ESPARTO MINING AND RECLAMATION PROJECT PROJECT DESCRIPTION

1.0 INTRODUCTION

The Granite Construction Company ("Granite") Esparto Mining and Reclamation Project ("Project") is an application for a Conditional Use Permit (CUP) and reclamation plan for mining, processing, and sale of sand and gravel resources. The proposal includes a request for approval of a 30-year mining and processing operation.

This application is designed to be consistent with the Yolo County Off-Channel Mining Plan, including its Surface Mining and Surface Mining Reclamation Ordinances. In addition, Granite has carefully reviewed the *Technical Studies and Recommendations for the Lower Cache Creek Resource Management Plan*, and believes the Project is consistent with the overall objectives of the County. Every effort has been made to utilize existing information and recommendations, as well as incorporate Granite's experience in the vicinity of Cache Creek to prepare this application.

The Project proposes mining of approximately 313± acres of two parcels totaling 390± acres over 30 years. Total mined volume over the life of the Project is estimated at approximately 30,000,000 tons, with approximately 26,100,000 tons sold. Various mining methods and depths are proposed throughout the Project site as well as a variety of end uses.

The following are the major Project components:

- Application for the maximum allotment (870,000 tons of aggregate sold per year) as allowed and contemplated under the Off-Channel Mining Plan, with the ability to produce and sell an additional 20% of material in any year, so long as average sales over a 10-year period do not exceed 870,000 tons per year.
- Application for a 30-year Off-Channel Mining Use Permit for excavation and processing of sand and gravel from approximately 313± acres on portions of Assessors Parcel Numbers 048-220-221 and 048-220-151 (390± acres total).
- Application for a Reclamation Plan for the mining and processing areas.
- Request for a Zoning Ordinance Amendment and zone change from AP(SGR) to AP(SG) and from A1(SGR) to A1(SG).
- Relinquishment of an existing 420,000 ton per year mining entitlement at Granite's Woodland site.

2.0 SITE DESCRIPTION

2.1 Regional Location

The Project site is located in the western portion of Yolo County approximately one and one-half miles north of the town of Esparto (Figure 1, Regional Location Map, and Figure 2, Site Location Map). The regional topography consists of low rolling hills and broad alluvial plains formed at the base of the eastern flank of the California Coast Range. The predominant land-uses for the region are agriculture, and gravel mining and processing to meet the regional demand for construction materials.

The mining and reclamation areas proposed by Granite are located in the southern portion of a relatively flat and wide alluvial valley known as Hungry Hollow. The alluvial valley is oriented northwest to southeast. Hungry Hollow is bounded on the east by Dunnigan Hills and to the west by the Capay Hills. Cache Creek transects the valley, flowing west to east.

2.2 Project Location

The Project site is located in western Yolo County, California, approximately one and one-half miles north of the town of Esparto, directly adjacent to, and west of, County Road 87. The site has an existing street address of 26410 Fulton & Frank Lane, Esparto, California. The 390± acre site consists of two (2) parcels with Assessors Parcel Numbers 048-220-221 and 048-220-151. The site lies within Sections 7 and 18, Township 10 North, Range 1 West, Mount Diablo Base and Meridian. Cache Creek transects the southern portion of the site.

2.3 Existing Setting and Land Use

Land Use and Zoning

The land uses in the surrounding area are predominantly mining and agriculture. Sand and gravel operations are located within an area identified by the State Geologist as containing significant, marketable aggregate deposits suitable for production of Portland Cement Concrete (PCC). Historically, the majority of aggregate extracted from the Cache Creek area had been excavated from the active channel of the creek. With the adoption of the Off-Channel Mining Plan (OCMP) in 1996, mining activities have gradually moved out of the active channel and onto off-channel areas. The Project site is located within the OCMP boundary.

The Project site is located on land historically utilized for agricultural orchards and row crops. The land is used for similar purposes today, as shown in Figure 3, Existing Conditions Aerial Photograph. One residence and three ancillary structures (i.e., garage, storage shed, and workshop) are located on site and will ultimately be removed as part of mining operations, when necessary. The Project site currently consists of approximately 181 acres of row crop land, 98 acres of orchards, 108 acres of open space / Cache Creek channel, and a 3 acre home site.

The entire 390± acre site has current zoning designations consistent with the intent to use the property as an aggregate resource (AP/SGR and A1/SGR). The Project area consists of all or

portions of Assessors Parcel Numbers 048-220-221 (A-P/SGR) and 048-220-151 (A-1/SGR). As noted, both parcels currently have the Sand and Gravel Reserve (SGR) Combining Zone. The entire Project is located within an area designated for agricultural use by the County General Plan.

This Project application includes a request for a Zoning Ordinance Amendment and Zone change from A-P (SGR) to A-P (SG) and from A-1 (SGR) to A-1 (SG).

Yolo County Zoning Code Sections 8-2.404.5, Conditional uses (A-P), and 8-2.604.5, Conditional uses (A-1), reads:

"Upon review and approval, or conditional approval, by the Planning Commission, the following conditional uses may be authorized by Major Use Permit:

(b/e) Commercial surface mining operations, after the approval of a Special Sand and Gravel Combining Zone (SG) pursuant to Article 23.1 of this Chapter. Surface mining operations may be allowed only when located within the Off-Channel Mining Plan area and/or when necessary for agriculture. Such use may include processing plants, batch plants, offices, equipment storage yards, and other facilities appurtenant to the surface mining operations."

Those areas where mining is expected to occur in the future have the SGR (Sand and Gravel Reserve) Zone designation. This designation indicates that gravel mining is appropriate for the site at a future date. The SGR Zone will also serve to notify existing and future property owners, as well as land use decision-making bodies, that mining will likely occur in these areas. Potentially incompatible uses that are proposed to be located on sites adjoining SGR Zoned properties should take the likelihood of future mining into account and be designated accordingly (Off-Channel Mining Plan, 1996).

Surface mining operations within Yolo County may only occur within the S-G (Sand and Gravel) Zone. The S-G Zone may be combined with either the A-1 (General Agriculture) or A-P (Agricultural Preserve) Zones.

Mineral Resource Classification

The State Department of Conservation has divided the areas along Cache Creek into four Mineral Resource Zones (MRZs). These zones are used by the State to define areas containing valuable mineral deposits. The identification of these zones is a guideline to assist local jurisdictions in making land use decisions with consideration given to the importance of mineral resources to the market region, and the discouragement of uses that would inhibit harvesting of those resources.

The Project site is located within the MRZ-2 zone. The Off-Channel Mining Plan defines the MRZ-2 zone as:

> MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is determined that a high likelihood for their presence exists. In addition, there are two economic requirements that must be met if land is to be classified as MRZ-2: (1) the deposit must be composed of material that is suitable as a marketable commodity; and (2) the deposit must meet a threshold value (gross selling price) equal to at least $5,000,000 (1978 dollars).

Agriculture and Soils

Agriculture

The site is dominated by gently sloping agricultural land. The agricultural land ranges from fallow fields to a walnut orchard and almond orchard.

Soils

A review of the Natural Resources Conservation Service Web Soil Survey identified the near-surface soil units on the Project site as Brentwood silty clay loam (BrA), Loamy alluvial land (Lm), Riverwash (Rh), Soboba gravely sand loam (Sn), and Yolo silt loam (Ya). The soil units are defined as follows:

- ***Brentwood silty clay loam (BrA):*** This soil unit is on nearly level to gently sloping fans and formed in valley fill from sedimentary rocks. The Brentwood soils have grayish brown, moderately alkaline, clay loam, 0 to 18 inches, followed by brown, moderately alkaline, heavy clay loam to a depth of 50 inches, and yellowish brown, moderately alkaline, silty clay loam to a depth of 60 inches. Historically this soil has been used for tree fruit, nut crops, vegetables, and field crops. Natural vegetation is annual grasses, forbs, and scattered oaks.

- ***Loamy alluvial land (Lm):*** This land type consists of highly variable soils. These soils are nearly level and excessively drained. They formed in mixed, stratified alluvium recently deposited adjacent to streams. They have a texture of sand, sandy loam, loam, and silt loam, and they are underlain, at a depth of 24 to 40 inches, by sand and gravel. Vegetation is chiefly annual grasses, forbs, willows, tamarisk, and cottonwood.

