



# County of San Diego

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## DEPARTMENT OF PLANNING AND LAND USE

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Date Prepared: October 7, 1996

### FINAL ENVIRONMENTAL IMPACT REPORT

PROJECT: Rosemary's Mountain Quarry      PERMIT: P87-021RPL<sup>2</sup>, RP 87-001RPL<sup>2</sup>  
SCH # 91081061      LOG #: 87-2-13

The Board of Supervisors has reviewed the enclosed draft Environmental Impact Report (EIR). Based on that draft, public and agency comments received, and staff analysis, the Board of Supervisors finds that:

1. The attached final EIR has been completed in compliance with California Environmental Quality Act (CEQA) and that the Board has reviewed and considered the information contained therein prior to approving the project.
2. The project will have the following environmental impacts:

#### Significant and Mitigable:

- a. Traffic/Circulation
- b. Biology
- c. Visual/Aesthetics
- d. Noise
- e. Air Quality
- f. Hydrology/Erosion Control
- g. Land Use/Community Character
- h. Public Safety
- i. Dark Skies
- j. Cumulative Impacts

#### Not Significant:

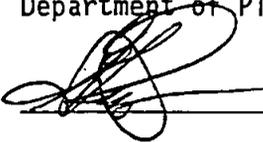
- k. Cultural Resources
- l. Growth Inducement
- m. Groundwater

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3. The mitigation measures presented in the EIR findings have been made conditions of the project approval.

Date Certified: March 5, 1997

GARY L. PRYOR, Director  
Department of Planning and Land Use



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- A. Draft Environmental Impact Report (EIR) prepared by: Brian F. Mooney Associates, 9903-B Businesspark Avenue, San Diego, CA 92131 for Palomar Aggregates, Inc., 2150 N. Centre City Parkway, Escondido, CA 92026.
- B. Letters of and Responses to Public and Other Agency Comment, attached to Draft EIR.
- C. Statement of Location and Custodian of Documents or Other Materials That Constitute a Record of Proceedings.
- D. Any other information added by the Lead Agency.
- E. Candidate California Environmental Quality Act (CEQA) Findings per Section 21081 of the CEQA, E-1 through E-13.

LETTERS OF AND RESPONSES TO PUBLIC AND OTHER AGENCY COMMENTS

List of agencies, organizations and individuals responding with comments on the draft EIR:

Federal Agencies

U.S. Fish and Wildlife Service, Carlsbad Field Office

State Agencies

State of California, The Resources Agency, Department of Conservation, Office of Governmental and Environmental Relations

County/City Agencies

San Diego County Water Authority  
Rainbow Community Planning Group  
Fallbrook Community Planning Group  
Pala/Pauma Sponsor Group

Local Districts

Rainbow Municipal Water District

Local Organizations

San Diego County Archaeological Society  
Mountain Defense League  
North County Coalition  
Pala Band of Mission Indians

Individuals

Jack E. McAllister  
Doris Baldyga  
F.P. MacLise  
Mr. and Mrs. William Flagg  
Alan M. Ferguson  
Joyce Ward  
Victor A. Esparza  
Edward Baldyga  
Ruth Harber  
Ben Anderson  
Virginia Bounarti  
Phillip Church  
Carol Whitmore  
Jeanne Ray

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During the 45 day review period, commencing April 16, 1996, and ending May 31, 1996, 30 letters of public comment were received. The letters of public comment and the responses are included after the draft EIR. Each comment has been given a number marked to the left on the original letter. The corresponding numbered responses follow the section with the letters of comment.

**STATEMENT OF LOCATION AND CUSTODIAN OF DOCUMENTS  
OR OTHER MATERIALS THAT CONSTITUTE A RECORD OF PROCEEDINGS**

The CEQA (Section 21081.6[d]) requires that the lead agency (in this case the County of San Diego) specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based. It is the purpose of this statement to satisfy this requirement.

Location of documents and other materials which constitute the record of proceedings:

County of San Diego  
Clerk of the Board of Supervisors  
1600 Pacific Highway, 4th Floor  
San Diego, California 92101

County of San Diego  
Department of Planning and Land Use  
5201 Ruffin Road, Suite B  
San Diego, California 92123

Custodian:

County of San Diego  
Clerk of the Board of Supervisors  
1600 Pacific Highway, 4th Floor  
San Diego, California 92101

County of San Diego  
Department of Planning and Land Use  
Project Processing/File Room Clerk  
5201 Ruffin Road, Suite B  
San Diego, California 92123

Project Name:

Rosemary's Mountain Quarry

Reference Case Numbers:

P87-021RPL<sup>2</sup>, RP 87-001RPL<sup>2</sup>

## FINDINGS CONCERNING MITIGATION OF SIGNIFICANT EFFECTS

Pursuant to Section 21081 of the CEQA, the following findings are made for each of the significant effects identified in the EIR for P87-021RPL<sup>2</sup>, RP 87-001RPL<sup>2</sup>, the Palomar Aggregates Quarry project:

1. TRAFFIC/CIRCULATION

**Significant Effect:** The project could result in significant impacts to the northbound ramp intersection (State Route 76 [SR 76] onto Interstate 15 [I-15] northbound); the project-generated additional trips would maintain acceptable level of service on SR 76 (on SR 76 west of I-15 and on SR 76 east of the project site); however, vehicles traveling in and out of the project entrance would create unsafe road conditions on SR 76 due to sharp radius curves along the project frontage. The project would add cumulatively to the wear and tear and congestion of SR 76 and I-15/SR 76. These impacts are discussed in the final EIR on Pages 51-65.

**Finding:** Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen these effects.

**Rationale:** Mitigation Measure A.1. (P89-021RPL<sup>2</sup> Condition A.4.) requires the granting of real property for improvement of SR 76 with widening from two lanes to four lanes between I-15 and the western boundary of the project. This widening shall be constructed and available for use prior to any export of material from the site. Mitigation Measure A.2. (Condition B.8.) requires 550 feet of intersectional sight distance along SR 76 from the proposed driveway entrance to the satisfaction of CalTrans. Mitigation Measure A.3. (Conditions B.4., A.6. and A.7.) requires the improvement of SR 76 from I-15 to the project entrance to a four lane road with bike lanes, asphaltic concrete pavement over approved base, asphaltic concrete dikes, asphaltic concrete acceleration/deceleration lanes, asphaltic concrete widening to accommodate a left-turn lane at the project entrance, and asphaltic concrete taper to existing pavement at the eastern boundary of the project, to the satisfaction of the Director of Public Works and CalTrans. Mitigation Measure A.4. (Condition B.3.) requires the obtaining of an Encroachment Permit from CalTrans. Mitigation Measure A.5. (Condition B.5.) requires vacation of the existing on-site alignment of SR 76. Mitigation Measure A.6. (Condition B.4.) requires that all proposed improvements will be coordinated with CalTrans and the County Traffic Engineer and that all necessary permits shall be obtained. Mitigation Measure A.7. (Condition B.7.) requires the installation of warning signs east and west of the project's access onto SR 76 warning motorists of slow-moving vehicles. Mitigation Measure A.8. (Condition B.4.) requires the applicant to improve I-15 northbound SR 76 on- and off-ramps (including signalization of the ramps), widening of SR 76, and for maintenance and repair of SR 76 due to damage from project-related heavy truck traffic. (CalTrans shall determine, during its feasibility analysis for the road widening, the appropriate

improvements and amount of money or other assurance to be provided for maintenance of SR 76 and other CalTrans requirements.) Mitigation A.9. (Condition A.5.) requires the applicant to enter into a secured agreement with the County of San Diego for funding a Project Study Report (PSR) with CalTrans for the construction of SR 76 relocation environmental approval and the design of the relocated segment. Mitigation Measure A.10. (Condition C.10.) requires the improvement of all parking areas and driveways shown on the plot plan with the improvement of asphaltic concrete or Portland cement concrete, and the delineation of all parking spaces. Mitigation Measure A.11. (Condition D.43) requires that Average Daily Trips (ADTs) generated by the project shall not exceed a monthly average of 514 ADTs and shall not exceed 1,028 ADTs for more than 5 consecutive days. The applicant shall keep a daily log of truck and automobile trips and make it available to the Department of Planning and Land Use on an on call basis.

Implementation of these measures will reduce potential traffic and circulation impacts (project and cumulative) to a level below significance by: a) improving road safety and project access with the widening and realignment of SR 76; and b) improving I-15 northbound SR 76 on- and off-ramps (including signalization of the ramps). All measures have been made conditions of project approval as noted above.

## 2. BIOLOGY

**Significant Effect:** Significant impacts to biological resources will result from the quarry operations, increased traffic noise, and road widening and realignment. The project will directly impact 27.3 acres of Coastal sage scrub, 9.4 acres of chaparral, 1.3 acres of oak woodland, 0.3 acre of Southern willow scrub, and 50.5 acres of previously disturbed area (12 acres of which will be impacted by the road realignment, of which 3.2 acres are within designated vireo critical habitat). The project will impact habitat for the San Diego horned lizard and Orange-throated whiptail. The areas identified as Least Bell's vireo habitat, Southern willow flycatcher habitat, and California gnatcatcher habitat are considered to be potential Arroyo toad habitat and would be impacted by the project. Indirect impacts to 17.8 acres of existing and/or potential vireo and flycatcher habitat within and in the vicinity of the project site may occur as a result of increase in traffic noise due to project implementation, of which 1.9 acres necessitate mitigation. These impacts are discussed in the final EIR on Pages 66-93.

**Finding:** Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen these effects.

**Rationale:** Mitigation Measure B.1. (Condition A.15.) requires the applicant to use an up-to-date aerial to prepare final mitigation plans. Mitigation Measure B.2. (Condition A.11.) requires preservation in open space of an approximately 6.7 acre area of Southern willow scrub (draft EIR, Figure 29), and Mitigation Measure B.3. (Conditions A.14. and C.24.) require revegetation of 9.8± acres of Southern willow scrub (3:1

replacement for 0.3 acre impact to riparian vegetation at the quarry site, 1.9 acres of noise impacted area along Horse Ranch Creek plus a 1:1 replacement for the loss of vireo critical habitat and proposed willow flycatcher critical habitat south of SR 76) in accordance with Palomar Aggregates revegetation plan (draft EIR, Appendix G). Mitigation Measure B.4. (Condition C.25.) requires the applicant to enter into a secured agreement to ensure success of the revegetation plan. Mitigation Measure B.5. (Condition C.26.) mitigates the loss of 1.3 acres of oak woodland by requiring dedication in open space of 7.4 acres (5.7:1 mitigation ratio) of oak woodland; the 1.7 acre woodland area outside the mining area but within the Major Use Permit shall also be placed in open space. Mitigation Measure B.6. (Condition C.27.) requires 5.1 acres of chaparral at the quarry site not impacted by mining to be dedicated as open space. Mitigation Measure B.7. (Condition C.21.) requires riparian plantings along SR 76 slope bank and adjacent streambed in consultation with California Department of Fish and Game and Army Corps of Engineers, subject to a Federal 404 Permit and, possibly, State "1601" or "1603" Streambed Alteration Agreements, which will mitigate for impacts from realignment of SR 76 to individual riparian trees. Mitigation Measure B.8. (Condition C.28.) requires preservation in open space of 54.6 acres of sage scrub habitat (2:1 mitigation ratio). The applicant shall preserve 29.8± acres on-site and shall acquire 24.8 acres contiguous to potential river habitat of the Arroyo southwestern toad, accessible to the Arroyo toad and acceptable to U. S. Fish and Wildlife Service and California Department of Fish and Game, which shall be maintained in perpetuity as open space through a transfer of fee title or conservation easement to an organization acceptable to U. S. Fish and Wildlife Service and California Department of Fish and Game. The acquisition of these 24.8 acres mitigates project impacts to the California gnatcatcher and potential impacts to the Arroyo southwestern toad. Mitigation Measure B.9. (Condition A.12.) requires a 10 foot high fence topped with 1 foot of barbed wire to be constructed to serve as a safety feature and to prevent mining activities from impacting adjacent on-site biological and archaeological open space. Mitigation Measure B.10. (Condition D.46.) requires annual surveys conducted in early March to determine if vegetation east of the site could support vireos and/or flycatchers. If the annual survey reveals potential vireo and/or flycatcher usage, Mitigation Measure B.11. (Condition D.46.) prohibits trucking of sand or other raw materials to project site from the east between March 15 and September 30, inclusive, with appropriate signage warning of the prohibition. Impacts to oak woodland, Southern willow scrub (including Least Bell's vireo critical habitat), Diegan coastal sage scrub, and potential Arroyo toad habitat will be fully mitigated to a level below significance with the implementation of the above mitigation measures including the preservation of habitat both on- and off-site, and the revegetation of habitat as outlined in the Palomar Aggregates revegetation plan. Potential impacts to the San Diego horned lizard and the Orange-throated whiptail will be mitigated to a level below significance by the preservation of habitat on-site (both chaparral and sage scrub) and off-site (sage scrub) as described in the Palomar Aggregates revegetation plan. Potential noise impacts to the Least

Bell's vireo east of the project site will be avoided by eliminating truck travel from the project site eastward during March 15 and September 30 if surveys reveal the potential for the species to occur in the area east of the project site. All measures have been made conditions of project approval as noted above.

### 3. VISUAL/AESTHETICS

**Significant Effect:** The project will result in the alteration of the existing landform and visual characteristics due to the excavation of rock and the processing of material. The project will have significant but mitigable impacts to the Couser Canyon and Rice Canyon viewsheds, and significant but mitigable impacts on scenic qualities east of the project site, and on an approximately 1,500 foot portion of SR 76 (a designated scenic highway). Impacts to views from I-15, Rancho Monserate Mobilehome Park, Pala Mesa and Western Ridge viewpoints would not be significant. These impacts are discussed in the final EIR on Pages 94-155.

**Finding:** Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen these effects.

**Rationale:** Mitigation Measure C.1. (Condition C.3.) requires processing equipment to be painted in earthtones. Mitigation Measures C.2. and C.3. (Conditions C.4., C.5., and C.29.) require construction and landscape of a 30 foot high berm which will screen views of the processing plant. The berm shall be in place six months before operation of the batch plants, and the Landscape Plan therefor shall be subject to specified performance standards (Condition C.29.). Mitigation Measures C.4., C.5., and C.6. (Conditions D.26., D.27., and D.28.) require, as a part of the Reclamation Plan, a final blasting pattern of the 33 foot high final mine face consisting of irregular pattern drill holes at variable depths and angles resulting in "sculpting" of irregular sloped surfaces, wire meshing of the final mine face, and application of Permeon, a non-toxic rock stain. Soil shall be installed on the mine face ledges and that area will be hydroseeded (Condition D.29.). Mitigation Measure C.6. (Condition D.26.) requires the sculpted mining face to be inspected by a design professional to ensure conformance with draft EIR requirements, and Mitigation Measure C.7. (Condition D.30.) requires on-going inspections by an engineering geologist and landscape architect to determine the project's conformance with structural safety requirements and conformance with rock sculpting requirements. Mitigation Measure C.8. (Condition D.31.) requires, as a part of on-going reclamation, annual submittal to the Department of Planning and Land Use of an oblique aerial photo to determine conformance with visual mitigation measures. Mitigation Measure C.9. (Condition D.32.) requires temporary irrigation if hydroseeding of the mine face does not germinate after the first rainy season. Mitigation Measure C.10. (Condition D.33.) requires, as part of on-going reclamation, planting/hydroseeding with native vegetation the cut slope along the eastern project boundary. Mitigation Measure C.11. (Condition C.29.) requires submittal and approval of a final landscaping plan for the earthen berm. Mitigation Measure C.12. (condition of the

Reclamation Plan) requires removal of all plant equipment and facilities and regrading of the processing area at the completion of mining activities. The site will then be used as a reservoir which will further reduce visual impacts resulting from the visibility of mined slopes from the Couser Canyon viewshed. Mitigation Measure C.13. (Condition C.11.) requires establishment of a permanent fund for wire mesh maintenance. The implementation of these measures will reduce visual/aesthetics impacts to a level below significance by requiring creation of a more natural looking mine face achieved through blasting techniques creating an irregular rock face, rock sculpting, and the staining of the rock face with Permeon. The construction and landscaping of the landscape berm and the preservation of the western slope of Rosemary's Mountain will reduce visual impacts to SR 76 and the Couser Canyon and Rice Canyon viewsheds to a level below significance. All measures have been made conditions of project approval as noted above.

#### 4. NOISE

**Significant Effect:** The project would result in significant noise impacts generated by off-site traffic (heavy trucks and automobiles) and noise generated on-site by the mining operations including drilling, blasting, rock crushing and aggregate sizing operations, and asphalt plant and concrete batch plant operations. Worst case temporary on-site noise impacts would occur for one to six months when the initial cut of the mining face is occurring adjacent to the closest permit boundary. These impacts are discussed in the final EIR on Pages 156-170.

**Finding:** Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen this effect.

**Rationale:** Noise impacts resulting from on-site mining operations will be reduced to a level below significance by adhering to mitigation measures requiring: a) installation of noise control treatments, Mitigation Measure D.1. (Condition C.12.) requires enclosure of all screens and secondary crushers, Mitigation Measure D.2. (Condition C.14.) requires sound absorbing materials on the inside surfaces of the enclosures, Mitigation Measure D.3. (Condition C.13.) requires enclosure material for the secondary crushers and screens to have a minimum surface density of approximately 2.0 lb/ft<sup>2</sup>, Mitigation Measure D.6. (Condition C.16.) requires demonstration that all moving parts on batch plant facilities are enclosed in bag houses, and Mitigation Measures D.7. and D.8. (Conditions C.17. and C.18.) require sound attenuation of enclosures, including the enclosure doors and door frames; b) conducting noise tests on the equipment prior to project start-up to ensure successful implementation of the above noise abatement treatments (Mitigation Measures D.4. and D.9., Conditions C.15. and C.19.); and c) implementing a noise monitoring plan for the on-going operation (Mitigation Measure D.10., Condition D.3.). Additional mitigation includes the construction of a minimum 30 foot high berm adjacent to SR 76 as discussed more fully under the section on visual/aesthetics, herein. The temporary worst case on-site noise impacts to areas

immediately adjacent to the project boundaries are not considered significant because of the very short-term nature of the impact (one to six months until operations are below grade), the remote nature and steep topography of the vacant areas zoned for residential development making such development unlikely, and the fact that the nearest residence is owned by the owner and lessor of the mining property. Project-generated increases in roadway noise would amount to 1.0 dB(A) and is not considered significant. Noise impacts generated by the project would be reduced to a level below significance. All measures have been made conditions of project approval as noted above.

## 5. AIR QUALITY

**Significant Effect:** The project could result in significant air quality impacts including fugitive particulate emissions resulting from processing, handling, transfer, storage and road haul, and gaseous emissions generated by on-site equipment, haul truck trips, and the production of hot-mix asphalt. These impacts are discussed in the final EIR on Pages 171-179.

**Finding:** Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen this effect.

**Rationale:** Implementation of the following operational air pollution control measures, together with the San Diego Air Pollution Control District (APCD) permitting requirements would control emissions below threshold levels considered significant: Operational Measure E.1. (Condition D.4.) prohibits blasting when wind velocity equals or exceeds 15 miles per hour (mph); Operational Measure E.2. (Condition D.5.) requires control of dust emissions from crushing operations by venting to a fabric filter system; Operational Measure E.3. (Condition D.6.) requires watering of stockpiles; Operational Measure E.4. (Condition D.7.) limits visible emissions from transfer points; Operational Measure E.5. (Condition D.8.) requires chemical stabilization or watering of haul roads; Operational Measures E.6. and E.7. (Conditions D.9. and D.10.) require watering of initial areas to be mined, and areas traversed by quarry equipment; Operational Measure E.8. (Condition C.12.) requires enclosure of screens and secondary crushers; Operational Measure E.9. (Condition D.13.) requires compliance with APCD Rule 51; Operational Measure E.10. (Condition D.14.) limits transfer of cement to pneumatic conveying; Operational Measure E.11. (Condition D.15.) requires a bag house for the hot-mix asphalt plant; Operational Measure E.12. (Condition D.16.) requires covers for hot-oil storage tanks; Operational Measure E.13. (Condition D.17.) limits temperature of batched hot-mix asphalt to not exceed 330° F; Operational Measure E.14. (Condition D.18.) requires enclosure of loading bins; Operational Measure E.15. (Condition D.19.) requires water sprays if visible emissions are present during loading/unloading operations for aggregate and stockpile materials; Operational Measure E.16. (Condition D.20.) requires shutdown of quarry operations when wind speeds exceed 20 mph; Operational Measure E.17. (Condition D.21.) requires

unleaded gasoline and diesel fuel containing less than 0.05 percent sulphur to be used in the on-site equipment; and Operational Measure E.18. (Condition A.17.) requires the project to comply with all APCD rules and regulations applicable to new quarry operations, including Rule 20.2 or Rule 20.3 as applicable. All measures have been made conditions of project approval as noted above.

