and compared to baseline data from undisturbed sites to evaluate project success.

Monitoring and maintenance of reclamation is an ongoing responsibility of the DPW.

Ongoing operations and reclamation activities require monitoring and maintenance as applicable. The DPW will provide onsite review of the following among others:

- a. Storm Water Pollution Prevention per the NPDES plan and SWPPP required by State and Federal rules. Erosion control will be reviewed and addressed within the SWPPP.
- b. Implementation and effectiveness of dust control measures;
- c. Maintenance and managing idling for trucking operations;
- d. Inspection of fencing, gates and signs;
- e. Monitoring and controlling erosion; and
- f. Monitoring revegetation and implementing remedial actions as needed.

2.15 RECLAMATION ASSURANCE FOR PUBLIC AGENCIES

The DPW shall post or cause to be posted reclamation assurance in an amount sufficient to pay for the cost of reclamation as outlined in Section 2. The reclamation assurance shall be reviewed by the Lead Agency annually as required by the SMARA. San Bernardino County LUS is the lead agency for SMARA compliance and will review the Reclamation Assurance and inspect the mine site annually.

In addition to the monitoring through inspections and reporting, the operator is required to assure reclamation of the site in accordance with the approved Reclamation Plan in compliance with Section 2773.1 of SMARA. The DPW shall continue to post reclamation assurance mechanisms in an amount sufficient to pay for the cost of reclamation as outlined in Section 2. The financial assurances must be approved by and payable to the County LUS and the California Department of Conservation.

For a site owned and operated by a public subdivision, SMARA allows the public agency (in this case the DPW) to consist of a “budget set aside” as described under SMARA Section 3806.2 below.

§ 3806.2. Budget Set Aside

(a) A Budget Set Aside shall consist of a specific fund or line item set aside by the state, county, city, district, or other political subdivision responsible for reclamation of the mined lands.

The Budget Set Aside shall remain effective continuously throughout the period in which the Budget Set Aside is used to satisfy the requirements of Section 2773.1, Public Resources Code.

(b) The set aside shall contain the following items:

(1) A resolution or other appropriate document establishing the set aside or line item including proof of approval by the governing body or appropriate official of the state, county, city, district, or other political subdivision;

(2) The types and sources of specific funds;

(3) The period of time that each funding source is to be available;

(4) The calculation amount of the financial assurance prepared pursuant to Section 3804; and

(5) The authorization for the lead agency or the Department of Conservation to use the funds to conduct and complete reclamation if the lead agency or the Department of Conservation determines that the operator is incapable of performing the reclamation covered by the set aside pursuant to Section 2773.1(b).

For other similar sites owned by the County and operated by the DPW, the County has approved a resolution to fund the FACE with a Transportation Road Operations Restricted Fund Balance Reserve that will be adjusted as needed.

2.16 MONITORING AND MAINTENANCE FOR PUBLIC AGENCIES DURING “IDLE” PERIODS PER PRC SECTION 2770.1

During periods of inactivity or when the site is considered “idle” as defined by SMARA, SMARA allows public agencies to secure the site during inactive periods per Section 2770.1 below, which effectively takes the place of an Interim Management Plan (IMP).

§2770.1 For the purposes of a borrow pit surface mining operation that is owned or operated by a lead agency solely for use by that lead agency, all the following shall apply:

- (a) (1) In addition to the requirements of Sections 2772 and 2773, the lead agency shall include in its reclamation plan, maintenance measures that become effective when the borrow pit surface mining operation is idle. The maintenance measures shall maintain the site in compliance with this chapter while the borrow pit surface mining operation is idle.*
- (2) Notwithstanding paragraph (1), a lead agency may obtain an interim management plan pursuant to subdivision (h) of Section 2770.*
- (3) A lead agency that complies with this subdivision shall be exempt from the requirements of paragraph (6) of subdivision (h) of Section 2770.*
- (b) Notwithstanding paragraph (2) of subdivision (h) of Section 2770, an interim management plan for a borrow pit surface mining operation may remain in effect until reclamation of the borrow pit surface mining operation is completed in accordance with the approved reclamation plan.*
- (c) Notwithstanding subdivision (b) of Section 2774, a lead agency may conduct an inspection of a borrow pit surface mining operation once every two calendar years during a period when the borrow pit surface mining operation is idle.*

The maintenance measures below will become effective when the surface mining operation is idle to maintain the site in compliance with the Reclamation Plan and SMARA.

