

Appendix B

Reclamation Plan Amendment

Reclamation Plan Amendment
for the
SANTA MARGARITA QUARRY
State Mine ID# 91-40-0003

Submitted to:



Department of Planning and Building
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April 17, 2013

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A	Legal Description
B	Geotechnical Report by Golder and Associates, April 2012
C	Hydrogeologic Evaluation by Golder and Associates, March 2012
D	Biological Resource Assessment by WRA, April 2012
E	Drainage Report by Chang Consultants, April 2012
F	Oversize Reclamation Plan Exhibits, by Chang Consulting , April 2012
G	1981 Approved Reclamation Plan

Hanson Aggregates Mid-Pacific Santa Margarita Quarry Reclamation Plan Amendment

This Reclamation Plan (RP) is submitted in accordance with the requirements of the State of California “Surface Mining and Reclamation Act of 1975” (SMARA), Public Resources Code § 2770 *et seq.*, and San Luis Obispo County Code. For purposes of SMARA, the County of San Luis Obispo is recognized as Lead Agency.

SMARA requires that all surface mining operations “reclaim” mined lands to a condition which allows post-mining land uses upon termination of surface mining activities and, as such, surface mining operations are required to have a Reclamation Plan approved by the Lead Agency.

This Reclamation Plan is comprised of five sections and attachments A through G.

Section 1.0, the **Introduction** summarizes the Santa Margarita Quarry operation.

Section 2.0, the **Environmental Setting**, provides a description of the mine operation’s environment.

Section 3.0, the **Operational Characteristics**, describes proposed mining activity, mine methods, and operation of the RPA Area.

Section 4.0, the **RPA Area Reclamation**, describes proposed measures that will be implemented to reclaim the RPA Area including objectives and schedules.

Section 5.0, **Conformance with Reclamation Standards**, describes how the project will meet reclamation standards as defined in SMARA.

1.0 Introduction

The Santa Margarita Quarry (CA State Mine ID # 91-40-0003) is an existing hard-rock mine located approximately three (3) miles north west of the town of Santa Margarita in the unincorporated territory of San Luis Obispo County (Figure 1.0-1). Hanson Aggregates Mid-Pacific (“Applicant”) is applying for a modification to an existing Conditional Use Permit (CUP) and Reclamation Plan Amendment (“RPA”).

Approval of the CUP would increase the reserves at the quarry by adding approximately 33 acres of adjacent lands to the permitted site. This RPA updates the 1981 Reclamation Plan and describes mining and reclamation activities over approximately the next 64 years. The revised boundary subject to the CUP and RPA (the “RPA Area”) will encompass a total of 193.1 acres.

Development of the adjacent aggregate resources will add approximately 21,500,000 tons of reserves and allow the quarry to continue to serve as a source of construction aggregates for the community and region. Reserves gained from the extension along with existing entitled reserves total 33,200,000 tons to be mined over a 59 year span and reclamation to occur concurrently and be completed within five years of resource depletion. Approval of the CUP and RPA will not result in any change in production capability or intensity beyond currently permitted levels.

Following the completion of mining operations the RPA Area will be reclaimed to open space uses. The specific reclamation objectives include: seasonal water storage, riparian habitat, and oak woodland. Reclamation standards and specifications for the site will be divided into the Upper and Lower Areas as described in the 1981 reclamation plan. Upper Area reclamation will involve intensive revegetation to achieve reclamation of the extraction area, and reclamation in the Lower Area will continue to rely primarily on natural revegetation processes, and supplemental revegetation as needed.

Quarry benches will be revegetated with a mixture of oak woodland and chaparral species. Lower lying areas near the Salinas River will be revegetated with a mix of riparian species similar to what is found in the surrounding undisturbed areas or left to revegetate naturally. Other disturbed areas will receive a seed mix composed of chaparral and grassland species similar to what is currently growing in the project vicinity. All areas of mining disturbance at within the RPA Area will be completely revegetated with the exception of the near-vertical quarry faces and, the pit floor.



Project Location

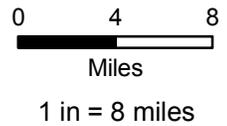
Pacific Ocean

Pacific Ocean

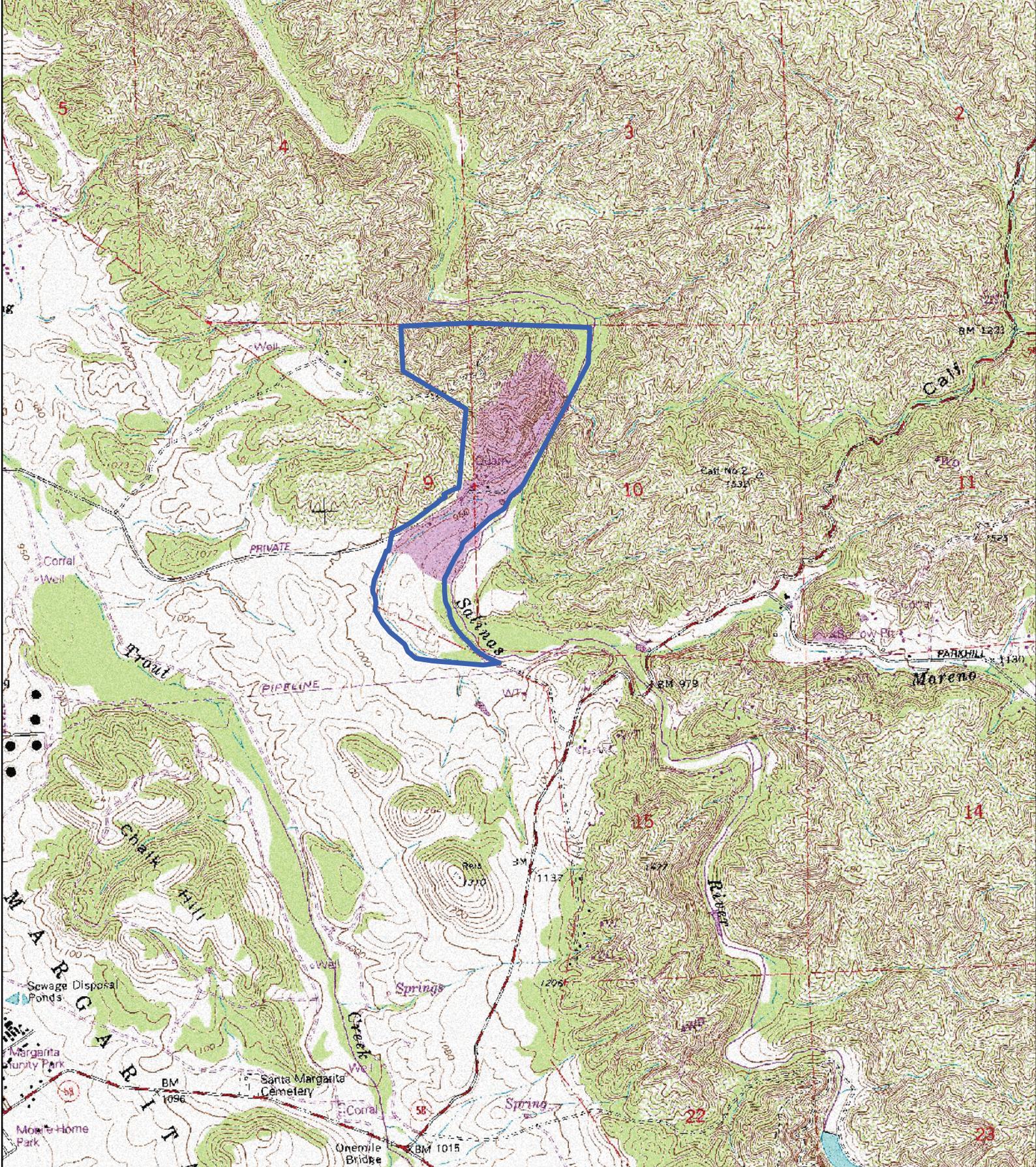
Santa Margarita Quarry Regional Location

Figure 1.0-1

- Cities
- Highways
- Counties



Date: May 2012
Source: ESRI



SANTA MARGARITA QUARRY

Figure 1.0-2

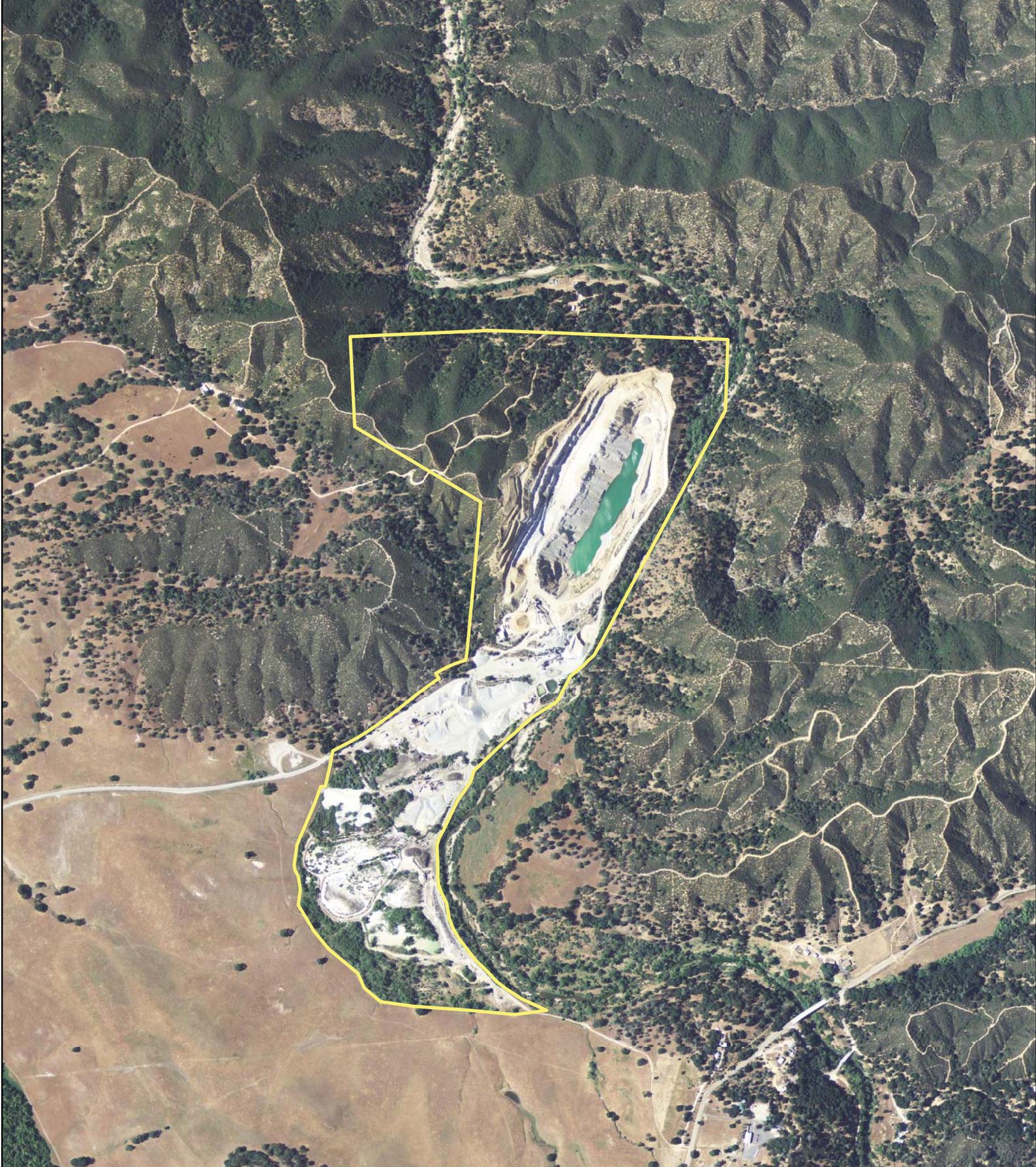
 RPA Area

0 1,000 2,000

Feet

1 inch = 2,000 feet





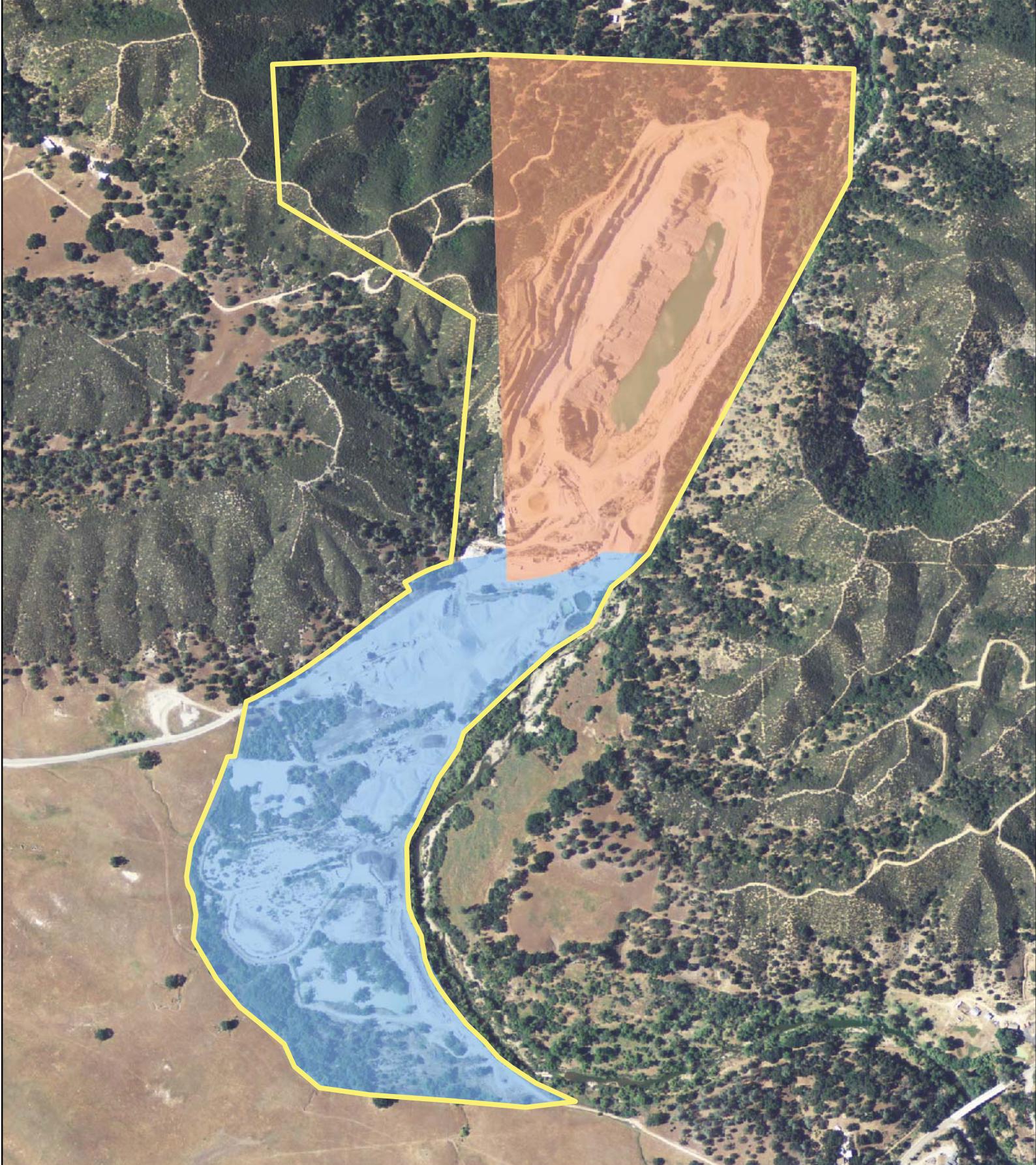
SANTA MARGARITA QUARRY LOCATION

Figure 1.0-3

 RPA Area



0 500 1,000
Feet
1 inch = 1,000 feet



**SANTA MARGARITA QUARRY
RECLAMATION PLAN BOUNDARIES**

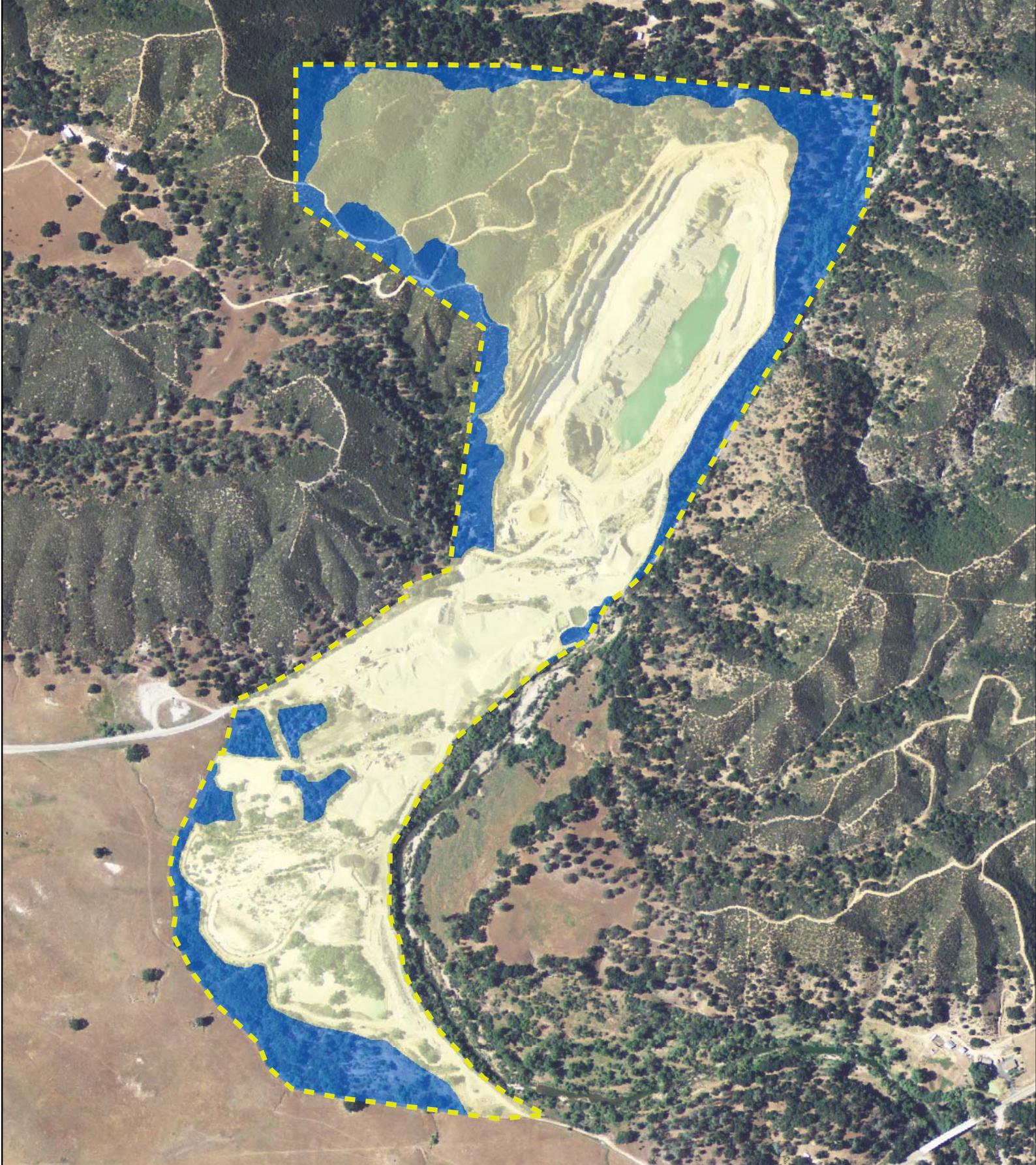
Figure 1.0-4

-  RPA Area Boundary
-  1981 Reclamation Plan Lower Area
-  1981 Reclamation Plan Upper Area