6. HYDROLOGY/EROSION CONTROL

**Significant Effect:** The project could result in runoff/drainage impacts by increasing the total amount of sediment entering the San Luis Rey River. The planned relocation of SR 76 could result in impacts to the floodplain and floodway. These impacts are considered significant and are discussed in the final EIR on Pages 180-187.

**Finding:** Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen this effect.

**Rationale:** Drainage/runoff impacts are not considered significant because the project design includes culvert pipes (Mitigation Measure F.8., Condition C.7.) and a sedimentation basin to minimize erosion and soil loss impacts. Mitigation Measure F.3. (Condition C.6.) requires construction of the sedimentation basin prior to construction of the processing facilities, which shall include an emergency spillway to divert drainage from San Luis Rey River. All runoff shall pass through the proposed sedimentation basin (Mitigation Measure F.4., Condition D.24.); the basin shall be maintained (Mitigation Measure F.5., Condition D.22.); the basin shall have a standard grease trap for contaminant removal (Mitigation Measure F.6., Condition C.19.). Mitigation Measure F.7. (Condition C.22.) requires removal of silt material following each storm event. Potential floodplain/floodway impacts are reduced to a level below significance with the implementation of Mitigation Measure F.1. (Condition B.6.) requiring construction of rip-rap protection along the south side of SR 76 (upon relocation of SR 76) and implementation of Mitigation Measure F.2. (Condition A.16.) requiring the preparation, by a registered civil engineer, prior to relocation of SR 76, of a HEC-2 computer analysis for review by County Department of Public Works. This analysis will provide the basis for appropriate flood control measures regarding flood hydraulics, erosion, and sedimentation (as related to the site and adjacent properties); fill bank stabilization and installation of new riparian vegetation on the fill bank for SR 76. Mitigation Measure F.9. (Condition C.8.) requires the applicant to obtain all required Regional Water Quality Control Board permits to operate and construct. Implementation of these measures shall reduce to below a level of significance the project's impacts to hydrology/erosion control. All measures have been made conditions of project approval as noted above.

## 7. GROUNDWATER

**Significant Effect:** The project could result in potential water quality impacts from aggregate washing and other project operations resulting in drainage/runoff. Impacts to groundwater are less than significant since adequate groundwater for the project is available from the existing on-site well. These impacts are discussed in the final EIR on Pages 188-192.

**Finding:** Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen this effect.

**Rationale:** Mitigation Measures F.3., F.4., F.5., and F.6. (Conditions C.6., C.9., D.22., and D.24.) discussed in Section 6, Hydrology/Erosion, require construction of the lined sediment basin and grease trap. Water quality impacts will be mitigated to a level below significance with construction of the lined sediment basin which will prevent impacts to groundwater from truck fuels, other petroleum products, or other runoff from project operations which might wash into the sediment basin. All measures have been made conditions of project approval as noted above.

## 8. LAND USE/COMMUNITY CHARACTER

**Significant Effect:** The project could result in significant impacts to the adjacent community due to landform alteration, noise, dust, and traffic. The project would not significantly impact the accomplishment of existing land use plans for the area. These impacts are discussed in the final EIR on Pages 193-205.

**Finding:** Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen this effect.

**Rationale:** Visual impacts to Couser and Rice Canyons and to SR 76 will be mitigated to below a level of significance with implementation of the mitigation measures requiring construction of the earthen berm and implementation of the proposed rock sculpting, staining, and revegetation as are discussed more fully under Section 3, Visual/Aesthetics, herein (Mitigation Measures C.1. through C.13., Conditions C.3., C.4., C.5., C.11., and D.26 through D.33.). Traffic/circulation impacts would also be reduced to below a level of significance through the realignment and widening of SR 76 which will increase safety of the road. With the project's ADTs controlled to a monthly ADT of 514, traffic noise would not significantly impact community character. These referenced measures controlling ADTs and requiring improvements to SR 76 are discussed more fully under Section 1, Traffic/Circulation, and Section 4, Noise. Project operation noise and dust would be reduced to levels below significance with the implementation of Best Available Control Technologies (BACT). These measures are referenced and discussed more fully under Section 4, Noise, and Section 5, Air Quality, herein. Impacts to community character caused by landform alteration, noise,

dust, and traffic would be reduced to below a level of significance by the implementation of these measures. These measures have been addressed either through project design or made conditions of project approval as noted above.

#### 9. PUBLIC SAFETY

**Significant Effect:** The project could result in significant public safety impacts associated with the implementation of the proposed mining and blasting plan, including structural damage to the concrete-lined pond located near the northern portion of the project site, rock falls and small wedge-type slope failures, and the creation of an exposed 715 foot mined face. These impacts are discussed in the final EIR on Pages 206-211.

**Finding:** Changes or alterations have been require in, or incorporated into, the project which avoid or substantially lessen this effect.

**Rationale:** Mitigation Measure I.1. (Condition D.23.) requires monitoring of the concrete-lined pond located near the northern portion of the project site. Public safety would not be at risk if this pond were to be damaged by blasting since it is not contained by a dam or spillway which could be breached. Blasting-induced vibration would not cause structural damage which may endanger public safety; therefore, the impact is not significant.

Impacts from potential rockfalls and small wedge slope failures are reduced to below a level of significance by incorporating the following mitigation measures into the mining plan as recommended by Cal/OSHA and the Mining Safety and Health Administration: Mitigation Measure I.2. (Condition D.25.) requires that mining be conducted to create an interim benched slope to enable geotechnical engineer or engineering geologist to make weekly inspections of the mine face. Inspections shall be recorded and submitted to the Code Enforcement Division within one week of any inspection. Mitigation Measure I.3. (Condition D.27.) requires draping with anchored wire mesh of final rock faces upon determination of their stability and safety, which measure is the general practice for preventing rockfalls. To avoid potential injury of project employees during blasting, Mitigation Measure I.4. (Condition D.41.) requires the area to be blasted to be cleared of all personnel. To reduce the potential hazard for seismically-induced rockfalls along SR 76, Mitigation Measure I.5. (Condition B.10.) requires all loose rock facing the realigned portion of SR 76 to be removed or tied down. Mitigation Measure I.6. (Condition C.22.) requires installation of standard roadside warning signs indicating potential rockfall area to the approaching motorist. Mitigation Measure I.7. (Reclamation Plan RP 87-001RPL<sup>2</sup>, Condition D.1.) requires that, prior to implementation of the water reservoir Reclamation Plan, a qualified geotechnical engineer shall submit a report to County Department of Planning and Land Use reporting on the effects of seepage and the stability of the earthen dam, if the dam is required. Mitigation Measure I.8. (Reclamation Plan) - any

proposed changes to the approved Reclamation Plan would require review including inspection prior to implementation of an alternative Reclamation Plan to determine the need for setbacks, berms, barriers, and other requirements. Mitigation Measure I.9. (Condition A.12.) requires construction of a ten foot high fence with one foot barbed wire around the Major Use Permit site which will serve as a public safety mitigation by restricting access into the mining area. Mitigation Measure I.10. (Condition A.18.) requires the applicant to obtain a blasting permit and comply therewith. The implementation of slope stabilization, rockfall prevention measures, monitoring, and installation of passive preventative measures will reduce potential public safety impacts to below a level of significance. These measures have been addressed either through incorporation into the mining plan or made conditions of approval as noted above.

#### 10. DARK SKIES

**Significant Effect:** The project site is located within Palomar Observatory's Zone A, which represents the area where night sky illumination could significantly impact the efficiency of the telescopes at the Observatory. Exterior lighting for the project would contribute incrementally to the degradation of telescope efficiency at Palomar Observatory. These impacts are discussed in the final EIR on Pages 213-216.

**Finding:** Changes or alterations have been require in, or incorporated into, the project which avoid or substantially lessen this effect.

**Rationale:** Mitigation Measure J.1. (Condition D.37.) requires all outdoor lighting to consist of LPS lamps which will be fully shielded to prevent any direct upward illumination. Mitigation Measure J.2. (Condition C.31.) requires the applicant to demonstrate that the intensity of the lights, as well as the number for safety purposes, shall be kept to a minimum. Mitigation Measure J.3. (Condition D.38.) requires that outdoor lights other than those necessary for security will be turned off by 10:00 p.m. Implementation of these measures will reduce dark sky impacts to a level below significance by controlling the type and method of lighting to be used. All measures have been made conditions of project approval as noted above.

#### 11. CUMULATIVE IMPACTS

**Significant Effect:**

**Traffic/Circulation.** Significant cumulative traffic impacts on SR 76 west and east of the project site could occur when combining total expected ADTs of the project, the proposed landfill and proposed Indian gaming facility.

**Biology.** The project would impact 27.3 acres of low quality sage scrub habitat, and the proposed landfill would impact 107± acres, which, when

considered together, represent a significant cumulative impact. The project could result in impacts to 3.2 acres of Southern willow scrub (vireo critical habitat and willow flycatcher proposed critical habitat), which, when considered with historic loss of this habitat and the potential for the proposed landfill to impact one acre of willow scrub on-site, represents a significant cumulative impact to this habitat. The project's impacts to 8.9 acres of chaparral is considered a significant cumulative impact due to the San Diego horned lizard and the Orange-throated whiptail which are expected to occur in this habitat type. The loss of 1.3 acres of live oak woodland would be a significant cumulative impact.

Noise. Potentially significant cumulative noise impacts may occur in the project vicinity from the combination of project-generated traffic noise levels along SR 76, increased noise levels from proposed landfill operations and traffic, and increased traffic noise associated with the proposed Pala Indian gaming facility.

Air Quality. The project will result in particulate and gaseous emissions which would cumulatively add to the incremental degradation of regional air quality in the San Diego Air Basin.

Hydrology/Erosion Control. The proposed realignment of SR 76 would have a significant cumulative impact on the San Luis Rey River floodplain. There are several existing and proposed sand mining operations along the San Luis Rey River which have the potential to increase sedimentation levels and pose additional erosion control impacts in the affected floodplain.

Dark Skies. The project and other residential, commercial, and public projects located within Palomar Observatory's Zone A could cumulatively add to the degradation of telescope efficiency at Palomar Observatory.

Finding: Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen these effects.

Rationale:

Traffic/Circulation. As discussed in Section 1, Traffic/Circulation, herein, Mitigation Measures A.1. through A.11. (Conditions A.4. through A.7., B.7., B.8., B.3. through B.5., C.10., and D.43) require road improvements to SR 76 from I-15 to the project entrance which will fully mitigate the project's cumulative impacts to traffic and circulation west of the project site. These measures have been made conditions of project approval as noted above. The project does not contribute to significant cumulative impacts along SR 76 east of the project site. Cumulative traffic impacts east of the site caused by proposed future projects (i.e., landfill and Indian gaming facility) can be mitigated for on a project-by-project basis, including widening and improvement of SR 76 to CalTrans standards.

Biology. As discussed in Section 2, Biology, herein, Mitigation Measure B.8. (Condition C.28.) requires preservation in open space of 54.6 acres of sage scrub habitat (29.8± acres on-site and 24.8 acres off-site) mitigating for the loss of 27.3 acres of Coastal sage scrub; Mitigation Measures B.6. (Condition C.27.) and B.8. (Condition C.28.) require preservation of 5.1 acres of chaparral at the project site and preservation of sage scrub as noted above which shall mitigate the cumulative impact to sensitive reptiles by preserving their habitat; Mitigation Measure B.2. (Condition A.11.) requires preservation in open space of 6.7± acres of Southern willow scrub and Mitigation Measure B.3. (Conditions A.14. and C.24.) require revegetation of 9.8± acres of Southern willow scrub; and Mitigation Measure B.5. (Condition C.26.) mitigates the loss of 1.3 acres of oak woodland by requiring dedication of 7.4 acres of oak woodland. Implementation of these measures will reduce cumulative biological impacts to a level below significance by combining on-site preservation and restoration with off-site acquisition and restoration, resulting in no net loss of sensitive habitat. These measures have been made conditions of project approval as noted above.

Noise. As discussed in Section 4, Noise, herein, Mitigation Measures D.1. through D.10. (Conditions C.4., C.12. through C.19., and D.3.) require installation of noise control treatments on project processing equipment, noise testing, and noise monitoring as well as the construction of a minimum 30 foot landscaped berm adjacent to SR 76, which shall reduce to a level below significance the project's cumulative impacts to noise. As other projects are developed, increases in traffic noise could be mitigated to levels below significance with the construction of setbacks, noise walls, and berms in accordance with County and State standards. The above measures have been made conditions of project approval.

Air Quality. As discussed in Section 5, Air Quality, herein, Mitigation Measures E.1. through E.18. (Conditions A.17., C.12., D.4. through D.10., and D.13. through D.21.) require utilization of planned air pollution control techniques (e.g., BACT) and compliance with San Diego APCD permitting and monitoring procedures. Implementation of these measures will reduce cumulative impacts to a level below significance. All measures have been made conditions of project approval as noted above. Additional mitigation of cumulative impacts could be achieved through implementation of Federal, State, and local programs currently underway. These include the Clean Air Act, State Implementation Plan, San Diego APCD Reasonable Further Progress (RFP) Reports, prohibitive emission standards, and New Source Performance Standards (NSPS).

Hydrology/Erosion Control. As discussed in Section 6, Hydrology/Erosion Control, herein, Mitigation Measure F.1. (Condition B.6.) requires construction of riprap protection along south side of realigned SR 76. Mitigation Measure F.2. (Condition A.16.) requires the preparation of a HEC-2 computer analysis by a registered civil engineer for review by the County Department of Public Works, prior to relocation of SR 76. This analysis will provide the basis for appropriate flood control measures

regarding flood hydraulics, erosion and sedimentations (as related to the site and adjacent properties; fill bank stabilization; and installation of new riparian vegetation on the fill bank for SR 76). This analysis could also be used to modify County and Federal Emergency Management Agency (FEMA) floodplain maps. With regional implementation of adequate mitigation measures on a project-by-project basis and conformity with San Diego Basin Water Quality Control Plan Policies (California Regional Water Quality Control Board 1994) and the County of San Diego Flood Control Management Guidelines, the cumulative hydrologic impact to the San Luis Rey floodplain will be reduced to a level below significance.

Dark Skies. As discussed in Section 10, Dark Skies, herein, Mitigation Measures J.1. through J.3. (Conditions C.31., D.36., D.37. and D.38.) control the type and method of lighting to be used by the project, in conformance with the County's Light Pollution Code. The cumulative effects of the project on dark skies would be insignificant with the project's implementation of the above measures which have been made conditions of project approval as noted above.

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NOTICE OF DETERMINATION

*Central*

970071

TO: X Office of Planning and Research  
1400 Tenth Street, Room 121  
Sacramento, CA 95814

FILED  
Gregory J. Smith, Recorder/County Clerk

RETURN TO M.S. A-45 MAR 06 1997

X Recorder/County Clerk  
County of San Diego  
M.S. A33

*[Signature]*  
DEPUTY

Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

Project Title: Palomar Aggregates Quarry (P87-021, RP 87-001, Log #87-2-13)

State Clearinghouse Number (if submitted to Clearinghouse): SCH # 91081061

Contact Person: LeAnn Carmichael Area Code/Telephone No.: (619) 694-3739

Project Location (include County): The project site is located on the north side of Highway 76, approximately 1 1/4 miles east of Interstate 15.

Project Description: Palomar Aggregates, Inc. proposes to establish a rock quarry and processing plants for concrete and asphalt, which would impact approximately 36.0 acres of the 96.4 acre site. Mining would take place on the east facing slopes of Rosemary's Mountain, over a period of approximately 20 years. An estimated 22 million tons of rock would be mined. The project will also include the realignment and widening of State Route 76 from the project site west to Interstate 15. A Reclamation Plan is included as part of the proposed project which would prepare the lower portion of the site as a water storage reservoir at the completion of all mining activities.

This is to advise that the County of San Diego has approved the above described project on March 5, 1997, and has made the following determinations regarding the above described project:

1. The project  will  will not have a significant effect on the environment.
2.  An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.  
 A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures  were  were not made a condition of the approval of the project.
4. A statement of Overriding Considerations  was  was not adopted for this project.
5. Findings  were  were not made pursuant to the provisions of CEQA.

Project Status under AB3158 (Department of Fish and Game Fees):

- Certificate of Fee Exemption (Attached)
- Proof of Payment of Fees (Attached)
- Required Fees Paid (date) \_\_\_\_\_
- Required Fees have not been paid

This is to certify that the Environmental Impact Report with comments and responses and record of project approval is available to the General Public at the Dept. of Planning and Land Use, 5201 Ruffin Road, Suite B, San Diego, California 92123.

Date received for filing and posting at OPR: \_\_\_\_\_

	March 5, 1997	Director, Department of Planning and Land Use
Signature (Public Agency)	Date	Title

FOR USE OF THE CLERK OF THE BOARD OF SUPERVISORS ONLY

On 3-5-97 Board Order No. 1 the Board of Supervisors of the County of San Diego approved and made the above described determination regarding the above described project.

FILED IN THE OFFICE OF THE CLERK OF THE BOARD OF SUPERVISORS

SAN DIEGO COUNTY OF MAR 06 1997

POSTED MAR 06 1997 REMOVED \_\_\_\_\_

RETURNED TO AGENCY ON \_\_\_\_\_

DEPUTY [Signature]

cc: Department of Planning and Land Use (0650)  
Department of \_\_\_\_\_

THOMAS J. PASTUSZKA  
Clerk of the Board of Supervisors

By [Signature]  
Deputy



**FINAL  
ENVIRONMENTAL IMPACT REPORT  
FOR  
PALOMAR AGGREGATES QUARRY  
(P87-021, RP87-001, Log #87-2-13)**

**SCH # 91081061**

**Prepared for:**

Palomar Aggregates, Inc.  
2150 N. Centre City Parkway  
Escondido, California 92026

**Prepared by:**

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**Lead Agency:**

County of San Diego  
Department of Planning and Land Use  
5201 Ruffin Road, Suite B  
San Diego, California 92123

February 1997

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## SUMMARY

### A. Project Description

This Final Environmental Impact Report (FEIR) addresses the environmental impacts associated with the Major Use Permit (MUP) for the revised Palomar Aggregates Quarry project. In addition to the MUP, the project will require a Reclamation Plan and series of actions and/or approvals from the following agencies: the San Diego Air Pollution Control District, California Department of Transportation, California Department of Fish and Game, U.S. Army Corp of Engineers, U.S. Fish and Wildlife Service, and the Regional Water Quality Control Board.

The project location is shown on Figures 1 and 2. The project site occupies 96.4 acres on the north side of State Route 76 (SR-76), approximately 1.25 miles east of Interstate 15. The project proponent proposes to establish a rock quarry and processing plants for concrete and asphalt, which would impact approximately 36.0 acres of the 96.4 acre MUP site. Mining would take place primarily on the east-facing slopes of a hill known as Rosemary's Mountain, over a period of approximately 20 years. An estimated 22 million tons of rock would be mined.

The project will also require the realignment and widening of State Route 76 from the project site west to Interstate 15. A reclamation plan is included as part of the proposed project which would prepare the lower portion of the site for use as a water storage reservoir at the completion of all mining activities.

### B. History of Project Design and Environmental Review

An EIR was prepared for a previous version of this project (Brian F. Mooney Assoc. 1993). Several technical studies were completed for this previous EIR (1993). These technical studies and several updated versions of these technical studies were used as reference material during preparation of this EIR (1996). These studies are listed in the Reference Section of this EIR (Section X.), and are available at Brian F. Mooney Associates.