DPW will secure the site and establish best management practices to ensure that mining operations can easily resume when road maintenance activities are required. During an IMP period, DPW will monitor and maintain the site through the ongoing compliance with its land use entitlements, and all other state and federal regulations required to control site access, protect public safety, and ensure safe physical conditions. DPW will secure the Site as follows:

- Patrolling mine areas on an ongoing basis utilizing DPW personnel or outside security personnel, to discover any items that are inconsistent with the Site's Reclamation Plan, DPW protocol or applicable regulations.
- Reporting/recording any such items for prompt attention such as trash dumping.
- Maintaining appropriate gates, fences, and signage around the Site. DPW will also repair any damaged gates and fences within 30 days of discovery.
- Monitoring slopes and revegetation and implementing remedial actions as necessary.
- Monitoring erosion and erosion control measures outlined in the Site's SWPPP and repairing erosion and erosion control measures as needed.

- Inspecting mine areas and removing any deleterious or hazardous materials and trash in accordance with government requirements.

3.0 GEOLOGY

Regionally, the Project is located within the Eastern Mojave Desert portion of San Bernardino County, California, which is a part of the Mojave Desert Geomorphic Province, also cited as part of the Basin and Range Geomorphic Province. The Province is characterized by a series of structural and topographic basins bounded by relatively linear mountain ranges.

Sediments eroding from the bedrock are deposited as alluvium on the flanks of the hills and mountains, and over time, have largely filled the valleys (basins) between the mountain ranges. The alluvial sediments are primarily composed of layers of gravel, sand, silt, and clay in varying proportions. The grain size of the alluvium is generally coarse on the upper parts of the alluvial slopes with more fine-grained deposits down slope.

The Study Area, as is most of Southern California, is located in a seismically active area. According to the California Geologic Survey, Fault Activity Map, 2010, the nearest active fault is the South Bristol Mountain Fault located 27 miles west of the site. The site is not located within a Geologic Hazards Zone (Policy Map HZ-1 Earthquake Fault Zones; Countywide Policy Plan, 2019).

4.0 HYDROLOGY

The following information is from *California Groundwater Basin Bulletin 118*, https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/7_002_FennerValley.pdf. (last update 2/27/2004)

The project site is located within the Fenner Valley Groundwater Basin.

- Groundwater Basin Number: 7-2
- County: San Bernardino
- Surface Area: 454,000 acres (709 square miles)

This basin underlies Fenner and Clipper Valleys in eastern San Bernardino County. The basin is bounded by nonwater-bearing rocks of the Marble and Providence Mountains on the west, of the Providence and New York Mountains on the north, of the Piute and Old Woman Mountains on the east, and of the Ship and Old Woman Mountains on the south. Surface water drains south and southwest toward Schuyler Wash, which follows the axis of the valley, and exits the valley through Fenner Gap and beneath Bristol and Cadiz Lakes. Average annual precipitation ranges from 7 to 10 inches in the basin; Barstow averages 4 inches annually.

In this part of the Mojave Desert, both an upper and a lower alluvial aquifer have been identified. The upper aquifer consists of Quaternary age sands and gravels that reach 600 feet thick (DWR 1967; MWD 1999; 2000). The lower aquifer consists of middle to late Tertiary age alluvial deposits that contain a higher proportion of fine material and are generally less permeable than

those the upper aquifer (MWD 2000). The thickness of the lower alluvial aquifer may reach 1,800 feet near the town of Danby (MWD 2000). These aquifers are separated in places by discontinuous layers of silt and clay; however, both aquifers are presumably unconfined (MWD 1999).