0 325 650
Feet

1 inch = 650 feet



SANTA MARGARITA QUARRY RPA AREA FOOTPRINT

Figure 1.0-5

-  RPA Area
-  Buffer Area
-  RPA Footprint



0 325 650
Feet

1 inch = 650 feet

2.0 Environmental Setting

2.1 Project Location

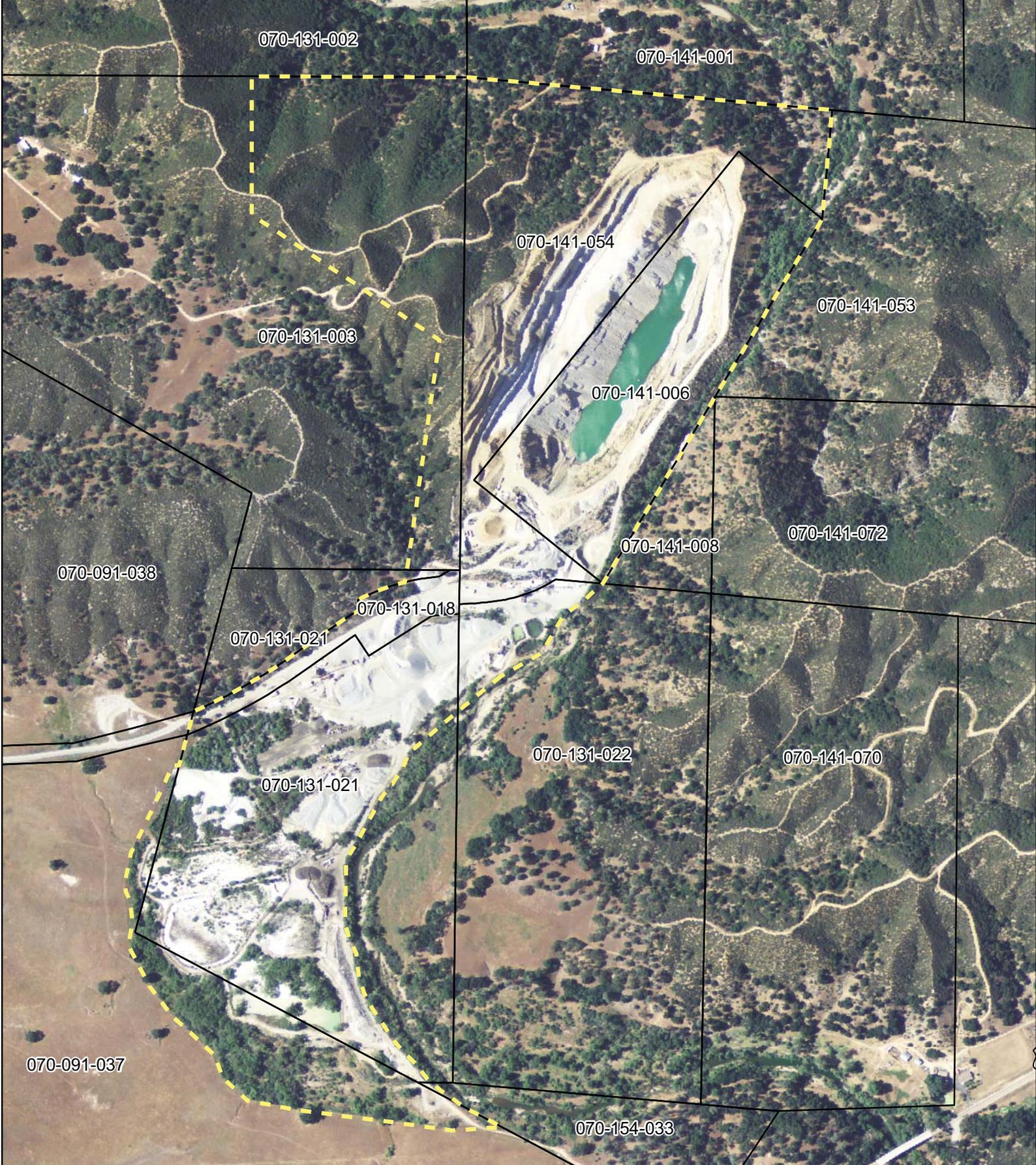
The Santa Margarita Quarry is located entirely within San Luis Obispo County, California and is situated three miles northeast of the town of Santa Margarita. The RPA Area address is 16815 El Camino Real, Santa Margarita, CA 93453. (See Figures 1.0-1 and 1.0-2).

2.2 Legal Description

The RPA Area occupies approximately 193.1 acres, located generally within the Eastern 1/2 of Section 9 and the Western 1/2 of Section 10, Range 13 East, Township 29 South of the Mount Diablo Base and Meridian. See Attachment A for a full legal description of the RPA Area. The RPA Area is identified by the San Luis Obispo County Assessor to encompass all portions of nine separate APNs, owned by Major Domo LLC, Mission Lakes LLC, DKF LLC, Santa Margarita Ranch LLC and Kaiser Sand and Gravel, which was acquired by Hanson Aggregates in 1992. (See Figure 2.2-1 and Table 1 below).

Table 1 RPA Area Parcels

APN	TOTAL ACRES	ACRES IN RPA AREA	OWNER	SAN LUIS OBISPO COUNTY LAND USE CATEGORY	SAN LUIS OBISPO COMBINING DESIGNATION	EXTENSION AREA PARCEL
Upper Area Parcels						
070-131-003	205.79	33.22	Mission Lakes LLC.	RL (Rural Lands)	EX1 (Extractive Resource Area)	Yes
070-141-054	50.16	50.16	Mission Lakes LLC.	RL (Rural Lands)	EX1 (Extractive Resource Area)	No
070-141-006	35.85	35.85	Mission Lakes LLC.	RL (Rural Lands)	EX1 (Extractive Resource Area)	No
Lower Area Parcels						
070-131-022	78.67	5.34	Kaiser Sand and Gravel	RL (Rural Lands)	EX1 (Extractive Resource Area)	No
070-141-054	50.16	50.16	Mission Lakes LLC.	RL (Rural Lands)	EX1 (Extractive Resource Area)	No
070-121-021	73.38	46.77	Kaiser Sand and Gravel	RL (Rural Lands)	FH (Flood Hazard) & No Designation	No
070-091-037	1,708.78	16.22	Major Domo LLC.	AG (Agriculture)	FH (Flood Hazard) & No Designation	No
070-154-033	17.35	0.1	Kaiser Sand and Gravel	RL (Rural Lands)	FH (Flood Hazard) & No Designation	No
070-131-018	5.43	5.43	Santa Margarita Ranch LLC.	RL (Rural Lands)	FH (Flood Hazard)	No



**SANTA MARGARITA QUARRY RPA AREA
ASSESSORS PARCELS**

Figure 2.2-1

- RPA Area
- Assessors Parcels



0 325 650
 Feet
 1 inch = 650 feet

Date: January 2013
 Assessors Parcels: SLO County/Wallace Survey
 Aerial: 2012 USDA

2.3 General Plan Land Use Category

The RPA Area lies within an area of San Luis Obispo County that is designated Rural Lands "RL" and Agricultural "AG" under Title 22 of the San Luis Obispo County Code (see Figure 2.3-1).

The General Plan Land Use Element in Title 22 states that RL Land Use Category is designated to encourage and maintain low-density development and non-agricultural uses on larger parcels. Such lands may be used, among other things, for "mining and quarry operations". Mining and quarry activities are allowed on lands designated RL, subject to the County's surface mining ordinance. The General Plan identifies AG land as areas to recognize and retain commercial agriculture as a desirable land use and as a major segment of the county's economic base. No agricultural lands will be converted to mining throughout the life of the mining and reclamation activity included in this plan.

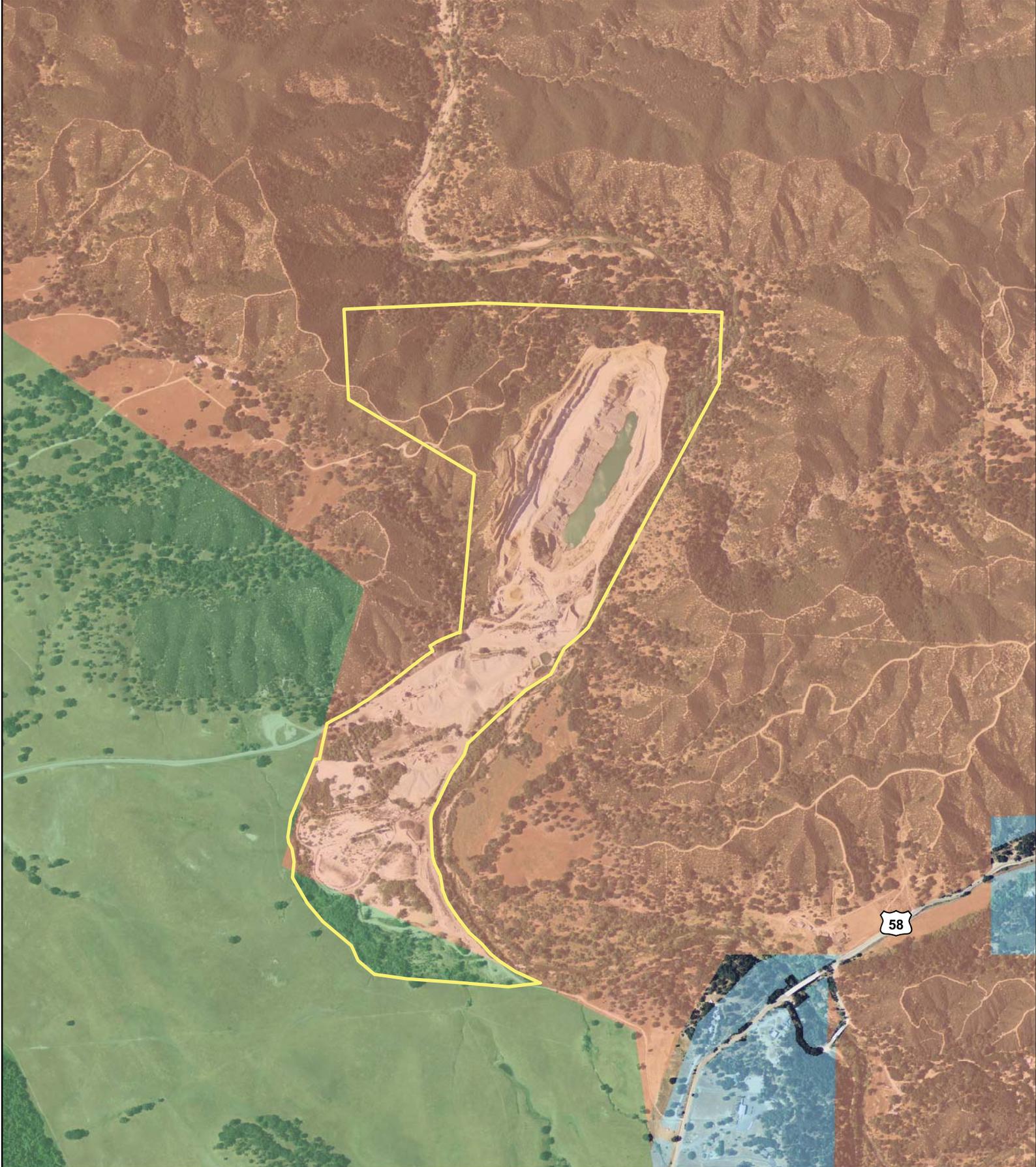
2.4 Combining Designation

The RPA Area is classified by San Luis Obispo County combining designation as an EX1-Extractive Resource Area as well as FH - Flood Hazard.

The Extractive Resource Area ("EX1") combining designation is used to identify areas of the county which the California Department of Conservation's Division of Mines and Geology has classified as containing or being highly likely to contain significant mineral deposits. The purpose of this combining designation is to protect existing resource extraction operations and undeveloped geologic resources from encroachment by incompatible land uses that could hinder resource extraction. In addition, "Framework for Planning - Inland Portion, Part I," of the Land Use Element, contains guidelines which call for proposed land use category amendments to give priority to maintaining land use categories which allow and are compatible with resource extraction (County Code 22.14.050). The EX1 combining designation allows mining subject to the County's surface mining ordinance.

Flood Hazard ("FH") designation is applied to flood-prone areas identified through review of available data from various federal, state, or local agencies and includes flood elevations of existing lakes and reservoirs. Areas of the RPA Area designated as FH lie along the banks of the Salinas River and cover some areas currently used by the existing mining operation.

The current land use combining district for the Santa Margarita Quarry is shown in Figure 2.4-1. Also refer to Table 1 for the APN and Land Use Category for each parcel affected by the RPA Area.



SANTA MARGARITA QUARRY LAND USE CATEGORIES

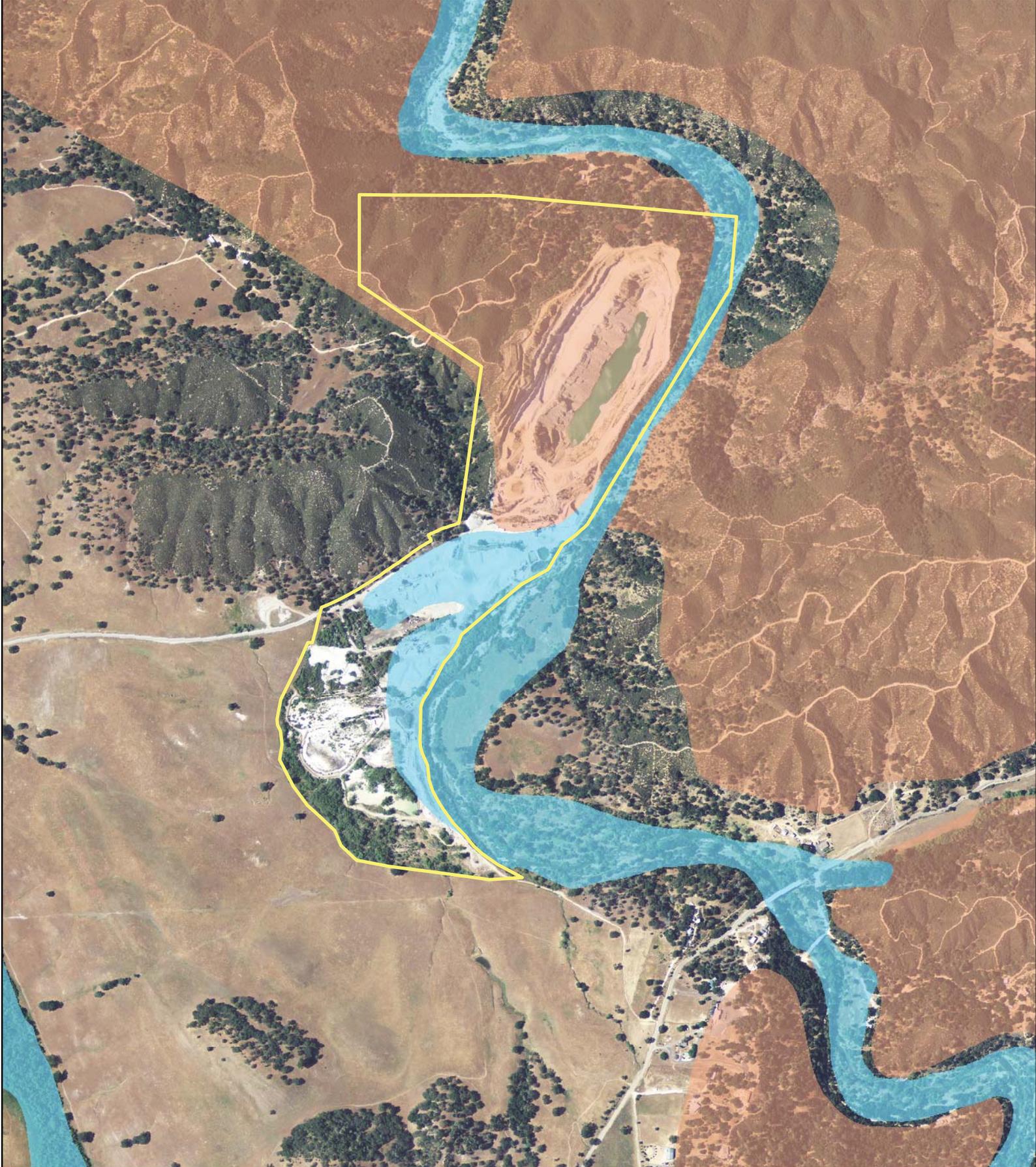
Figure 2.3-1

- RPA Area
- AG (Agriculture)
- RL (Rural Lands)
- RR (Rural Residential)



0 500 1,000
Feet

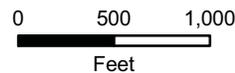
1 inch = 1,000 feet



SANTA MARGARITA QUARRY COMBINING DESIGNATIONS

Figure 2.4-1

- RPA Area
- EX1 (Extractive Resource Area)
- FH (Flood Hazard Area)



1 inch = 1,000 feet

2.5 Surrounding Land Use

The RPA Area lies within the Central Coast Mountain Range, approximately 16 miles east of the Pacific Ocean. Topography in this area consists of rolling hills and shallow valleys. The hills surrounding the RPA Area are predominately covered by scattered oaks and chaparral. The valleys are utilized for annual crop production and cattle grazing. Land use in the general area surrounding the quarry includes cattle grazing, scattered residential dwellings, crop production, and petroleum distribution and storage.