The original Major Use Permit application P87-021 and Reclamation Plan RP87-001 were filed with the County of San Diego on March 28, 1987, together with an Environmental Initial Study (Log #87-2-13). During preparation of the Draft Environmental Impact Report (DEIR), the Major Use Permit and Reclamation Plan were revised and resubmitted to the County. Following County environmental staff review of the DEIR, it was released for public review (Notice of Completion, SCH. #88062209). Based on input received during the public review period, the project applicant, Palomar Aggregates, Inc., decided to revise the mining plan and the DEIR. Following is a summary of the major changes to the project:

1. Preservation of West Slope. The previous project proposed to lower the top of the mountain from existing elevation 992 feet AMSL to 725 feet AMSL, as viewed from the west. Based on community input from the Pala Mesa/Rancho Monserate area west of I-15, it was decided to preserve the entire west facing slope of the mountain. The revised project is shown on Figure 3, a cross-section of the mining area is shown in Figure 5 and the Processing Area Layout is shown in Figure 11. See also the Visual/Aesthetics section of this report.

2. Proposed Cut and Deepening of Quarry. The revised mining plan (Figures 6, 7 and 8) calls for a sculpted slope averaging no more than eighty degrees (80°) in slope with nooks, crannies and ledges created to hold topsoil and vegetation (Figure 9). An 80° slope is equivalent to a slope ratio of approximately .18:1 (.18 feet horizontal: 1 foot vertical). The selection of an 80° excavation slope is in accordance with the Industry Safety Code (Article 12, Section 6.9 (e)) governing excavation of sand, gravel and similar material where the face of the excavation is composed of "firmly cemented or consolidated material". Other than the soil mantle, the rock found at the proposed site is firmly cemented or consolidated material. The Industrial Safety Code also stipulates that an 80° slope can be no higher than the reach of the equipment being used, for the safety of the workers. The proposed mining plan meets this requirement by utilizing a step-by-step mining plan consisting of initial benched cuts (33-foot vertical by 66-foot horizontal). At the final reclaimed face where the slope would exceed equipment height, the Industrial Safety Code would be met by draping the face with wire mesh secured with rock bolts.

As recommended in the Geotechnical Feasibility Study (Bing Yen and Associates 1990), a geotechnical engineer or engineering geologist would inspect and map the exposed rock surface on a weekly basis over the life of the project. Visual inspection of the exposed rock would enable him/her to determine stability. Benches would remain in critical areas where determined necessary by the engineer. The benches would blend into the sculpted face and would be utilized as planting ledges. Mining would be to a depth of approximately 200 feet AMSL, rather than the original 300 feet AMSL. The increased mining depth would increase the capacity of the proposed water reservoir described in the Reclamation Plan.

3. Rock Sculpturing, Staining and Revegetation. New mitigation measures have been proposed with the new mining plan including rock sculpturing, staining and vegetation. Final blasting would be done under the supervision of a blasting engineer and a landscape architect who will design an irregular rock surface that will resemble natural conditions. This, in effect, will be a "sculpted" rock surface with ledges, nooks and crannies which would be able to receive and trap soil (Figure 9). Wire mesh would be draped over the surface and secured with rock bolts. An example of rock sculpting most nearly comparable to the height of the Proposed Project was accomplished in the environmentally sensitive area of Glenwood Canyon, northwest Aspen, Colorado. The rock sculpting was so successful that it is difficult to detect the original environmental disturbance (see Figure 72).

Permeon, a non-toxic rock stain developed by the University of Arizona, and consisting of iron salts, magnesium salts and trace elements, will be applied to the rock surface by a manufacturer trained professional. As well as staining without environmental damage, the Permeon would release small amounts of nitrogen which would have a fertilization effect and the Permeon would actually enhance vegetative growth. The application which is colorless when first applied, is formulated to match the variation of colors of the adjoining rock surfaces. Full colors would develop in one to two weeks, depending on temperature and exposure to sunlight. Additional staining may be required on completed sections of the final face in both vertical and horizontal directions to assure a natural looking face. After application of Permeon, soil would be placed on the ledges and within the nooks and crannies and a hydroseed mix of native vegetation would be applied (Table 1). As discussed in Appendix A, Permeon has been successfully used throughout the Western States and is

currently being used by several agencies. Examples in San Diego County include the staining of concrete cliffs at Point Loma.

4. Reclamation Plan. The revised site reclamation will create a quarry suitable for use as a water storage reservoir for agriculture, emergency public water storage, or water reclamation. Section G of the Project Description describes these potential uses and the possibility of also creating a dam to increase the water storage capacity. In the event that the reservoir is not implemented, the site would still be usable by Pankey Ranch for agricultural related activities.
5. Realignment/Widening of State Route 76. The original project proposed to realign State Route 76 along the project frontage for a distance of approximately 2,700 linear feet, based on a preliminary Caltrans design study. Following further analysis and meetings with Caltrans, it was agreed that the realignment be continued westerly an additional 1,800 linear feet. This alignment also eliminates another existing short radius curve just west of the project site, and continues through an existing citrus grove (owned by Pankey Ranch). The road would be widened from two lanes to four lanes between I-15 and the western boundary of the project. State Route 76 would then transition from four lanes to three lanes at the western boundary and then back to two lanes just east of the project. The new alignment is addressed in the Traffic/Circulation, Biology, Cultural Resources, and Hydrology/Erosion Control sections of this report. This road widening is proposed by the applicant in response to community concerns regarding traffic safety due to the number of large haul trucks from other mining sites, as well as from the Proposed Project. The Traffic Analysis by Willdan Associates (Willdan Associates 1995) did not indicate the need to widen the road as a result of the Proposed Project.
6. Project Site Expansion. The project site boundaries were extended 150 feet to the east and 50 feet to the north in order to increase the noise impact buffer area.

### C. Areas of Known Controversy

An EIR was prepared in 1992 for an earlier version of this project. During the public review period, substantial controversy was raised concerning land use compatibility and its potential to impact aesthetics, traffic and air quality. Although Palomar Aggregates, Inc. revised the Proposed Project to reduce potential environmental impacts, it is anticipated that these issues remain controversial. These project revisions are now included as part of the Proposed Project.

### D. Issues to be Resolved

The Environmental Impact Report and the decision making process for approval or denial of the project require that two issues be resolved. The first issue would be the determination that the project design and operating features, including the landscaped berm; rock sculpting, staining with Permeon; and preservation of the western slope of Rosemary's Mountain, would fully mitigate potential visual, land use and community character impacts. The second issue to be resolved would be whether the Proposed Project, with significant community and environmental benefits, could be chosen over an environmentally preferred alternative, regardless of whether or not the alternative meets all of the project objectives.

## E. Environmental Issues

This FEIR contains an analysis of potential environmental impacts of the Proposed Project associated with: Traffic/Circulation; Biology; Visual/Aesthetics; Noise; Air Quality; Hydrology/Erosion Control; Groundwater; Land Use/Community Character; Public Safety; Dark Skies, and Growth Inducement. The following is a summary of the impacts and mitigation measures for the environmental issues discussed in this report.

### Traffic/Circulation

**Environmental Impacts.** Potential impacts associated with the Palomar Aggregates Quarry were evaluated with respect to trip generation, trip distribution, street segments, intersections and access.

The Proposed Project would generate 514 average daily trips (ADT) on SR-76 east of Interstate 15 with the majority of this traffic occurring between 7:00 a.m. and 3:00 p.m. Of the total ADTs, 452 would be heavy trucks and 62 would be passenger cars. As existing and potential markets are concentrated in areas accessible from I-15 rather than in areas east of the project site, it is reasonable to assume a 10/90 percent east/west split from the project access onto SR-76. After reaching the SR-76/Interstate 15 interchange, 55 percent of the trips would orient to the south, 25 percent to the north, and 10 percent to the west. It is anticipated that the morning peak hour would occur between 7:00 a.m. and 8:00 a.m. and would account for 96.5 ADT.

Due to the nature of the construction industry and the timing of projects that use aggregate, ~~Project ADT would have the potential to vary from day to day. Also, weather related delays are often offset by intensified material deliveries to get back on schedule.~~ Therefore, in addition to normal operational ADT, a worst case scenario of a 100% increase in ADT (1,028 trips) was analyzed. The only evident degradation which would occur due to a doubling of trips would be the left turns from SR-76 onto the I-15 northbound and the I-15 Southbound on-ramps. The northbound ramp intersection would change from LOS C to LOS D and the southbound ramp intersection would change from LOS B to LOS C.

Under existing conditions (i.e., two lanes), the level of service on SR-76 would continue at acceptable levels (LOS C) with the additional project trips. With the proposed widening of SR-76, this road would operate at LOS A. Project generated trips on SR-76 west of Interstate 15 would represent less than 1 percent of the total ADT on this roadway and would not result in any significant impact. The project's increase to the east of the project site would also be considered insignificant as it would represent less than 7 percent of the total ADT on SR-76 east of the site. However, without the proposed realignment of SR-76, vehicles traveling in and out of the project site could increase already unsafe road conditions due to sharp radius curves along the project frontage.

The Proposed Project would add cumulatively to the wear and tear and congestion of SR-76 and the I-15/SR-76 on and off-ramps.

**Mitigation Measures.** The increase of vehicle trips associated with the Proposed Project would not significantly impact traffic circulation. However, Project access would be difficult and dangerous without the proposed realignment of SR-76.

State Route 76 shall be realigned and widened as part of the project, thereby reducing traffic congestion and improving traffic safety. The project proponent shall contribute funds for the widening of SR-76, necessary improvements to I-15 on- and off-ramps and project related road maintenance. All necessary permits shall be secured and actual design of the entrance to the project would be coordinated with both Caltrans and the County Traffic Engineer. Appropriate warning signs shall be installed east and west of the project's access to warn motorists of slow moving vehicles. Palomar Aggregates Quarry shall contribute its fair share towards future improvements to Interstate 15 northbound and southbound on- and off-ramps at the intersection with SR-76, and for maintenance and repair of SR-76 as needed to repair damage resulting from heavy truck traffic.

**Alternatives.** Due to a substantially reduced area of cut and shorter period of operation, traffic generated by the Reduced Mining Face Project Alternative and the Bench Cut Reduced Project Alternative would be less than the Proposed Project over the long term, but the same on a daily basis. Although the No Project Alternative would result in fewer ADT's, the sharp radius curves in SR-76 would not be realigned.

## Biology

**Environmental Impacts.** The quarry and road realignment would impact 88.8 acres including 27.3 acres of sage scrub, 9.4 acres of chaparral, 1.3 acres of oak woodland, 0.3 acre of southern willow scrub, and 50.5 acres of previously disturbed areas would be impacted. Included in the impacts to the disturbed areas are 12.0 acres that would be impacted by the road realignment, of which 3.2 acres are within designated vireo critical habitat. This impact analysis includes areas to be directly affected by the project and areas not designated as open space.

Traffic generated noise would increase as a result of the proposed project. However, wildlife in the adjacent sage scrub would not be significantly impacted by noise or other indirect impacts. The increase in traffic noise due to project implementation may indirectly impact a total of 17.8 acres of existing and/or potential vireo and flycatcher habitat within and in the vicinity of the project site, of which 1.9 acres necessitate mitigation.

The coastal sage scrub that would be impacted by the proposed project is of low value. This determination was made due to the site's steep terrain, relative small size, isolation due to agricultural uses to the immediate north and west, and lack of sensitive species. Focused studies for the California gnatcatcher and a review of sensitive species maps prepared by the Multiple Habitat Conservation Program (MHCP) have indicated that California gnatcatchers are not present in the vicinity of the project. Since habitat value is low and no gnatcatchers reside on the project site, no impacts to gnatcatchers would occur with implementation of the proposed project. The flycatcher and the vireo would not be directly impacted by the proposed project. Direct impacts to the vireo are not anticipated. However, the loss of 3.2 acres of vireo critical habitat just south of SR-76 is significant and necessitates consultation with the United States Fish and Wildlife Service. The impact to the habitat for the horned lizard and orange-throated whiptail is considered significant. The areas identified as least Bell's vireo habitat, southwestern willow flycatcher habitat and California gnatcatcher habitat are considered to be potential arroyo toad habitat and would be impacted by the proposed project.

Due to the proposed loss of coastal sage scrub, a Habitat Loss Permit has been prepared as part of the proposed project in accordance with County of San Diego Ordinance 8365. The following

findings were based on the Habitat Loss Permit pursuant to Section 4(d) of the Federal Endangered Species Act:

- 1) The proposed habitat loss is consistent with the interim loss criteria in the NCCP Conservation Guidelines and with any subregional process established by the subregion.
- 2) The habitat loss will not appreciably reduce the likelihood of the survival and recovery of listed species in the wild.
- 3) The habitat loss is incidental to otherwise lawful activities because an EIR is being completed in compliance with CEQA, and all other required approvals will be brought before the County Board of Supervisors in public hearings.

**Mitigation Measures.** Mitigation for impacts to sensitive habitats will include a combination of preservation and revegetation at several sites adjacent to and within the vicinity of the project site. Revegetation for southern willow scrub shall be completed in accordance with the Palomar Aggregates Revegetation Plan to include preservation of existing habitat and revegetation of habitat at two sites. The plan includes specifics on site preparation, plant materials, success criteria, and monitoring.

Mitigation for the 27.3 acres of coastal sage scrub that would be impacted will consist of on- and off-site preservation of 54.6 acres of coastal sage scrub. The cumulative impact to sensitive reptiles will be mitigated by achieving 50 percent preservation of their habitat (chaparral and sage scrub) in and adjacent to the MUP site, and by preserving sage scrub on the hillside south of the river.

**Alternatives.** Due to a reduced area of cut, and shorter periods of operation, the Reduced Mining Face and the Bench Cut Reduced Project Alternatives would have fewer impacts to biological resources than the Proposed Project. Implementation of the No Project Alternative would also result in fewer impacts to biological resources.

## Visual/Aesthetics

**Environmental Impacts.** Implementation of the development proposals for the project site would result in alteration of the existing land form and visual characteristics due to the excavation of rock and the processing of material. Mining plan design limits visual impacts to the Couser and Rice Canyon areas. While the majority of the mined face would be visible from the Couser Canyon area, only a small portion of the highest cut would be visible from the Rice Canyon Area. Intervening topography would shield views of the plant and processing area from all directions.

In order to assess the potential impacts to views from surrounding areas, an analysis of six viewsheds was conducted. Within the viewsheds, 19 vantage points and three visual zones were identified with the intention of illustrating the most significant views of the site from various distances. Impacts to the area's scenic qualities and designated scenic highways were also addressed.

It was concluded that the Proposed Project would have significant but mitigable impacts to the Couser and Rice Canyon viewsheds. Views from Interstate 15 and Rancho Monserate Mobile Home Park would not be significant. Due to the preservation of the west facing slope of Rosemary

Mountain, there would be no significant visual impact to the Pala Mesa and Western Ridge viewpoints. In regards to the area's scenic qualities, the impact would be significant but mitigable east of the project site. Impacts to approximately 1,500 feet of SR-76, a designated scenic highway would also be significant but mitigable.

**Mitigation Measures.** Several mitigation measures are proposed for the project site in order to make mining operations less visible from the surrounding areas. The mining proposed to take place on the east side of the mountain shall be visually protected from all viewsheds except Couser Canyon and the eastern flanks of Rice Canyon. As part of the relocation of SR-76, a landscape berm shall be constructed to screen views of the processing plant from SR-76. Processing equipment shall be painted earthtone colors to further reduce visual impact. To mitigate visual impacts of the mining face, final blasting would be done under the supervision of a blasting engineer and a landscape architect who will design an irregular rock surface that would resemble natural conditions. This, in effect, will be a "sculpted" rock surface with ledges, nooks and crannies which would be able to receive and trap soil (Figure 9). Wire mesh would be draped over the surface and secured with rock bolts.

Permeon, a non-toxic rock stain developed by the University of Arizona, consisting of iron salts, magnesium salts and trace elements, would be applied to the rock surface by a manufacturer trained professional. As well as staining without environmental damage, the Permeon would release small amounts of nitrogen which would have a fertilization effect and the Permeon would actually enhance vegetative growth. The application which is colorless when first applied, is formulated to match the variation of colors of the adjoining rock surfaces. Full colors would develop in one to two weeks, depending on temperature and exposure to sunlight. Additional staining may be required on completed sections of the final face in both vertical and horizontal directions to assure a natural looking face. After application of Permeon, soil would be placed on the ledges and within the nooks and crannies and a hydroseed mix of native vegetation would be applied. Permeon has been successfully used throughout the Western States. With the implementation of the above mentioned mitigation measures, long-term visual impacts to Couser and Rice Canyons, and to the scenic qualities of SR-76, would be reduced to levels below significance.

**Alternatives.** Implementation of either the Reduced Mining Face or the Bench Cut Reduced Project Alternative would involve a lower vertical cut height than the Proposed Project. These alternatives would have less of a visual impact on areas south of the project by retaining more of the natural mountain appearance at completion. However, Couser and Rice Canyon viewsheds would still be significantly impacted. Therefore, visual/aesthetic impacts for these alternative would remain significant. The No-Project Alternative would not impact visual resources.

## Noise

**Environmental Impacts.** Noise impacts associated with project implementation would include noise generated by off-site traffic and noise generated on-site. The proposed project would generate 514 ADT (Willdan Associates 1995). Total project traffic would consist of 452 heavy trucks and 62 automobiles. An increase in noise levels generated by the proposed mining operations would result from various sources. These include excavation equipment, drilling, blasting, rock crushing and aggregate sizing operations, asphalt plant and concrete batch plant operations.

Project generated increases in roadway noise were determined for both CNEL and peak hour  $L_{eq}$ . As a result of the Proposed Project, the existing CNEL of 70 dB(A) at 50 feet from the centerline of SR-76 would increase by approximately 1 dB(A) to 71 dB(A) between the project site and I-15 and decrease at the two existing farm homes adjacent to SR-76, between the project site and Interstate 15. After the realignment, the distance from the farm-houses to the highway would increase from approximately 50 feet to 135 feet for one house and to 250 feet for the other. In community noise assessment, noise level increases greater than 3 dB(A) are often identified as significant, while changes less than 1 dB(A) are not discernible to local receptors. Therefore, an increase of 1.0 dB(A) is not considered significant.

The proposed project would generate a worst case on-hour average noise level which would meet the County's quarry noise ordinance limits of 75 dB along the permit boundary. As shown in Attachment 2 of the Noise Study prepared for the project by Pacific Noise Control (January, 30, 1995) worst case noise levels at the permit boundary would be hourly  $L_{eq}$ 's of 75 dB(A) (north), 60 dB(A) (south), 74 dB(A) (east), and 45 dB(A) (west).

Due to the nature of the construction industry and the timing of projects that use aggregate, Project ADT would have the potential to vary from day to day. Also, weather related delays are often offset by intensified material deliveries to get back on schedule. Therefore, in addition to normal operational ADT, a worst case scenario of a 100% increase in ADT (1,028 trips) was analyzed. As described in the Noise section of this FEIR, this temporary increase in traffic would temporarily increase noise levels.

The nearest existing residence to the mining area is the William Pankey home which is approximately 400 feet from the nearest point of the permit boundary. Worst case noise levels would be an  $L_{eqh}$  of approximately 65 dB(A). Impacts to the Pankey residence are not considered to be significant for the following reasons: the impact would be temporary (up to six months), as the owner and lessor of the mining property, Mr. William Pankey can affect the conduct of mining operations (e.g., hours of operation or equipment used) while this initial cut is being made and finally, the resident of the home has indicated that they have no objection to this short-term noise impact.

**Mitigation Measures.** Mitigation for on-site noise consists of three general measures. The measures required would include the installation of noise control treatments, conducting noise tests on the equipment prior to start-up to ensure successful implementation of the noise abatement treatments, and implementing a noise monitoring plan for the ongoing operation.

**Alternatives.** The proposed project would generate on-site and traffic related noise for a longer period (20 years) than what would be generated by either the Reduced Mining Face Alternative (18 years) and the Bench Cut Reduced Project Alternative (13 years). This represents a reduction in predicted noise levels over the long term. Daily noise levels however, would not differ substantially from the Proposed Project. Noise impacts would also be reduced with implementation of the No Project Alternative.