Recharge is dominantly from percolation of surface runoff through stream beds and washes. Because of limited pumping, groundwater levels in the basin have remained fairly stable (MWD 1999). The total storage capacity is estimated at 5,600,000 acre-feet (af) (DWR 1975). Natural recharge is estimated to be about 3,000 af/yr., and extractions through 1981 are estimated to have been about 8 af (DWR 1999).

The site lies within a broad alluvial fan with surface flows generally from the northeast to the southwest. There are no perennial (year-round) streams on-site. However, the railroad tracks to the east and the NTH to the north have effectively cut off natural surface flows in the old drainages that are found onsite. The natural flows east of the railroad tracks drainages have been directed into channels and through an underpass that is directed through the property site in a channel that bisects the western half of the site. This drainage will be avoided by mining operations with a 50-foot setback from the 150-foot-wide drainage easement (in some places larger as to avoid any potential impact, avoidance of jurisdictional water). No active major drainages will be impacted by the proposed excavation area. There are no waters of the U.S. or wetlands on-site. The plan was designed to avoid any potential impacts to jurisdictional waters.

Water will be utilized to minimize dust generation. A water truck will be used for wetting-down material and roads during mining activities and for wetting-down haul trucks prior to site departure. Approximately 4,000 gallons of water a day (6 to 20 days a year) may be used for dust suppression activities. The 4,000-gallon water truck (typical) will fill at the Caltrans Essex Maintenance Station about 1.5 miles southwest. It is not anticipated that there will be any excess water from the dust control procedures; therefore, no recycling is required or planned.

REFERENCES

California Department of Conservation, Division of Mine Reclamation. *Surface Mining and Reclamation Act of 1975* (SMARA, Public Resources Code, Sections 2710-2796). January 2024.

California Dept. of Water Resources. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/7_002_FennerValley.pdf.

County of San Bernardino, Countywide Policy Plan. Approved October 27, 2020, Adopted November 27, 2020. http://countywideplan.com/wp-content/uploads/2020/08/CWP_PolicyPlan_PubHrngDraft_HardCopy_2020_July.pdf

County of San Bernardino 2007 Development Code, 2022 S-31 Supplement contains: Local Legislation current through Ord. 4445, passed August 23, 2022. Chapter 88.03 Surface Mining and Land Reclamation.

Leatherman BioConsulting, Inc. *Biological Resources Assessment*, June 2023.

Leatherman BioConsulting, Inc. *Revegetation Plan*. June 2023.

Natural Resources Assessment, Inc. *Jurisdictional Delineation - Essex Overhead Mine*. May 2024.

Western Regional Climate Center, wrcc@dri.edu; Barstow Daggett AP climate data. <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca2257>.

ACRONYMS

af	ace-feet
amsl	above mean sea level
APN	assessor's parcel number
BLM	Bureau of Land Management
BMP	Best Management Practices
Cal-OSHA	California Occupational Safety and Health Administration
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNPS	California Native Plant Society
COA	Condition of Approval
CUPA	Certified Unified Program Agency (Hazardous Materials Division of the San Bernardino County Fire Department is designated as the "CUPA.")
CY, cy	Cubic yards
DEHS	Department of Environmental Health Services (San Bernardino County)