The RPA Area lies three miles to the west of the community of Santa Margarita, which has a population base of approximately 1,500. Land use immediately surrounding the RPA Area is predominantly occupied by grazing land and open space with a few scattered residences. The Salinas River flows through the RPA Area on the east and north sides of the quarry pit, creating a natural border around the RPA Area on the east and north sides. Land use to the north east and west of the RPA Area is primarily cattle grazing and open space. Land south of the site includes sporadic residential dwellings, Highway 58, annual crop production, cattle grazing and a petroleum storage facility.

2.6 Agricultural Classification

The USDA classifies the farmland within the RPA Area as Farmland of Statewide Importance and Not Prime Farmland. Farmland of Statewide Importance is land other than Prime Farmland which has a good combination of physical and chemical characteristics for the production of crops. In the case of the RPA Area, however, the land has not been used for agricultural production in the recent past, nor will or reclamation mining in the RPA Area convert land from agricultural uses. Refer to Figure 2.6-1 for the classification of farmland within the RPA Area and in the vicinity of the RPA Area. The RPA Area is not located on lands currently under a Williamson Act contract.

2.7 General Physiography

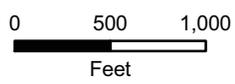
The RPA Area is located on an east and north exposure of the Central Coast Mountain Range. The Salinas River wraps around the RPA Area boundary to the north and east of the RPA Area, flowing generally south to north. Topography around the RPA Area ranges from sloping terrain to flat plains. Upland areas are characterized by decomposed granite and steeply sloping hillsides. Elevations within the RPA Area range from approximately 880 feet above mean sea level (AMSL) to 1,350 feet AMSL. If uncontrolled, drainage for the RPA Area flows to the south and east toward the Salinas River.



SANTA MARGARITA QUARRY SURROUNDING LAND USE

Figure 2.5-1

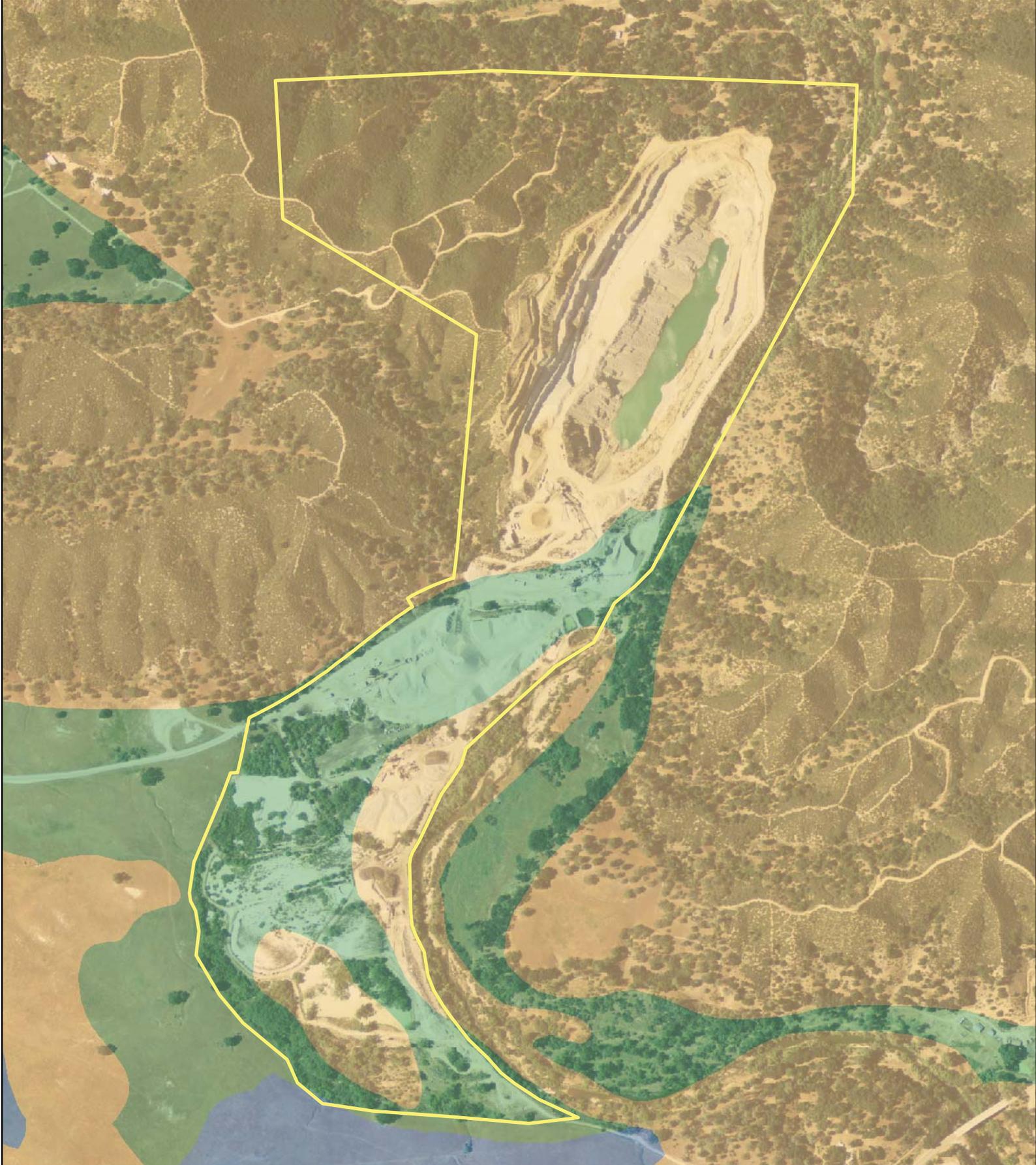
--- RPA Area



1 inch = 1,000 feet



Date: April 2012
 Salinas River: SLO County
 Aerial: 2010 USDA



SANTA MARGARITA QUARRY FARMLAND

Figure 2.6-1

- RPA Area
- Not Prime Farmland
- Farmland of Statewide Importance
- Prime Farmland



0 325 650
 Feet

1 inch = 650 feet

Date: April 2012
 Farmland: SLO County
 Aerial: 2010 USDA

2.8 Climate

The climate in the vicinity of the RPA Area is described as dry sub-humid with hot dry summers and cool moist winters. Winter temperatures average in the 50's with summer highs reaching the upper 90's. Temperatures range from the mid 30's to the upper 60's from November through March, from the mid 40's to the high 90's from April through October, and can reach in excess of 100° F during the summer months. According to the Western Regional Climate Center, precipitation in the area RPA Area and vicinity is typically about 22 inches per year. Rainfall patterns vary from year to year, but in general, the rainy season in the region is November through April, where rainfall averages between three and four inches per month. The warmer months (May through September) experience minimal rainfall.

2.9 Geology

The quarry is located in Cretaceous granitic rocks at the southeast end of a ridge bordering the east side of the Santa Margarita Valley. Across the valley to the west is the Santa Lucia Range, which consists of Tertiary sedimentary rocks. The granitic rocks of the RPA Area and the sedimentary rocks in the Santa Lucia Range are separated by the Rinconada Fault, a regional northwest-southeast trending, right-lateral fault, located approximately one mile west of the quarry. The aggregate resources being developed consist of two blocks of granite displaced upwards relative to the surrounding rock.

Fresh rocks exposed in the pit consist of medium-grained granite that is strong but moderately fractured. This strong fresh granite is capped by an approximately 50-ft. thick zone of weathered granite, and 6-25 feet of decomposed granite at the surface. A series of steep, west-northwest-striking faults crosscut the pit. There are also several near-vertical, northeast-striking faults in the upper benches of the west wall. These larger-scale faults are generally about 2 to 3 feet wide but can be wider, and are filled with clay and strongly clay-altered fault breccia and gouge.

2.10 Surface Water

The RPA Area is bounded by the Salinas River on the north and east. The Salinas River flows north from its headwaters in central San Luis Obispo County through the Salinas Valley until eventually emptying in the Pacific Ocean at the Monterey Bay. The Salinas River typically flows year round except during summers of notably dry years. As the river flows north through the Salinas Valley, farmers draw water out of the river to irrigate crops. At the RPA Area, the river flows northeast, parallel to and about 130 feet east of the east main haul road, then turns west and runs parallel to and north of the northern boundary of the property. The elevation of the Salinas River immediately east of the pit is approximately 940 feet. The Upper Area of the RPA Area does not lie within the FEMA 100-year floodplain. However, portions of the Lower Area including some material processing facilities are located within the 100-year floodplain. No extraction of material is proposed to occur within the 100-year floodplain, however reclamation grading will occur within the floodplain. (see Figure 2.10-1)

In the Upper Area of the RPA Area, drainage from the exposed quarry walls is directed inward and collects at the bottom of the pit. Runoff and groundwater will collect in the bottom of the pit, submerging the quarry floor during the winter months. The Hydrological Analysis, prepared by Golder and Associates and included in Attachment C, estimates that runoff and groundwater from a normal rainfall year will gather in the quarry floor to a depth of approximately four (4) feet. During a normal rainfall year, it is estimated that runoff that collects in the quarry floor will evaporate sometime in the late summer to early fall.

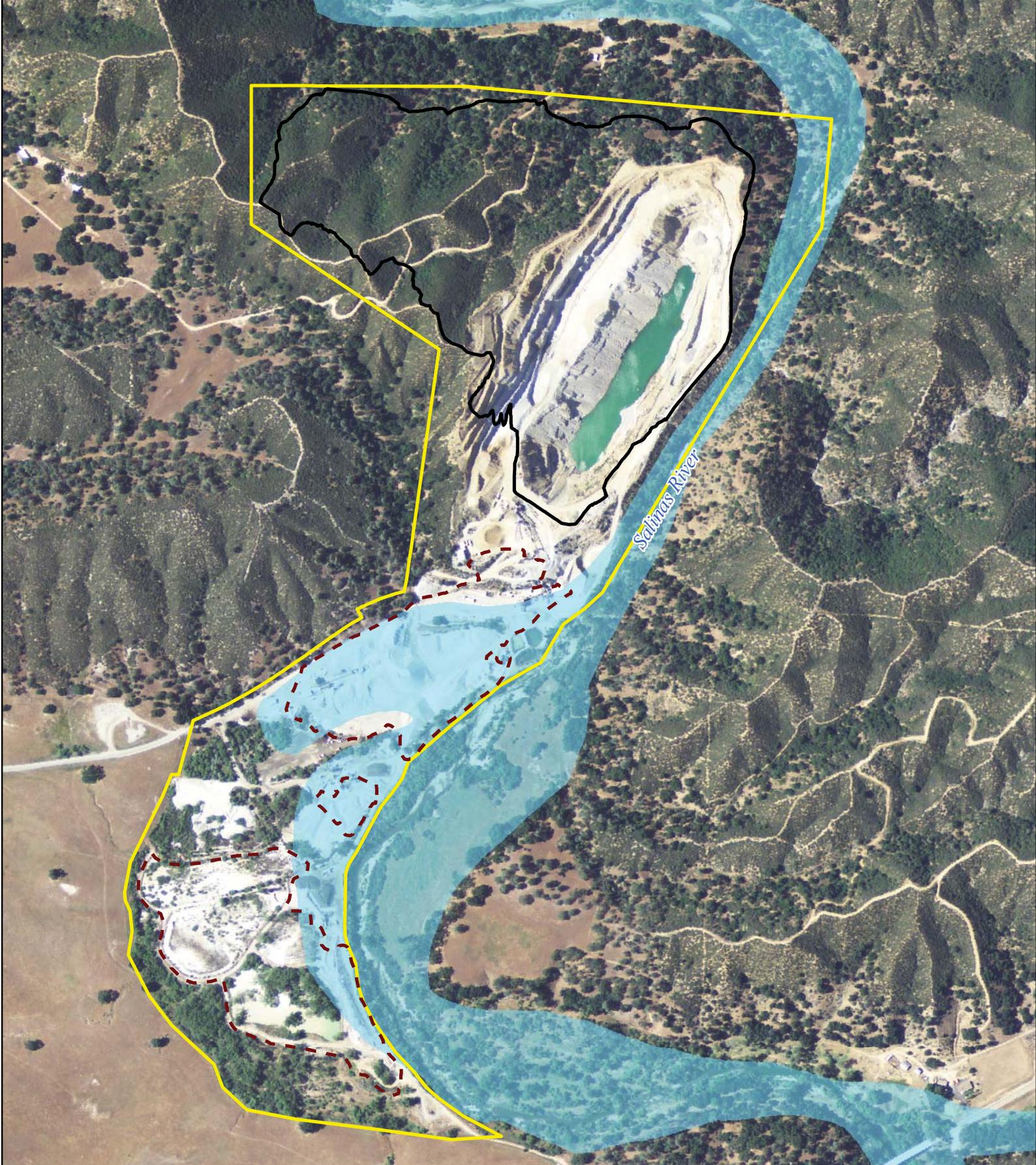
Drainage in the Lower Area will be directed toward several low lying areas located within the RPA Area. In general runoff will be directed away from the Salinas River and contained in low lying areas to percolate into the subsurface or evaporate. See the drainage report included in Attachment E for greater detail on the site drainage.

2.11 Groundwater

The RPA Area lies outside of the major groundwater basins in the area, which are associated with the more permeable alluvial deposits overlying the basement rock rather than the granitic bedrock exposed at the quarry. The occurrence of groundwater in the granite is almost exclusively within secondary openings such as joints, fractures, shear zones and faults. Well yields in the granite are expected to be very low, in the range of a few gallons per minute (gpm) to tens of gpm.

The Golder Hydraulic Analysis (Attachment C) indicates that no significant groundwater was encountered in the RPA Area during core drilling. Depth to groundwater is estimated to be approximately 50 feet below ground surface within the existing and planned pit final elevation of approximately 880' AMSL. Although groundwater within the RPA Area likely varies both spatially and temporally.

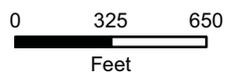
Groundwater flow is preferentially within the alluvial units east of the RPA Area as compared to the bedrock granite where the RPA Area is located. The regional scale direction of groundwater flow is interpreted to be from the southeast to the northwest toward the Paso Robles Groundwater Basin. Locally, groundwater flow is to the east and north toward the Salinas River.



**SANTA MARGARITA QUARRY
100 YEAR FLOODPLAIN**

Figure 2.10-1

- 100 Year FEMA Floodplain
- RPA Area
- Lower Area Reclamation Grading Limits
- Quarry Excavation Limits



1 inch = 650 feet



Date: March 2013
 100 Year Floodplain: FEMA
 Pit Limits: Chang Consulting
 Aerial: 2012 USDA

2.12 Soils

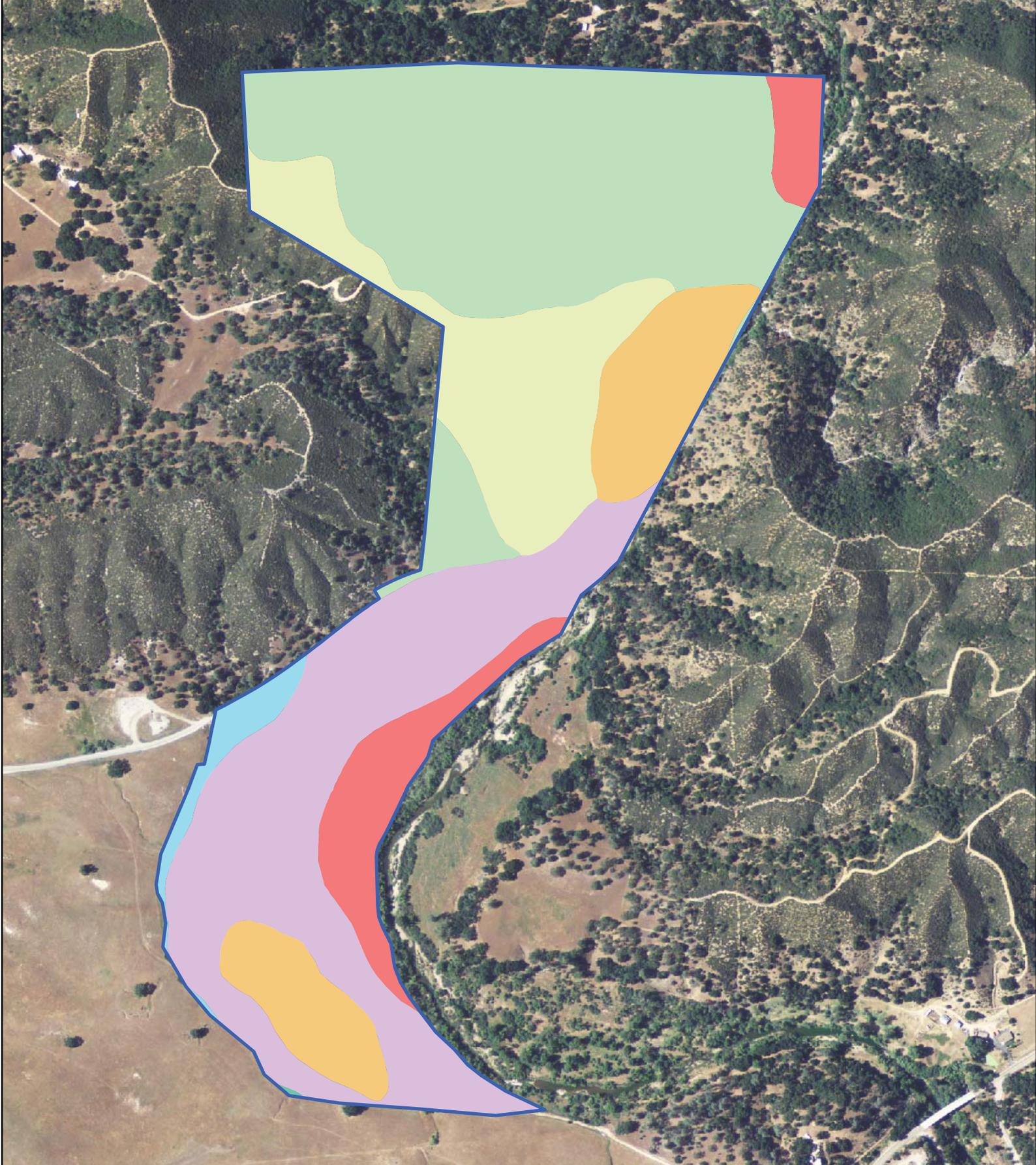
Soils within the RPA Area vary depending on location. In total, there are seven(7) separate soil classifications identified in the soil surveys completed by the USDA within the RPA Area limits:

1. Cieneba coarse sandy loam, 30 to 75 percent slopes
2. Cieneba-Andregg complex, 30 to 75 percent slopes
3. Hanford and Greenfield soils, 2 to 9 percent slopes
4. Metz loamy sand, 0 to 5 percent slopes
5. PITS
6. Xerofluvents-Riverwash association
7. Pico fine sandy loam 0 to 2 percent slope

See the Biological Resource Assessment in Attachment D for a complete description of the soils within the RPA Area.