## Air Quality

**Environmental Impacts.** Air pollutants resulting from implementation of the Proposed Project would include both fugitive particulate emissions and gaseous emissions. Best Available Control Technology (BACT) methods would be utilized during the Palomar Aggregates Quarry operations, in order to minimize the emissions impacts. Therefore, the impacts discussed are based upon that assumption.

Fugitive PM<sub>10</sub> emissions resulting from processing (95.1 lbs/day), handling, transfer, storage (12.27 lbs/day), and road haul (111.0 lbs/day), with a particulate diameter less than 10 microns, would total 218.37 pounds per day or 30.78 tons per year.

Blasting would be an infrequent source of fugitive emissions at the facility, and emissions which would occur on an irregular basis are not usually included in the SDAPCD's summation of hourly and daily emissions. To ensure that dust from blasting does not add to dust from routine operations, all blasting would be conducted on Saturdays.

Gaseous Emissions would be generated by on-site equipment, haul truck trips and the production of hot-mix asphalt. The project would generate a total of 340 lbs/day of carbon monoxide, 476 lbs/day of nitrogen oxides, and 87 lbs/day of sulfur oxides.

**Mitigation Measures.** Planned air control measures including the use of BACT together with required permitting and monitoring procedures would adequately mitigate potential air quality impacts.

**Alternatives.** The Proposed Project would impact air quality impacts for a longer period than either the Reduced Mining Face Alternative or the Bench Cut Reduced Project Alternative. However, daily air quality impacts would remain substantially the same. The No Project Alternative would have less impact on air quality than the proposed project.

## Hydrology/Erosion Control

**Environmental Impacts.** The site is divided into three drainage sections: Section 1 on the east slope, Section 2 on the south slope and Section 3 on the west slope. Sections 1 and 2 drain into the San Luis Rey River. Mining would occur on the east slope, primarily impacting Section 1. The combined peak runoff for all three sections would increase by only 0.8 cfs. A sedimentation basin is proposed to intercept runoff from Section 1. This basin would prevent sediment from entering the San Luis Rey River.

The floodplain and floodway of the San Luis Rey River would be impacted by the relocation of SR-76. The proposed realignment was divided into two segments: Segment 1 along the southern project boundary and Segment 2, about 1,000 feet downstream from the project site. Construction of Segment 1 involves the placement of an additional highway lane adjacent to the existing SR-76 roadway and to the elimination of the short radius curve at the entrance to the processing area. Although the revised project proposes to add one lane to the existing SR-76 roadway, the hydrologic impact was evaluated with the addition of two lanes which represents the worst case requirement by

Caltrans. The impact from this construction in the floodplain during a 100-year flood event would not change the water surface elevations upstream or downstream. In the vicinity of Segment 1 during a 100-year flood event, flow velocity would increase by approximately 2.66 feet per second and the surface level rise approximately 1.12 feet.

As a result of the combined impacts of both segments, the sediment transport capacity of the river would increase by approximately 75 cfs. This implies about a nine percent increase in channel bed degradation along the realignment of SR-76. The above calculations were generated when the project included a four lane road in front of the project site. The project now proposes a three lane road in front of the project site. This reduction of impervious surface would reduce impacts (see Appendix L).

**Mitigation Measures.** The proposed sedimentation basin would prevent any increase in the total amount of sediment entering the San Luis Rey River. The sediment basin is to be constructed during the initial phase of the project, prior to commencement of quarry operations. The basin would be cleaned out once every two years, with the resulting sediment recycled into the concrete and asphalt production process.

Potential floodplain and floodway impacts shall be mitigated by the preparation, by a registered civil engineer, of a HEC-2 computer analysis for review by the County Department of Public Works. This analysis will provide the basis for appropriate flood control measures regarding flood hydraulics, erosion and sedimentation (as related to the site and adjacent properties); fill bank stabilization and installation of new riparian vegetation on the fill bank for the road.

**Alternatives.** Due to smaller mining areas, hydrologic impacts and soil loss would be somewhat less with implementation of either the Reduced Mining Face Alternative or the Bench Cut Reduced Project Alternative as opposed to the Proposed Project. The No-Project Alternative would also have fewer hydrologic and water quality impacts than the Proposed Project.

## **Groundwater**

**Environmental Impacts.** The proposed project would rely almost entirely on groundwater resources for project operations. The primary uses of groundwater will be for dust control in the rock crushing and sorting process and to wet down working areas, and for concrete production. The amount of water usage by the Proposed Project combined with the existing agricultural operation will not significantly impact ground water resources.

Aggregate mining often requires washing of sand or rock to clean the product prior to sizing. In the Proposed Project, the rock has virtually no waste product, so that washing is not required and river pollution will not be a concern. Other concerns include the effects of the dust control surfactant and run-off from the washing of concrete trucks and petroleum products. The surfactant is an inert, biodegradable chemical approved by the EPA. The water or water/chemical mixture is left in the trucks overnight and mixed with the next day's concrete. It is not drained from the truck. Petroleum products would be used to produce asphalt at the proposed batching plant, but all drainage from the area would be properly contained in the proposed sediment pond. A standard grease trap would be installed in the sediment basin riser pipe to ensure that no petroleum products are drained

from the pond. In addition, the sediment pond will be lined with a vinyl liner or concrete to avoid potential impact to groundwater from truck fuels or other petroleum products which might wash into the pond.

**Mitigation Measures.** No mitigation measures are required for groundwater resources. Mitigation for potential impacts to water quality consists of the construction of the lined sediment pond and grease trap.

**Alternatives.** With the Reduced Mining Face Project, reduced project operations and area of cut would reduce the amount of groundwater needed for dust control, concrete production, landscape irrigation, sanitation, and maintenance. Daily groundwater supplies for the Bench Cut Reduced Project would be the same or less than those for the Reduced Mining Face Project. A slight increase in the quantity of groundwater used on a daily basis may be necessary for mining operations with an Expanded Project.

## Land Use/Community Character

**Environmental Impacts.** In general, land use to the south and north of the project site is agricultural; land use to the east is primarily agricultural with some rural residential and a sand mining operation located within the riverbed. Land use to the west is more urban in nature. Although there are no plans currently being processed which would significantly alter the existing land uses to the north, south or east, a substantial amount of new urban-level development is anticipated for the area between the project site and Interstate 15 within the "76 Interchange Master Specific Plan Area".

Although the Proposed Project is an extractive land use which by nature has the potential to adversely impact the adjacent community due to landform alteration, noise, dust, and traffic, these impacts would be mitigated to a level below significance and would not significantly impact the accomplishment of existing land use plans for the area. Project design, special treatment of the mined face, and Best Available Control Technology (BACT) would minimize potential landform alteration, noise, dust and traffic impacts to levels below significance. An earthen berm would be constructed along Pala Road to obstruct direct views into the quarry from the highway and lessen the potential for noise and dust impacts.

The project does not propose any extraction activities on the western slopes of Rosemary's Mountain. These slopes would be preserved to buffer the Pala Mesa/Rancho Monserate/Fallbrook area west of I-15 from the project site. While Pauma Valley and Palomar Mountain recreation areas are located along Highway 76 east of the project site, average daily trips of 3,400 (see Traffic Section, Figure 21) on Highway 76 adjacent to the site, indicates that the use of this road by most residents west of I-15 is a relatively infrequent occurrence. However, to increase traffic safety, Pala Road would be realigned and widened to four lanes from I-15 to the western boundary of the project site; transition to three lanes along the front of the project and eventually back to two lanes east of the project. It should be noted that widening of Pala Road between the project site and I-15 is in conformance with the Circulation Element of the County's General Plan.

**Mitigation Measures.** The project's plot plan, reclamation plan, and mitigation measures for Visual/Aesthetics, Traffic/Circulation, Noise, and Air Quality would mitigate potential Land Use and/or Community Character Impacts to levels below significance.

**Alternatives.** Given the shorter mining periods of the Reduced Face Alternative (18 years) and the Bench Cut Reduced Project (13 years) both of these alternatives would reduce the duration of any land use impacts. The No-Project Alternative would not significantly impact Land Use and Community Character.

## Public Safety

**Environmental Impacts.** The mining plan calls for blasting approximately once a week throughout the life of the project. In response to recommendations from the California Division of Occupational Safety and Health, the working face would have a maximum height of 33 feet and a minimum width of 66 feet, creating an interim benched slope configuration of 2:1 as mining proceeds downward at approximately 33-foot intervals (See Figures 7 and 8). When the final sculpting is complete, wire mesh would be placed over the rock face and bolted down to the rock with rock bolts. This procedure would eliminate the hazard of loose rock above the working area falling onto workers. Potentially significant public safety impacts associated with implementation of the proposed mining and blasting plan include: structural damage, rockfall, and the creation of a 715-foot mined face.

Vibrations from blasting would be noticeable only at the nearest structure to the site, the William Pankey residence, for a few seconds approximately once a week. Vibrations would not, however, cause structural damage. Structural damage may occur to the concrete-lined pond located near the northern portion of the project site. This pond is owned by William Pankey and is surrounded by agricultural uses. A qualified geotechnical engineer shall monitor the ground vibration as mining progresses towards the pond. Draining of the pond may be required if it is determined that vibration may impair the concrete-lining. Public safety would not be at risk if this pond were to be damaged by blasting since it is not contained by a dam or spillway which could be breached. Blasting induced vibration would not cause structural damage which may endanger public safety, therefore, the impact is not considered significant.

**Mitigation Measures.** Several measures have been incorporated into the mining plan to mitigate the potential for rockfalls and small wedge type slope failures as recommended by Cal/OSHA and the Mining Safety and Health Administration. The mining plan is designed to create an interim benched slope with a maximum height of 33 feet and a minimum width of 66 feet. This enables the geotechnical engineer or engineering geologist to make weekly inspections as the proposed final sculpted face is approached and to map the rock face which has just been scaled. Inspection and mapping of the mining face may be more frequent as needed, depending on the field conditions. Should the geotechnical engineer or engineering geologist decide that the final rock face is safe and free from wedge type of failure and after the 33 foot freshly exposed final face is draped with anchored wire mesh, the bench may be removed for another 33 foot cut. Benches and/or rock bolts and modified slope would be required where unfavorable stability conditions are encountered to stabilize the final face. All final reclaimed faces would be draped with wire mesh for protection. The engineer or geologist shall record all inspections on a form satisfactory to the Department of

Planning and Land Use and send a copy to the Code Enforcement Division within one week of any inspection.

To avoid potential injury of project employees during blasting, the area to be blasted would be cleared of all personnel prior to blasting at a distance to be determined by the licensed blasting contractor. Prior to reclamation of the site as a water-storage reservoir, a qualified geotechnical engineer shall submit a report to the County of San Diego Department of Planning and Land Use reporting on the effects of seepage and the stability of the earthen dam, if the dam is required.

Methods to reduce the potential hazard for seismically induced rockfall along SR-76 include tying-down or removing all the loose rock ("floaters") along the highway. Standard roadside warning signs indicating potential rockfall area to the approaching motorist shall be installed. The project civil engineer for the SR-76 realignment shall incorporate these public safety measures on a plan to be submitted for review and recommendation by the County Department of Public Works; and for approval by Caltrans. Additional passive preventative measures including installation of barriers along the north side of the realigned SR-76 may be required by Caltrans for seismically induced rockfalls as a part of the highway realignment project.

**Alternatives.** Although a mining and blasting plan has not been prepared for the Sycamore Ridge site, it is anticipated that plans would call for an alternative to the currently proposed 80° slope. Under this assumption, the two potentially significant public safety impacts associated with implementation of the Proposed Project (i.e. rockfall and the creation of a 715 foot mined face) would be avoided. Selection of this alternative may, however, create new potentially significant public safety impacts. For example, the blasting plan may create potential hazards to employees of the quarry.

The Expanded Project alternative would not create 80° slopes, therefore, potential impacts associated with steep slopes would be avoided. During realignment of SR-76, measures would be implemented to reduce the risk of rockfall from seismically induced groundshaking along the highway.

Potential hazards related to rockfall and a 715 foot mined face would also be avoided with implementation of the No Project alternative. However, measures to reduce existing hazards along SR-76 (e.g. potential rockfalls due to seismically induced groundshaking and sharp-radius curves) would not be implemented by the project proponent.

## Dark Skies

**Environmental Impacts.** The primary light sources of the Palomar Aggregates Quarry would be for vehicle and equipment maintenance and repair. Lighting for security would also be considered a primary light source. The project proposes only those outdoor light fixtures required by the County for safety purposes.

The proposed Palomar Aggregates Quarry is located 13 miles west of the Palomar Observatory. As such, the project site is situated within Palomar Observatory's Zone A, a circular area extending 15 miles from the observatory as designated by the County of San Diego Light Pollution Code. Zone A represents the area where night sky illumination could significantly impact the efficiency of the

telescopes at the observatory. Due to the Proposed Project's location within Zone A, it would incrementally increase night sky illumination, adding to the cumulative degradation of telescope efficiency at Palomar Observatory. Outdoor lighting of the Proposed Project would not add to the cumulative degradation of telescope efficiency at Mt. Laguna Observatory since the project site is located 48 miles from Mt. Laguna.

**Mitigation Measures.** Any impacts to the dark sky caused by outdoor lighting of the project site would be reduced to an acceptable level by adhering to the requirements of the County's Light Pollution Code. All outdoor lighting for the Proposed Project would consist of LPS lamps and would be fully shielded (as defined by the County Light Pollution Code) to prevent any direct upward illumination. The intensity of the lights, as well as the number necessary for safety purposes, would be kept to a minimum. Outdoor lights other than those necessary for security would be turned off by 10:00 p.m. Therefore, all potential impacts to the dark sky from the development of the Palomar Aggregates Quarry would be mitigated.

**Alternatives.** The Sycamore Ridge site is located outside Zone A, but within Zone B, of the Palomar Observatory as designated by the County of San Diego Light Pollution Code. Impacts to the Palomar Observatory would be created at this alternative site, but they would be reduced in comparison to those at the proposed site. The No Project Alternative would also have less impact on the Palomar Observatory Dark Skies Zone.

## F. Growth Inducement

The Proposed Project would not be growth inducing, although it may accommodate growth which has been accelerating along the Interstate 15 corridor by providing construction resources which would otherwise have to be transported from more distant sources. It was also concluded that proposed improvements to SR-76 would not be growth inducing as they are in conformance with the Circulation Element of the County of San Diego's General Plan. Reclamation of the mine site, which would make it suitable for other uses, would not take place for a period of 20 years and is not expected to stimulate growth at that time.

## G. Cumulative Impacts

The Proposed Project is located within an area which has experienced considerable development in the recent past. Further growth, both residential and non-residential, is anticipated in the near future and over the next 5-10 years. Primarily, this growth is associated with the I-15/Highway 76 Master Specific Plan Area (MSPA). As noted in the Land Use section of this report, this Master Specific Plan Area encompasses approximately 1,178 acres slated for residential, commercial, industrial park, and recreational vehicle park uses. In addition to the MSPA there are two existing mining projects a proposed landfill and a proposed Indian gaming facility that all could contribute to cumulative environmental impacts. The following cumulative impact analysis summary addresses each environmental issue in the order as it appears in the Environmental Analysis section of this report.

## Traffic/Circulation

The combination of the total expected ADTs (5,019) including the Proposed Project, the proposed landfill and the proposed Indian gaming facility, would result in significant cumulative traffic impacts on SR-76 east of the project site. Due to proposed road improvements on SR-76 from I-15 to the project entrance, cumulative traffic impacts along this segment are not anticipated to be significant. Impacts east of the site can be mitigated for on a project-by-project basis including widening and improvement of SR-76 to Caltrans standards. With the implementation of project-by-project mitigation measures and the San Diego County Circulation Element, cumulative traffic impacts can be mitigated to levels below significance.

## Biology

The I-15/SR-76 Master Specific Plan Area could impact small isolated patches of low quality sage scrub; the Hewlett Packard Campus Park would not impact sage scrub; and the Gregory Canyon Landfill would impact approximately 107 acres of sage scrub (Butler/Roach Group, Inc. 1990).

The loss of the 107 acres of sage scrub would require off-site mitigation and, cumulatively these impacts together with those of the proposed project would be a significant impact and off-site mitigation may be required. From a regional perspective, any loss of coastal sage scrub is a significant impact. The Multiple Species Conservation Program (MHCP) and the Habitat Loss Permit are programs currently underway to require mitigation on a case-by-case basis. The proposed project site is located in the MHCP area, as described on page 62. Since it is anticipated that the USF&WS will allow the taking of five percent (approximately 5,500 acres) of existing sage scrub habitat within the MHCP (approximately 110,000 acres), the proposed project, with 27.3 acres of low quality, relatively isolated habitat will not represent significant and unmitigable cumulative impacts.

Impacts to 3.2 acres of vireo critical habitat located south of SR-76 would occur with implementation of the project. Although the area is currently disturbed, the impacts would be considered significant but mitigable.

The increase in noise from traffic associated with this project and noise associated with the other existing and planned projects will also impact potential vireo habitat (and the other observed sensitive songbirds) by increasing noise levels between the project site and I-15. Potential mitigation for cumulative impacts would include preservation of the existing and potential habitat in the San Luis Rey River floodplain. Additional mitigation would include revegetation and enhancement of these areas.

## Noise

Proposed mining operations would be in compliance with the County of San Diego Noise Ordinance. Mitigation measures have been identified which would reduce noise levels to an acceptable level. Potentially significant cumulative noise impacts may occur in the project vicinity from the combination of project-generated traffic noise levels along SR-76, increased noise levels from

proposed landfill operations and traffic, and increased traffic noise associated with the proposed Pala Indian gaming facility.

Increases in traffic noise, especially along the Highway 76 and I-15 corridors, could be mitigated to levels below significance for with the construction of setbacks, noise walls, and berms, in accordance with County and State standards.

## **Air Quality**

Particulate (fugitive dust) and gaseous emissions associated with mining operations and vehicular traffic generation from the Proposed Project would cumulatively add to the incremental degradation of regional air quality in the San Diego Air Basin. In addition to the 25.25 pounds per hour of particulate emissions from the proposed quarry, the Pala area may be subject to 90 pounds per hour generated at the proposed landfill by site grading and liner construction of the proposed landfill (San Diego County DPW 1990). Additional particulate matter would be created by landfill generated truck traffic. Therefore, the particulates generated by the two projects would exceed 115.25 pounds per hour, although particulate emissions would not be expected to reach this concentration at any one location as an unknown amount of particulates would settle out prior to reaching the other site. If approved, the Pala Indian gaming facility would increase daily trips along SR-76 and which would increase the amount of gaseous emissions in the local air basin and contribute to cumulative air quality impacts.

Cumulative impacts can be reduced to a level of insignificance with the utilization of planned air pollution control techniques (e.g. Best Available Control Technology) and compliance with San Diego APCD permitting and monitoring procedures. Additional mitigation of cumulative impacts could be achieved through implementation of Federal, State, and local programs currently underway. These include the Clean Air Act, State Implementation Plan, SDAPCD Reasonable Further Progress (RFP) Reports, prohibitive emission standards, and New Source Performance Standards (NSPS).

## **Hydrology/Erosion Control**

There are several existing and proposed sand mining operations along the San Luis Rey River which have the potential to increase sedimentation levels and pose additional erosion control problems in the affected floodplain, if not properly mitigated. The proposed landfill will not generate increases in sediment load (San Diego County DPW 1990). Although, no hydrologic studies have been completed for the proposed Pala Indian gaming facility, it is not expected to generate significant hydrologic impacts.

The Palomar Aggregates project proposes to install erosion control methods, such as riprap bank protection and a sedimentation basin, which would adequately prevent any increase in the total amount of sediment entering the San Luis Rey River as a result of the Proposed Project. Therefore, the Proposed Project would not contribute cumulatively to sedimentation/erosion impacts resulting from other mineral extraction operations in the vicinity.

The proposed realignment of Highway 76, however, would have a significant cumulative impacts on the San Luis Rey River floodplain. Potential floodplain impacts shall be clarified with the

preparation of a HEC-2 computer analysis by a registered civil engineer for review by the County Department of Public Works. This analysis will provide the basis for appropriate flood control measures regarding flood hydraulics, erosion and sedimentation (as related to the site and adjacent properties); fill bank stabilization; and installation of new riparian vegetation on the fill bank for the road. This analysis should also be used to modify County and FEMA floodplain maps as a condition of MUP approval. With regional implementation of adequate mitigation measures on a project-by-project basis and conformity with San Diego Basin Water Quality Control Plan Policies (California Regional Water Quality Control Board 1994) and the County of San Diego Flood Control Management Guidelines, the cumulative hydrologic impact to the San Luis Rey floodplain will be reduced to a level below significance.