DMR	Division of Mine Reclamation
DOC	Department of Conservation
DPW	San Bernardino County Department of Public Works
DWR	Department of Water Resources
FESA	Federal Endangered Species Act
H:V	horizontal to vertical; typically, in feet (slope inclination)
MBTA	Migratory Bird Treaty Act (protects nesting birds)
MSHA	Mining Safety and Health Administration
MDAQMD	Mojave Desert Air Quality Management District
MWD	Metropolitan Water District
NCSS	National Cooperative Soil Survey
NPDES	National Pollutant Discharge Elimination System
NTH	National Trails Highway (US Route 66)
OS	Open Space (Countywide Plan land use category)
RC	Resource Conservation (County zoning)
RWQCB	Regional Water Quality Control Board
SCS	Soil Conservation Service
SMARA	Surface Mining and Reclamation Act of 1975
SPCC	Spill Prevention, Control, and Countermeasure
SWPPP	Storm Water Pollution Prevention Plan
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

SMARA CROSS REFERENCE MATRIX

Essex Overhead Pit Mine Reclamation Plan Surface Mining and Reclamation Act of 1975 (SMARA) & California Code of Regulations (CCR Title 14)

Prepared by Lilburn Corporation – June 2024

Including reference to:

ARTICLE 1. GENERAL PROVISIONS. SECTION 2710 et seq.

ARTICLE 2. DEFINITIONS. SECTION 2725 et seq.

ARTICLE 3. DISTRICT COMMITTEES. SECTION 2740 – 2741

ARTICLE 4. STATE POLICY FOR THE RECLAMATION OF MINED LANDS. SECTION 2755 et seq.

ARTICLE 5. RECLAMATION PLANS AND THE CONDUCT OF SURFACE MINING OPERATIONS.

SECTION 2770 et seq., as amended

CCR TITLE 14 (REGISTER 85, No. 18-5-4-83)

CHAPTER 8. MINING AND GEOLOGY

SUBCHAPTER 1. STATE MINING AND GEOLOGY BOARD

ARTICLE 1. SURFACE MINING AND RECLAMATION PRACTICE. SECTION 3500 et seq.

ARTICLE 9. RECLAMATION STANDARDS. SECTION 3700 et seq.

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
SMARA 2770.5	100-year flood, Caltrans contact	X		
SMARA 2772 (c) (1)	Name and Address of operator/agent.		3	1.0
SMARA 2772 (c) (2)	Quantity & type of minerals to be mined.		6	1.1
SMARA 2772 (c) (3)	Initiation and termination date.		3	1.0
SMARA 2772 (c) (4)	Maximum anticipated depth of mining.		6-7	1.1
SMARA 2772 (c) (5)	Description, including map with boundaries, topographic details, geology, streams, roads, utilities.		1 – 10 Sheets 1 & 2	1.0 - 1.2
SMARA 2772 (c) (6)	Mining plan and time schedule for reclamation (concurrent or phased reclamation).		6-7, 17-18	1.1, 2.5
SMARA 2772 (c) (7)	Proposed subsequent use.		17-18, 26	2.5, 2.8
SMARA 2772 (c) (8)	Description of reclamation measures adequate for proposed end use.		17-26	2.5 - 2.7
SMARA 2772	Description of containment		10	1.2

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
(c) (8) (a)	control and mine waste disposal.			
SMARA 2772 (c) (8) (b)	Rehabilitation of stream banks/beds to minimize erosion	X	---	---
SMARA 2772 (c) (9)	Impact of reclamation on future mining.		26	2.8
SMARA 2772 (c) (10)	Applicant statement accepting responsibility for reclamation per the reclamation plan.		Attached to application	
SMARA 2773 (a)	Water quality monitoring plan specific to property.		11, 27 SWPPP to be prepared upon approval	1.5, 2.12
SMARA 2773 (a)	Sediment and erosion control monitoring plan specific to property.		11, 27 SWPPP to be prepared upon approval	1.5, 2.12
SMARA 2773 (a)	Revegetation plan specific to property. Monitoring Plan.		18-26	2.6 Revegetation Plan, App. 2
SMARA 2773.1	Performance (financial) assurances.		Draft attached to application	
SMARA 2777	Amended reclamation plans required prior to substantial deviations to approved plans.	X	INFORMATIONAL	
CCR 3502 (b) (1)	Environmental setting and impact of reclamation on surrounding land uses. (Identify sensitive species, wildlife habitat, sensitive natural communities, e.g., wetlands, riparian zones, etc.).		12-17	2.1 – 2.5
CCR 3502 (b) (2)	Public health and safety (exposure).		27	2.13
CCR 3502 (b) (3)	Slopes: critical gradient, consider physical properties and landscaping.		6-10, 26	1.1, 2.9