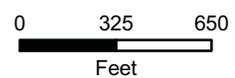
2.13 Biological Resources

Biological communities within the Upper Area of the RPA Area were mapped by WRA in April of 2012 and preparation of a Biological Resources Assessment Report was completed. Communities mapped in the report include: coast live oak woodland, ephemeral streams, perennial streams, perennial streams/riparian woodlands, chamise chaparral, northern mixed chaparral, non-native grasslands, riparian woodland, other waters, and disturbed areas including several operational water holding features within the active quarry. The Biological Resources Assessment Report located in Attachment D describes these communities in detail.



SANTA MARGARITA QUARRY SOILS

Figure 2.12-1



Date: January 2013
 Soils: USDA
 Aerial: 2012 USDA

- | | |
|--|---|
|  Metz loamy sand, 0 to 5 percent slopes |  RPA Boundary |
|  PITS |  Cieneba coarse sandy loam, 30 to 75 percent slopes |
|  Xerofluvents-Riverwash association |  Cieneba-Andregg complex, 30 to 75 percent slopes |
|  Pico fine sandy loam, 0 to 2 percent slope |  Hanford and Greenfield soils, 2 to 9 percent slopes |



3.0 Operational Characteristics

3.1 Owner/Operator/Agent

Applicant

Hanson Aggregates Mid-Pacific, Inc.
12667 Alcosta Blvd, Suite 400
San Ramon, CA 94583
Phone (925)644-2584

Name of Mineral Property

Santa Margarita Quarry

Property and Mineral Rights Ownership

Mission Lakes LLC.
750 Pismo Street
San Luis Obispo, CA 93401-3922
&
Hanson Aggregates Mid-Pacific, Inc.
12667 Alcosta Blvd, Suite 400
San Ramon, CA 94583
&
Major Domo LLC
22720 El Camino Real #A1
Santa Margarita, CA 93453-8668

&
Santa Margarita Ranch LLC
750 Pismo Street
San Luis Obispo, CA 93401-3922

Operator

Hanson Aggregates Mid-Pacific, Inc.

Agent

EnviroMINE, Inc.
3511 Camino Del Rio South, Suite 403
San Diego, CA 92108
Phone (619) 284-8515, Fax (619) 284-0115

3.2 Operations Data

Mineral Commodity

Crushed Aggregate, Granite

Proposed Surface Mining Initiation Date

Ongoing Operation

Proposed Surface Mining Termination Date

Completion of Mining by December 31, 2071, Reclamation Complete by December 31, 2076

Estimated Annual Production

Annual production at the quarry will be approximately 565,000 tons, based on historical output. Maximum annual production is currently permitted at 700,000 tons and no change is being requested under the CUP. Annual production will vary depending on market demand and may exceed 700,000 tons sold annually if material in excess of 700,000 tons from surplus material stockpiles produced in previous years.

Total Anticipated Production

Approximately 33,200,000 tons within the existing and extended RPA Area, combined.

Maximum Anticipated Depth of Quarrying

Excavation occurs at elevations ranging from 1300 to 880 feet AMSL and proceeds to an average depth of approximately 250 feet below the original grade. The maximum depth of mining will remain at 880 feet AMSL.

Proposed Post-Mining Land Use

At the conclusion of mining, the RPA Area will be reclaimed to open-space uses, including seasonal water storage, oak woodlands and riparian habitat.

3.3 Operational Characteristics

The RPA Area is comprised of the components listed in Table 2 and shown on Figure 3.3-1. These areas are described in more detail below.

Table 2 RPA Area Components

Component	Acreage
Excavation Area	74.7
Buffer Area	45.1
Aggregate Processing	41.9
Support Area	20.9
Operational Water Features	10.5
Total RPA Area	193.1

Excavation Area:

The Excavation Area is where mineral extraction currently takes place and will continue to transpire until resources are depleted under this RPA. The area will encompass approximately 74.7 acres at build-out. A 10 acre impoundment that is utilized by the operator for dust suppression is also located within the Excavation Area, this impoundment will be modified as needed by the operator during mineral extraction. The Excavation Area covers areas previously mined as well as areas of future mining included in this RPA. Currently, the Excavation Area features elevations ranging from approximately 880' AMSL to 1,350' AMSL. Approximately 33,200,000 tons of aggregate will be extracted from the quarry over the life of the mine site.

Aggregate Processing:

The Aggregate Processing Area is an existing area for the processing and storage of aggregate mined from the quarry. The Aggregate Processing Area is located to the southwest of the Quarry. The facility occupies approximately 42 acres with gentle slopes ranging from approximately 960' to 1,050' AMSL. The Aggregate Processing Area is a collection of crushing, conveying, screening and washing facilities that processes rock into an assortment of types and grades of aggregate products. Aggregate products are stored in stockpiles until picked up by customers' haul trucks or used by one of the two Hot Mix Asphalt Plants located in the Lower Area.

Support Area:

The Support Area currently totals approximately 15 acres and serves as a general support area for ongoing mining and processing operations. It is an existing area which contains access roads and disturbed areas surrounding the Quarry and Aggregate Processing Area. The Support Area is located adjacent to the Aggregate processing area on the north and south sides.

Operational Water Features:

Operational Water Features are composed of 16.5 acres within the RPA Area that are filled or partially filled with water. They are used in the processing of aggregates as sources for wash water or as settling ponds. There are five settling ponds, one use pond and one source pond that make up the Operational Water Features. Several smaller ponds are located south of the Aggregate Processing area near the Salinas River. Three settling ponds that make up the majority of the acreage are located on the western side of the Lower Area. Wash fines from the aggregate processing plant are pumped to these ponds and suspended particles settle out. These ponds are periodically cleaned out by the operator for maintenance purposes. Annually, approximately 300 acre feet of water is pumped from the source pond into the use pond to be used in the processing of aggregate. See Figure 3.4-1 for the location of the Operational Water Features.

Buffer Area:

The RPA will maintain approximately 45.1 acres of Buffer Area within the RPA Area. Buffer Areas are primarily undeveloped lands and are characterized at the site mostly by steep hillsides and thick vegetation. Buffer Areas function to protect the Quarry from land use encroachment, and also to protect nearby land uses from the potentially adverse sights, sounds and other characteristics of mining. Buffer Areas also generally include areas that are within the RPA Area but will not be disturbed.

3.4 Extractive Operations

The following provides an overview of extractive operations at the Santa Margarita Quarry. The quarry is a granite (hard-rock) quarry producing construction aggregates. The extractive process generally includes topsoil and overburden removal, followed by blasting, followed by shot-rock extraction and transport. Each process is described below, see Figure 3.4-1 for the location of the processing components within the RPA Area. The phasing of extraction activities, as it relates to different geographic areas within the RPA Area, is described in Section 3.6, Figure 3.6-1 and Table 3.

Topsoil and Overburden Removal

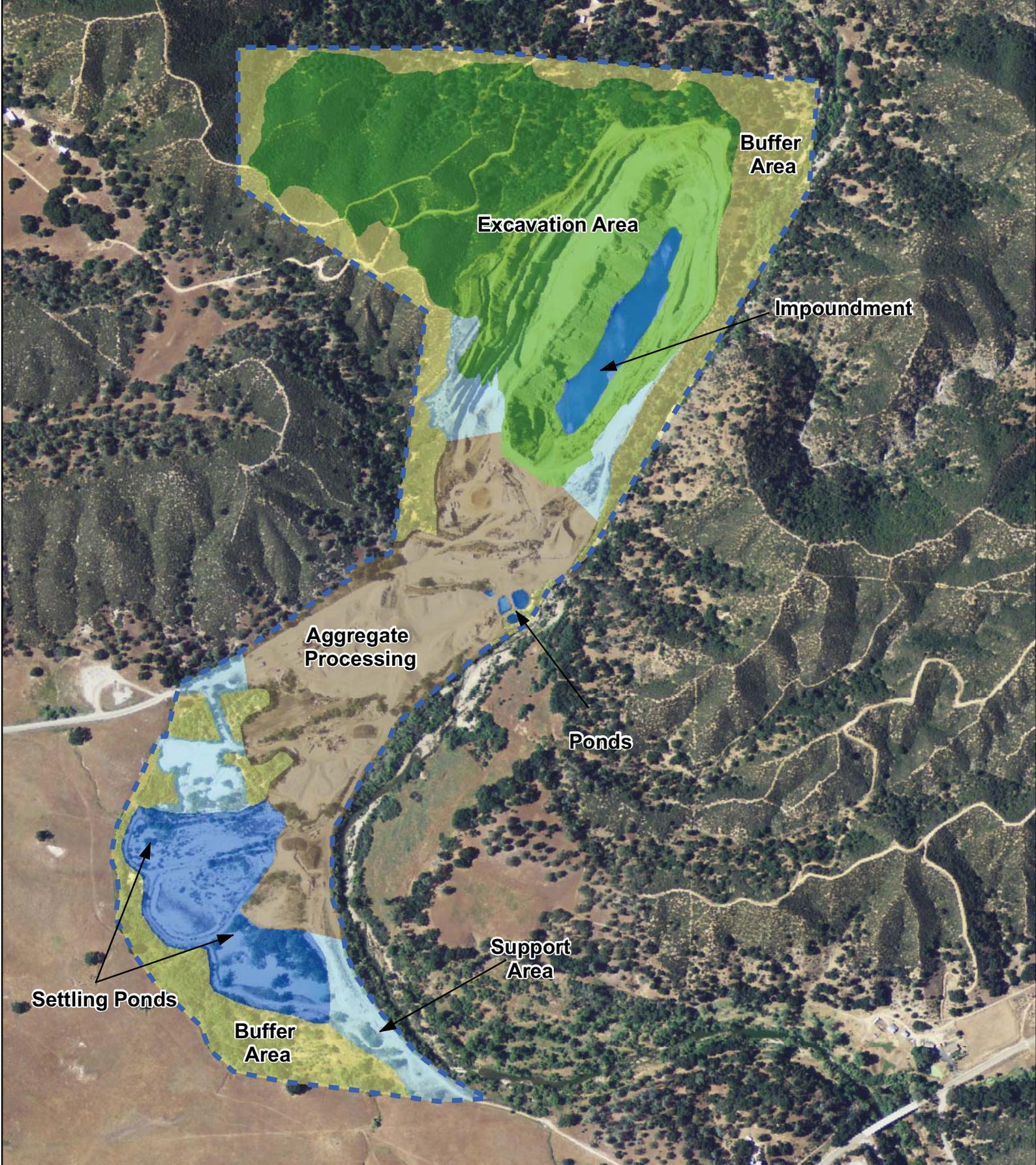
The extraction process begins with the removal of vegetation from the immediate area where extraction will occur. Once the area is clear of vegetation, topsoil will be salvaged and overburden will be relocated to expose the granite reserves..

Topsoil material is removed and stockpiled for later use in reclamation of the RPA Area. The total quantity of topsoil salvaged is a function of the quantity of topsoil available for recovery. Topsoil consists of approximately the top 6 inches of soil located within the Extraction Area.

Topsoil removal will be completed ahead of mining disturbance and will be limited to only those areas as necessary to continue extraction in pace with market demands. As final reclaimed surfaces become available, topsoil will be stripped and applied directly to final reclaimed surfaces. In this manner, the beneficial characteristics of topsoil (seed source and micro-organisms) will be preserved to aid with revegetation.

Overburden materials include soils, clays, and low quality granite that is not suitable for construction aggregate use. The quantity of overburden is estimated at approximately 1.6 million tons. Approximately 50,000 CY of overburden will be retained for reclamation purposes; the remaining volume of overburden may be sold or utilized at the quarry for final grading. Overburden recovered from within the mine footprint will be placed in temporary overburden stockpiles on the east side of the pit with the ultimate goal of placing overburden on the quarry benches and other disturbed areas of the RPA Area during the reclamation process..

Overburden removal will progress at the same rate of mining each year and for each mining phase. Overburden will be removed from the areas where it overtops the granite reserves using traditional earthmoving equipment such as: dozers, scrapers, loaders and haul trucks. Overburden removal will be limited to lands necessary for continued mining.



RPA Area Components

Figure 3.3-1

-  RPA Area
-  Buffer Area
-  Operational Water Features
-  Aggregate Processing
-  Excavation Area
-  Support Area



1 inch = 650 feet



Blasting

Drilling and blasting is required to fracture and loosen “in-situ” rock. A licensed blasting contractor is retained to complete all blasting-related activities in compliance with applicable regulations of the San Luis Obispo County Sheriff’s Department, federal MSHA (Mine Safety and Health Administration), Cal-OHSA (California Division of Occupational Safety and Health), the Department of Homeland Security, and the ATF (Bureau of Alcohol, Tobacco, Firearms, and Explosives). All blasting operations will follow current practices utilized at the active quarry. Currently, blasting occurs approximately twice per month and between 11:00 AM and 1:00 PM. Prior to blasting an air rotary drill is used to bore 30' deep holes into the granite. The holes are then loaded with ANFO (ammonium nitrate and fuel oil) or similar, cast boosters, detonation cord, and initiators. The shot is detonated by a certified blaster. Each blast yields approximately 13,000 Cubic Yards (CY) of fractured rock.

A licensed blasting contractor will be responsible for performing all blasting activities including the following:

- Drill pattern design
- Pre-blast inspection
- Loading of explosives
- Pre-blast notifications and warning signaling
- Blasting safety procedures
- Blasting RPA Area security
- Post-blast inspections and re-entry procedures
- Blast log and history

There will be no storage of explosives within the RPA Area. Explosives will be transported to the quarry for each day of blasting by a licensed and permitted explosives delivery contractor.

Shot Rock Extraction and Transport

After blasting, a shot rock pile will form at the toe of a mine bench. The size of each rock in the shot rock pile will be approximately 40 inches in diameter or less. The shot rock will be extracted with either a hydraulic excavator or a front-end loader and loaded into off-road haul trucks or directly fed into a primary crushing plant that will feed an overland conveyor. Initially, material will be transported by off-road haul trucks however, during Phase II an overland conveyor will be installed to transport the majority of the shot rock to from the pit to the processing plants. The haul units and conveyor system will deliver the shot rock to the primary and secondary crushing stations located within the RPA Area.

On-site haul roads within the quarry will vary depending on the geographic area that is being mined; therefore, the location of haul roads will vary through the quarry’s lifespan.

As the quarry advances in a northwesterly direction, the primary crusher and conveyor system may be relocated closer to the active benches in order to minimize haul distances from off-road haul units.

Material Processing

The primary and secondary plants consists of equipment and facilities that crush, screen, wash, sort and temporarily store processed materials prior to distribution off-site. These processes use of the following equipment and facilities:

- Secondary and tertiary crushing units
- Series of vibrating screens and rock washing units
- Conveyors linking processing facilities with stockpiles
- Finished material stockpiles
- Access roads
- Clarifying water basin

Fractured granite is first delivered from the working face to the primary processing plant located southwest of the Extraction Area. The primary plant reduces aggregate down to 8-inch-minus. The crushed rock is then shipped via belt conveyors to the surge pile, where it is loaded onto a underground conveyor and fed to the secondary processing plant where it is crushed, screened and washed. Finished product is then stockpiled at the secondary plant for ground loading into customer trucks or conveyed west to the asphalt plant to be used in HMA.

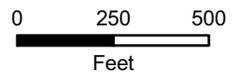
The aggregate processing area occupies approximately 42 acres of the RPA Area and includes: two hot mix asphalt Plants, a concrete and asphalt recycle facility, aggregate processing equipment, material stockpiles, support buildings and roads.

All crushing, conveying and processing units currently operate according to Permits to Operate issued by the San Luis Obispo County Air Pollution Control District (SLOAPCD). Hanson complies with all SLOAPCD rules and regulations, including requirements for the control of fugitive dust. These requirements include the use of best available control technology (BACT), which includes enclosures, and water sprays to reduce or eliminate dust emissions.