- ***Riverwash (Rh):*** The land type consists of excessively drained, sandy, gravelly, or stony stream and river deposits. This land type is used mainly as a source of sand and gravel.

- ***Soboba gravely sandy loam (Sn):*** This soil unit consists of deep, excessively drained soils that formed in alluvium from predominantly granitic rock sources. Soboba soils are on alluvial fans and flood plains. Soboba soils have grayish brown stony loamy sand 0 to 11 inches, and grayish brown stratified very gravelly and cobbly sand to a depth of 60

inches. Historically this soil has been used for pasture. Natural vegetation is annual grasses and forbs and chaparral shrubs.

- ***Yolo silt loam (Ya):*** This soil unit consists of thick grayish brown, neutral silt loam and pale brown mildly alkaline silt loam. Yolo soils are on nearly level to moderately sloping alluvial fans. The soil formed in fine-loamy alluvium derived from sedimentary formations. Historically this soil has been used for intensive row, field, and orchard crops. Natural vegetation was annual grasses, forbs, and some scattered oaks.

A Soils Evaluation Report and Reclamation Plan is included as Appendix A of this application.

Regional Geology

The Project site is located within the Great Valley geomorphic province of California. The Great Valley is a large, elongate northwest-trending structural trough, generally constrained to the west by the Coast Ranges and to the east by the foothills of the Sierra Nevada (Norris and Webb, 1990). The Great Valley consists of two valleys lying end-to-end, with the Sacramento Valley to the north and the San Joaquin Valley to the south. The Sacramento and San Joaquin Valleys have been filled to their present elevations with thick sequences of sediment derived from both marine and continental sources. The sedimentary deposits range in thickness from relatively thin deposits along the eastern valley edge to more than 25,000 feet in the south central portion of the Great Valley (Norris and Webb, 1990). The sedimentary geologic formations of the Great Valley province vary in age from Jurassic to Quaternary, with the older deposits being primarily marine in origin. Younger sediments are continentally derived and were typically deposited in lucastrine, fluvial, and alluvial environments with their main source being the Sierra Nevada.

The California Division of Mines and Geology, *Geologic Map of the Santa Rosa Quadrangle, California,* shows the site to be underlain by Natural Levee and Channel Deposits and the Modesto/Riverbank Formation. The Cenozoic to Holocene (less than 11,000 years old) Natural Levee and Channel Deposits consist of unconsolidated clay, silt, sand, and gravel deposited by the existing (active) stream and river systems. The Pleistocene (approximately 1.8 million years old) Modesto/Riverbank Formation consists of semi-consolidated alluvial deposits of sand, silt, clay, and gravel. (Wallace Kuhl, 2007)

(Norris, R. M., Webb, R. W. 1990. Geology of California Second Edition, John Wiley and Sons, Inc. New York.
Wallace Kuhl & Associates, Inc. 2007. Phase I Environmental Site Assessment, Capay Northeast.)

Hydrologic Resources

A Hydrogeology Report of Findings prepared by Wallace Kuhl & Associates is included as Appendix B of this application. A Hydraulic Study (HECRAS Model) is included as Appendix C of this application.

Biological Resources

A biological inventory and analysis was conducted to evaluate the onsite habitat value, and to assess potential impacts to biological resources on the site and in the immediate area. Special-status species databases were searched and field surveys were conducted to evaluate biological resources at the site. No Special-status flora was identified on the site. Special status fauna identified during site field work includes two birds; the Swainson's hawk (*Buteo swainsoni*) and the Northern harrier (*Circus cyaneus*), which are identified as State Threatened, and California Species of Concern, respectively. One additional Special-status species is judged to have a high probability of occurring at the site; the Bank swallow (*Riparia riparia*), a State Threatened species. Five additional Special-status species judged to have a moderate potential to occur on the property, but with no sign observed. These include four California Species of Concern [the Western pond turtle (*Clemmys marmorata*), Tricolored blackbird (*Agelaius tricolor*), Ferruginous hawk (*Buteo regalis*), and Mountain plover (*Charadrius montanus*)] and one California Fully Protected species [the White-tailed kite (*Elanus leucurus*)]. Other Special-status species are judged to have a low or no potential for occurrence.

The proposed mining and mineral processing area is comprised primarily of agricultural land that is active and has been for decades. As a result, the overall habitat value is limited. However, there are some trees and other areas that could potentially provide habitat to Special-status birds, and the agricultural land provides limited productivity foraging habitat for some special-status bird species. Implementation of a segment of the Test 3 line will occur south of the proposed mining and mineral processing area on the north bank of Cache Creek. Test 3 implementation activities are subject to approval of a Flood Hazard Development Permit through Yolo County. A delineation of jurisdictional wetlands and jurisdictional waters was also completed as part of the biological inventory. The results of the biological inventory and analysis of impacts is provided in Appendix D, Biological Assessment. The biological inventory and impact assessment in Appendix D includes recommended mitigation measures to limit impacts to biological resources to a level that is less than significant.

Landscaping is proposed as part of a plan for visual screening of the mining operations from adjoining public rights-of-way. Appendix E, Habitat Restoration and Landscape Visual Screening Plan, provides an evaluation of the feasibility of this landscaping including consideration of species proposed, weed control, and irrigation methods.

Noise

Noise levels on the Project site consist of a combination of on-site and off-site noise sources. Existing agricultural operations are the primary source of noise on the Project site. Additional off-site noise generating sources, such as Granite's existing Capay Facility to the west, County Rd. 87 to the east, and the flow of Cache Creek to the south, also contribute to baseline noise levels. An Environmental Noise Analysis has been prepared by Brown-Buntin Associates, and is included as Appendix F of this application.

Cultural Resources

ECORP Consulting, Inc. (ECORP) conducted a cultural resources inventory for all areas proposed for disturbance. To identify existing cultural resources within the Project area that would be affected by development, a cultural resources records search was conducted with the Northwest Information Center (NWIC) at California State University, Sonoma. Following a review of the records search results, ECORP conducted an intensive pedestrian survey of the project area. Appendix G, Cultural Resources Inventory and Evaluation Report, presents the methods and results of the records search and field survey that were conducted for the Project. Management recommendations for the Project area are also provided. Appendix G also includes a detailed description of regional history and ethnography.

As a result of the identification effort, three historical archaeological sites and eleven historical isolates were recorded. The three sites consist of a debris scatter with shed, a concrete-lined irrigation ditch, and a barn. The eleven isolates consisted of farm equipment, a water truck, and a metal drum and tin can. An evaluation of on-site resources is included in Appendix G.

Traffic and Circulation

A Traffic Impact Study was prepared and is included as Appendix H of this application. The Traffic Impact Study includes a discussion of existing traffic in the vicinity of the Project, and provides an analysis of traffic impacts with the proposed Project.

Infrastructure (Roads, Power, Water, Sanitation)

Two existing roads, Fulton and Frank Lane and the existing Granite Capay Haul road, provide access to and from the site. Several smaller dirt roads provide access for agricultural operations.

No municipally developed provisions for potable water or a sanitary sewer system currently exist on the site. Three water supply wells are located on the site: one for domestic use and two for irrigation. The site is currently serviced by a private septic system located north of the existing residence. Stormwater runoff is currently directed into drainage ditches and Cache Creek.

An Underground Service Alert (USA) has not disclosed any underground utilities on site except a telephone line that follows the Fulton and Frank Lane Easement out to County Rd. 87. No signs, vent pipes, control structures, or other surface evidence of buried liquid petroleum pipelines are on site. No high-voltage, tower-mounted, electrical transmission lines are located on site. Neighborhood distribution, pole-mounted, electrical lines (12 kV) are located along the Road 87 street easement, the north side of the West Adams Canal, and along the access road leading to Granite's Capay Facility. Additional lines extend north from the access road to the southwestern water supply well, as well as to the existing on-site workshop and residence. Five pole-mounted transformers are located on or adjacent to the site. No pad-mounted electrical transformers are located on site. Pacific Gas and Electric Company (PG&E) maintains the overhead lines and transformers.

2.4 Surrounding Land Uses

The site is bound to the north by the West Adams Canal, and agricultural land that extends beyond it. County Road 87 bounds the site to the east, beyond which is agricultural land and the Yolo County landfill convenience center. The stream channel for Cache Creek traverses the southern portion of the site, and agricultural land extends beyond its boundaries toward the town of Esparto. Granite's Capay Facility (an existing off-channel sand and gravel operation) is located immediately west of the site.