## Dark Skies

The Proposed Project is located within the prime impact zone for Palomar Observatory (Zone A). This project and other residential, commercial, and public projects located within Zone A would cumulatively add to the degradation of telescope efficiency at Palomar Observatory. All these projects must continue to utilize all the mitigating factors required by the County of San Diego Light Pollution Code.

## H. Required Approvals

The County of San Diego and other agencies are expected to use this FEIR in their decision-making process. The following approvals would be required to implement the project:

### County of San Diego

Major Use Permit  
Reclamation Plan  
Habitat Loss Permit

### Air Pollution Control District

Permit to Operate

### California Department of Transportation

Realignment of SR-76 (Pala Road)

### California Department of Fish and Game

Notification as required by Fish and Game Code

### U.S. Army Corps of Engineers

Section 404 Permit - Clean Water Act

### Regional Water Quality Control Board

The project may also require approval from the Regional Water Quality Control Board (RWQCB). A plot plan and detailed project description have been sent to this agency for review.

### U.S. Fish and Wildlife Service

Habitat Loss Permit - 4(d) findings

Table S-1. Summary of Impacts

	Proposed Project	Alternate Site "Sycamore Ridge"	Alternative Mining Process "Bench Cut Reduced Project"	Alternative Mining Process "Expanded Project"	Highway 76 Widening and Wetland Avoidance Alternative	No Project
Traffic Circulation	Significant Impact Mitigated by Project Design	Significant Impact Mitigated by Project Design	Significant Impact Mitigated by Project Design	Significant Impact Mitigated by Project Design	Significant Impact Mitigated by Project Design	No Impact
Biology	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	Significant Unmitigable Impact	Significant Impact Requires Mitigation	No Impact
Visual Aesthetics	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	Significant Unmitigable Impact	Significant Impact Requires Mitigation	No Impact
Cultural Resources	No Impact	Significant Impact Mitigated by Project Design	No Impact	Significant Unmitigable Impact	Significant Unmitigable Impact	No Impact
Noise	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	No Impact
Air Quality	Significant Impact Mitigated by Project Design	Significant Impact Mitigated by Project Design	Significant Impact Mitigated by Project Design	Significant Impact Mitigated by Project Design	Significant Impact Mitigated by Project Design	No Impact
Hydrology/Water Quality	Significant Impact Mitigated by Project Design	Significant Impact Mitigated by Project Design	Significant Impact Mitigated by Project Design	Significant Impact Mitigated by Project Design	Significant Impact Mitigated by Project Design	No Impact
Land Use/ Community Character	Significant Impact Mitigated by Project Design	Significant Unmitigable	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	No Impact
Public Safety	Significant Impact Mitigated by Project Design	Significant Impact Mitigated by Project Design	Significant Impact Mitigated by Project Design	No Impact	No Impact	No Impact
Dark Skies	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	No Impact
Growth Inducement	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Cumulative Impacts	Significant Impact Requires Mitigation	Significant Unmitigable	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	Significant Impact Requires Mitigation	No Impact

No Impact = The proposed project or alternative will have no effect on the attribute.

Significant Impact Mitigated by Project Design = A significant impact which will be mitigated below significance through project design.

Significant Impact Requires Mitigation = A significant impact will occur which may be mitigated below significance.

Significant Unmitigable Impact = A significant impact will occur which cannot be mitigated below significance.

## I. PROJECT DESCRIPTION

### A. Location

The proposed project site is located on the north side of Highway 76 (Pala Road), approximately 1 ¼ miles east of Interstate 15 (I-15). The site is within the unincorporated area of San Diego County, approximately 45 miles north of downtown San Diego (Figures 1 and 2). The community of Fallbrook exists approximately 14 miles to the west, and the smaller community of Pala is centered on Highway 76 at Pala-Temecula Road, approximately 5½ miles to the east.

Geographically, the site is within the Peninsular Range Province of California, at the south end of Monserate Mountain, a north-south trending ridge with several peaks. The highest of the Monserate peaks is approximately 2 miles north of the mining site and reaches an elevation of 1,567 feet AMSL. The subject site has a peak elevation of 992 feet AMSL and a base elevation at SR-76 of approximately 300 feet AMSL. Directly to the south, across SR-76 lies the San Luis Rey River. It generally follows Highway 76 from Lake Henshaw at the base of Palomar Mountain, to the Pacific Ocean just south of the Oceanside Harbor.

### B. Project Objectives

The project proponent seeks to achieve the following objectives:

1. Construct, own and operate a profitable mining operation in the vicinity of the I-15/SR 76 interchange capable of providing affordable construction quality aggregate to users in the area;
2. Locate the proposed quarry in a location where potential environmental effects could be minimized without rendering the project economically infeasible.
3. Provide aggregate products sufficient for North County needs at a rate of approximately 1.2 million tons per year over a period of 20 years, and avoid the high cost of aggregate imported from the Corona area, as several North San Diego County operations close due to material exhaustion and permit expiration.

The proposed site is underlain by granitic igneous rock from which construction quality aggregate is derived. Approximately 22 million tons of construction quality aggregate can be removed which is sufficient quantity to support an economically feasible extraction and processing business. The close proximity to major transportation corridors provides easy and affordable access to markets in the region, reducing overall costs of aggregate products for both public and private sector customers.

Although the proposed site is located near a major highway, the actual mining face would not be detectable from the I-15 view corridor, due to the project's avoidance of the western slopes. The project site is within a rural agricultural area and distant from urban development and population centers. The Project's convenient freeway access, however, reduces traffic impacts on rural roads.

**PROJECT  
LOCATION**



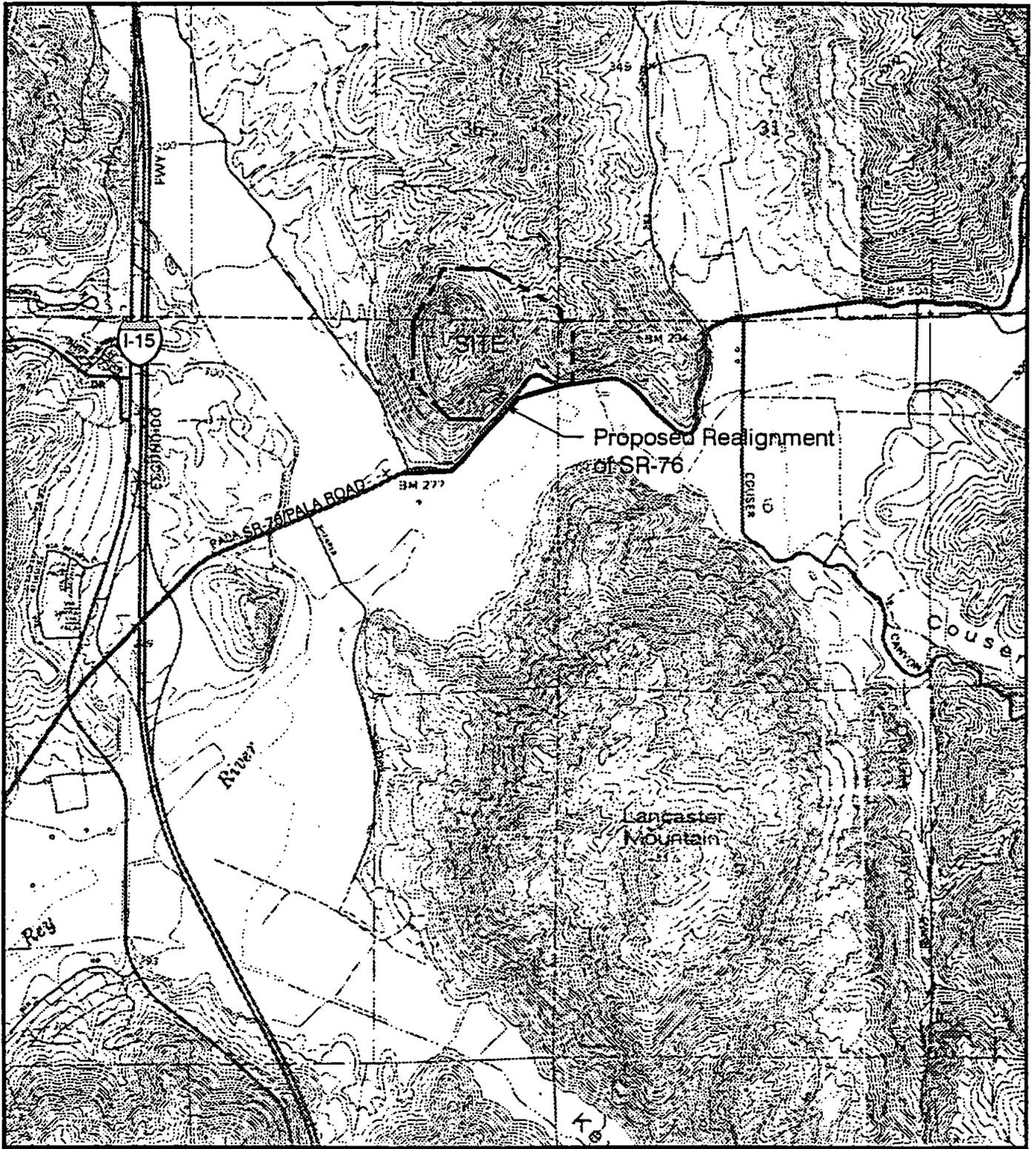
006149

**Brian F. Mooney  
Associates**



**Regional Location Map**

Figure 1



**Brian F. Mooney  
Associates**



0 1000' 2000'

Project Location Map

Figure 2

SOURCE: U.S.G.S. 7.5 MIN QUAD (PALA-BONSALL)

006150

Palomar Aggregates Quarry EIR

Together, these factors reduce potential land use, community character, and visual impacts. Other potential environmental impacts are minimal and can be mitigated to a level below significance.

Caltrans studies have identified two existing short radius curves along SR-76 which should be eliminated through realignment to assure long term public safety. Construction of adequate access for the mining operation would result in the new road alignment being built.

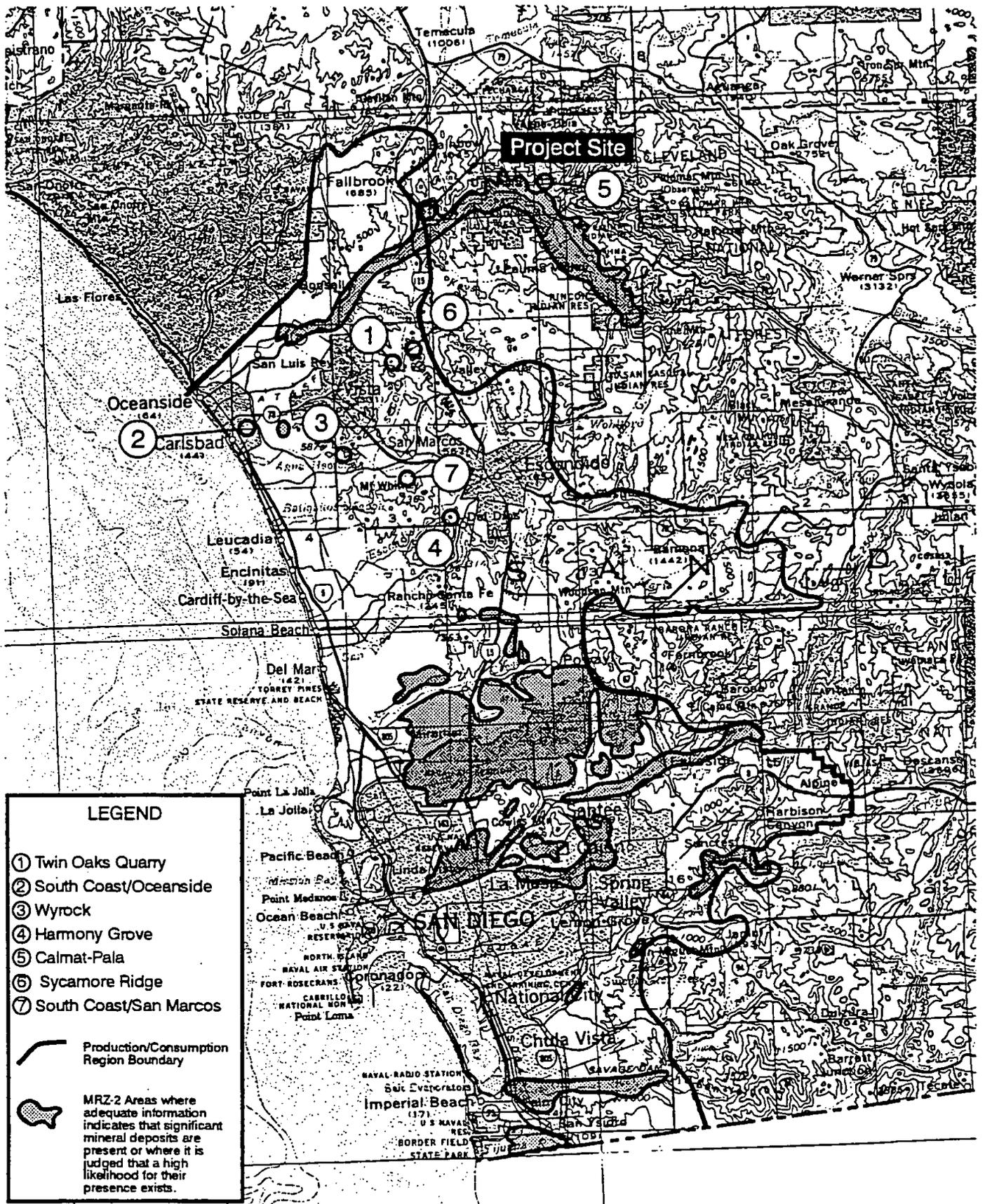
## C. Background on Aggregate Mining

This section is intended to provide the reader with background information on the existing regional environment in which aggregate mining in general, and the Proposed Project, is taking place. This includes the location of existing rock mining operations, State and local policy on identification of aggregate resources, and physical requirements for construction quality crushed rock (Bing Yen and Associates 1990 and California Dept. of Conservation 1989).

### 1. Existing Sources of Crushed Rock Serving North San Diego County

Rock quarrying has occurred in North San Diego County since the 1950's, and earlier at some sites. The State Mining and Geology Board (SMGB) has studied the availability of aggregate resources in San Diego County and has stated that "San Diego County most definitely faces aggregate shortage problems currently, and will have these problems considerably aggravated in the near future with the depletion of resources at several currently operating sites.... The North San Diego County rock shortage will reach severe proportions with the closure of a couple of sites in the next two years...." (California Dept. of Conservation 1989). Figure 3 identifies existing sources of crushed rock which are currently being mined or proposed. These are:

1. Twin Oaks Quarry. Located on Twin Oaks Valley Road, north of the City of San Marcos, this site was the subject of a proposed major use permit for expansion of facilities which would have included rock crushing and processing plants for concrete and asphalt. That permit was denied by the San Diego County Board of Supervisors. It continues in operation on an intermittent basis as a quarry site primarily for riprap-size rock.
2. South Coast Quarry. Formerly known as Streuter's Quarry, this facility is located in the City of Oceanside near Highway 78 at Jefferson Street. Movable aggregate at this site is largely depleted and the permit for this operation expires in 1996. Requested extensions have been denied.
3. Wyrock. This operation includes mining, crushing and batching. It is located northwest of Sycamore Avenue, south of Highway 78 and is adjacent to the developing community of Shadow Ridge in the City of Vista. Movable aggregate at Wyrock is largely depleted and their operation permit expires in 1996.



**LEGEND**

- ① Twin Oaks Quarry
- ② South Coast/Oceanside
- ③ Wyrock
- ④ Harmony Grove
- ⑤ Calmat-Pala
- ⑥ Sycamore Ridge
- ⑦ South Coast/San Marcos

 Production/Consumption Region Boundary

 MRZ-2 Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.

**Brian F. Mooney Associates**



Aggregate Resources

Figure 3

4. Harmony Grove. This site is located southwest of the City of Escondido at Country Club Drive/Harmony Grove Road. According to Reclamation Plan RP88-006 filed with the County on March 28, 1988, approximately 3,650,000 cubic yards of material remains to be mined. Mining has been conducted sporadically over the past five to ten years. The site was closed in compliance with a Stop Work Order issued by the County on September 1, 1989, but is currently exporting on an intermittent basis.
5. Calmat-Pala. Located east on SR-76, approximately 7 miles east of the proposed Palomar Aggregates Quarry, this facility is a full-scale sand, rock and aggregate batching operation with 20 or more years of remaining resources. While a large quantity of material exists, the percentage of sand exceeds that of rock.
6. San Marcos. Located in San Marcos at the end of South Twin Oaks Valley Road, this quarry encompasses the new San Marcos State University Campus and areas to the west. y Granitic and metavolcanic materials mined on campus are transferred on a conveyor belt under South Twin Oaks Valley Road to the off-site processing plant. This operation has been producing construction aggregate for approximately two years and is anticipated to continue for about another 18 years (Hickethier 1990).
7. Riverside County. Due to rock shortages in San Diego County, major aggregate users in North San Diego County frequently import large quantities of aggregate from Corona (Riverside County) area quarries (i.e. Chandler's Pales Verdes Sand and Gravel Inc. and Sun-West Materials). Los Angeles County and Orange County users also import supplies from Corona (California Dept. of Conservation 1991).

## 2. State Surface Mining and Reclamation Act

Since the early 1970's, the California Department of Conservation's Division of Mines and Geology has become increasingly concerned about the loss to urbanization of valuable deposits of construction quality aggregate resources. Because of competition for land use priorities, land is often urbanized without first considering whether mineral resources are present. In an effort to give more adequate consideration to the State's mineral resource needs, the California Legislature enacted the Surface Mining and Reclamation Act of 1975 (SMARA), stating in Section 2711 (a): "The legislature hereby finds and declares that the extraction of minerals is essential to the continued economic well-being of the state and to the needs of the society, and that the reclamation of mined lands is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety."

In addition to requirements for reclamation of mined lands, SMARA directs the State Geologist to undertake a program to "classify, on the basis solely of geologic factors, and without regard to existing land use and land ownership, the areas identified by the Office of Planning and Research, any area for which classification has been requested by a petition which has been accepted by the (State Mining and Geology) Board, or any other areas as may be specified by the Board, as one of the following:

- (1) Areas containing little or no mineral deposits.
- (2) Areas containing significant mineral deposits.

- (3) Areas containing mineral deposits, the significance of which requires further evaluation.

Once the board has received adequate information to classify lands containing mineral deposits, it may proceed to the second step in SMARA's mineral lands identification process and designate a specific area of mineral resources as being of regional or statewide significance. An "area of regional significance" is defined in SMARA as "an area designated by the board pursuant to Section 2790 which is known to contain a deposit of minerals, the extraction of which is judged to be of prime importance in meeting future needs for minerals in a particular region of the state within which, if prematurely developed for alternate incompatible land uses, could result in the permanent loss of minerals that are of more than local significance."

Figure 3 delineates land classifications in San Diego County as determined by the State Board. This figure includes the Project Site which was classified MRZ-2 on September 11, 1989. This classification is applied to "areas where adequate information indicates that significant mineral deposits are present or where it is judged that there is a high likelihood for their presence" (California Dept. of Conservation 1989).

At its meeting of July 14, 1989, the California Division of Mines and Geology (CDMG) and the Policy Committee of the State Mining and Geology Board (SMGB) recommended a new policy for prioritization of SMARA mineral-lands classification mapping, based, in part, on relative threat to mineral lands within each California county. As a means of measuring the relative threat, CDMG compared statistics for each of the 58 counties, and ranked the results according to six categories: Projected population growth, private land available, Federal land claimable, mineral production, number of active mines, and number of mineral occurrences reported. County-by-county rankings for each of these factors were summed to produce an overall ranking. San Diego County was ranked as the most critical area in the state followed by Riverside County and San Bernardino County. (California Dept. of Conservation 1989).