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3502 (b) (4)	Fill materials in conformance with current engineering practice.	X	---	
CCR 3502 (b) (5)	Disposition of old equipment		216	2.7
CCR 3502 (b) (6)	Temporary stream and water diversions shown.	X	---	
CCR 3503 (a) (1)	Removal of vegetation and overburden preceding mining kept to a minimum.		17-26	2.5, 2.6
CCR 3503 (a) (2)	Overburden stockpiles managed to minimize water and wind erosion.	X	---	
CCR 3503 (a) (3)	Erosion control facilities (dikes, ditches, etc.) as necessary.		11, 27	1.5, 2.12
CCR 3503 (b) (1)	Settling ponds (sedimentation and water quality).	X		
CCR 3503 (b) (2)	Prevent siltation of groundwater recharge areas.	X		
CCR 3503 (c)	Protection of fish and wildlife habitat (all reasonable measures).		13-17	2.3, 2.4
CCR 3503 (d)	Disposal of mine waste and overburden (stable-no natural drainage restrictions without suitable provisions for diversion).	X	---	
CCR 3503 (e)	Erosion and drainage (grading to drain to natural courses or interior basins).		11, 27	1.5, 2.12
CCR 3503 (f)	Resoiling (fine material on top plus mulches).		18-27	2.6, 2.11
CCR 3503 (g)	Revegetation and plant survival (use available research).		18-26	2.6
CCR 3703 (a)	Sensitive species conserved or mitigated		13	2.3
CCR 3703 (b)	Wildlife habitat at least as good as pre-project, if approved end use is habitat.		18-26	2.6

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3703 (c)	Wetlands avoided or mitigated at 1:1 minimum	X		
CCR 3704 (a)	For urban use, fill compacted in accordance with UBC or local grading ordinance.	X		
CCR 3704 (b)	For resource conservation, compare to standard for that end use	X		
CCR 3704 (c)	Mine waste stockpiled to facilitate phased reclamation and separate from growth media.	X		
CCR 3704 (d)	Final reclamation fill slopes not exceed 2:1, except when engineering and revegetation analysis allow.	X		
CCR 3704 (e)	Final landforms or fills conform with surrounding topography or end use.		17-18, 26	2.5, 2.9
CCR 3704 (f)	Cut slopes have minimum factor of safety for end use and conform with surrounding topography.		17-18, 26	2.5, 2.9
CCR 3704 (g)	Piles or dumps not placed in wetlands without mitigation.	X		
CCR 3705 (a)	Vegetative cover, suitable to end use, self-sustaining. Baseline studies documenting cover, density and species richness.		18-26; Table 3	2.6; Appendix 2
CCR 3705 (b)	Test plots if success has not been proven previously		23	2.6
CCR 3705 (c)	Decompaction of site.		17-26	2.5, 2.6
CCR 3705 (d)	Roads stripped of road base materials, resoiled and revegetated, unless exempted.		17-26	2.5, 2.6
CCR 3705 (e)	Soil altered or other than native topsoil, required soil analysis. Amend if necessary.	X	---	---