The nearest off-site residence is approximately 450 feet south of the property boundary. An assessor's parcel map showing ownership within a 1,000-foot radius of the property, a complete list of property owners, and property owner mailing labels are included in this application package.

3.0 PURPOSE, NEED AND OBJECTIVES

3.1 Purpose and Need for the Project

The extraction of sand and gravel is essential to the continued economic well-being of the state and to the needs of society (Off-Channel Surface Mining Ordinance, Section 10-4.103). The availability, consumption and demand for aggregate resources in California are issues of concern and interest to planning and transportation agencies and industries throughout the State. Aggregate resources provide the construction aggregate necessary for a broad range of public and private-sector construction, infrastructure, and maintenance projects. Because the cost of aggregate is largely dependent on the distance it is hauled, local sources of aggregate play an important role in maintaining an adequate supply at a reasonable cost to the consumer. Granite has the primary goal of maximizing its source of high-quality construction aggregates to support existing and future construction, infrastructure, and maintenance projects and meet regional demand for its materials.

3.2 Objectives

The basic Project objectives are to secure an 870,000 ton per year mining, processing, and sale entitlement as allowed and contemplated under the OCMP, secure approval for Granite to mine a site within central Yolo County for the maximum time period allowed, and provide a reliable and economic source of aggregates to meet the current and projected demand in the market.

4.0 MINING OPERATIONS

4.1 Goals

The proposed Project includes mining of aggregate resources and sequential reclamation through a phasing plan. The primary goals of the mining plan can be summarized as follows:

1. Maximize the utilization of on-site aggregate resources;
2. Minimize impact from mining operations on adjacent property owners and the public;

3. Maximize the long-term benefits of dedications to the County;
4. Prepare the site for a diverse range of reclamation end uses.

The following sections provide a description of mining methods, Project phasing, and other operational details.

4.2 Mining Methods

Mining is proposed primarily during daytime hours (6:00 a.m. to 6:00 p.m.) with occasional extended operations outside those hours to fulfill specific customer and project demands.

Mining activities would be initiated by the removal of topsoil and finer grained overbank deposits which overlie the marketable sand and gravel resources. This overburden would be removed using scrapers aided by a motor grader and a bull dozer, as needed. Soil will be cut in maximum depths in order to minimize traffic and limit compaction. The handling and transportation of soil will be minimized. Where feasible, handling of topsoil will be accomplished when the soil is dry in order to avoid undue compaction. (Off-Channel Surface Mining Ordinance Sec. 10-4.432)

The top layer of the deposit that contains the most organic-rich soil ("A"-horizon) would be removed first and segregated from deeper subsoils ("C"-horizon) in areas where these soil layers are present. If reclamation activities do not immediately require topsoil or other overburden sediments, these materials excavated from a potential mining or processing area would be stored in stockpiles located in nearby areas on the site so as to minimize haul distances and re-handling. Topsoil, subsoil, and subgrade materials in stockpiles will not exceed forty (40) feet in height, with slopes no steeper than 2:1 (horizontal:vertical). Stockpiles, other than aggregate stockpiles, will be seeded with a vegetative cover to prevent erosion and leaching. (Off-Channel Surface Mining Ordinance Sec. 10-4.433)

Stockpiled soils will be graded with 2:1 slopes for long-term storage to prevent use by bank swallows. At no time during the active breeding season (May 1 through July 31) will slopes on stockpiles exceed a slope of 1:1, even on a temporary basis. Stockpiles will be graded to a minimum 1:1 slope at the end of each work day where stockpiles have been disturbed during the active breeding season. (Off-Channel Surface Mining Ordinance Sec. 10-4.433) Anticipated soil stockpile locations are shown in Figure 4, Site Plan. Soil will be stockpiled at the northern edge of the Test 3 line implementation area and along the east edge of the site, in berms that will be constructed and planted to screen the site from view during operation. This soil will be reclaimed when operations are completed and final reclamation is occurring. Soil stockpiling will also occur at other locations onsite as mining proceeds. When areas are being reclaimed concurrent with soil salvaging as the disturbance footprint develops, soil will be moved directly from their salvage location to the reclamation location when practical.

Upon completion of overburden removal in any active mining area, sand and gravel above groundwater will be excavated using scrapers and support equipment. Scraper haul distances will be minimized by use of overland conveyor systems.

Excavation of sand and gravel below groundwater would be performed by hydraulic excavators, drag lines, and/or dredges (including clam shell, cutter head, and suction dredges). Groundwater generally occurs at an average depth of 40 feet below ground surface (bgs).

The mining plan was developed to maximize the efficient use of on-site aggregate resources. The maximum estimated depth of mining is approximately 75 feet bgs. The total quantity applied for is approximately 30,000,000 tons of mined aggregate and 26,100,000 of saleable aggregate (after a 12% estimated wash loss).

Mining, stockpile, and berm slopes above groundwater, and to five (5) feet below the average summer low groundwater level will be maintained at 2:1. Slopes extending from five (5) feet below the groundwater level to maximum mining depth will be excavated at 1.5:1 (except along County Road 87 which will be 2:1 or flatter from top of slope to bottom) to both provide a stable slope and increase recharge potential. Slopes steeper than 2:1 below the summer low groundwater level have been evaluated by a slope stability study prepared by a Registered Civil Engineer, pursuant to the requirement of Section 10-4.431 of the Off-Channel Surface Mining Ordinance (see Appendix I, Slope Stability Study). Slopes adjacent to the West Adams canal and extending 500 linear feet south along County Road 87 from the canal will be no steeper than 3:1 until they reach five (5) feet below the summer low groundwater level. Slopes extending five (5) feet or more below the summer low groundwater level will be 1.5:1, except along County Road 87, where slopes below the summer low groundwater level will maintain a 2:1 or flatter slope angle.

Section 10-4.4.29 of the Off-Channel Surface Mining Ordinance addresses setback requirements for mining operations. The setbacks proposed with this Project are consistent with these requirements. The aggregate processing plant and material stockpiles will be located more than 1,000 feet from public rights-of-way, public recreation areas, and off-site residences. Where soil stockpiles or berms occur within 500 feet of public rights-of-way (County Road 87); measures will be implemented to reduce potential noise, dust, and aesthetic impacts. These measures include:

- Soil stockpiles and berms located in these areas will only include berms/stockpiles that are designed for one-time placement, and salvage at the end of operations. Once they are initially placed, they will be seeded and planted to stabilize the surface and provide aesthetic value.
- While stockpile/berm construction and salvage operations are occurring, the area will be wetted to control fugitive dust.
- Equipment used for stockpile/berm construction and salvage operations will be properly maintained to avoid undue noise emissions.

Sand and gravel extraction operations will occur within 1,000 feet of public rights-of-way and adjacent property lines of off-site residences. Landscaped buffers will be constructed along County Road 87 and directly south of the designated haul road to reduce potential aesthetic and noise impacts. The landscape buffers will limit public view of the Project areas. Berms established for visual screening and noise abatement will be contoured to conform visually with the surrounding topography, where practical. Minimum setbacks of 50 feet from the property

line or right-of-way (whichever is greater) will be maintained during mining and processing operations.

4.3 Project Phasing

The proposed Project is divided into two major phases distinguished by the mining and reclamation objectives. Phase 1 consists of development of the processing plant site and excavation and construction of settling ponds, with both areas ultimately being reclaimed to agricultural uses. Phase 2 consists of the excavation of an area proposed to be reclaimed to a lake with shoreline habitat areas. The following provides a description of each phase.

Phases 1A and 1B

Phase 1, which consists of Phases 1A and 1B, includes development of a processing plant site, construction of a plant, and mining and constructing a series of five (5) settling ponds designed with enough capacity to contain all of the process wash fines for the entire Project. The ponds will accept fines and will ultimately be overlaid with soils for reclamation. Approximate reclamation grades are depicted on Exhibit B, Reclamation Plan, prepared by Cunningham Engineering. Phase 1A will be reclaimed to open space/dry pasture and Phase 1B will be reclaimed to prime agriculture.