### 3. Implementing SMARA at the Local Level

Section 2762(a) of SMARA requires that every lead agency establish mineral resource management policies to be incorporated in its general plan. Among other things, these policies are to recognize mineral information classified by the State Geologist; assist in the management of land use which affects areas of statewide and regional significance; and emphasize the conservation and development of identified mineral deposits. The County of San Diego has developed a strategy for achieving compliance with SMARA. The County proposes to:

- Designate mineral resources identified by the State as regionally significant on the General Plan maps;
- Research existing zoning, General Plan designations, floodplain overlays, extractive overlay zones, and any other restrictive zoning;
- Map biological and archaeological resources, and existing land use within each area;

- Prepare a subsequent EIR to address any significant impacts which could occur from the proposed use of the overlay designation;
- Recommend application of the Extractive (25) Land Use Overlay Designation to include any areas which are not currently identified by extractive designations;
- Revise the text of the Regional Land Use, Conservation, and Open Space Elements of the General Plan, and the respective community plan land use texts which are affected by the overlay designation.

Proposed revisions to the General Plan Elements would require an amendment to the General Plan. It is the intent of the County to include these revisions as a part of a general plan amendment. In short, the County proposes to protect regionally significant mineral deposits through the use of the Extractive Land Use Overlay Designation. This designation is intended to be temporary and, upon completion of mining, the overlay designation would be removed. Underlying land use designations continue to exist, but are superseded by the Extractive Use Overlay while the area is being mined.

#### 4. Standards for Construction Aggregate

Granitic rocks occur in a wide north-south band commencing approximately 10 miles from the coast. These are plutonic rocks belonging to the Southern California Batholith which extends for a distance of over 800 miles from Riverside to the tip of Baja California. These plutonic rocks consist mainly of tonalite and granodiorite, with lesser amounts of gabbro and granite. Despite this wide distribution very few areas have been tested for PCC aggregate use within San Diego County. The following information is taken from the California Division of Mines and Geology Special Report 153 (1982):

"Aggregate raw material at the pit or quarry site is rarely all physically or chemically suited for use as PCC aggregate. Therefore, every potential deposit must be tested to determine how much of its various components can meet specifications for PCC or other uses and what processing is required.

"These specifications for various uses of aggregate material have been established by several agencies, such as the Water and Power Resources Services (formerly the U.S. Bureau of Reclamation), the U.S. Army Corps of Engineers, and the California Department of Transportation (Caltrans), to ensure that aggregate is satisfactory for particular uses. These agencies, as well as other major consumers of concrete, evaluate aggregate for acceptance by using standard test procedures outlined by such organizations as the American Society of Testing Materials and the American Association of State Highway Officials.

"Most aggregate specifications have been established to ensure the manufacture of strong, durable concrete that will withstand the physical and chemical effects of weather and use. For example, specifications for PCC concrete prohibit or limit the use of rock material containing mineral substances such as gypsum, zeolite, pyrite, opal, chalcedony, chert, siliceous shale, volcanic glass, and some acidic volcanic

rocks. Gypsum shortens the setting time of cement, pyrite dissociates to yield sulfuric acid and iron oxide stain, and the other substances contain silica in a form that reacts with alkali substances in the cement to cause deterioration.

"Specifications also call for various grain-size distributions in the various uses of aggregate. For some uses, such as asphalt paving, particle shape is specified. Specification standards set by the California Department of Transportation in 1975 require that at least 25 percent by weight of coarse aggregate ( $\frac{3}{4}$ -inch minus material retained on the No. 4 sieve) used as Class 2 aggregate base material shall be crushed particles. Crushed stone is preferable to natural gravel in asphaltic concrete because broken surfaces adhere to asphalt better than rounded surfaces and the interlocking of angular particles strengthens the asphaltic concrete."

Using several borings taken from the proposed Palomar Aggregates site, Bing Yen and Associates, a geotechnical consulting firm, conducted a series of tests. Testing included compliance with industry specifications for concrete quality crushed rock. Core samples were taken from the site and tested for hardness in accordance with industry testing procedures using the "Los Angeles Rattler" method. The samples were also analyzed for compliance with industry standards for chemical composition (the "sodium sulfate soundness test"), and durability. These tests were reviewed by the State Geologist in the CDMG classification study (Bing Yen and Associates 1990) and are summarized below.

#### Aggregate Tests

	Industry Standard	Palomar Site Results	Complies?
L.A. Rattler <sup>1</sup>			
After 100 Revs.	10% loss	7.7% loss	Yes
After 500 Revs.	45% loss	38.6% loss	Yes
Soundness	10% loss	1.95% loss	Yes
Durability Index	35	93	Yes

<sup>1</sup> Sample tested from depth of 106-110 feet at elevation 524-520 AMSL.

## D. Project Characteristics

This Final Environmental Impact Report (FEIR) addresses the environmental impacts associated with the Major Use Permit (MUP) for the revised Palomar Aggregates Quarry project. In addition to the MUP, the project will require a Reclamation Plan and series of actions and/or approvals from the following agencies: the San Diego Air Pollution Control District, California Department of Transportation, California Department of Fish and Game, U.S. Army Corp of Engineers and the Regional Water Quality Control Board.

The project site occupies 96.4 acres on the north side of SR-76, approximately 1.25 miles east of Interstate 15. The project proposes to establish a rock quarry and processing plants for concrete and

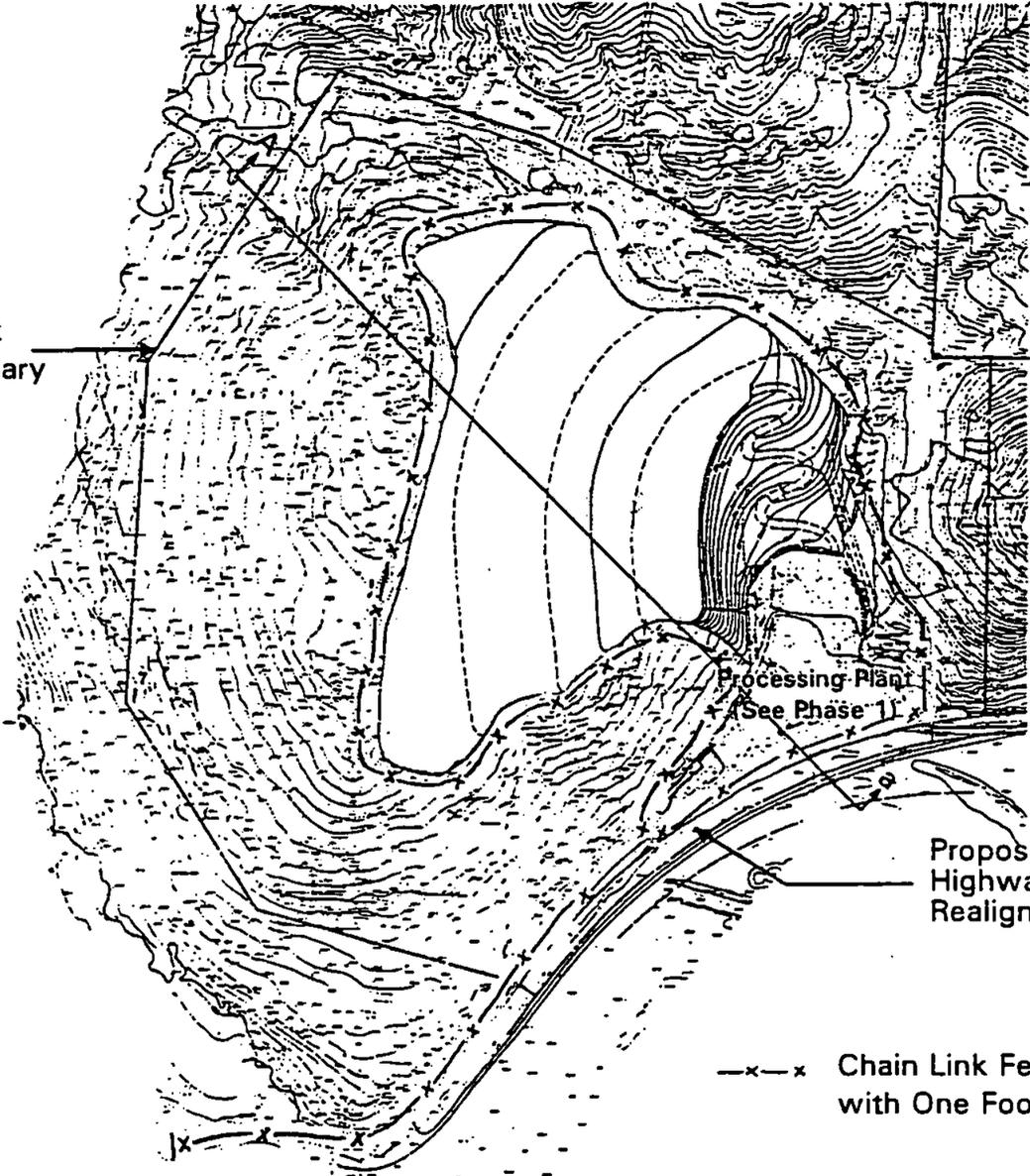
asphalt, thereby impacting approximately 36.0 acres of the 96.4 acre MUP site. Mining would take place primarily on the east facing slopes of a hill known as Rosemary's Mountain, over a period of approximately 20 years. An estimated 22 million tons of rock would be mined. In addition, to the proposed mining and processing operations, a realignment of SR-76 is also proposed, involving approximately 4,500 linear feet of the existing road. The project also includes a Reclamation Plan which would prepare the site for re-use as a water storage reservoir. The following are specific project features.

1. Limiting of Excavation to Eastern Slope. the proposed project limits excavation to the eastern slopes of Rosemary's Mountain. This excavation technique allows for the preservation of the entire western slope which is prominent visual feature of the I-15 Corridor. The project is shown on Figure 4, a cross-section of the mining area is shown in Figure 5 and the Processing Area Layout is shown in Figure 6. See also the Visual/Aesthetics section of this report.
2. Proposed Cut and Deepening of Quarry. The revised mining plan (Figures 7, 8 and 9) calls for a sculpted slope averaging no more than eighty degrees ( $80^\circ$ ) in slope with nooks, crannies and ledges created to hold topsoil and vegetation (Figure 10). An  $80^\circ$  slope is equivalent to a slope ratio of approximately .18:1 (.18 feet horizontal: 1 foot vertical). The selection of an  $80^\circ$  excavation slope is in accordance with the Industry Safety Code (Article 12, Section 6.9 (e)) governing excavation of sand, gravel and similar material where the face of the excavation is composed of "firmly cemented or consolidated material". Other than the soil mantle, the rock found at the proposed site is firmly cemented or consolidated material. The Industrial Safety Code also stipulates that an  $80^\circ$  slope can be no higher than the reach of the equipment being used, for the safety of the workers. The proposed mining plan meets this requirement by utilizing a step-by-step mining plan consisting of initial benched cuts (33-foot vertical by 66-foot horizontal). At the final reclaimed face where the slope would exceed equipment height, the Industrial Safety Code would be met by draping the face with wire mesh secured with rock bolts.

As recommended in the Geotechnical Feasibility Study (Bing Yen and Associates 1990), a geotechnical engineer or engineering geologist would inspect and map the exposed rock surface on a weekly basis over the life of the project. Visual inspection of the exposed rock would enable him/her to determine stability. Benches would remain in critical areas where determined necessary by the engineer. The benches would blend into the sculpted face and would be utilized as planting ledges. Mining would be to a depth of approximately 200 feet AMSL. The increased mining depth would increase the capacity of the proposed water reservoir described in the Reclamation Plan.

3. Rock Sculpturing, Staining and Revegetation. Mitigation measures proposed with the mining plan including rock sculpturing, staining and vegetation. Final blasting would be done under the supervision of a blasting engineer and a landscape architect who will design an irregular rock surface that will resemble natural conditions. This, in effect, will be a "sculpted" rock surface with ledges, nooks and crannies which would be able to receive and trap soil (Figure 10). Wire mesh would be draped over the surface and secured with rock bolts. An example

Permit  
Boundary



Processing Plant  
(See Phase 1)

Proposed  
Highway 76  
Realignment

-x-x Chain Link Fence Topped  
with One Foot of Barbed Wire

Brian F. Mooney  
Associates



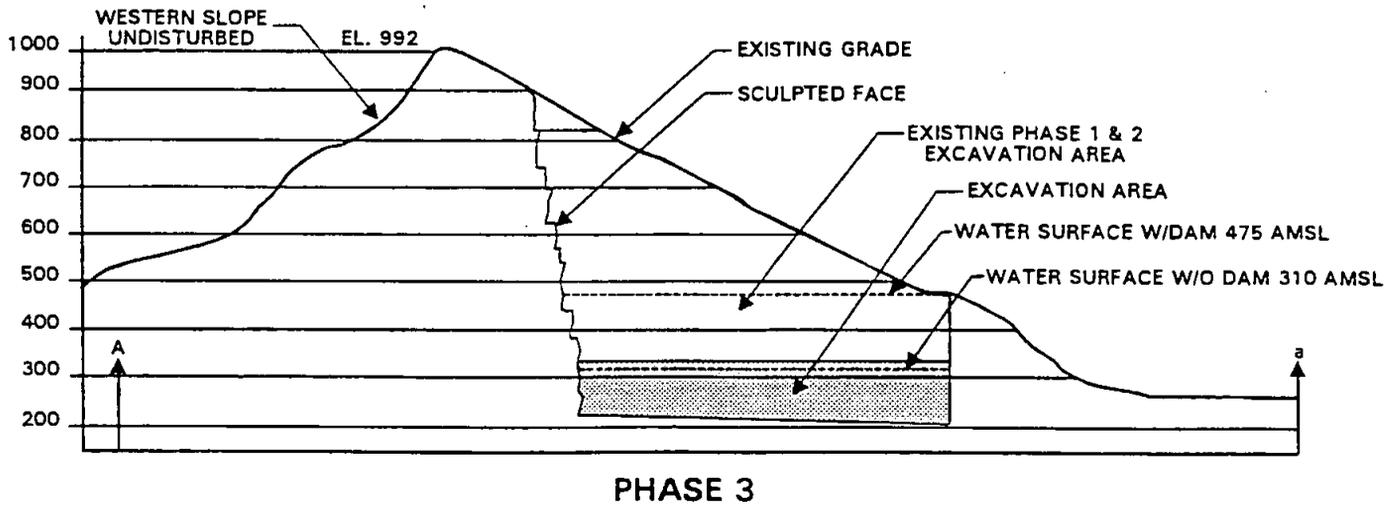
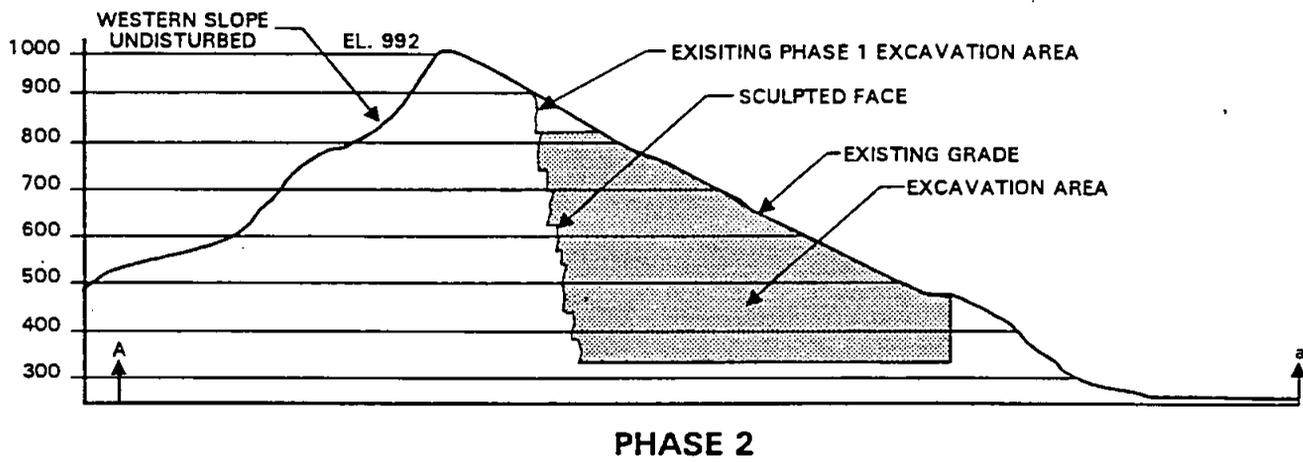
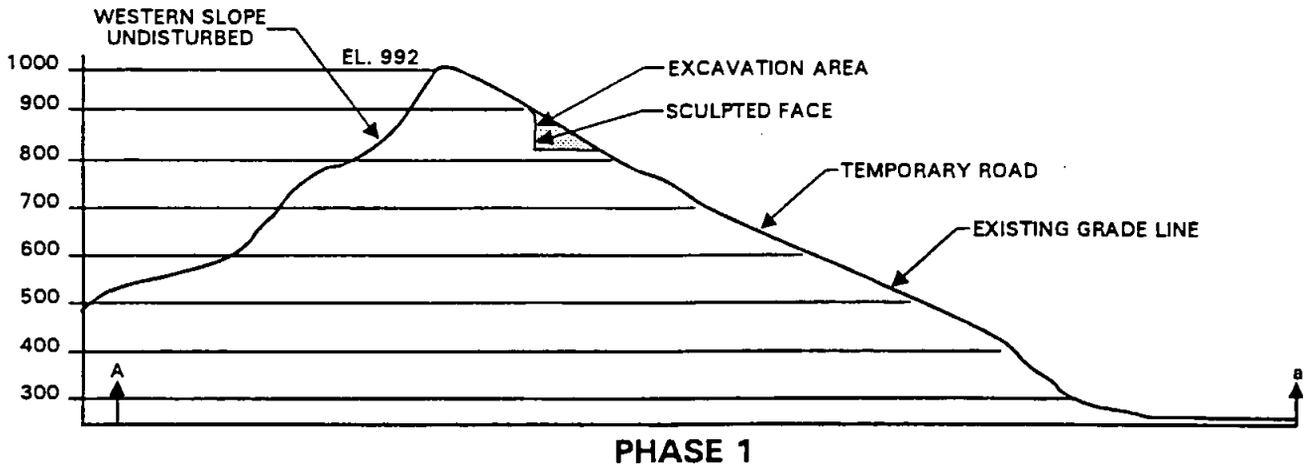
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Plot Plan