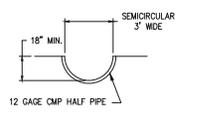
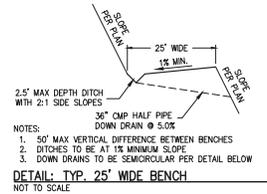
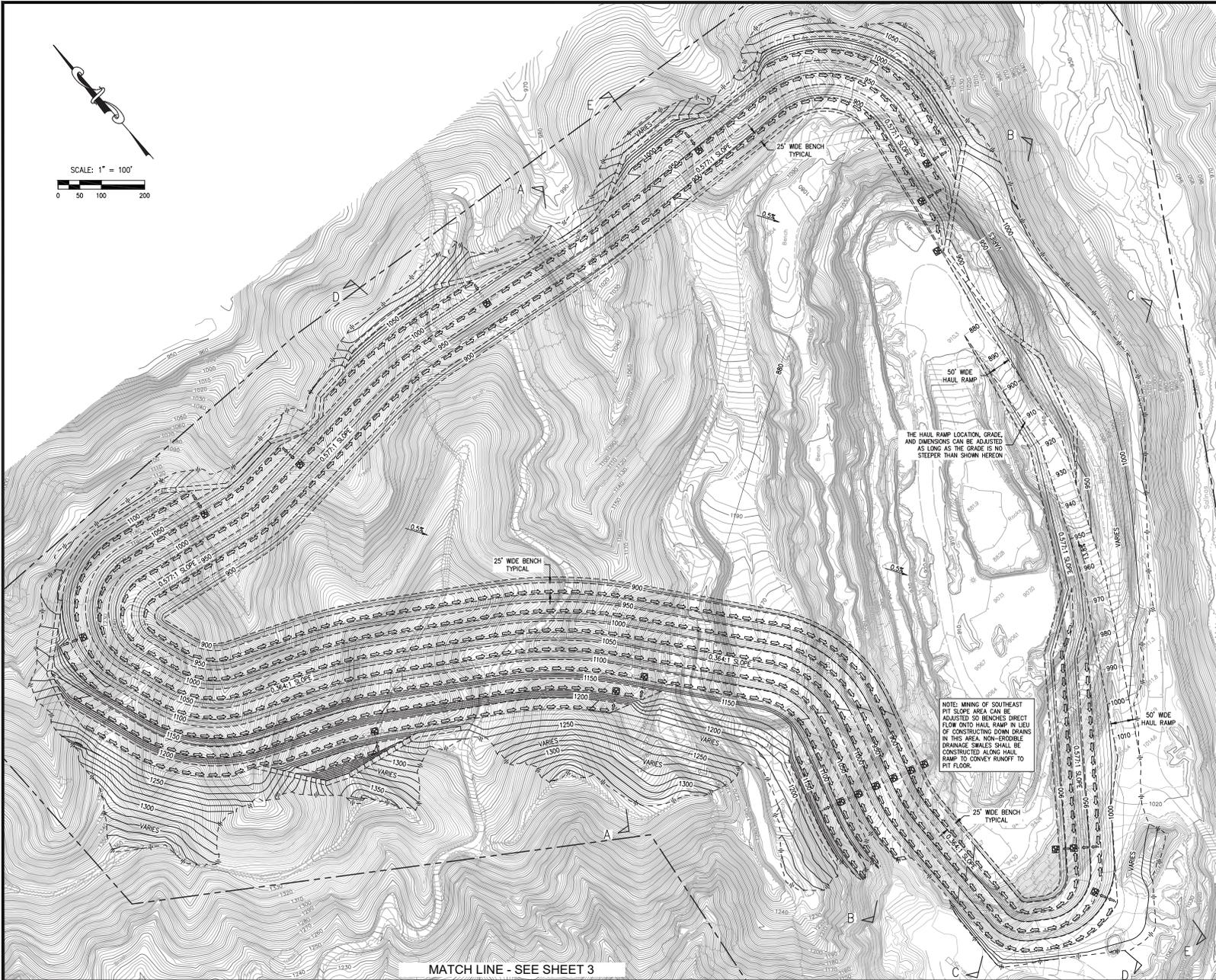
Aggregate Processing Facilities

Figure 3.4-1



1 inch = 500 feet

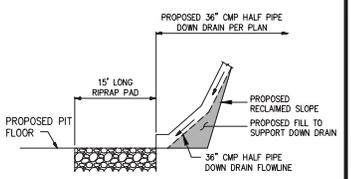




NOTE: DOWN DRAINS TO BE ANCHORED TO SLOPE USING CALTRANS DOWN DRAIN ANCHORS OR EQUIVALENT

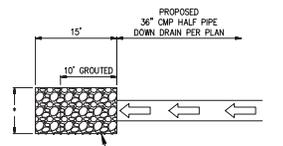
DETAIL: 36" CMP DOWN DRAIN

NOT TO SCALE



DETAIL: 36" CMP DOWN DRAIN ONTO RIPRAP

NOT TO SCALE



* WIDTH OF RIPRAP PAD TO BE 10' OR THREE TIMES WIDTH OF EXISTING DOWN DRAIN, WHICHEVER IS GREATER.

LIGHT CLASS RIPRAP (2" THICK) ON 1/2" GRAVEL (1" THICK) FILTER BLANKET

DETAIL: DOWN DRAIN RIPRAP

NOT TO SCALE

THE HAUL RAMP LOCATION, GRADE, AND DIMENSIONS CAN BE ADJUSTED AS LONG AS THE GRADE IS NO STEEPER THAN SHOWN HEREON

NOTE: MINING OF SOUTHEAST PIT SLOPE AREA CAN BE ADJUSTED SO BENCHES DIRECT FLOW ONTO HAUL RAMP IN LIEU OF CONSTRUCTING DOWN DRAINS IN THIS AREA. NON-ERODIBLE GRAZING SWALES SHALL BE CONSTRUCTED ALONG HAUL RAMP TO CONVEY RUNOFF TO PIT FLOOR.

MATCH LINE - SEE SHEET 3

RECORD DRAWINGS

Chang Consultants
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CHANG CONSULTANTS		GRADING PLANS FOR	
SANTA MARGARITA QUARRY		GRADING PLAN	
Design/Drawn	County Plan Checker	APPROVED FOR COUNTY REQUIREMENTS	
Job No.	County W.D. No.	Development Services Engineer	Date
California Coordinates	County Post Miles	County Road No.	Sheet 2 of 6

3.5 Stockpile Management

All overburden and topsoil stockpiles are considered temporary because these materials will be completely utilized as part of the reclamation process. Temporary overburden and topsoil stockpiles will exist in the northeastern quadrant of the current pit throughout Phase I and II of mining; these temporary stockpiles will be spread upon the quarry benches during Phase III and final reclamation. Temporary overburden stockpiles will be seeded to limit erosion while awaiting use in the reclamation process. Temporary material stockpiles will be approximately 50 feet in height with slopes no steeper than 2:1. The stockpiles are designed with drainage control to ensure that all stormwater runoff is treated using Best Management Practices. Overburden and topsoil material stockpiles will be located within the quarry pit and drainage will be directed inward to eliminate the potential for sediment to leave the RPA Area. Stormwater controls will be monitored continuously to ensure that all BMPs are functioning properly.

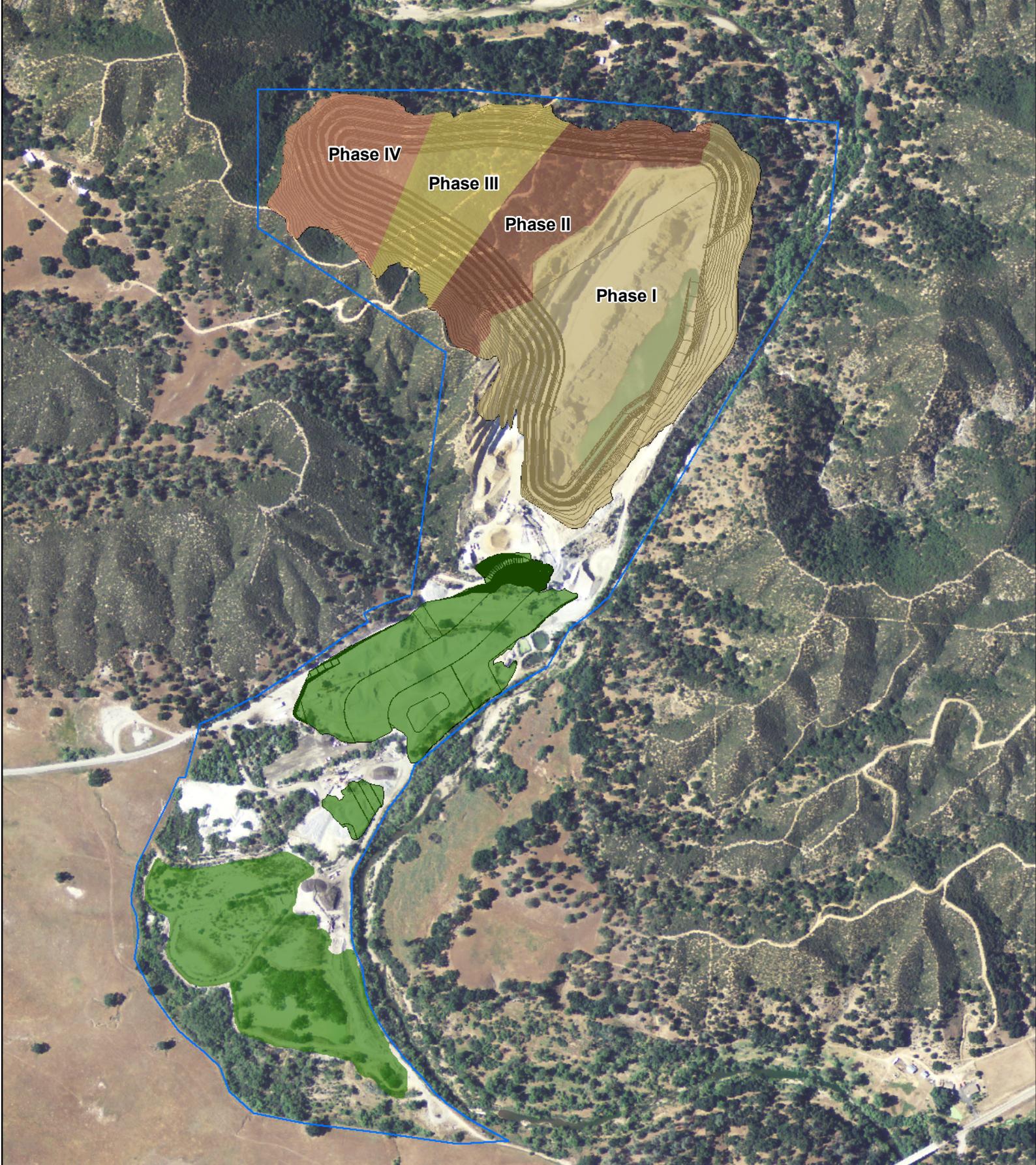
3.6 Phasing

Mining operations will occur in four (4) overlapping phases. Each phase will include vegetation removal, topsoil salvaging, overburden stripping, resource extraction and reclamation. Concurrent reclamation will occur with mining where practicable on benches that have achieved final contours. Final reclamation of the RPA Area will be completed in Phase IV and during a Final Reclamation phase. It is anticipated that all four phases of mining and final reclamation will be completed in approximately 64 years. Figure 3.6-1 shows the locations and details of the mining sequence.

Table 3 Mine Phasing

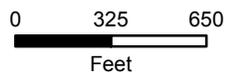
Mining Phase	Est. Period (Years)	Est. Duration @ Avg. Annual Production (565,500 Tons)	Acreage	Total Production (Tons)	Overburden Removal (Tons)
Phase I	2013 to 2031	19	38.8	10,509,407	1,000
Phase II	2015 to 2045	31	13.3	8,374,201	584,300
Phase III	2041 to 2061	21	11.7	8,947,765	525,800
Phase VI	2056 to 2071	16	10.9	5,299,941	489,900
Final Reclamation	2072 to 2076	5			
Totals			74.7	33,131,314	1,601,000

The precise location and timing of mining and reclamation is subject to market demand, variations in geologic conditions encountered in the field, and technological advancements in the mining process.



SANTA MARGARITA QUARRY PHASING

Figure 3.6-1



1 inch = 650 feet

- Phase I
- Phase II
- Phase III
- Phase IV
- Final Reclamation Phase

- RPA Area
- Grading Contours



Date: March 2013
 Grading Contours: Chang Consultants
 Aerial: 2012 USDA

The following section describes the specific mining and reclamation activities for each phase:

Phase I

Phase I will occur over a period of approximately 19 years until the year 2031 and will be conducted entirely within the boundaries of the 1981 Reclamation Plan. Phase I will consist of continued resource extraction, minor overburden stripping and initiation of reclamation of final slopes that are visible from Highway 58.

All remaining overburden stripped during Phase I will be temporarily stockpiled on the eastern side of the phase. Extraction in Phase I will begin to establish final benches on all sides of the perimeter, except for the northwestern cut face, which will be the active mining cut face as mining progresses into Phase II. Extraction in Phase I will continue the final pit floor at an elevation of 880' AMSL. Construction of the quarry ramp providing access to the pit floor will be finalized in Phase I. This ramp will be utilized throughout the life of the quarry for material transport and access to the pit floor.

Benches in Phase I will consist of a series of 25-foot wide horizontal benches at 50-foot vertical intervals along the perimeter of the phase. Once benches are complete, each bench will be receive 24 inches of growth medium on the bench surface and then seeded. This progression will be followed throughout the life of the mine. Priority will be given to reclamation of benches visible from Highway 58. The timing of these areas will be dependent on mine planning and mine operations.

Phase II

Phase II encompasses approximately 13 acres. Mining in Phase II will begin immediately after project approval and will operate concurrently with Phase I. Initiating mining in Phase II immediately following approval will allow the operator to reduce the visual impacts from Highway 58 by realigning cut faces visible from the highway. To safely and efficiently mine the RPA Area, a series of cuts will be made in Phase II, which will gradually step down to Phase I. At build out, Phase II will be mined to the same elevation as other phases, 880 AMSL. A primary crusher and overland conveyor is planned for construction in Phase II. This conveyor will connect the quarry to the processing plant, reducing reliance on haul trucks to transport material from the cut face to the plant.

Prior to extraction in Phase II, vegetation will be removed, topsoil salvaged for reclamation and overburden stripped to expose the high-quality granite. As with all phases, vegetation removal and topsoil stripping will be limited to areas that are to be quarried in the near future. All overburden stripped from Phase II will be temporarily stockpiled on the east side of the Phase I, adjacent to the overburden stockpile from Phase I. Overburden from these two phases will remain in the temporary stockpile location until the final benches are established and the material is needed for reclamation purposes.

Phase III

Mining in Phase III will encompass approximately 12 acres as mining progresses to the northwest. Operations in Phase II will continue the active cut face of the quarry to the northwest and establish final benches along the western and northeastern perimeter of the quarry. Mining in this phase will extract resources to the final elevation of 880' feet MSL.

Prior to extraction taking place in Phase III, vegetation will be removed, topsoil salvaged for reclamation and overburden stripped to expose the granite. As with all phases, vegetation removal and topsoil stripping will be limited to areas that are to be quarried in the near future. All overburden stripped from Phase II will be temporarily stockpiled on the east side of the Phase I, adjacent to the overburden stockpile from Phase I. Overburden from these two phases will remain in the temporary stockpile location until the final benches are established and the material is needed for reclamation purposes.

Operations in Phase III will continue to utilize the same processing equipment and infrastructure that was constructed in Phases II. Processing equipment may be relocated during this phase nearer the active extraction area. Material quality and operations limitations will dictate the location of the processing equipment in Phase III.

Phase IV

Phase IV is the final phase of extraction and will have a footprint of approximately 11 acres. Final reclamation of some areas of the RPA Area will also be completed in this phase. This phase will involve vegetation removal, topsoil salvaging, overburden stripping, resource extraction, and reclamation. Mining in Phase IV will expand the pit to the northwest and extend to the full footprint of mining activities for the project. Along with establishing all of the final slopes in the northwest corner of the quarry, Phase IV will also establish any remaining quarry benches that were not completed during other phases of mining. Phase IV will also develop the final pit floor to a elevation of 880' AMSL. Any extractive activities required to develop the final landform as engineered will be completed in Phase IV.

Once vegetation is removed and topsoil is stripped, overburden will be stripped and temporarily stockpiled or placed directly on finished quarry benches that were not reclaimed in phases I through III. Extraction will be carried out as it was in previous phases. As the mine advances to the northwest, the primary crusher and overland conveyor may be relocated closer to the active mine benches and additional overland conveyors may be installed.

Final Reclamation

Final reclamation of the RPA Area will take place after all material extraction activities are complete. Any remaining unreclaimed areas will be reclaimed in this phase.. Final Reclamation will involve: equipment removal, establishment of remaining quarry benches, Lower Area grading, ripping compacted areas, finish grading, growth medium distribution, seed mix distribution, direct planting, monitoring, maintenance and final

RPA Area closure. All of these activities together will achieve the goals of the Reclamation Plan and leave the RPA Area suitable for post-mining open space uses.

3.7 Mining Waste

No permanent stockpiles of mining waste (i.e., overburden and unused rock material) will remain after final reclamation. Temporary overburden stockpiles will be subject to drainage and erosion control BMPs, and runoff from stockpiles will collect at the pit bottom without discharging outside of the RPA Area. Domestic refuse will be collected in approved trash bins and removed from the RPA Area by a contract waste removal service. Equipment will be serviced on a daily basis by a mobile service truck. No toxic or hazardous substances will be in use at the RPA Area.

3.8 Operational Water

Water is required for material washing and dust control within the RPA Area. Quarry operations at full build-out will require approximately 55Acre Feet per Year (AFY) for dust suppression and approximately 306 AFY for aggregate processing.

Dust Suppression Water:

Water is supplied for dust suppression from the 10 acre impoundment located within the Extraction Area. Water within the impoundment is collected from runoff and direct rainfall. By late fall, water in the impoundment typically dries up due to the lack of rainfall. During the majority of the year, water is pumped out of the impoundment for dust suppression. During periods when the impoundment is dry, supplemental water for dust suppression is pumped from the Use pond that is along the Salinas River. Total volumes of water pumped from the impoundment are approximately 50 AFY and the remaining 5 AFY are pumped from the Use Pond.