The first two of the five settling ponds will be sequentially mined and then reclaimed with the settlement of wash fines as part of Phase 1A. These two settling ponds will total approximately 8 acres northwest of the proposed plant site and will be used as interim settling ponds. The ponds will be excavated with a slope angle of 2:1. The first pond will be approximately 2 acres in size and the excavated sand and gravel will be stockpiled in a surge pile adjacent to the plant site. As the stripping of overburden material and excavation of the second pond begins, materials stockpiled in the surge pile will be processed through the plant and wash fines would be pumped into the first pond. The larger of the two interim ponds is designed with enough capacity to handle fines during the mining and construction of the first settling pond in Phase 1B.

Phase 1B consists of mining approximately 80 acres on the north end of the site and constructing three long-term settling ponds. This area is currently used for agricultural row crops, with limited habitat potential. The three ponds will be separated by north-south trending levees. Reclamation of Phase 1B will be on-going for the remainder of the mine life. Each of the three ponds will be sequentially reclaimed with the settlement of wash fines and the placement of topsoil and overburden material. The final elevation of the reclaimed ponds can only be approximated based on drill-log data and projected wash loss rates.

Levees for the settling ponds in Phase 1B will be constructed to ensure their stability and longevity. Primarily “C” Horizon soils will be used to construct the levees. Collectively (i.e., including the two ponds adjacent to the plant site), the settling ponds are designed to hold all the fines for the processing of approximately 30,000,000 tons of aggregate at a projected wash loss rate of 12%.

As each pond reaches its estimated wash fines design capacity, it will be allowed to dry and overburden and topsoil will be placed on top of the wash fines for reclamation to prime agriculture. Predominantly "C" Horizon soils shall be placed atop wash fines, and "A" Horizon soils shall be placed atop "C" Horizon soils. Soils placed for reclamation will be ripped to minimize compaction. Phase 1B is expected to yield approximately 74 acres of prime agricultural land upon final reclamation.

Phase 2

Phase 2 consists of excavating an approximately 195-acre area with reclamation to an open-water lake with shoreline habitat areas (see Exhibit B, Reclamation Plan). The shoreline will be enhanced with varying slope angles and revegetation and land features to maximize the open space habitat potential of the lake. Perimeter slopes will be excavated at a slope angle of 2:1 or flatter. Wash fines from materials processed during Phase 2 mining operations would be contained in Phase 1B settling ponds.

4.4 Production and Operating Life

Production estimates and operating schedule are provided in Table 1, Production and Phasing Schedule, below:

TABLE 1
PRODUCTION AND PHASING SCHEDULE

Phase	Approx. Acreage	Estimated Tons Mined	Estimated Tons Sold	Estimated schedule (years)
Phase 1A	38	536,000	472,000	<1
Phase 1B	69	7,799,000	6,863,000	8
Phase 2	196	21,665,000	18,765,000	21
Totals:	303	**30,000,000**	**26,100,000**	**30**

Notes:
1. Quantity and schedule estimates assume maximum production and sales through the life of the Project.
2. Site development and land dedication may take one (1) to two (2) years prior to commencement of mining and processing.
3. An additional 11.3 acres of the project's total 313 acres include haul roads and setbacks.

Production Quantities (Mined/Sold)

Mine production is estimated at approximately 1,000,000 tons per year, with a 12% assumed wash loss. This would result in approximately 870,000 tons sold per year. The Project may occasionally produce and sell up to 20% more material in any given year (up to 1,044,000 tons); however, average sales over any 10-year period will not exceed 870,000 tons per year.

Total mined volume over the life of the project is estimated at approximately 30 million tons, with 26.1 million tons sold.

Estimated Life of Operations

The Project life is estimated at approximately 30 years from start of mining based on 870,000 tons sold per year. Final reclamation and reclamation monitoring of the site may extend beyond the estimated 30-year life of the Project.

4.5 Operating Schedule and Work Force

Hours of Operation

Normal hours of operations are proposed between 6:00 a.m. and 6:00 p.m. Monday through Friday (12 hours per day). Operations would normally occur five days per week during these hours; however, extended operations could occur occasionally to meet specific customer or project demands. The number of nights that nighttime operations will occur is expected to be similar to existing conditions at Granite's Capay Facility.

Certain public agency projects (such as Caltrans road improvement projects) may require nighttime operations to prevent traffic congestion associated with land closures and heavy vehicle operations, or emergency road repairs needed in the event of natural disaster or other unforeseen events. These types of projects accordingly require materials to be supplied at night. The Project could periodically operate up to 24-hours per day, seven days per week for limited periods in order to service these projects. The duration of these expanded hours of operation would depend on the duration of the projects being supplied.

Work Force

Proposed operations, including mining, processing, and administrative functions, would employ between 12 and 15 full time workers. Employees would primarily be skilled workers in the construction materials industry such as heavy equipment operators, maintenance personnel and support staff.

4.6 Mobile Equipment, Processing Area and Plant Facilities

A broad range of equipment is used for mining, processing, and reclamation activities. Mobile equipment used for mining and processing activities will include scrapers, bulldozers, drag lines, dredges, hydraulic excavators, and front-end loaders. Equipment used in routine site and equipment maintenance operations will include lube and mechanic trucks, water trucks, pickups, and other employee vehicles. Conveyors, hoppers and stackers will be used to transport materials for processing operations. During reclamation, operations may employ scrapers, bulldozers, motor graders, or other equipment to satisfy the reclamation objectives of the site. Table 2, below, provides brief descriptions of the mobile equipment that may be used on-site.

TABLE 2
TYPICAL MOBILE EQUIPMENT

Equipment	Fuel Type	Uses
Mining Operations		
Scraper	Diesel	Mining, earthmoving, rough contouring
Bulldozer	Diesel	Earthmoving, rough contouring
Drag Line	Diesel	Wet pit mining
Floating Dredge	Diesel / Electricity	Wet pit mining
Hydraulic Excavator	Diesel	Mining, excavation
Processing Operations		
Front-end Loader	Diesel	Loading raw materials
Conveyor belt	Electricity	Transporting materials
Hopper	Electricity	Conveyor belt transfer system
Aggregate Processing Plant	Electricity	Wash, screen, crush, process materials
Reclamation Operations		
Bulldozer	Diesel	Earthmoving, rough contouring
Motor Grader	Diesel	Grade setting, fine contouring
Scraper	Diesel	Earthmoving, topsoil replacement
Maintenance and Storage		
Motor Grader	Diesel	Road maintenance, grade contouring
Service Truck	Diesel / Gasoline	Fuel, lube, maintenance, service
Tractor / Backhoe	Diesel	Minor excavation, loading

The types of vehicles used on-site may vary somewhat over time depending on the availability of, or introduction of new models to suit different technological and on-site needs. The need to perform specific short-term mining, processing or reclamation tasks may also trigger the use of additional equipment.

The plant will be located adjacent to and east of the existing Granite Capay Facility plant site, and immediately north of the Capay facility's primary haul road. The location of the plant site was chosen to minimize impacts to sensitive off-site receptors, minimize visual impacts of the Project, and minimize the temporal loss of land zoned as agricultural preserve.

The proposed aggregate processing plant will have the capacity to wash, crush, and screen approximately 1 million tons of aggregate per year in a single shift. Material will be transferred from the active mining areas to the processing plant via a conveyor system. A water clarifier system is proposed to minimize the demand for wash water used in processing. This system is designed to accept wash water and recycle clean water back through the aggregate processing plant. Please see Figure 5 for a schematic of a clarifier system. The construction of the new plant will be subject to review and approval by the Yolo-Solano Air Quality Management District (YSAQMD).

4.7 Stormwater Management and Other Discharges

There is no storm water or agricultural run-on to the site because the Project area is bounded on the upgradient (north and northwest) sides by the West Adams canal. Existing surface drainage conditions onsite comprise a system of agricultural drainage ditches that flow to Cache Creek via three drainage ditches. The Project will be designed to prevent storm water runoff from mining or processing areas from leaving the site during operations and following reclamation. This will be achieved by grading to collect surface water onsite in basins where it will infiltrate and evaporate. In addition, Project actions will incorporate best management practices and will comply with relevant laws and regulations for preventing releases on the site that could impact water quality.

The plant site grades are designed to drain northerly toward a Phase IA (interim) plant pond, easterly toward retention basin at the northeast side of the plant site, and southwesterly toward a retention basin at the southwest corner of the plant site. This drainage pattern will be retained in final reclamation contours, preventing plant site runoff from leaving the site or entering open water mining areas.