Figure 4

Palomar Aggregates Quarry EIR



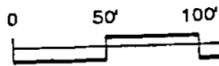
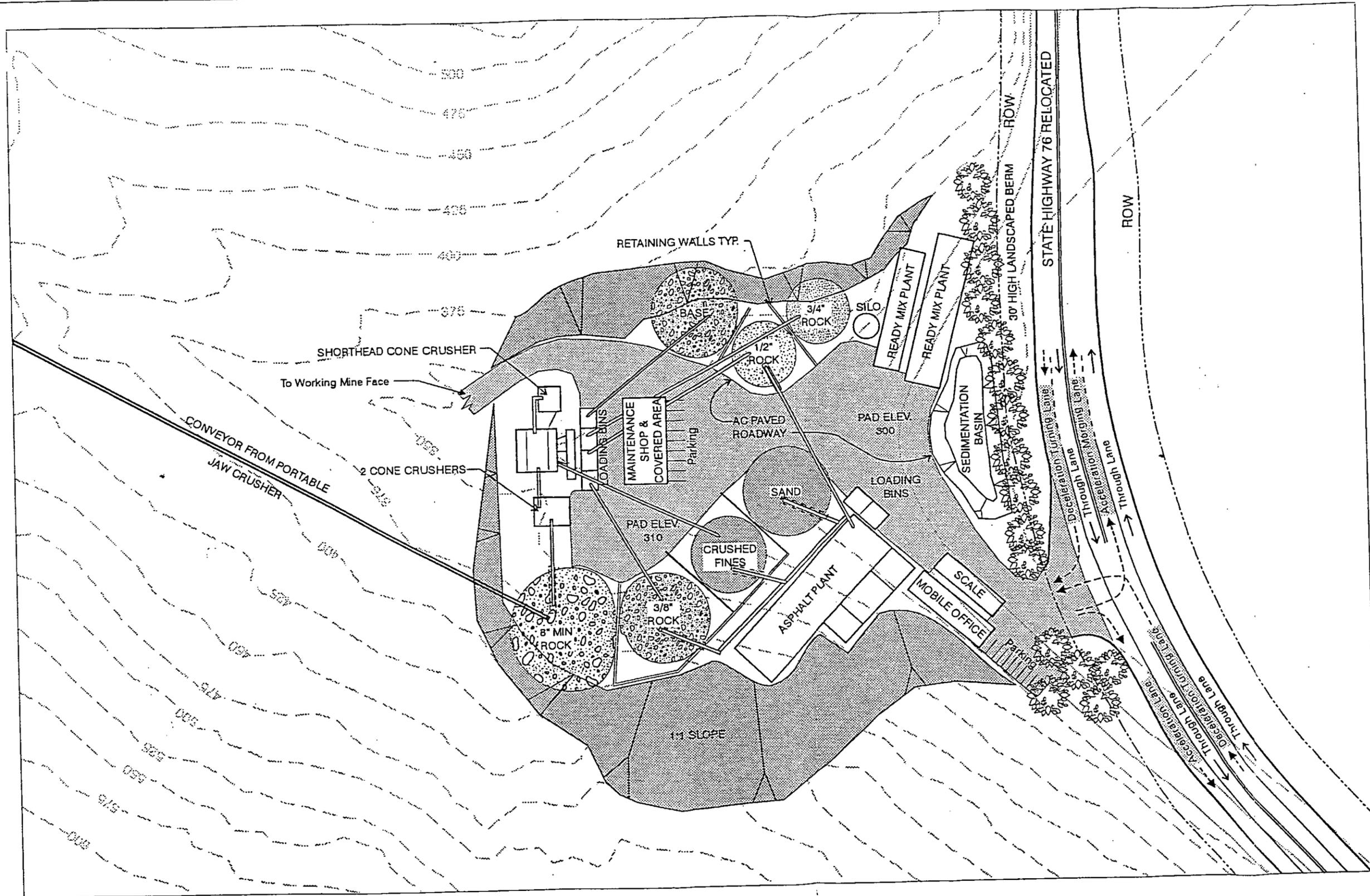
**Brian F. Mooney  
Associates**

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**Cross-Sections**

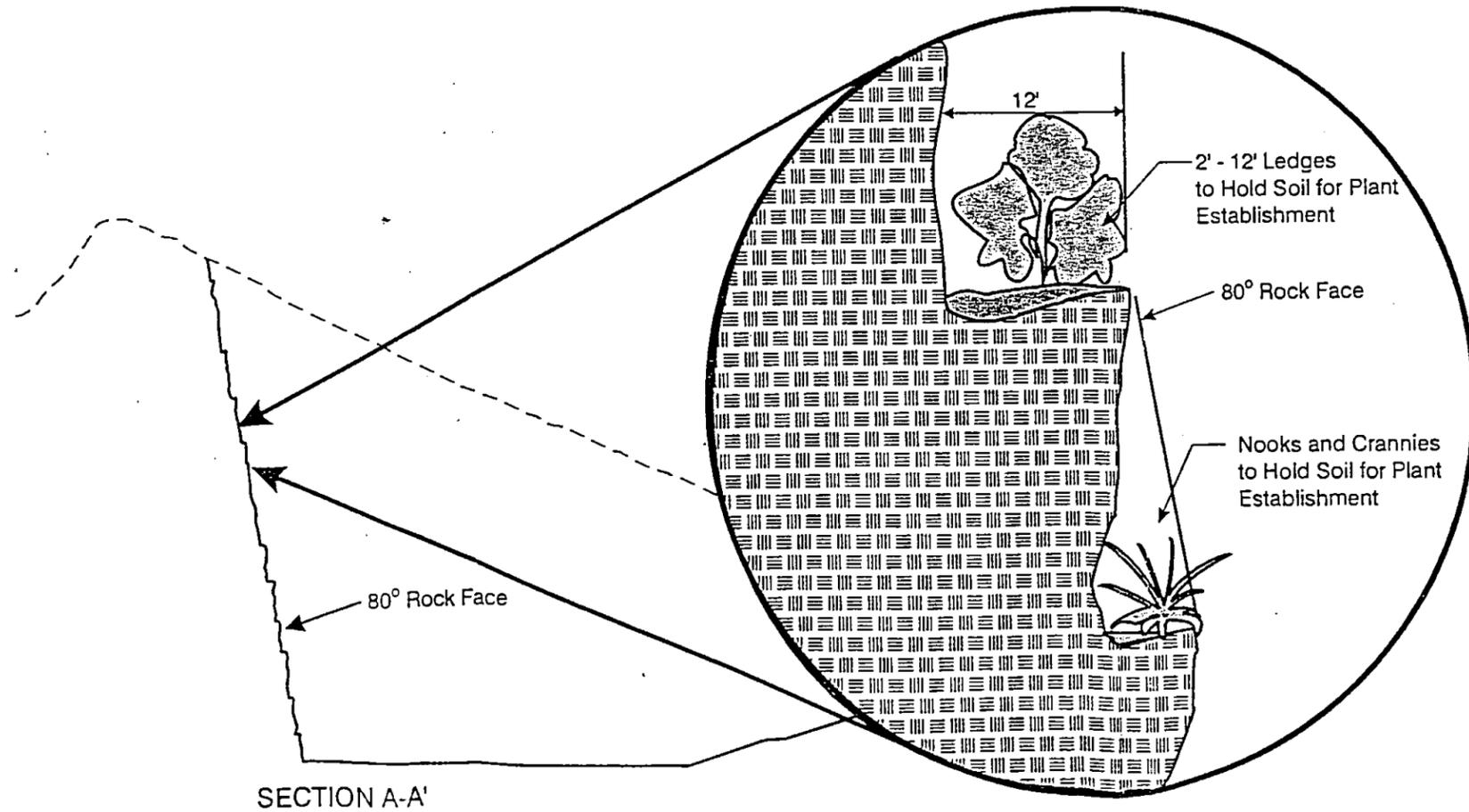
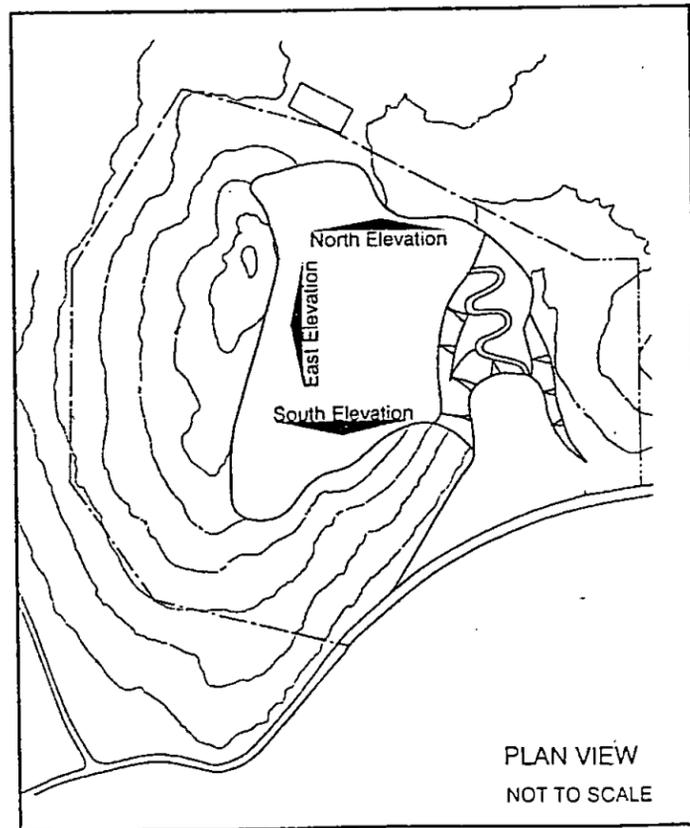
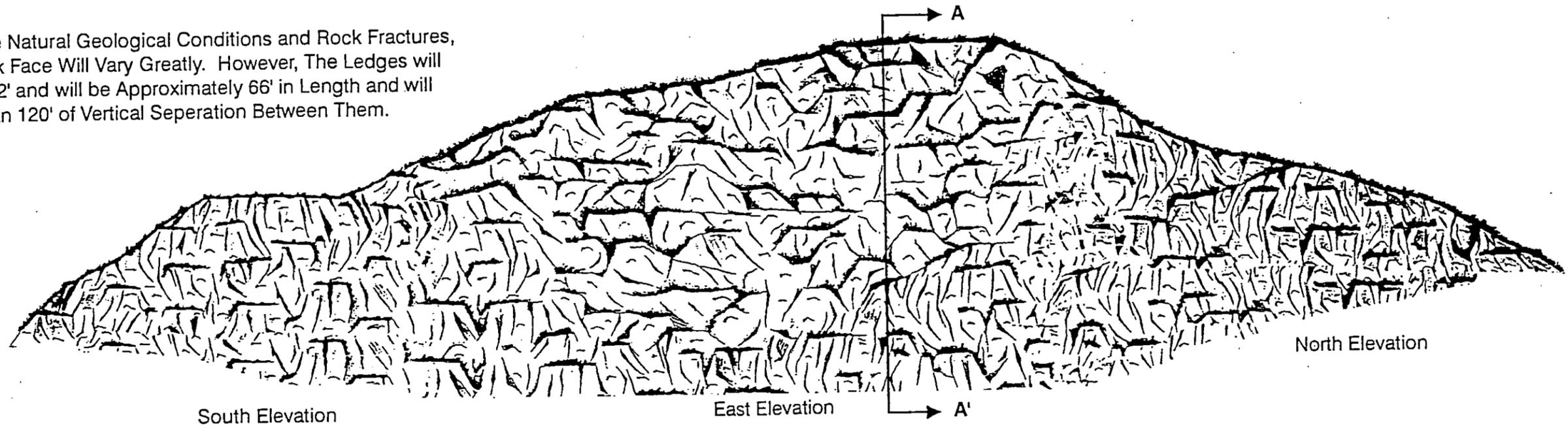
Figure 5

Palomar Aggregates Quarry EIR



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NOTE: Due to the Natural Geological Conditions and Rock Fractures, the Finished Rock Face Will Vary Greatly. However, The Ledges will Range from 2' - 12' and will be Approximately 66' in Length and will have no more than 120' of Vertical Separation Between Them.



**Brian F. Mooney  
Associates**

0 150' 300'

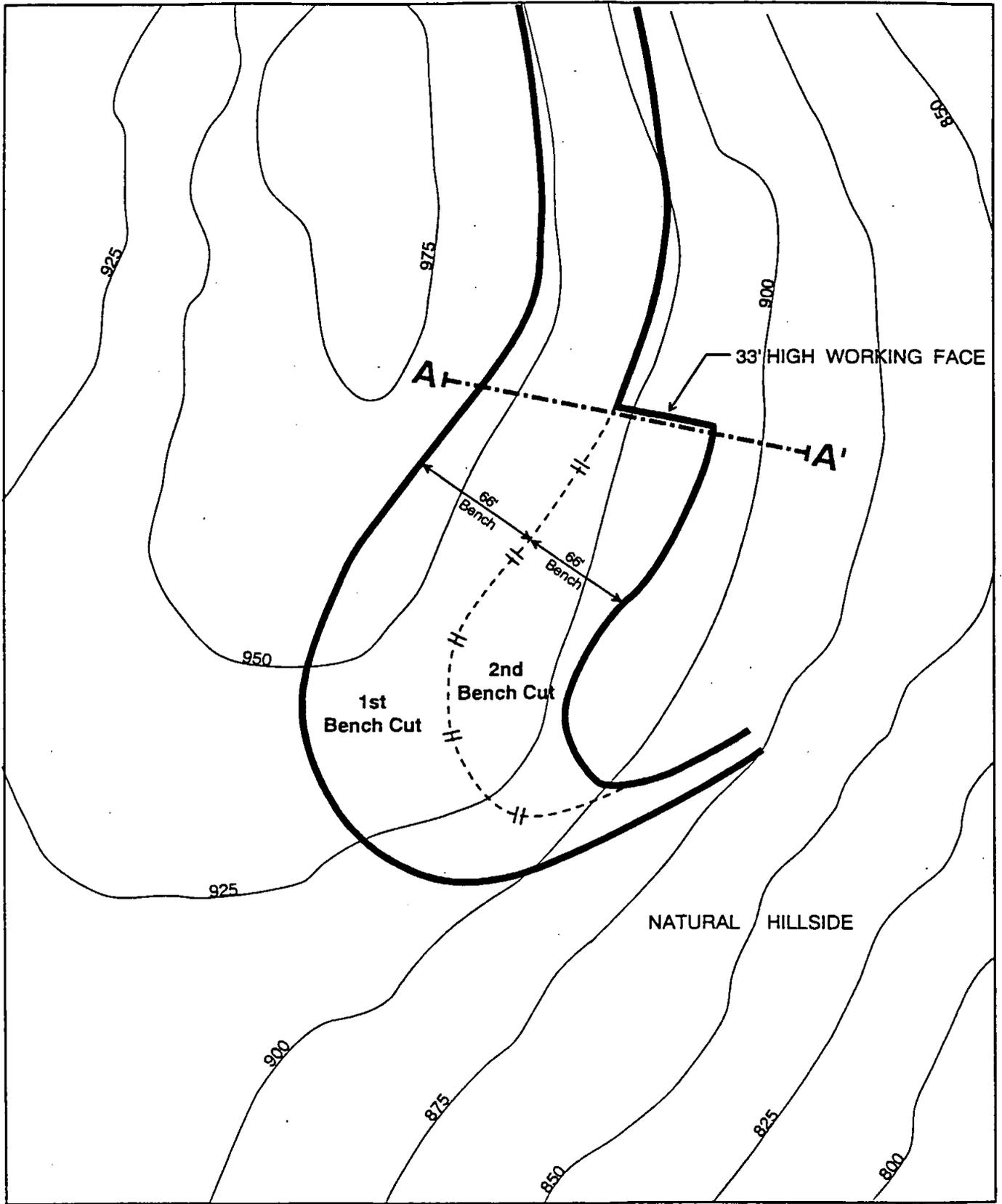
Reclaimed Mine Face Elevation

Figure 10

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Palomar Aggregates Quarry EIR

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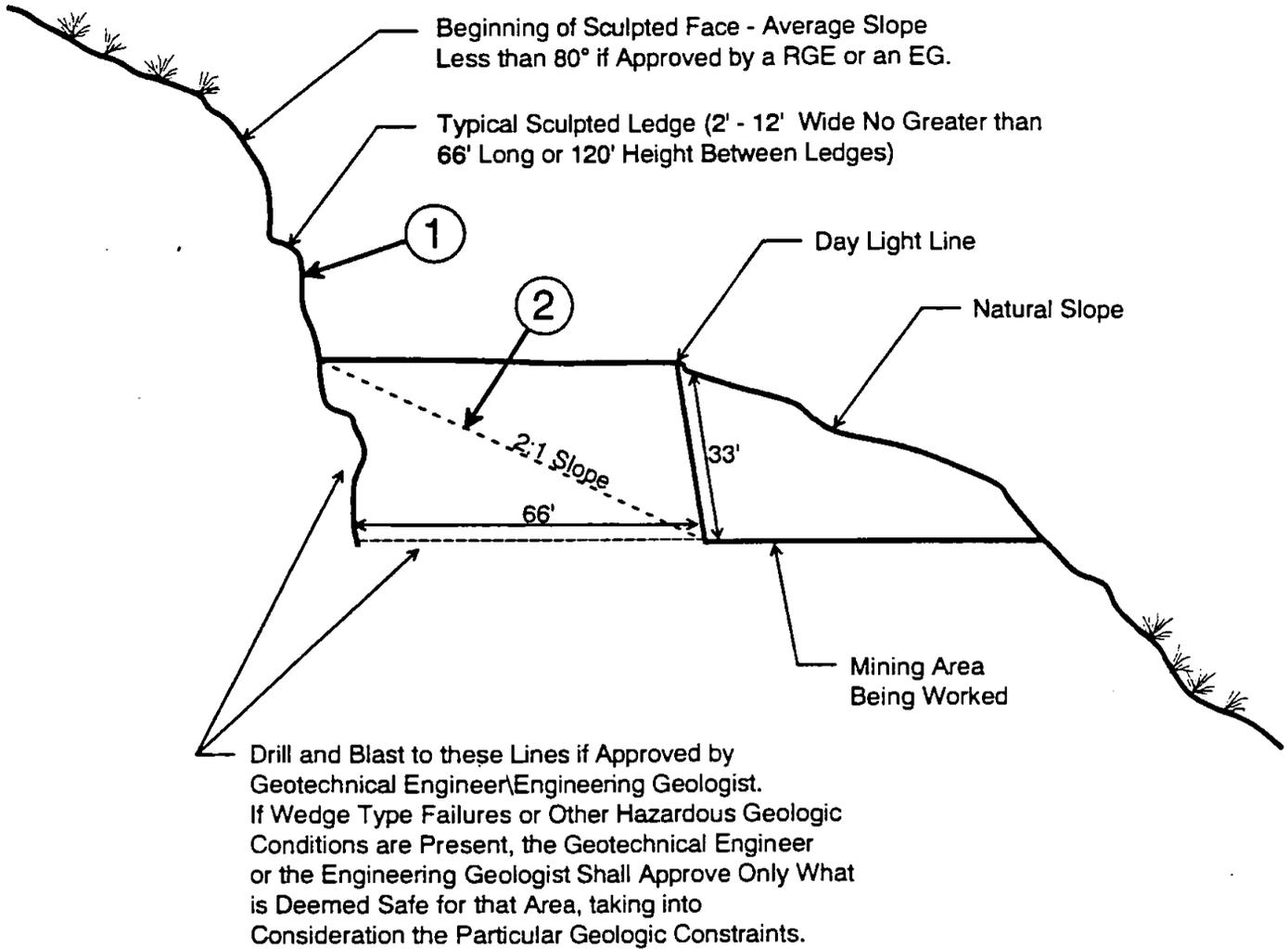


A-----A' = Cross Section Detailed on Figure 8.

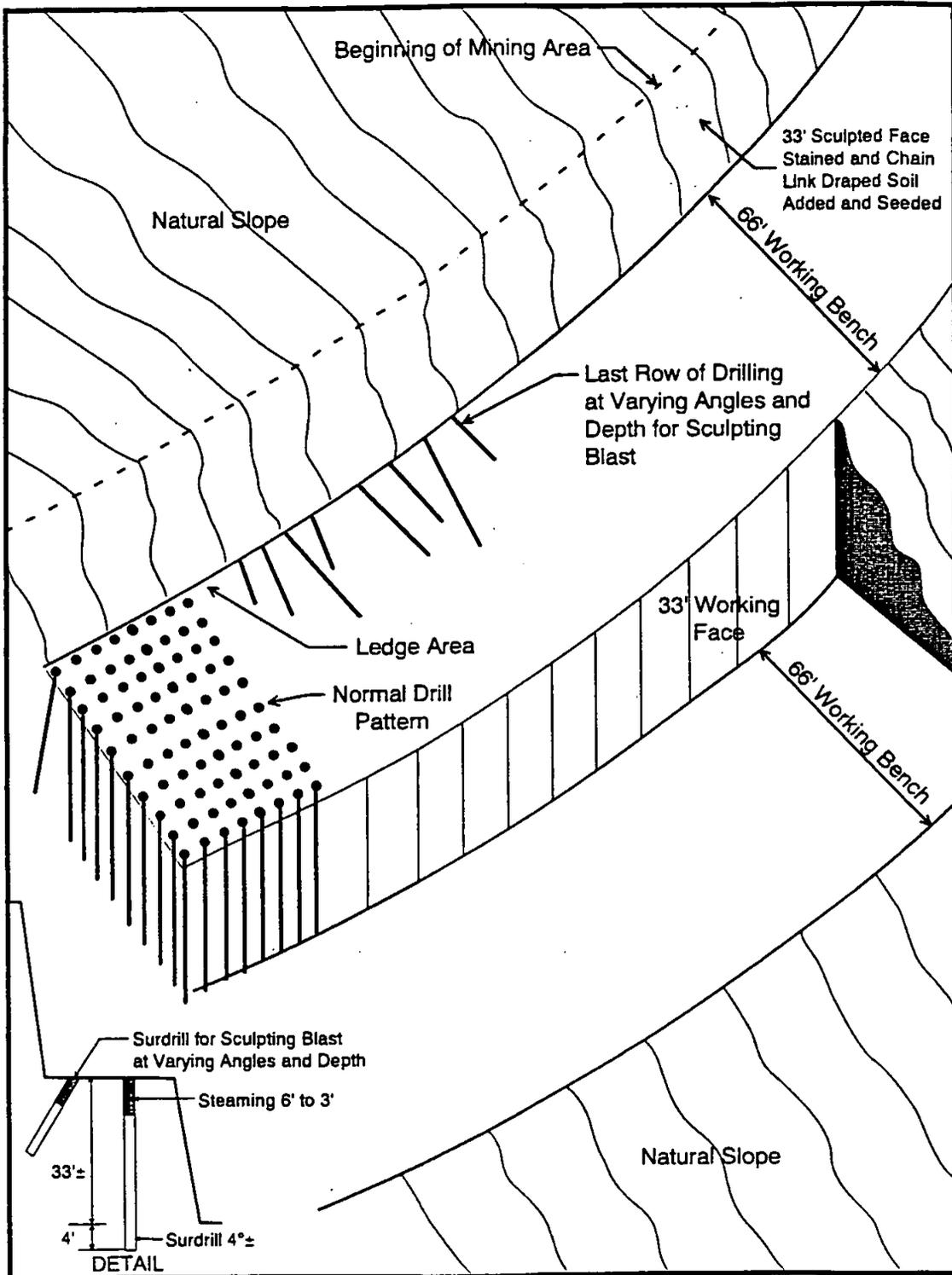
**Brian F. Mooney  
Associates**



**Mining Plan**  
006162  
Figure 7



- ① Vertical Cut if Approved by RGE or EG.
- ② Bench Cut if Vertical Cut is Not Approved by a RGE or an EG.