Wash Water for Aggregate Processing:

Water utilized in the processing of aggregates is supplied from the Use pond that is recharged from the Source pond. Surface Water from the Salinas River into the Source pond and is pumped out of the pond to the Use Pond where it is then piped into the secondary processing plant. Water utilized for aggregate processing is cycled through the secondary processing plant where clays and silts become suspended in the water. The sediment laden water is pumped from the processing plant to a series of sediment ponds located in the Lower Area where the sediment is allowed to settle out. The total quantity of water required to process aggregates within the RPA Area is approximately 306 AFY. Of the 306 AFY circulated through the processing plant, it is estimated that only 10% of the water is consumed during the process; the remaining 90% is retained in the sediment ponds and percolates or evaporates. Water usage depends on the amount of production and percentage of material that requires washing. Mining and material production volumes will vary year-to-year as market demand increases or decreases.

3.9 Stormwater and Erosion Control

Drainage of the Upper Area will be directed to the pit floor where it will be used to supplement water needs, percolate into the water table or allowed to evaporate. Lower area drainage will direct runoff toward a number of low lying areas located within the RPA Area. In general runoff in the Lower Area will be directed away from the Salinas River and allowed to gather in the low lying areas and percolate into the water table or evaporate.

Drainage analyses have been performed and are included in Attachment E for the Santa Margarita Quarry. Final reclamation of the Upper Area will result in a large retention basin which will not discharge outside of the RPA Area and will not cause or contribute to off-site flooding. In-pit flows will be conveyed by naturally-lined ditches located along the 25' wide quarry benches and near the daylight of the graded slopes. The ditches will have capacity for the 50-year flow (which will meet SMARA's 20-year requirement). Downdrains (ditches aligned down the pit wall) will be lined to prevent erosion, unless they are built in non-erodible rock. The pit will capture all sediment generated by runoff and erosion within the drainage area it captures. Grading in the Lower Area at the time of reclamation will be accomplished with the goal of retaining stormwater within the RPA Area.

During mining and reclamation, stormwater at the RPA Area will be managed in accordance with the approved Stormwater Pollution Prevention Plan (SWPPP). During extractive operations, stormwater and erosion control measures may include a range of BMPs:

- As necessary, silt fencing or straw wattles will be installed along the RPA Area boundary;
- Grading of the RPA Area to direct runoff into the interior of the RPA Area;
- As necessary, straw mulch or other BMP's will be applied to cut slopes;
- Revegetation; and
- Minimizing disturbance.

Following the completion of surface mining operations, long-term and permanent erosion control measures will include:

- Maintaining vegetation on areas disturbed from mining activities;
- Constructing naturally lined ditches; and
- Planting and hydroseeding at the appropriate time of the year to insure revegetation of disturbed areas.

Disturbed areas will be monitored for evidence of erosion at periods specified in the SWPPP during both operational and post-operational periods. Soil surfaces will be evaluated for action according to the following Qualitative Descriptors of Soil Surface Status shall apply:

Class 1: No soil loss or erosion topsoil layer intact well-dispersed accumulation of litter from past year's growth; plus smaller amounts of older litter.

NO ACTION NECESSARY

Class 2: Soil movement slight and difficult to recognize; small deposits of soil in form of fans or cones at end of small gullies or fills or as accumulations back of plant crowns or behind litter; litter not well dispersed or no accumulation from past year's growth.

ACTION: Monitor to see if any further deterioration and if action is required.

Class 3: Soil movement or loss more noticeable; topsoil loss evident with some plants on pedestals or in hummocks; rill marks evident, poorly dispersed litter and bare spots not protected by litter.

ACTION: Any rills or gullies in excess of 8-square inches in cross sectional area and more than 10-linear feet located on finished slopes shall be arrested using straw mulch and hay bales.

Class 4: Soil movement and loss readily recognizable; topsoil remnants with vertical sides and exposed plant roots; roots frequently exposed; litter in relatively small amounts and washed into erosion protected patches.

ACTION: Replant and cover with straw mulch and install silt fences. If necessary, regrade and compact with equipment.

3.10 Equipment Maintenance

Equipment is maintained in the RPA Area at the existing shop located west of the processing plant. Fuel for the off-road equipment is supplied by a 10,000 above ground diesel storage tank located just east of the existing shop. A Spill Prevention Control and Countermeasures (SPCC) plan will guide reporting control and cleanup activities in the event of a spill in the quarry or other operating areas.

4.0 RPA Area Reclamation

4.1 Overview

Reclamation describes the process of preparing mined lands for alternative post-mining land uses, and removing residual mining hazards. Reclamation occurs after the completion of extractive operations , and generally consists of equipment removal, rough and finish grading, resoiling, revegetation, and monitoring until reclamation performance standards are met. Reclamation of the RPA area will be divided into the Upper and Lower Areas. Figure 4.1-1 and Sheets 1 through 6 provide illustrations of the final reclaimed landform that will exist after mining reclamation are complete.

The goals of RPA Area reclamation are to:

1. Adapt mined areas to open space land uses.
2. Stabilize the soil so that erosion is controlled.
3. Revegetate mined lands to create a habitat allowing for the gradual invasion and establishment of native plant species from the surrounding undisturbed plant communities through natural successional processes.
4. Reduce the visual impacts of the quarry benches visible from the surrounding areas along Highway 58.
5. Maximize the recovery of mineral resources in a safe and efficient manner; and
6. Mitigate, by design, potential environmental impacts on the land that might otherwise be created by extraction.

4.2 Final Quarry Slope Grading

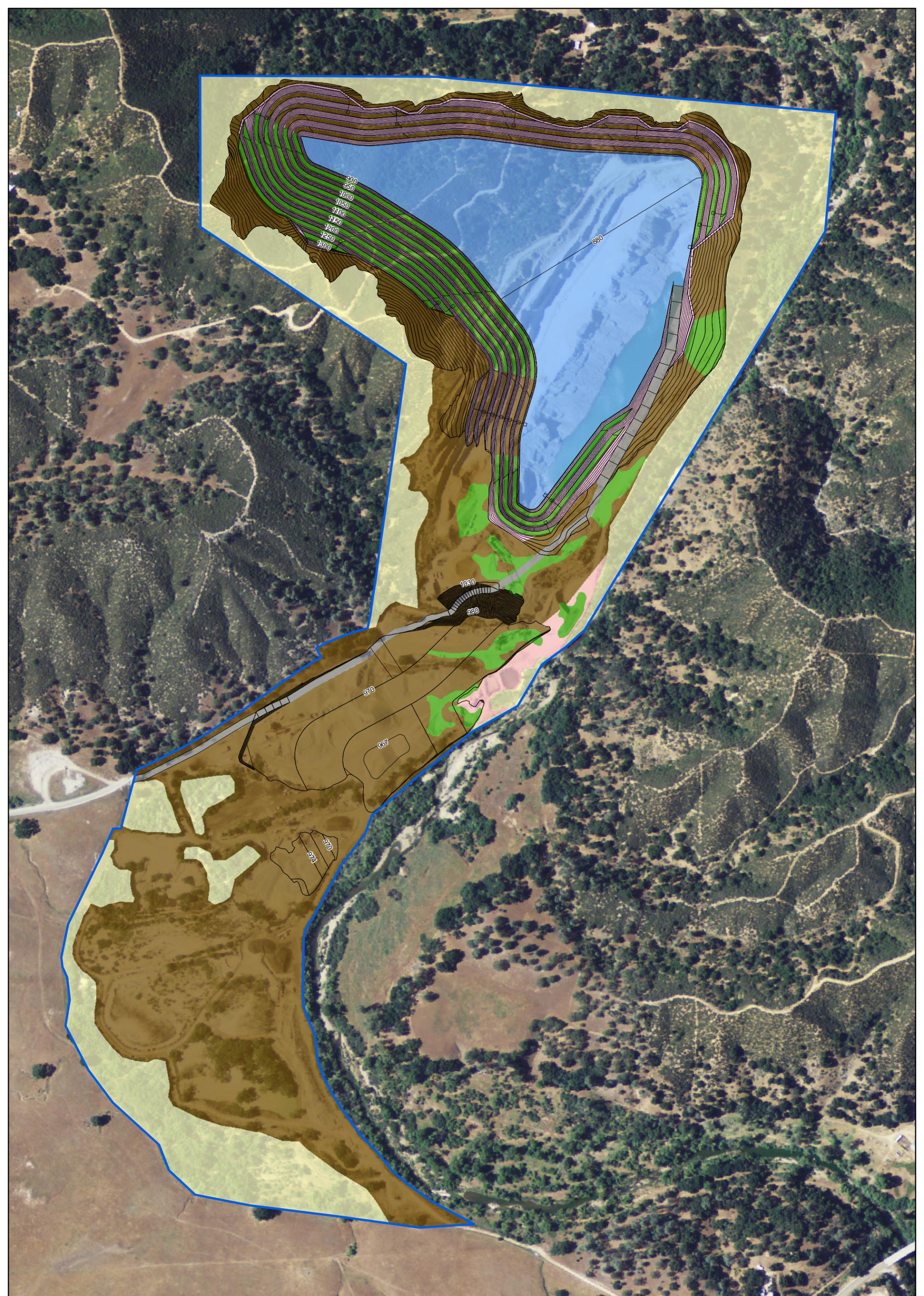
In the Upper Area, mining will result in a depression that is an average of 250 feet deep, cut slopes averaging 50' in height with intervening 25' wide catch benches around the perimeter of the final landform, in accordance with the Geotechnical Investigation and Design Recommendations (Attachment B). Finish grading using drill and blast techniques in areas where hard rock persists and dozers in areas where weathered granite is exposed will ensure that the final benches and slopes substantially meet the post-extraction landforms shown in Table 4.

Table 4 Final Slopes

Sector	Granite Type	Bench Configuration	Bench Height (ft)	Catch Bench Width (ft)	Bench Face Angle (°)	Design Inter-Ramp Slope Angle (°)
All	Weathered	Single	Varies	10 min	1.25(H):1(V)	Varies with height
Northwest and West	Fresh	Single	50	25	70 ¹	49
North, Northeast, and East	Fresh	Single	50	25	60	43

4.3 Growth Medium Distribution

Reclamation will adapt the final Upper Area and Lower Area landforms to open-space including seasonal water storage, oak woodland habitat, riparian woodland habitat and chaparral vegetation.



SANTA MARGARITA QUARRY RECLAMATION

Figure 4.1-1

- RPA Area 193.1 Acres
- Riparian Woodland 1.8 Acres
- Exposed Bedrock 17.3 Acres
- Seasonal Water 32.6 Acres

- Proposed Contours
- Buffer Area 45.2 Acres
- Chaparal 81.1 Acres
- Oak Woodland 12.0 Acres
- Access Road 3.1 Acres

0 200 400
Feet

1 inch = 400 feet



The growth medium used for revegetation will consist of salvaged topsoil and overburden from the RPA Area. The proportions of topsoil, overburden and any additions or amendments will be guided by the test plot data described in Section 4.6. As set forth below, growth medium will be distributed over the 25' wide cut benches and other areas of the RPA Area once final benches are established and rough grading is complete.

Quarry Benches

Mining operations will create approximately 23,600 linear feet of benches that will provide for approximately 12 acres of planting area for revegetation. Growth medium will be distributed on the quarry benches throughout the mining process as the bench surfaces are established at the final grade and elevation. Growth medium will be distributed evenly, using earthmoving equipment. A minimum of 24 inches of uncompacted growth medium will be distributed over the bench surfaces to provide a suitable rooting ground for the revegetation species.

Once placed on the bench surface, the growth medium will be graded to be gently sloped from the outer edge of the bench toward the cut slope. At the outer edge of the bench, growth medium will be graded to a maximum of 2:1. At the joint of the near vertical cut slope and the bench, a "V" ditch will be graded into the growth medium to provide drainage for the benches. Ditches will not be actively revegetated. See Sheet 2 of the Reclamation Grading Plans for details on the "V" ditches.

Graded Slopes

Graded slopes at the RPA Area refer to unbenched slopes within the RPA boundary that are disturbed from mining operations and will receive reclamation treatments. Generally these areas are located upslope from the final quarry benches around the perimeter of the pit and in areas that are currently used for processing. Slopes in these areas are a maximum of 1.25:1 (h:v) with no benching. Graded slopes will generally receive a minimum of six (6) inches of growth medium, although certain areas of the RPA Area slopes may not require the application of growth medium for revegetation to occur. At the time of reclamation the revegetation specialist will determine areas of the graded slopes that require growth medium to achieve reclamation success.

Once growth medium is distributed on graded slopes, a bulldozer will track-walk the finished slopes vertically in order to roughen the surface, with cleat tracks running cross-wise to the slope. The track-walking will create cavities that will reduce the threat of rill erosion, as well as capture seed and rainfall.

Lower Area Grading

The Lower Area is an area of historic mining disturbance and Pre-SMARA activity. This area of the site is a combination of existing vegetation, silt ponds and operational disturbance. Throughout mining and reclamation operations, existing vegetation will be preserved where possible and silt ponds will be filled. The 1981 Reclamation Plan identifies the final landform of the Lower Area and provides a rough illustration of the reclaimed landform. Grading of the Lower Area is intended to mirror the plans

approved in 1981 while providing for proper drainage of the site. Low areas in the topography will be filled and hummocks and sand mounds will be flattened, providing stable drainage. In general, the Lower Area will be graded to direct runoff away from the Salinas River toward several low-lying areas where water will percolate into the sub-surface or evaporate.

In addition to grading the site to contour the topography for drainage purposes, compacted areas of the Lower Area will be ripped to a depth of at least one foot to decompact the surface in preparation for revegetation. Areas where existing vegetation is established and proper drainage exists will not require grading to achieve reclamation.

4.4 Soil Amendment Requirements

If testing indicates a deficiency in soil chemistry, amendments may be added to the soil to enhance the fertility of growth medium. All soil amendments will be free of any exotic species to avoid accidental introduction. Soil analysis shall be conducted to ensure that the pH and the essential nutrients, such as Nitrogen (N) Phosphorus (P) and Potassium (K), are balanced in the soil and equivalent to approximate baseline soil conditions.

4.5 Vegetative Cover Analysis

Revegetation species utilized to reclaim the RPA Area were selected to provide adequate cover for the post-mining land use of open space. The proposed seed mixes may be adjusted based on the results of test plots to be installed concurrent with mining operations. The proposed seed mixes are provided in Section 4.10.

4.6 Test Plots

Test plots will be constructed, as extraction continues, to determine the most appropriate seeding and planting procedures to ensure successful implementation of the revegetation plan, and to determine the optimal blend of topsoil, overburden and any soil additives and amendments for revegetation success. Each vegetation test plot will be comprised of a 0.1-acre area that is 66-feet wide by 66-feet long and demarcated with stakes. In this area, there will be a representative population of seed, oak acorns and cuttings proportional to the numbers proposed in the Tables 5 through 8 in Section 4.10. The test plots will be located in two locations; north of the processing plant on a finished 25' bench and along the Salinas River near the Use pond. Test plots will be initiated once there is adequate space available. The areas will be corner staked with iron T-posts and labeled as the Test Plot on all four corners. The Test Plot Area locations are shown on Figure 4.6-1.

Test plots will be installed in first fall after slope preparation. This timing will provide 1-2 years to monitor the results of the plots before the first of the quarry benches and slopes are ready for revegetation.

Four treatment alternatives will be tested as follows:

Option 1 – Standard

This option will be identical to that proposed above for the reclamation of disturbed areas of the site. This option will allow the operator to test proposed methods and compare them to other alternatives.

Option 2 – Straw

Trees will be planted in one gallon containers instead of direct seeding. Straw will be added to the standard treatment, and the treatment will be applied in three applications, as follows:

- 1st Pass – 500 lbs wood fiber-mulch, 1,000 lbs compost, and seed
- 2nd Pass – Straw at 2 tons/acre
- 3rd Pass – 500 lbs wood fiber-mulch, 1,000 lbs compost, tackifier, fertilizer

Option 3 – No Compost

This alternative will allow the quarry operator to gauge the effect of not adding compost to the treatment. This option substitutes additional wood fiber-mulch for the compost in the standard treatment.

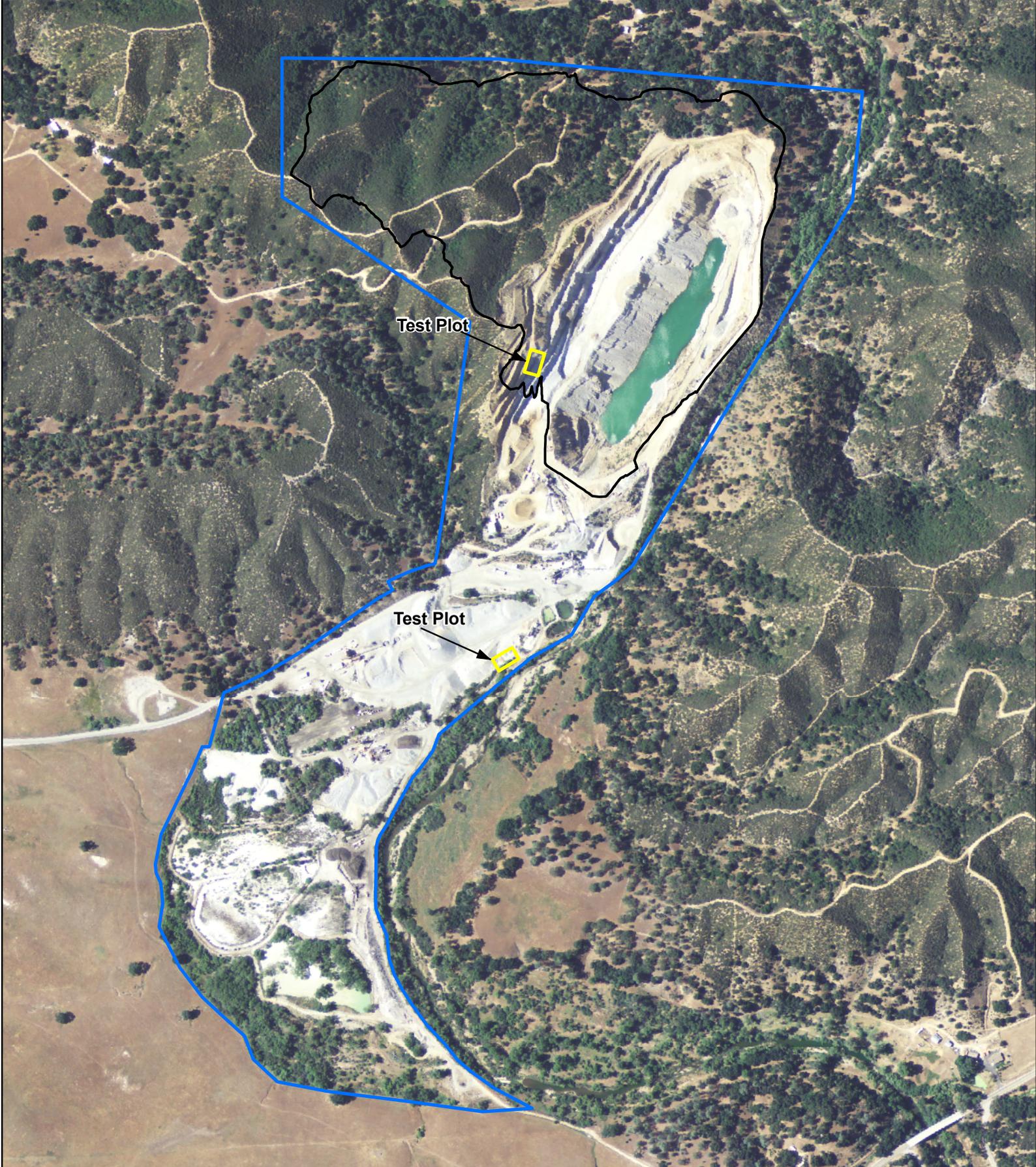
Option 4 – Inoculant

This option tests the effect of inoculating the quarry soils with mycorrhizal fungus, which assists plant roots with nutrient uptake. The treatment will be similar to the standard treatment, but with 60 lbs/acre of AM-120 Mycorrhizal inoculant added.