Mining areas will temporarily or permanently result in a lowered surface which will contain on-site runoff. Mining area slopes will be protected from runoff by grading or berms, until reseeded to prevent erosion. Mining slopes will be reclaimed as soon as possible to the required ultimate condition.

Upon the completion of operations, grading and revegetation will minimize erosion and convey storm water runoff from reclaimed mining areas to interior basins (Exhibit B, Reclamation Plan).

In contrast to the mined lands of the project site, which will be graded to prevent the discharge of storm water, the Test 3 line implementation area will have a limited amount of storm water runoff. The Test 3 line implementation area will be graded to direct runoff to Cache Creek via a cobble-lined drainage ditch.

No other discharges are expected or proposed with this Project.

4.8 Water Demand and Supply

With the use of a water clarifier system, processing wash water will be recycled through the aggregate processing plant, thus minimizing the demand for water. There will, however, be a need for some make-up water due to evaporative loss, infiltration and material absorption. The demand for make-up water is estimated at approximately 1,100 gpm (286 acre-feet per year).

4.9 Emission Controls

The Project will comply with all conditions and requirements of the Yolo-Solano Air Quality Management District, and all other agencies with jurisdiction over air quality. An Authority to Construct permit will be obtained prior to construction of the aggregate processing plant, and

conditions of the permit will be implemented to reduce impacts from potential fugitive emissions.

Per Section 10-4.414 of the Off-Channel Surface Mining Ordinance, the following measures will be implemented in order to control fugitive dust:

(a) All stockpiled soils will be enclosed, covered, or adequately watered to keep soil moist at all times. Inactive soil stockpiles will be vegetated or adequately watered.
(b) During operating hours, all disturbed soil and unpaved roads will be adequately watered to keep soil moist.
(c) All disturbed but inactive portions of the site will either be seeded or watered until vegetation is grown or will be stabilized using methods such as chemical soil binders, jute netting, or other Yolo-Solano Air Quality Management District approved methods.

Per the requirements of Section 10-4.415 of the Off-Channel Surface Mining Ordinance, all internal combustion engine driven equipment and vehicles will be kept tuned according to the manufacturer's specifications and properly maintained to minimize the leakage of oils and fuel. No vehicles or equipment will be left idling for a period of longer than ten (10) minutes.

Other specific emissions controls and sources may be identified and implemented as part of Yolo-Solano Air Quality Management District permitting process.

4.10 Transport of Materials On and Off-Site

The Project proposes to share an existing haul road with Granite's neighboring Capay Facility. The proposed truck route will leave the Project site by a private access driveway positioned at the northwest corner of the proposed plant site. Additionally, Granite proposes to use the truck scales located immediately west of the proposed plant site on its existing Capay facility. There are currently two side-by-side truck scales located at the facility. Although a common scale is proposed, separate tickets would be maintained for trucks exiting the Granite Capay and Granite Esparto facilities. A common scale would help control haul traffic in and out of the Project site, and improve site safety. With the exception of local deliveries to the towns of Esparto and Madison, all truck traffic must exit left onto County Road 87, heading north, and then turn right (heading east) on County Road 19 to I-505. A traffic impact study is provided in Appendix H.

4.11 Site Safety, Security and Fencing

The site will be secured with perimeter fencing and will be locked during idle hours. Pursuant to Section 10-5.510 of the Yolo County Surface Mining Reclamation Ordinance, the site will be fenced with a 42-inch minimum, four strand barbed wire fence or the equivalent prior to the commencement of excavation, during excavation, and during reclamation. In addition, signs will be installed at the Project site boundaries and access road, indicating that the excavation area is restricted. Additional security (e.g., gates with protected locks and wing fences to prevent drive-arounds) will be provided at all vehicular routes. The fencing and gates will be maintained

throughout the mining and reclamation period, and after the completion of reclamation unless found to be not appropriate for the post-mining land use.

4.12 Utilities / Lighting

All lighting will be arranged and controlled so as not to illuminate public rights-of-way or adjacent properties (Off-Channel Surface Mining Ordinance, Sec. 10-4.420). Granite will work with Pacific Gas & Electric Company (PG&E) to install a power drop to serve the Project's power needs. The projected amount of electrical usage for the Project is 1,500 Kw / hr or 12,000 Kw / day.

4.13 Sanitary Facilities

Portable toilets will be provided and maintained on-site for use by employees and visitors. No permanent sanitary facilities are proposed as part of this Project. Bottled water will also be provided on site for all employees and visitors. All on-site water storage facilities will be labeled "potable" or "non-potable." (Off-Channel Surface Mining Ordinance Sec. 10-4.428)

4.14 Waste Management

Waste generated by the mining operation consists mostly of fine grained wash sediments which will be used to backfill selected areas on site primarily for reclamation to agricultural uses.

Refuse and garbage will be hauled off the site periodically by Waste Management of Woodland. Recycling will occur to minimize waste generated.

A Phase I Environmental Site Assessment (ESA) was prepared for the property in January of 2007. Review of agency records did not reveal evidence of documented hazardous materials contamination on or adjacent to the site. No known regional hazardous materials impairments to groundwater quality beneath or in the area of the site were identified during the review of the regulatory agency databases (Wallace Kuhl Associates, 2007). Nonetheless, a Phase II ESA was prepared to verify the findings.

The Phase II ESA was prepared January 31, 2007. The primary purpose of the Phase II ESA was to determine if farm maintenance activities on-site have impacted the subsurface soil and/or groundwater. The Phase II ESA subsurface investigation did not result in the finding of any significant contaminants that would require further action based on site conditions and background levels.

4.15 Hazardous Materials Storage

Hazardous materials will be controlled by proper storage and containment. Equipment fueling will be accomplished using mobile fuel trucks which will come on-site to service equipment. Rubber tired equipment will be fueled in a designated area which will have an impermeable base. Fueling and maintenance activities associated with excavators, drag lines, and other track-mounted equipment will be conducted with proper safeguards to prevent hazardous materials

releases within the gravel pit and open-water areas. Absorbent booms will be stored in the mining area to allow rapid response and containment in the event of a spill.

Fuel will be stored in above-ground containers with secondary containment as required by law. A Spill Prevention, Control, and Countermeasures (SPCC) Plan and a Hazardous Materials Business Plan will be prepared and implemented pursuant to 40 CFR Part 112 and 19 CCR Section 2729, respectively. Part of the purpose of these documents is to assure that appropriate hazardous materials release prevention measures are implemented, and that planning and preparations are in place for controlling and cleaning up potential spills to minimize the potential for a spill to threaten human health, the environment, or property. Copies of the SPCC Plan and the Hazardous Materials Business Plan will be kept on-site at all times and these plans will be updated throughout operations and reclamation, as needed.

Per the requirements of Section 10-4.415 of the Off-Channel Surface Mining Ordinance, all internal combustion engine driven equipment and vehicles will be kept tuned according to the manufacturer's specifications and properly maintained to minimize the leakage of oils and fuel. No vehicles or equipment will be left idling for a period of longer than ten (10) minutes. With the exception of draglines and floating dredges, fueling and maintenance activities of heavy equipment will be prohibited within 100 feet of open bodies of water during mining and reclamation.

4.16 Noise and Vibration Controls

An Environmental Noise Analysis was prepared for the proposed Project by Brown-Buntin Associates (Appendix F) which addresses noise sources and their potential impacts on nearby receptors. Consistent with Yolo County requirements, equipment used during nighttime activities will be equipped with non-sonic warning devices consistent with the California Office of Safety Hazard Administration (Cal OSHA) regulations. Prior to commencement of operations without sonic warning devices, a variance request will be filed with the California OSHA Standards Board showing that the proposed operation would provide equivalent safety to adopted safety procedures, including sonic devices. (Off-Channel Surface Mining Ordinance, Sec. 10-4.422) Additionally, a berm will be constructed along the southern boundary of the proposed plant site to act as a visual and noise barrier for receptors across Cache Creek. This berm will tie in generally with the existing berm located at Granite's neighboring Capay facility.