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3705 (f)	Temporary access not bladed. Barriers installed.	X		
CCR 3705 (g)	Use native plant species, unless exotic species meet end use.		18-26	2.6
CCR 3705 (h)	Plant during correct season.		18-26	2.5, 2.6
CCR 3705 (i)	Erosion control and irrigation, when necessary.		11, 27	1.5, 2.12
CCR 3705 (j)	If irrigated, demonstrate self-sustaining without for two-year minimum.	X		
CCR 3705 (k)	Weeds managed.		24	2.6
CCR 3705 (l)	Plant protection measures, fencing, caging.	X		
CCR 3705 (m)	Success quantified by cover, density and species-richness. Standards proposed in plan. Sample method set forth in plan and sample size provides 80 percent confidence level, as minimum.		18-26; Table 3	2.6, App. 2
CCR 3706 (a)	Mining and reclamation to protect downstream beneficial uses.	X	---	---
CCR 3706 (b)	Water quality, recharge, and groundwater storage shall not be diminished, except as allowed by plan.	X	---	---
CCR 3706 (c)	Erosion and sedimentation controlled during all phases as per RWQCB/SWRCB.		11, 27	1.5, 2.12
CCR 3706 (d)	Surface runoff and drainage controlled and methods designed for not less than 20 year/1 hour intensity storm event.		11, 27	1.5, 2.12
CCR 3706 (e)	Altered drainages shall not cause increased erosion or sedimentation.	X	---	---

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3706 (f)	Stream diversions constructed in accordance with DFG 1603, EPA 404, Sec. 10 Rivers and Harbors.	X	11, 27 (avoidance of jurisdictional waters)	1.5, 2.12
CCR 3706 (g)	All temporary diversions eventually removed.	X	---	---
CCR 3707 (a)	Return prime ag to prime ag, unless exempted.	X	---	---
CCR 3707 (b)	Segregate and replace topsoil by horizon.	X	---	---
CCR 3707 (c)	Productivity rates equal pre-project or similar site for two consecutive years. Rates set forth in plan.	X	---	---
CCR 3707 (d)	Fertilizers and amendments not contaminate water.	X	---	---
CCR 3708	Other ag capable of sustaining crops of area.	X	---	---
CCR 3709 (a)	Equipment stored in designated area and waste disposed of according to ordinance.		7	1.1
CCR 3709 (b)	Structures and equipment dismantled and removed.		26	2.7
CCR 3710 (a)	Surface and groundwater protected.		11, 27	1.5, 2.12
CCR 3710 (a)	Surface and groundwater protected in accordance with Porter Cologne and Clean Water Acts (RWQCB/SWRCB).		11, 27	1.5, 2.12
CCR 3710 (b)	In-stream in accordance with CFG 1600, EPA 404, and Sec. 10 Rivers and Harbors.	X	--	---
CCR 3710 (c)	In-stream channel elevations and bank erosion evaluated annually using extraction quantities, cross-sections, and aerial photos.	X	---	---

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3710 (d)	In-stream mining activities shall not cause fish to become entrapped in pools or in off-channel pits. California Fish and Game Code section 1600.	X	---	---
CCR 3711(a)	All salvageable topsoil removed. Topsoil and vegetation removal not proceed mining by more than one year.		27	2.11
CCR 3711 (b)	Topsoil resources mapped prior to stripping, location of stockpiles on map. Topsoil and growth media in separate stockpiles.		27	2.11
CCR 3711 (c)	Soil salvage and phases set forth in plan, minimize disturbance, designed to achieve revegetation success.		27	2.11
CCR 3711 (d)	Topsoiling phased ASAP. Stockpiles not to be disturbed until needed. Stockpiles clearly identified and planted with vegetation or otherwise protected.		27	2.11
CCR 3711 (e)	Topsoil redistributed in stable site and consistent thickness.		18-27	2.6, 2.11
CCR 3712	Waste and tailings, and waste disposal governed by SWRCB (Article 7, Chapter 15, Title 23, CCR).		10	1.2
CCR 3713 (a)	Drill holes, water wells, monitoring wells abandoned in accordance with laws.	X	---	---
CCR 3713 (b)	All portals, shafts, tunnels, or openings, gated or protected from public entry, but preserve access for wildlife.	X	---	---