The remainder of the Test Plots will remain untreated and will serve as a "No-Treatment" control option. The results from the tests will be reported in terms of overall canopy and ground cover, and in terms of numbers of individual plants, where appropriate. Treatments determined to have positive effects on chaparral establishment will be considered for general implementation on I both benches and graded slopes.

A variety of foothill woodland, riparian corridor, and chaparral/coastal scrub species will be direct-seeded into the test plot parcel as well in order to provide preliminary data on the effectiveness of this technique.

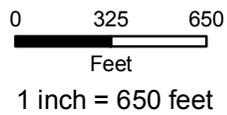
Success of these revegetation areas shall be judged based upon the effectiveness of the vegetation for the approved end use and by comparing the quantified measures of vegetative cover, density, and species richness of the reclaimed lands similar to that of the surrounding area. Comparisons will be made by a qualified individual until performance standards have been met.



SANTA MARGARITA QUARRY TEST PLOT LOCATIONS

Figure 4.6-1

- Test Plot Locations
- RPA Area
- Quarry Excavation Limits



Date: March 2013
 Proposed Contours: Chang Consulting
 Aerial: 2012 USDA
 Note: Test Plot Locations
 Are Approximate

4.7 RPA Area Decompaction

All compacted areas that are to be revegetated may be ripped to a depth of at least six (6) inches to facilitate revegetation. Where project operations result in compaction of the soil (roads and pads), scarifying of the soil will be used to eliminate compaction and to establish a suitable root zone in preparation for planting. All soil surfaces that are to be revegetated will be left in as rough a condition as possible. The goal is to create small cracks and crevices for the seeds to lodge and to improve water infiltration.

4.8 Road Reclamation

All temporary haul roads not retained for the post mining land use will be ripped, disked, and seeded when no longer required. The quarry ramp and access road will remain in place following the completion of reclamation to provide the landowner access. Other sections of road may remain after mining if requested by the property owner.

4.9 Temporary Access Issues

Existing project roads will be kept active through occasional grading and maintenance.

4.10 Revegetation Species

Revegetation of the RPA Area will utilize two methods: the application of seed mixes, and direct plantings. Two different seed mixes will be used for revegetation of the RPA Area, they are referred to as the Chaparral and Rangeland seed mixes. Direct plantings will include grey pine seeds, oak acorns and riparian cuttings. The sections below describe the details of each method and where specific applications will take place. Distribution methods such as hydroseeding, broadcast seeding, drill seeding, and imprint seeding may be used for the application of the seed mixes while the grey pine seeds, acorns and cuttings will be planted by hand. Seeding applications will be closely followed by direct planting; however, planting times will be similar for all areas to be revegetated (See Sections 4.14 – Planting Times).

Chaparral Seed Mix

The Chaparral seed mix is designed to establish understory vegetation and quickly establish vegetative cover within the RPA Area for erosion control purposes. The Chaparral seed mix will be distributed over 81 acres of the Upper and Lower RPA Areas, including quarry benches. The species comprising this seed mix are presented in Table 5. The mix provides a variety of native chaparral/coastal scrub species based on the current availability of local seed. The mix contains a wide variety of plant species because not all species may germinate under the same climate conditions.

The seed mix includes species that are common dominants in mature chaparral and coastal scrub communities in the quarry vicinity. The mix also includes associated species that are known to have successfully established within disturbed locations within the quarry and at other restoration RPA Areas in the vicinity such as deerweed

and buckwheat. All seed will be collected from local sources (i.e., San Luis Obispo County). Species in the seed mix below may be adjusted at time of revegetation if specific species are not readily available.

Table 5 Chaparral Seed Mix

Scientific Name	Common Name	Application Rate (PLS*/Acre)
<i>Adenostoma fasciculatum</i>	Chamise	1
<i>Artemisia californica</i>	California sagebrush	2
<i>Elymus multisetus</i>	Giant squirreltail	2
<i>Eriogonum fasciculatum</i>	California buckwheat	4
<i>Lotus scoparius</i>	Deerweed	5
<i>Lupinus succulentus</i>	Arroyo lupine	3
<i>Melica imperfecta</i>	Melic grass	2
<i>Mimulus aurantiacus</i>	Bush monkeyflower	1
<i>Nasella lepida</i>	Foothill needlegrass	2
<i>Nasella pulchra</i>	Purple needlegrass	2
<i>Salvia mellifera</i>	Black sage	3
TOTAL		27

*PLS – Pure Live Seed

Rangeland Seed Mix

The Rangeland seed mix will provide revegetation cover of the RPA Area on graded slopes that are to receive direct planting of Oak Woodland and Riparian species. This seed mix will propagate quickly to stabilize the soil as the plantings are established. The Rangeland seed mix also will serve as an erosion control seed mix and cover for stockpiles if needed during mining operations.

Table 6 Rangeland Seed Mix

Scientific Name	Common Name	Application Rate (PLS/Acre)
<i>Bromus mollis</i>	Blando brome	10
<i>Festuca megalura</i>	Zorro fescue	4
<i>Trifolium hirtum</i>	Rose clover	15
TOTAL		29

Quarry Bench Oak Woodland Planting:

Following hydroseeding of bench surfaces, native tree species will be direct-seeded using hand planting. At full development of the quarry there will be approximately 15,000 linear feet of benches that will receive direct planting. The species in Table 7 below were selected because they are tolerant of thin rocky soils and are evergreen to provide a yearlong visual screen. The tree seed will be planted by hand at a rate of six

(6) planting locations per 100 linear feet of bench with three (3) seeds or acorns per planting location.

Table 7 Quarry Bench Oak Woodland Planting

Scientific Name	Common Name	Planting Type	Spacing	Seeds/100' of Bench
<i>Quercus agrifolia</i>	Coast Live Oak	Acorn	Clustered	18 Individuals
<i>Pinus sabiniana</i>	Grey Pine	Seed	Clustered	4 Individuals

Graded Slopes Oak Woodland Planting:

Approximately five (5) acres of graded slopes in areas surrounding the quarry will be revegetated as Oak woodland habitat. These areas will be hydroseeded with the Rangeland seed mix in table 6 and then planted with a mixture of oak acorns and pine seeds. The density and species composition of the seed mix is meant to replicate the oak woodland in the surrounding area.

Table 8 Oak Woodland Planting on Graded Slopes

Scientific Name	Common Name	Planting Type	Spacing	Seeds/Acre
<i>Quercus agrifolia</i>	Coast Live Oak	Acorn	Clustered	300
<i>Pinus sabiniana</i>	Grey Pine	Seed	Scattered	15

Riparian Woodland Planting Species

Approximately 1.8 acres of the RPA Area that are located near the banks of the Salinas River are to receive direct planting with cuttings of riparian species. Cuttings taken from the surrounding area will be used to establish a riparian woodland habitat along the Salinas River. Cuttings will be planted after disturbed areas have been graded and seeded with the Rangeland seed mix.

Table 9 Riparian Woodland Direct Planting

Scientific Name	Common Name	Planting Type	Spacing	Cuttings/Acre
Arroyo Willow	<i>Salix lasiolepis</i>	Cuttings	Clustered	100
Red Willow	<i>Salix laevigata</i>	Cuttings	Clustered	40
Freemont Cottonwood	<i>Populus fremontii</i>	Cuttings	Clustered	40

4.11 Hydroseeding

The seed mixes described above will be applied using mechanical hydroseeding methods on quarry benches and areas of the RPA Area with slopes greater than 1.5:1. Other areas of the site will be revegetated using any combination of hydroseeding, broadcast seeding, imprint seeding, drill seeding or other methods of seed distribution found to be successful in revegetation efforts. Benches and slopes will be hydroseeded, mulched, and composted in a two-step application. The first step is to apply the seed, a small amount of virgin wood-fiber mulch, compost, and organic time released fertilizer (Biosol® or equivalent):

- Seed – Refer to table 5 for seed mix
- Wood-fiber Mulch – 100 lbs/acre
- Compost – 500 lbs/acre
- Fertilizer – Biosol® 7-2-3 at 300 lbs/acre

The second step is to immediately cover the first coating with slurry of a greater amount of wood fiber and compost:

- Wood-fiber Mulch – 400 lbs/acre
- Compost-1500 lbs/acre

The mulch layer will reduce soil erosion, reduce seed loss to birds and rodents, and add organic material to the growth medium as it breaks down. The organic matter will provide a long-term source of nutrients, increases water-holding capacity, and improves the texture of the soil. The development of an organic duff layer, similar to that present underneath undisturbed chaparral cover adjacent to the property, will increase the amount of organic matter and improve moisture retention.

Commercial fertilizers intended for agricultural or ornamental applications are not included in the revegetation strategy because they provide a strong flush of nutrients at concentrations rarely present in nature. The result is often rapid growth of weedy grasses and herbs, which then may out-compete slower-growing chaparral species for sunlight and soil water. Biosol® fertilizer (or a comparable product) is a slow-release fertilizer designed for restoration objectives, and provides a steady supply of major nutrients at relatively low concentrations. If necessary, the hydroseeding slurry and application methods may be adjusted by the revegetation specialist.

4.12 Oak Woodland Planting

The revegetation of oak woodlands will consist of hand planting acorns in tree “islands”, resulting in a clustered pattern. Tree “islands” will be located on finished quarry benches as well as graded slopes outside the perimeter of the quarry. At final quarry development, approximately 12 acres of the RPA Area will be revegetated with oak woodland species. Plantings are intended to replicate oak woodlands in a similar structure to that found on natural areas surrounding the RPA Area. Below are planting recommendations for reclamation of the RPA Area; however data collected from the test plots will be utilized in the final planting recommendations. Planting techniques may be adjusted by a reclamation specialist at the time of reclamation in order to meet success criteria. Planting techniques will be separated into two categories; quarry benches and graded slopes.

Quarry Bench Planting:

Following seeding and mulching, native tree species (coast live oak and grey pine) will be direct-seeded onto approximately seven (7) acres of benches. Seeds and acorns will be planted by hand at a rate of three (3) seeds or acorns per planting location. Acorns shall be planted approximately $\frac{3}{4}$ to 1 inch below the soil surface, with the green side up and radicle down. Pine seeds will also be planted approximately one inch below the surface. The acorn and seeds shall be covered with organic mulch or soil salvaged from the RPA Area.

There will be six (6) planting locations per 100 lineal feet of bench (total of 18 seeds/acorns per 100 feet of bench). Spacing between planting locations will average 17 feet on center. The planting pattern will tend to favor clusters of oaks, and the majority of these clusters will be centered towards the outer edge of the benches where the plantings will have greater exposure to sunlight. The goal of the plantings will be to reach a final average density of 3 established trees per 100 lineal feet of bench. See Figure 4.12-1 for an illustration of reclaimed quarry benches.

Graded Slope Planting:

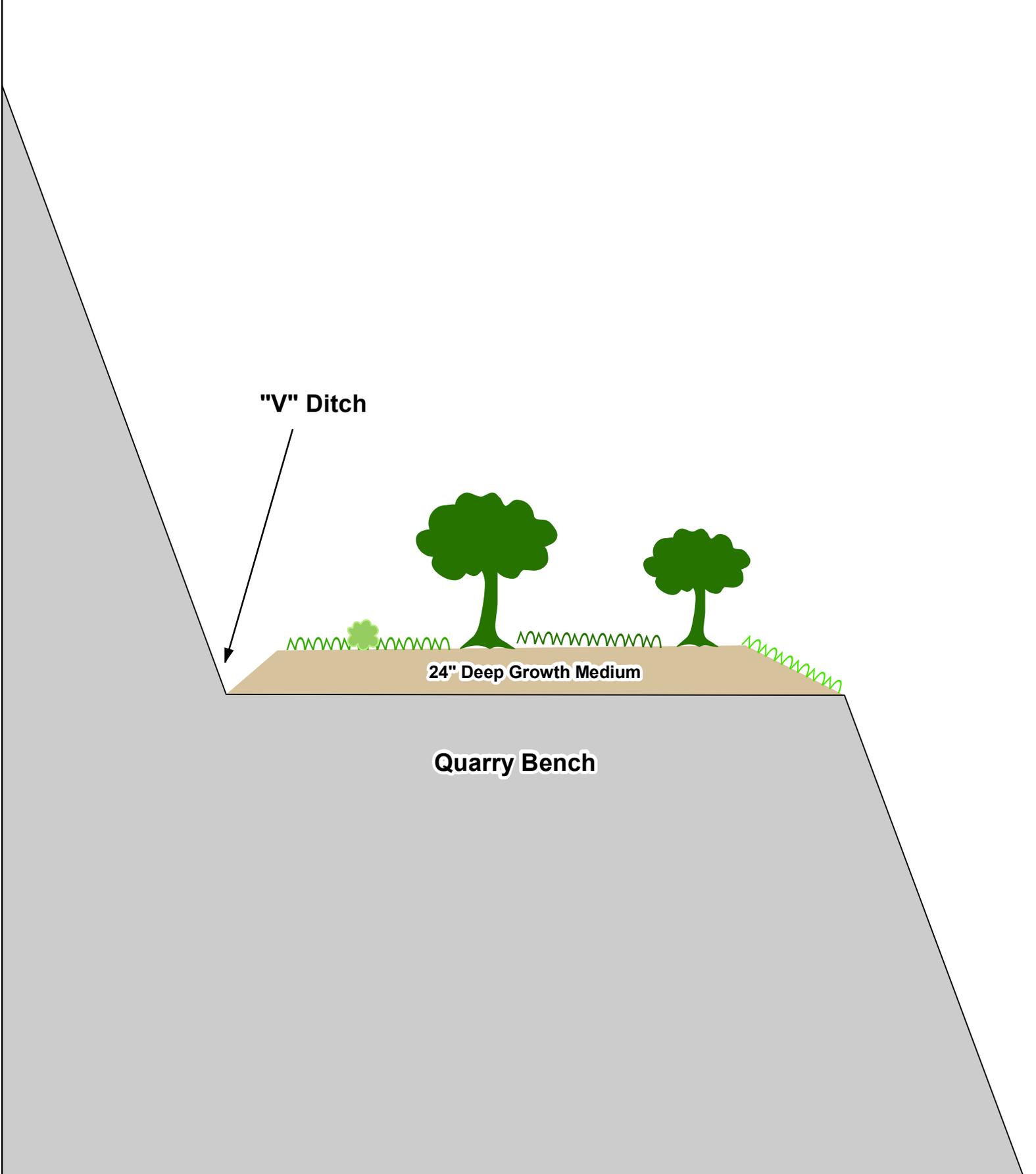
Approximately 20 tree “islands” with about 5-10 acorns will be planted per acre. Acorn planting will be staggered within the “islands” to prevent an artificial grid-like pattern from developing for revegetated areas. Ultimately, this clustered pattern will be similar to planting about 200 trees per acre. The aggressive “island” planting schedule is anticipated to experience a 1/3 of the acorns to germinate and survive the first few years. Grey pine seeds shall be distributed in between oak plantings at a rate of 15 seeds per acre. Pine seeds shall be planted individually at a depth of approximately one inch below the surface. The ultimate goal of planting oaks and grey pines in these areas is to have 70 mature trees per acre.

Acorn Collection:

Acorns shall be gathered from lands surrounding the RPA Area that are within 500 feet elevation of the project. Acorns shall be picked in October or early November. If meat from the acorn is left on the tree when picking, then it is too early to gather acorns. Acorns from the ground are typically not adequate for regeneration since they are dried out; however, freshly fallen acorns can be used. If gathering is not possible, a seed company, such as Pacific Coast Seed, Inc., shall be retained to provide an adequate mix for the RPA Area. Acorns collected should be put through the "Float Test": place the acorns in a bucket of water, discard the floaters, and keep the sinkers for planting. To provide for greater regeneration success, acorns which pass the “Float Test” shall be germinated before planting.

Fertilizer:

Growth Medium medium shall be analyzed to determine the presence of essential elements for oak growth. If the soil analysis shows that fertility levels or soil constituents are inadequate to successfully implement the oak regeneration program, the appropriate fertilizer tablets can be selected to account for these deficiencies. Typical fertilizer tablets used for oak regeneration will be 20-10-5 (N-P-K) nine-month slow-release planting tablets. If required, one fertilizer tablet per acorn shall be used to promote greater growth.



Browsing Protection:

Mature live oaks are not usually browsed by deer or other animals. However, deer will sometimes browse on immature oak leaves when more palatable forage is not available. If this activity is noted in the test plots or at other locations throughout the RPA Area, protective plastic tubing will be installed around the oak tree plantings.