5.0 RECLAMATION PLAN

5.1 Reclamation Objectives

The proposed Reclamation Plan incorporates the following major objectives:

1. Provide for agriculture as a reclamation end-use;
2. Provide for habitat restoration and enhancement;
3. Develop opportunities where diversified reclamation to agriculture and open space habitat can provide mutual benefits;

4. Maintain compatibility with, and quality of, surrounding land uses, including agriculture and residential.

5.2 Mined Lands Reclamation Plan

Phase IA (Open Space/Dry Pasture)

Phase IA includes the plant site and the initial two (interim) settling ponds. The interim settling ponds will be reclaimed early in the project's operational life. These ponds will be used to deposit washed fines until the first settling pond is completed in Phase IB. The smaller Phase IA settling pond will be reclaimed with a lower surface elevation than surrounding land to collect and infiltrate runoff from the plant area. Upon completion of mining, processing, and sales operations, the plant will be removed and the plant site will be regraded to a more natural topography. Stockpiled C-Horizon and A-Horizon soils will be evenly spread across the site to create approximately 38 acres of open space / dry pasture. Topsoil salvage and reuse, and revegetation success performance standards are described in the Reclamation Plan.

The plant site's final reclamation grades are designed to drain northerly toward a interim settling pond, easterly toward a retention basin at the east side of the plant site, and southwesterly toward a retention basin at the southwest corner of the plant site. This will keep surface drainage at the plant site from entering open water mining areas and from leaving the site.

Phase IA encompasses land that is primarily dry pasture with low agricultural value. Consistent with current use, this area will be reclaimed as dry pasture.

Phases 1B (Prime Agriculture)

Phase 1B consists of the mining and filling of three settling ponds. These settling ponds will be mined and used sequentially beginning with the cessation of mining at Phase IA and ending with mine closure. These ponds will be reclaimed sequentially as they are completed, with the final pond reclaimed as part of final project reclamation. The settling ponds are designed to hold all the fines for the processing of approximately 30 million tons of aggregate at an assumed wash loss rate of 12%. The exact final elevation of the reclaimed ponds can only be approximated based on drill-log data and projected wash loss rates. The Phase IB settling ponds will be sequentially reclaimed with the settlement of wash fines and the placement of topsoil and overburden material. C-horizon soil recovered from the site will be placed on top of the fines and graded for drainage. The upper surface of this C-horizon will be scarified as necessary to allow for a functional transition to the upper A-horizon soil. A-horizon soil will be placed on top of the C-horizon soil to complete reclamation. The Phase IB area is currently used for row crops and will be reclaimed to prime agriculture land as described in Appendix A, Soils Evaluation Report and Reclamation Plan.

Grading and revegetation is designed to minimize erosion and convey storm water runoff from reclaimed mining areas to interior basins. Reclaimed agricultural surfaces will be graded to allow surface/furrow irrigation of crops and allow for adequate storm water drainage. The

northeastern corner of Phase 1B will be graded for use as a retention basin for agricultural tail-water and surface water return after project completion.

Phase 2 (Lake / Open Water Habitat)

Phase 2 comprises mining and reclamation of an area that has been used for a variety of agricultural uses including row crops and orchards. Post mining reclamation of this phase will be a lake with varying depths, seasonally fluctuating water levels, and diverse shorelines with habitat areas (see Reclamation Plan). The lake will have a variable shoreline with changing slopes to provide a range of habitat potential, with slopes of 2:1 or flatter. The slopes surrounding the lake and the shoreline will be revegetated in accordance with the proposed Reclamation Plan and will consist of native plant species.

Slopes will be reclaimed as soon as possible to reduce erosion potential and ensure the establishment of habitat.

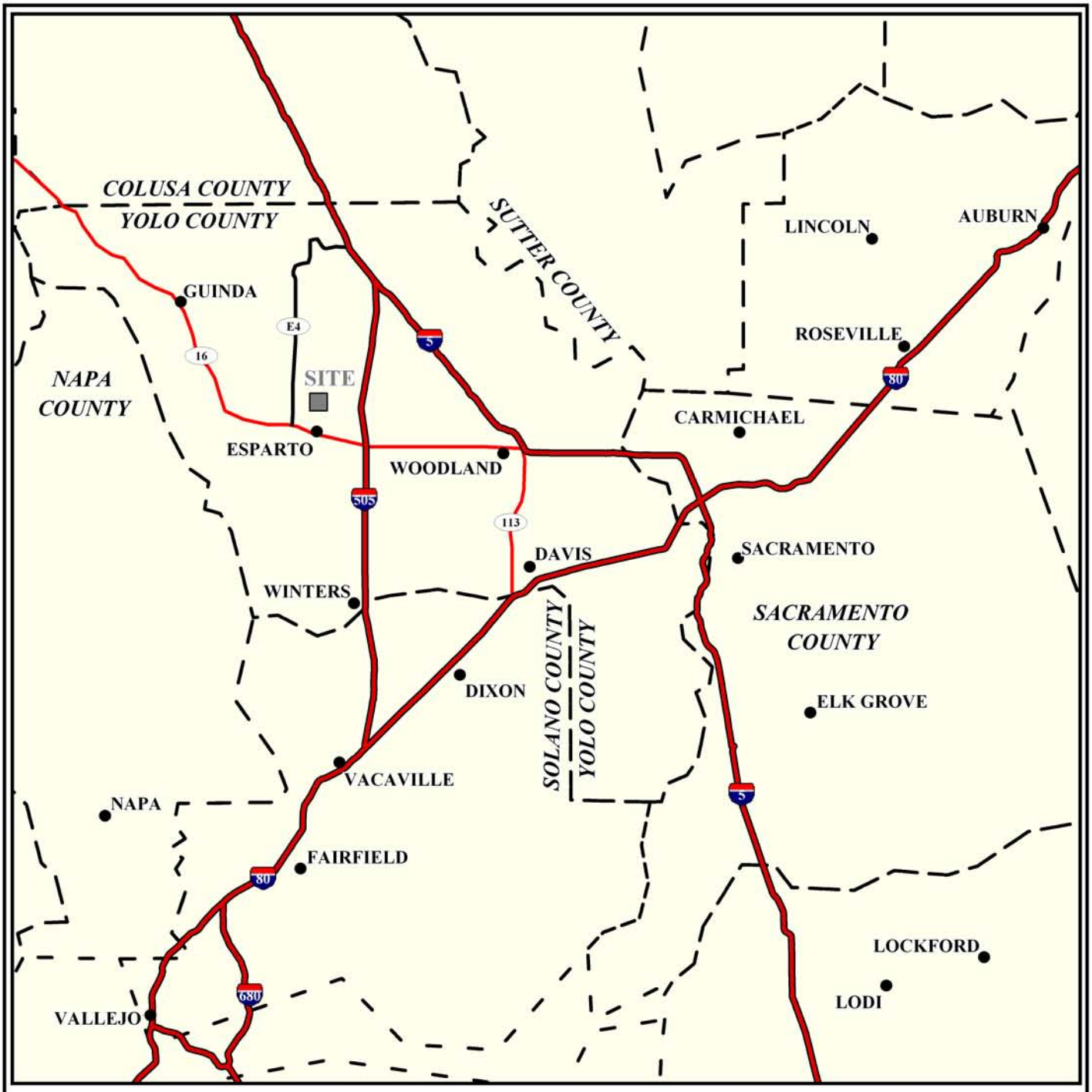
5.3 Monitoring and Maintenance

Granite will be responsible for implementation of the reclamation plan and maintenance required to achieve the success performance standards. Monitoring will occur for five years or until three consecutive years have passed with revegetation success performance standards being met.

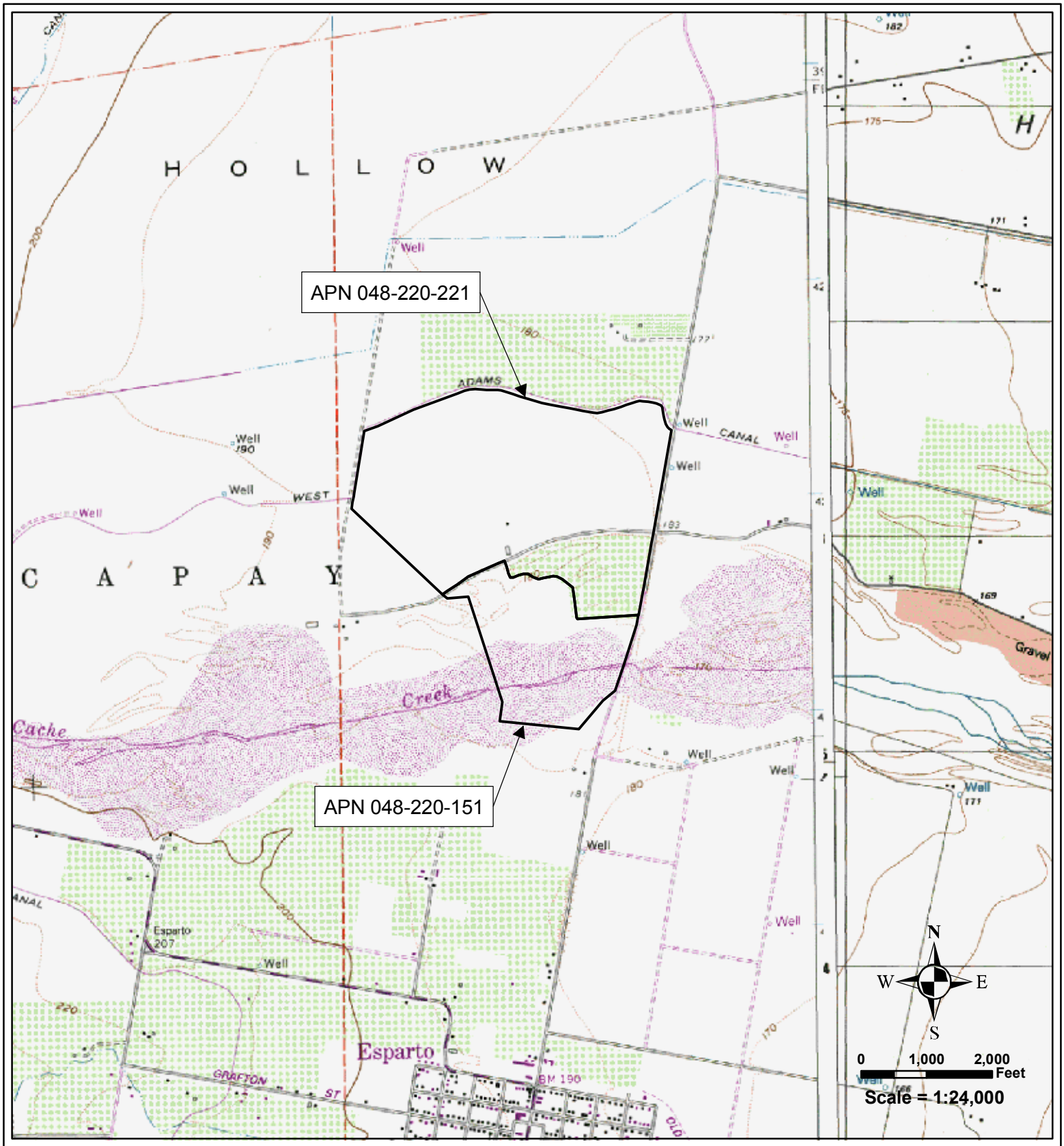
6.0 PERMITS AND APPROVALS

The following provides a list of potential permits and approvals required for this Project:

Permit / Approval	**Responsible Agency / Department**
Conditional Use Permit (Mining / Processing)	Yolo County
Reclamation Plan / Financial Assurance	Yolo County
Zoning Code Amendments	Yolo County
Zoning Change	Yolo County
Building Permit	Yolo County
Hazardous Materials Business Plan	Yolo County
Flood Hazard Development Permit	Yolo County
Waste Discharge Requirement	Central Valley RWQCB
Water Quality Certification	Central Valley RWQCB
Spill Prevent Control Countermeasures Plan	State Water Quality Control Board
Authority to Construct / Permit to Operate	Yolo-Solano Air Quality Management District



TRC	PROJECT: 150633	REGIONAL LOCATION MAP
	PROJECT NAME: ESPARTO FACILITY YOLO COUNTY, CALIFORNIA	FIGURE 1



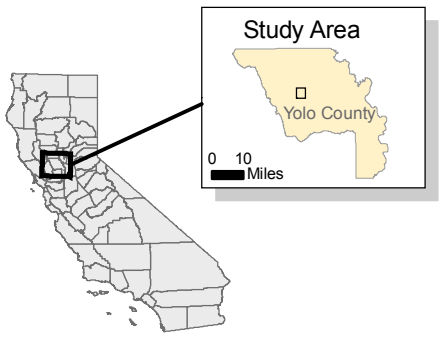
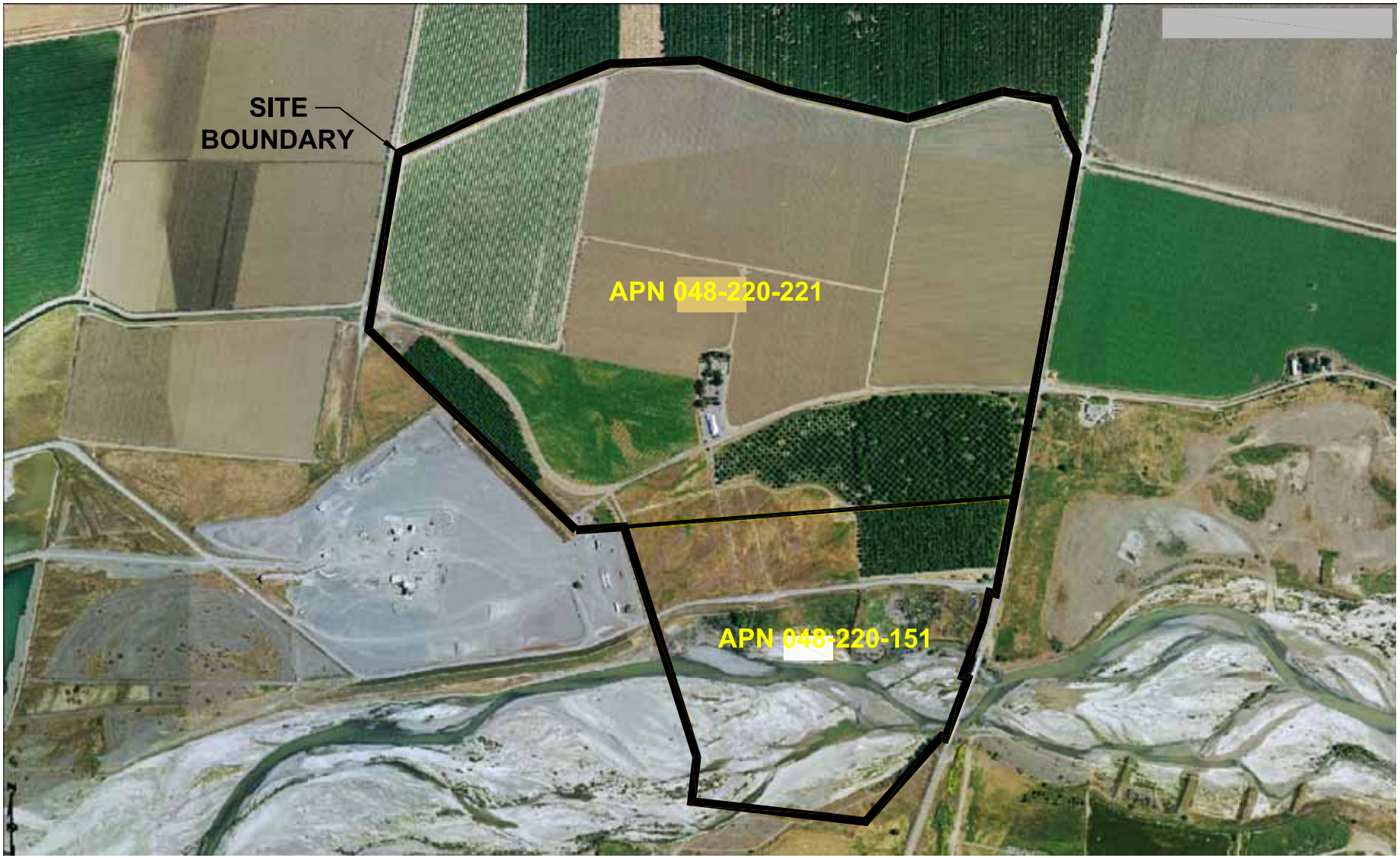


Figure 2
Site Location Map

August 21, 2007

TRC

MS=1:1,000 L:□Graphics□ProjectsByName□Granite Esparto□CADD□FultonStephensAerial.dwg Oct 09, 2007 - 4:16pm amartos



SCALE (FEET)

0 1,000

REFERENCE:

Aerial photo taken May 2006.