Protective plastic tubing, 4-6 inches in diameter and 4-6 feet in height, may be placed around each planted acorn. A metal post shall be driven into the ground to provide support for the tubing. The protective tubing shall be worked into the surface about 2-6 inches with the post on the outside of the tubing. This helps to exclude rodents, such as voles and gophers, from accessing the acorns. If gophers are present, tubing shall be worked into the ground to a depth of 6 inches. The tubing shall be secured to the stake, using ties or twine. If voles or other digging rodents are known to be a problem, black mesh plastic shall be placed around the tubing and secured with metal stakes (approximately 3-square feet). The fertilizer tablet shall be placed in the tubing with wire mesh secured on top of the protective container to keep out birds.

The tubing shall be removed after the oak trees have grown out of the top for two years. This exposes the trees to wind which induces girth growth. Protective tubing will be removed in late fall to prevent sun scald as well as having soft ground for easy removal of the metal posts.

4.13 Riparian Woodland Planting

Planting of willow and cottonwood cuttings will be completed in areas along the Salinas River that are to be reclaimed to Riparian Woodland habitat as shown in Figure 4.1-1. This area will encompass approximately four (4) acres and is located entirely within the 100-year floodplain of the Salinas River. Cuttings from local host plants will be collected and utilized in planting the willow and cottonwoods for reclamation purposes.

Collecting and Preparing Cuttings:

For optimal revegetative success, riparian cuttings will be collected when they are dormant, i.e. late fall, winter, early spring. Cuttings collected in late spring may have already broken dormancy despite the lack of leaves and should not be used. Cuttings should be taken from plants growing in riparian areas along the Salinas River similar to those where they will be planted. Riparian species have pre-formed root tissue in the stems that sprouts quickly.

The cuttings should be about 3/4 of an inch in diameter, two feet long, and taken from the base of the stems. These large diameter cuttings survive better because more food is stored in the stem. Long cuttings have a greater rooting surface and more food storage than short ones. Cuttings taken from the base of a stem root easier because they have more root tissue, and develop earlier than those taken from the top of the stems.

To avoid planting the cuttings upside down, cut the bottoms at a steep angle and the tops flat. All the cuttings should be stripped of long branches to avoid excess drying

before transplants have developed enough roots. The cuttings should be stored in bundles placed in plastic bags. Cuttings can be stored for up to eight months before planting if needed. Ideally cuttings should be stored for a minimal amount of time prior to planting.

Planting of Cuttings:

Cuttings should be soaked in water before planting. About seven to ten days before planting, place the cuttings in buckets and fill them with water. The water should be deep enough to cover the bottom half of the cuttings. It needs to be changed every two days as roots need oxygen to develop. Roots grow best if the water is about 60 degrees Fahrenheit. Do not soak the cuttings too long as the roots will overdevelop and break off when the cuttings are planted. After soaking, keep cuttings moist and out of direct sunlight till planting.

Cuttings should be buried to at least one-half their length or deeper when possible. In loose or gravelly soil, a steel rod can help poke the hole. Planting cuttings in clusters of 3 to 4 per location is recommended. Tamping with a foot ensures good soil contact. Group plantings increase the chance of a willow colony getting started. Established willows and cottonwoods increase rapidly by sprouting and widely spaced colonies can spread over large areas.

4.14 Planting Times

All seeding and planting should be performed and completed between October 15 and December 15. Planting should be timed to occur with the first soaking rains of the season because the beneficial temperatures and anticipated rainfall will aid in germination and establishment.

Acorn planting times will vary from year-to-year based on when acorns are ready to be harvested as well as acorn germination periods. Acorn harvesting will typically occur sometime in October or early November; however, annual variations are anticipated.

When possible, direct planting shall occur ideally within 30 days following the distribution of Chaparral and Rangeland seed mixes. This will allow plantings to not be disturbed from mechanical seeding activities. However, it shall be noted that the planting/seeding order is subject to change depending on when acorns and cuttings are ready for planting.

4.15 Weed Management

Maintenance of the revegetation areas shall consist of reseeding unsuccessful revegetation efforts, weed eradication to limit and control invasive noxious weeds, and repair of erosion damage. The most likely of these species to occur in the revegetated areas is yellow star-thistle (*Centaurea solstitialis*). Normal revegetation progress should discourage the spread of yellow star-thistle and eventually displace it.

If biological monitors note dense, rapidly spreading, or persistent stands of yellow star-thistle (or other noxious weed species) in revegetation areas, a control strategy will be developed and implemented.

Noxious weeds that invade the RPA Area and inhibit success of the reclamation effort shall be removed. The first method of controlling weeds at any site is to reduce the area and time that the ground surface is disturbed. Vegetation shall not be cleared from areas to be mined until excavations are planned.

The occurrence of weeds within the RPA Area shall be monitored by visual inspection. The goal is to prevent weeds from becoming established and depositing seeds in areas to be revegetated at a later date. If inspections reveal that weeds are establishing or have been established on the RPA Area, then removal will be initiated. Inspections shall be made biannually in conjunction with revegetation monitoring unless conditions warrant more frequent inspections. Eradication measures shall be taken when these species are detected at threshold levels of one plant per less than 100 square feet.

Weed removal will be accomplished through manual, mechanical, or chemical methods, depending on the specific circumstances. For example, solitary or limited numbers of tree and tree-like species will be manually removed (chopped), and the stumps will be sprayed with an approved weed killer such as Round-Up. Smaller plants that cover more area may be sprayed, scraped with a tractor, or chopped by hand. Weed removal methods used would be dependent upon the size of the area of infestation and the number of desired revegetation species in proximity or mixed with the weeds.

Long-term topsoil stockpiles (5 years or more) will also be seeded with the rangeland seed mix. This reduces the potential for weed infestation and serves as a source of seeds for desirable species when revegetation occurs. Topsoil stockpiles will be inspected biannually for weed infestation with control measures applied as necessary.

4.16 Contingency Planting

If revegetation efforts are not successful according to the success criteria in Section 4.17 below within two years following the initial seeding and planting, the revegetated areas will be reevaluated to determine the necessary measures to improve revegetation success.

If necessary, these areas will be revegetated with modified methods. These may include the use of container stock and irrigation or simple reseeding during a wet winter season. Prior to reseeding and/or planting, the revegetation specialist shall evaluate previous revegetation practices and test plot results in an attempt to identify cultural methods to benefit the overall revegetation effort. If after the RPA Area is reseeded and/or planted and revegetation efforts still do not yield satisfactory results, additional reseeding or other intervention methods may be required.

4.17 Revegetation Phasing

Due to the long-term nature of the operations, ongoing extraction and reclamation/revegetation will occur concurrently. Final landforms reached during ongoing mining operations shall be revegetated. Following the completion of mining activity within the RPA Area, the extraction and operational areas shall be revegetated.

4.18 Success Criteria

Monitoring revegetation plan success by conducting regular follow-up inspections provides assurance that revegetation shall conform to the stated goals. It also provides a contingency to address unforeseen problems and evaluate year-to-year variation in natural successional processes. These follow-up visits and field studies will evaluate the progress of revegetation effort so that any necessary remedial measures can be recommended in a timely manner.

During visits to the RPA Area, the revegetation efforts will be examined by evaluating the following:

- A.** The success of stabilizing the soil so that soil erosion is controlled over the short or long term.
- B.** The success of re-establishing favorable soil conditions will be monitored so that species suitable for cattle grazing and oak woodlands can become established.
- C.** The success of establishing habitat conditions on the excavated areas which are favorable for the gradual invasion and establishment of the native flora to the RPA Area from the surrounding areas.
- D.** The plants shall also be examined for pests and pest damage to make sure that potentially harmful infestations do not occur.

Monitoring of the RPA Area will be conducted on an annual basis until performance standards over the entire RPA Area are attained. Annual assessment reports and RPA Area reviews will assess the practicality and the success of the plantings/seed mixes and amend the ratios as appropriate based on the progress of revegetation. Redistribution of seed mixes and plantings may be necessary to meet performance standards.

Table 10 Performance Standards

Revegetation Type	Species Composition/ Species Richness	Percent Cover	Density
Chaparral Seed Mix	5 or more of the most prevalent species shall be from the Chaparral Seed Mix	60% cover (all species combined)	N/A
Rangeland Seed Mix	2 or more of the most prevalent species shall be from the Rangeland Seed Mix	60% cover (all species combined)	N/A
Oak Woodland Mix on Quarry Benches	1 Species of Oak Monitoring Plot Size: 100 linear feet	N/A	3 trees per 100 linear feet of bench
Oak Woodland Mix on Graded Slopes	1 Species of Oak Monitoring Plot Size: 20M by 20M	N/A	70 trees per acre
Riparian Woodland Plantings	2 Species of Riparian Woodland. Monitoring Plot Size: 20M by 20M	N/A	60 trees per acre

4.19 Effect of Reclamation on Future Recovery of Mineral Resources

This Reclamation Plan will not preclude future extraction activities on this property or within the surrounding area.

4.20 Vested Hanson Asphalt Plant

The RPA Area contains an asphalt plant which is operated by Hanson Aggregates and is deemed “vested” by the County. Reclamation activities described in the RPA assume that the asphalt plant will be removed once mining ceases and reclamation begins. In the future, in the event that asphalt plant operations continue with imported material after on-site material is depleted, the reclamation plan will be revised to account for this change.

4.21 Post Extraction Public Safety

Public health and safety will be protected in accordance with San Luis Obispo County standards. During the Santa Margarita Quarry lifetime, public access will be controlled by locked gates on the access roads within the RPA Area boundaries. In addition, signs will be posted around the perimeter of the RPA Area limits adjacent to developed lands. These signs will read “Private Property,” “No Trespassing,” and “Danger: Steep Slopes” as appropriate. All MHSA and Cal OSHA rules, regulations, and standards will be observed to protect both the public and on-site employees.

5.0 Conformance with Reclamation Standards

Purpose

SMARA requires that approved Reclamation Plans incorporate verifiable standards to assure adequate completion of Reclamation Plan objectives. The verifiable standards were adopted by the State Board of Mining and Geology as regulations to implement these requirements. These regulations are known as the “Reclamation Standards” (PRC Article 9, Sections 3700 *et seq.*). The following discussion addresses compliance with these standards as outlined in the Santa Margarita Quarry Reclamation Plan.

5.1 Financial Assurances (14 CCR § 3702)

The project will be subject to a required financial assurance to ensure that reclamation is performed in accordance with the approved Reclamation Plan. Financial assurances are reviewed annually by the Lead Agency and adjusted as necessary. Financial assurances must be in place prior to commencement of operations.

5.2 Wildlife Habitat (14 CCR § 3703)

The RPA Area is currently utilized as an active mining operation and vacant land; however, some of the plant communities present within the RPA Area are suitable for wildlife habitat. Oak woodlands, Chaparral and Riparian woodlands occupy much of the RPA Area and provide abundant cover, foraging, nesting, and resting opportunities. Species common to these habitats include: Pallid bat (*Antrozous pallidus*), Fringed myotis (*Myotis thysanodes*), Long-legged myotis (*Myotis volans*), Golden eagle (*Aquila chrysaetos*), Long-eared owl (*Asio otus*), Costa's hummingbird (*Calypte costae*), Lewis' woodpecker (*Melanerpes lewis*), Nuttall's woodpecker (*Picoides nuttallii*), Olive-sided flycatcher (*Contopus cooperi*), Bell's sage sparrow (*Amphispiza belli belli*), Lawrence's goldfinch (*Carduelis lawrencei*), Coast horned lizard (*Phrynosoma blainvillii*) and Silvery legless lizard (*Anniella pulchra pulchra*).

Rare, threatened or endangered species as listed by the California Department of Fish and Game, (California Code of Regulations, Title 14, sections 670.2 - 670.5) or the U. S. Fish and Wildlife Service, (50 CFR 17.11 and 17.12) or species of special concern as listed by the California Department of Fish and Game will be protected throughout mining and reclamation. At completion of mining, reclamation will establish wildlife habitat that is at least as good as that which existed before mining operations began.

5.3 Backfilling, Regrading, Slope Stability, and Recontouring (§3704)

SMARA's reclamation standards provide that reclaimed fill slopes shall not exceed 2.0H:1.0V except when based on a site-specific engineering and geologic analysis showing that the proposed final slope will have a minimum slope stability factor of safety (“FOS”) that is suitable for the proposed end use. A site-specific geotechnical analysis of the final landform was prepared by Golder and Associates and is included as Attachment B. . The final slopes within the RPA Area are designed to be consistent with Golder and Associates' slope recommendations that provide a minimum FOS of

1.5 under static conditions. This demonstrates that the final landform is stable under static and seismic loading conditions, and is suitable for open-space end uses.

As reclamation progresses, all overburden and topsoil stored within the RPA Area will be distributed to various areas throughout the RPA Footprint as part of the revegetation process. All final reclaimed slopes will have a minimum factor of safety appropriate to the planned end use as described in the Geotechnical Report.

Reclaimed cut slopes located around the perimeter of the pit will conform to the parameters outlined in the geotechnical report. Reclaimed fill slopes will occur over an appropriate foundation pursuant to the recommendations within the Geotechnical Report.

5.4 Revegetation (14 CCR § 3705)

Revegetation of the RPA Area will include revegetating the RPA Area with two seed mixes; Chaparral and Rangeland seed mixes. In addition to broadcast seeding, direct planting of grey pine seeds, oak acorns and riparian cuttings will take place. Distribution methods such as hydroseeding, broadcast seeding, drill seeding, and imprint seeding may be used for the application of the seed mixes while the grey pine seeds, acorns and cuttings will be planted by hand. Refer to Section 4 for a complete description of revegetation methods utilized along with the seed mixes.

5.5 Drainage, Diversion Structures, Waterways, and Erosion Control (14 CCR § 3706)

The Santa Margarita Quarry is designed to control surface runoff to protect surrounding land and water resources in accordance with the federal Clean Water Act and other applicable local, state, and federal requirements. All operations within the RPA Area will comply with the National Pollutant Discharge Elimination System (NPDES) General Permit associated with industrial activities. A system of Best Management Practices (BMPs) is required to be employed in accordance with a Water Quality Management Plan (WQMP) and Storm Water Pollution Prevention Plan (SWPPP). Drainage and erosion controls apply at all stages of operation and reclamation and are designed to exceed the 20-year storm event. See calculations for site drainage in the Drainage Report in Attachment E.

5.6 Prime Agricultural Land Reclamation (14 CCR § 3707)

The RPA Area is not located on any land classified by the USDA as Prime Farmland. Refer to Figure 2.6-1 for the classification of farmland in the vicinity of the RPA Area.

5.7 Other Agricultural Land (14 CCR § 3708)

The RPA Area is located on land that is classified by the USDA as Farmland of Statewide importance and Not Prime Farmland (See Figure 2.6-1). The RPA Area is not located on lands that are currently under a Williamson Contract agreement.

5.8 Building, Structure, and Equipment Removal (14 CCR § 3709)

A primary and secondary crushing station and associated structures currently exists within the RPA Area and a conveyor system is proposed for later phases. These structures will be removed from the RPA Area upon completion of reclamation activities. Any refuse in the Reclamation Plan limits will be collected in approved trash bins and hauled to the nearest approved landfill for disposal. Equipment and materials will be removed from the RPA Area at the completion of mining operations as discussed in Section 3.6 .

5.9 Stream Protection, Including Surface and Groundwater (14 CCR § 3710)

The Santa Margarita Quarry project will include stormwater protection measures designed to eliminate the potential for erosion and sedimentation discharges off the RPA Area. These measures will be compliant with appropriate sections of the Federal Clean Water Act, Porter-Cologne Act, and the California Regional Water Quality Control Board.

The erosion control methods described in Section 3.9 and the reclamation practices outlined in Section 4.0 identify measures that will control erosion and sedimentation. In addition to these plan measures, the Lead Agency will conduct annual inspections to ensure implementation of these water quality protection measures.

5.10 Topsoil Salvage, Maintenance, and Redistribution (14 CCR § 3711)

Topsoil and overburden will be removed to expose the competent granite reserves as described in Section 3.4. Topsoil resources within the RPA Area are limited due to the natural geology and the presence of exposed bedrock from past mining operations. Topsoil available within the RPA Area will be retained for reclamation. As mining progresses, the RPA Area will be cleared of vegetation, topsoil, and overburden. Excess vegetative material will be trucked off the RPA Area or burned, while overburden and topsoil will be retained on the RPA Area for reclamation. Salvaged topsoil will be temporarily stockpiled in the topsoil storage area prior to use in reclamation. Topsoil stockpiles will be seeded with an erosion control seed mix to reduce erosion and maintain topsoil resources within the RPA Area. Vegetative cover of stockpiles will be maintained until topsoil is to be used for final reclamation. Stockpiled topsoil and overburden will be subject to standard dust control measures.

Redistribution of topsoil will take place after the final quarry benches are established and will be accomplished as described in detail in Section 4.3. Topsoil will be distributed evenly over the quarry benches that are to be revegetated using conventional earthmoving equipment. The salvaged topsoil will be utilized as a growth medium for the revegetation species.

5.11 Tailing and Extraction Waste Management (14 CCR § 3712)

Overburden generated during the mining process will be stockpiled within the RPA Area. As the final pit elevation and quarry benches are established and operations allow, overburden will be placed on the benches for reclamation purposes. There will be no tailings permanently stored at the mine.

5.12 Closure of Surface Openings (14 CCR § 3713)

Not Applicable.

5.13 Administrative Requirements

Lead Agency Information:

Lead Agency:	County of San Luis Obispo Planning Department
Staff Contact:	Xzandrea Fowler
Telephone:	(805) 781-1172
Address:	976 Osos Street, San Luis Obispo, CA 93408

5.14 Statement of Responsibility

Hanson Aggregates Mid-Pacific certifies that information contained in this Reclamation Plan application is correct to the best of my knowledge. Hanson Aggregates Mid-Pacific accepts responsibility for reclamation of the Santa Margarita Quarry as set forth in this Reclamation Plan.

Hanson Aggregates Mid-Pacific. Agent: _____

Date: _____

Print Name/Title: Ryan Jacoby, Vice President , General Manager Region West - Central Coast

References

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