TRC

PROJECT: 150633

FACILITY:

ESPARTO FACILITY
YOLO COUNTY, CALIFORNIA

EXISTING CONDITIONS AERIAL PHOTOGRAPH

FIGURE 3

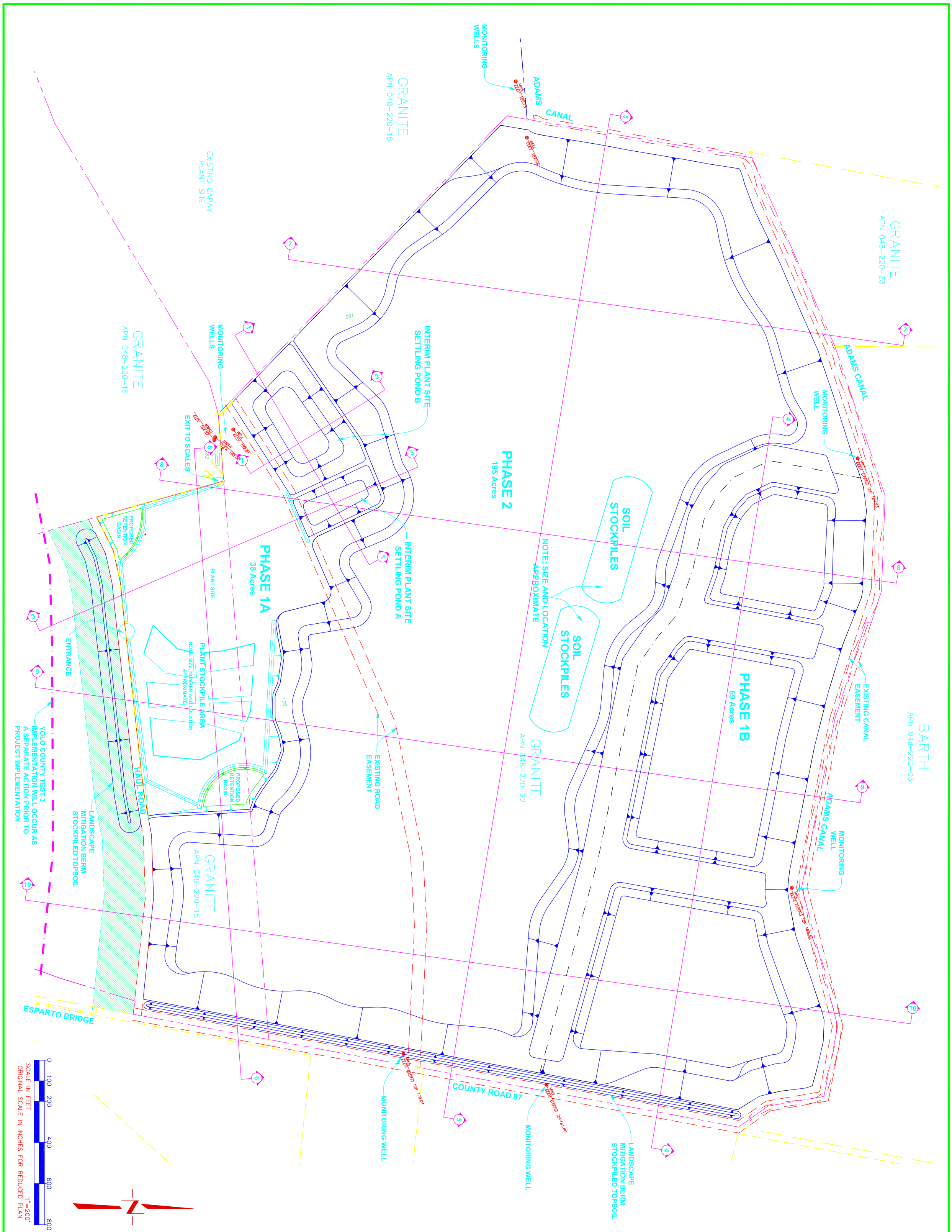


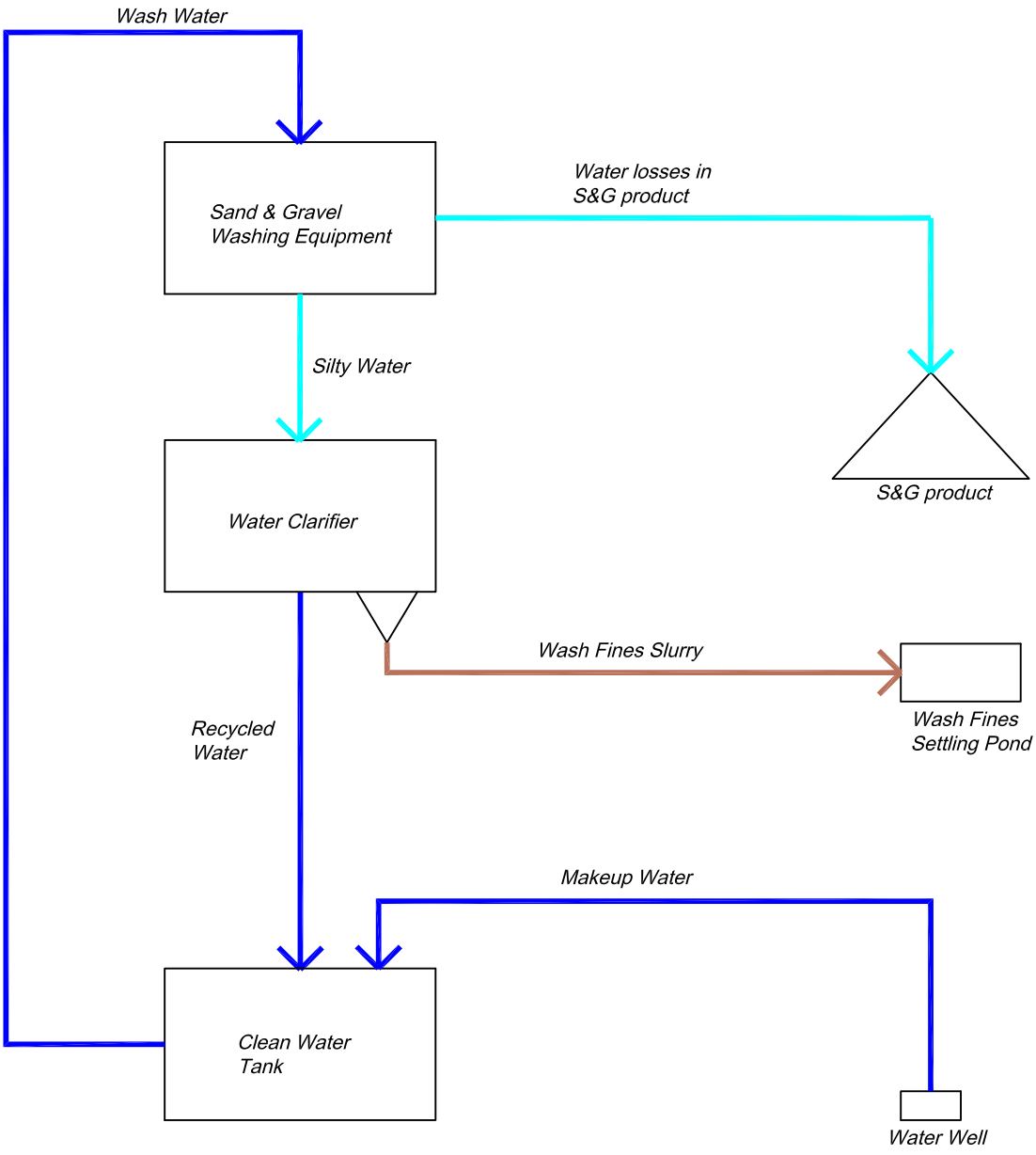
FIGURE-4
SITE PLAN

GRANITE

NO.	DATE	REVISIONS	BY	APPD.

DESIGNED BY _____
DRAWN BY _____
CHECKED BY _____
SCALE

Typical Water Clarification System



TRC	PROJECT: 150633 FACILITY: ESPARTO FACILITY YOLO COUNTY, CALIFORNIA	**CLARIFIER SCHEMATIC** **FIGURE 5**