NOTE : LAST ROW OF DRILLING TO BE PLANNED BY BLASTING ENGINEER AND LANDSCAPING ARCHITECT TO CREATE AN IRREGULAR NATURAL LOOKING ROCK FACE WITH LEDGES, NOOKS AND CRANNIES TO HOLD SOIL AND NATURAL GROWTH. GEOLOGIST WILL LOCATE NATURAL ROCK FRACTURES AND OTHER FEATURES AND WORK WITH THEM TO ATTAIN MAXIMUM AESTHETIC VALUE WHILE PRESERVING STABILITY.

**Brian F. Mooney**  
Associates

NOT TO SCALE

006164 Blasting Plan

Figure 9

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of rock sculpting most nearly comparable to the height of the Proposed Project was accomplished in the environmentally sensitive area of Glenwood Canyon, northwest Aspen, Colorado. The rock sculpting was so successful that it is difficult to detect the original environmental disturbance (see Figure 72).

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Table 1. Hydroseed Mix

Hydroseed Mix		Lbs/Acre	Purity/Germ
<i>Atriplex canescens</i>	Four wing saltbush	4	90/40
<i>Atriplex semibaccata</i>	Creeping saltbush	10	90/80
<i>Baccharis sarothroides</i>	Broom baccharis	8	5/40
<i>Cistus corsicus</i>	Rockrose	4	98/75
<i>Eriogonum fasciculatum</i>	California buckwheat	8	10/65
<i>Eriophyllum confertiflorum</i>	Golden yarrow	3	30/60
<i>Festuca megalura</i>	Zorro fescue	5	90/80
<i>Lotus scoparius</i>	Deerweed	5	90/60
<i>Plantago insularis</i>	Plantain	40	98/75
<b>Total</b>		<b>87</b>	

4. Reclamation Plan. The site reclamation will create a quarry suitable for use as a water storage reservoir for agriculture, emergency public water storage, or water reclamation. Section G of the Project Description describes these potential uses and the possibility of also creating a dam to increase the water storage capacity. In the event that the reservoir is not implemented, the site would still be usable by Pankey Ranch for agricultural related activities.

5. Realignment/Widening of State Route 76. State Route 76 would be realigned and widened as part of the proposed project. The realignment would eliminate existing short radius curves just west of the project site. The road would be widened from two lanes to four lanes between I-15 and the western boundary of the project. State Route 76 would then transition from four lanes to three lanes at the western boundary and then back to two lanes just east of the project. The alignment is addressed in the Traffic/Circulation, Biology, Cultural Resources, and Hydrology/Erosion Control sections of this report. This road widening is proposed by the applicant.

Since the existing road forms the north bank of the San Luis Rey River floodplain and the proposed realignment would add an additional lane extending south and eliminating the short radius curve in front of the project site, a "Major Encroachment Permit" would be required from Caltrans. This permit would involve the preparation, by Caltrans, of a "Project Study Report"; followed by a "Project Report" which would include an engineering design prepared by a civil engineer, as well as an environmental review. Final construction documents would be prepared ("Final Design") and the encroachment permit issued. The process would also include the abandonment and obliteration of the relocated portion of the roadway. A U.S. Army Corps of Engineers "404" permit and, possibly, a 1601 or 1603 agreement from California Department of Fish and Game, would be required for the road realignment project.

## E. Proposed Extractive and Processing Operations

1. Site Preparation. A chain link fence, topped with one foot of barbed wire would be erected around the mining area to prevent unauthorized access as shown on the plot plan. This fence shall be extended westward along the north side of SR-76 to meet the existing fencing at the entrance to Pankey Ranch. This extension of the fence is intended to prevent accidental impacts to two recorded archaeological sites as discussed in the Cultural Resources Section of this FEIR. Beginning on the east side of the hill at approximate elevation 915 AMSL, site preparation activities would start with the removal of vegetation and soil overburden, which would be used in the construction of a landscaped berm along SR-76, and other areas to be landscaped. Decomposed rock and small boulders just below the surface would also be removed by conventional earth-moving equipment and used as fill for widening of Highway 76. SR-76 would be realigned during the site preparation phase, as shown on the plot plan. Since the realignment would necessitate placement of fill material into the San Luis Rey River floodplain, U.S. Army Corps of Engineers "404 Permit" review would take place prior to construction of the realigned roadway.
2. Mining. Once the processing plant is in place, mining would begin by drilling and blasting along the east-facing slope of the site, working down from approximate elevation 915 AMSL. Figures 7, 8 and 9 show the mining procedures. Note that for the most part all finished slopes are to be no more than 80° having an irregular sculpted face with natural appearing ledges, nooks and crannies (see Figure 10).

Blasting would be done approximately once a week by a licensed blasting contractor. As the mining pit is a relatively confined area, the site would be cleared of all personnel prior to blasting. Blasting involves drilling along the mining face, setting the charges, and finally

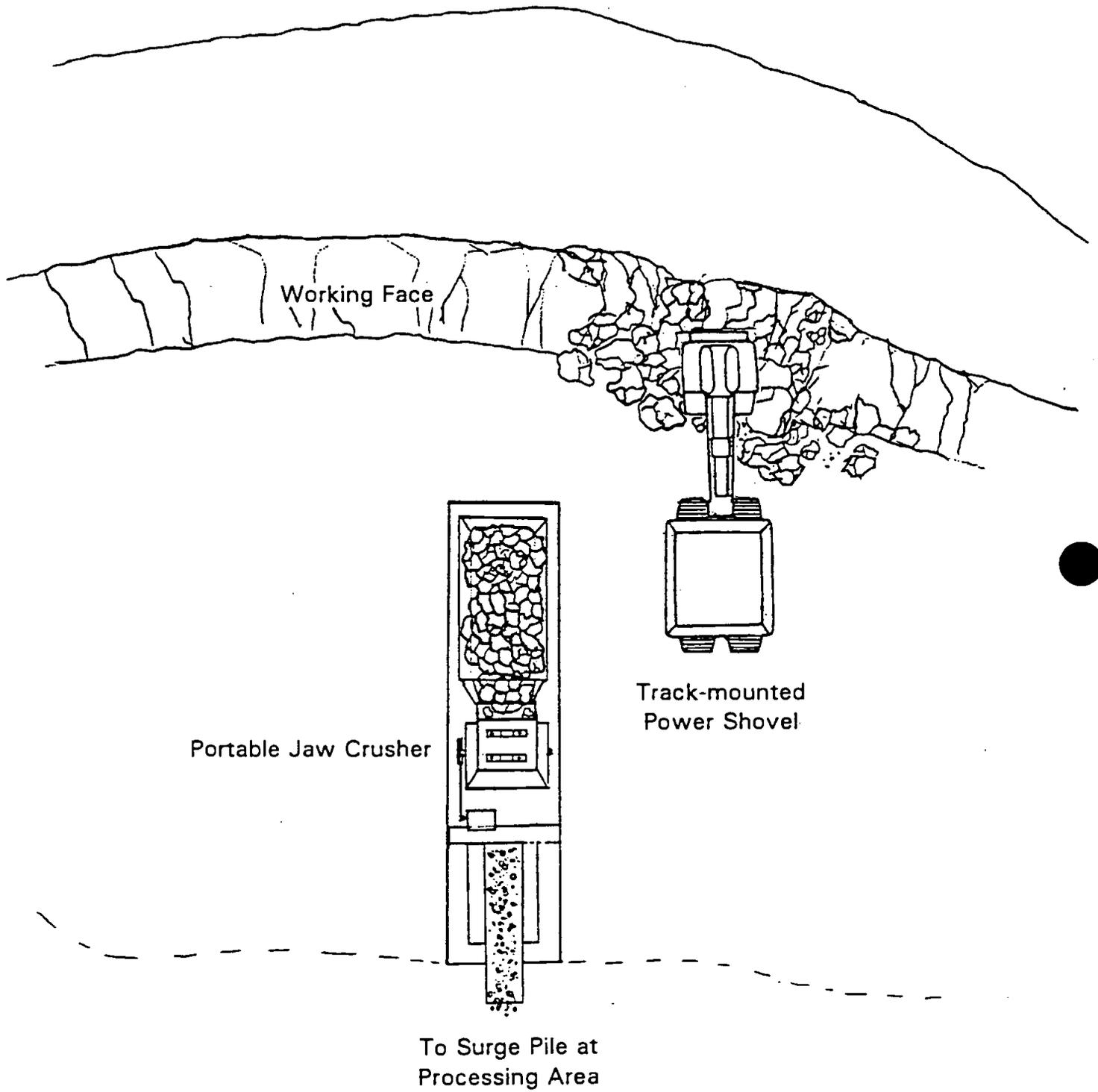
detonation. A preliminary blasting and mining plan was included in the Preliminary Geotechnical Investigation for the proposed Palomar Aggregates Quarry Site prepared in October of 1990 (Bing Yen and Associates 1990). The preliminary blasting has been updated (January 1995) to reflect newly proposed sculpting techniques (see Figure 9). Sculpting techniques are described further in Appendix B of this FEIR and the mine face configuration is discussed further in the Reclamation Plan included in this FEIR as Appendix C. According to the mining plan, the blasting operations would proceed as follows:

Two units of track drill would probably be required to drill 150 blast holes (3½ inch diameter at about 36 feet deep each. Holes would be spaced at approximately 8 foot intervals. When blasting into the bench, more (but shorter) blast holes would be required when proceeding northward into the face due to the sloping hillside.

Explosives are then set in each hole with a stemming of about 7 feet, in other words the outer 7 feet is plugged with dirt or sand. Assuming a 7 foot stemming, each hole would require approximately 103 pounds of ANFO, an explosive ammonium nitrate mixture. Dynamite charges and blasting caps would be brought to the site by the contractor for each week's work. No such material would be stored overnight on the site. Charges are then triggered sequentially by wire. The actual detonation is very quick with about 100 blasts in a two second period. This sequential blasting technique is done to reduce ground-shaking.

Once a working face has been blasted, the loosened material would be moved and loaded by a track-mounted power shovel into a mobile jaw crusher located near the face being worked. The jaw crusher would be mounted on a platform which moves on treads along the face being worked. It is 14 to 16 feet in height, and will crush blasted rock to 6-inch minus size, which will be conveyed to the cone crusher at the plant site. Figure 11 illustrates this removal and initial crushing process. At the end of Phase 2, the bottom of the pit would be at approximate elevations 325-350 AMSL; and the walls of the pit would be a maximum height of approximately 565 feet. Mining during Phase 3 would lower the bottom of the pit an additional 125-140 feet, where its lowest elevation would be at 200 feet AMSL. The maximum cut height would now be approximately 715 feet. The 10-foot height differential is due to the design of the quarry floor, which would slope downward from the base of the cut in order to provide adequate drainage (see Figure 5). During this final phase of mining, the working area of the pit would be mined to below the elevation of the processing plant with a finished intervening grade between the pit and the plant area having a varied slope ratio of 3:1 (i.e., 3 feet horizontal to 1 foot vertical) to 1:1 (1 foot horizontal to 1 foot vertical). Sheet 3 of the Major Use Permit plot plan shows how access to the pit would be maintained during this final phase of excavation.

The Proposed Project blasting and mining plan is designed to result in a reclaimed rock face. As the mining reaches the surface area which is to be the final reclaimed surface, the method of blasting hole placement and gradient would change (see Figures 8 and 9). Final blasting would be done under the supervision of a blasting engineer and a landscape architect who will design an irregular rock surface that will resemble natural conditions. This, in effect,



will be a "sculpted" rock surface with ledges, nooks and crannies which would be able to receive and trap soil (see Figure 10). Wire mesh would be draped over the surface and secured with rock bolts. An example of rock sculpting most nearly comparable to the height of the Proposed Project was accomplished in the environmentally sensitive area of Glenwood Canyon, northwest Aspen, Colorado. The rock sculpting was so successful that it is difficult to detect the original environmental disturbance (see Figure 72).

Permeon, a non-toxic rock stain that has been developed by the University of Arizona would then be applied to the rock face. Permeon, a non-toxic rock stain consisting of iron salts, magnesium salts and trace elements will be applied to the rock surface by a manufacturer trained professional. As well as staining without environmental damage, the Permeon would release small amounts of nitrogen which would have a fertilization effect. Thus, the Permeon would actually enhance vegetative growth. The application which is colorless when first applied, is formulated to match the variation of colors of the adjoining rock surfaces. Full colors would develop in one to two weeks, depending on temperature and exposure to sunlight. Additional staining may be required on completed sections of the final face in both vertical and horizontal directions to assure a natural looking face. After application of Permeon, soil would be placed on the ledges and within the nooks and crannies and a hydroseed mix of native vegetation would be applied (see Table 1). Permeon has been successfully used throughout the Western States. Examples in San Diego County include the staining of concrete cliffs at Point Loma. After application of Permeon, soil would be placed on the ledges and within the nooks and crannies and a hydroseed mix of native vegetation would be applied.

The wire mesh installed on exposed rock faces would prevent falling rock from bouncing out and endangering personnel, equipment, and future uses of the site. The wire mesh will be installed by first preparing a section sufficient in length to cover a freshly exposed face. The mesh would then be rolled up, transported to the appropriate site, attached to existing mesh, draped over the fresh face, and secured with rock bolts. If maintenance of the wire mesh located on the rock face is required, it will be done in accordance with appropriate safety standards. A permanent fund or bond would be established by the project proponent to perpetuate necessary maintenance.

Specifications for the wire mesh used in surface mining operations have largely been developed from empirical work. Chain-link material for mining operations, available from many manufacturers, is produced in three typical gauges: 6 gauge (0.192 inches), 9 gauge (0.144 inches), and 11 gauge (0.116 inches). The standard mesh opening sizes used for mining work are 2-inch, 3-inch, and 4-inch. The maximum available roll width of chain-link is normally 12 feet, and roll lengths are typically available up to 50 feet; rolls of chain-link can be joined together to increase the width and/or length as appropriate for specific locations. The gauge, mesh size, and section length/width will be determined once mining is underway by a qualified geotechnical engineer or geologist. Galvanized wire, which typically lasts in excess of 20 years, will be used for long life. Should a section deteriorate, it will be replaced.

Specifications for anchors used to support the weight of a wire mesh section depend on local conditions and will be determined by a qualified geotechnical engineer or geologist. The

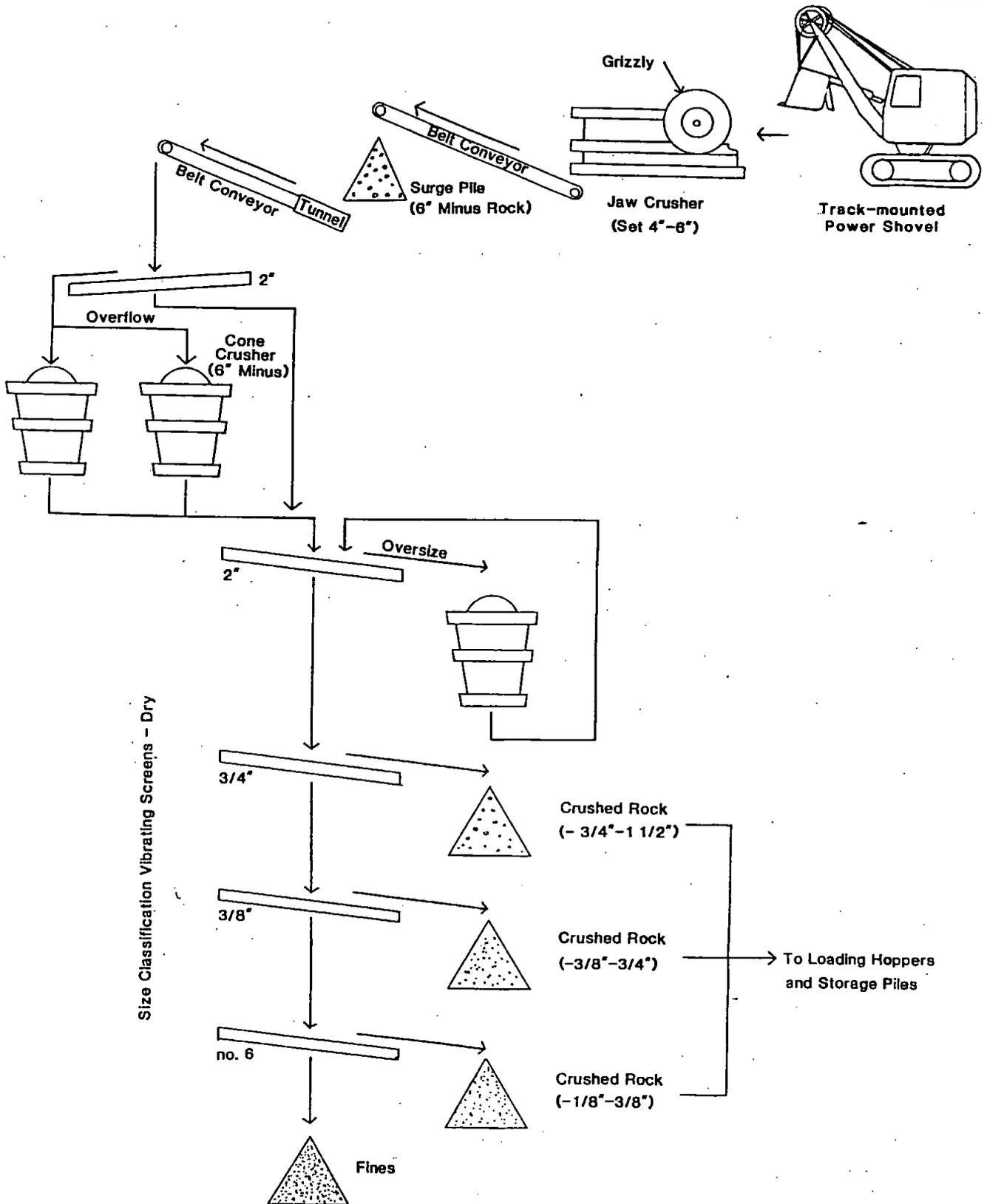
diameter and length of the rock anchors will primarily be based upon the frequency, spacing, and orientation of the joints in the rock mass. The type of anchor to be used for this application will be the resin rebar bolt. To install a resin rebar bolt, a hole is drilled that is slightly larger in diameter and slightly longer than the bolt to be used. A number of resin cartridges are then inserted in the drilled hole. The anchor bolt, which has a pointed end, is then pushed into the hole and rotated. This mixes the cartridges together to enable the formation of a hardened resin. The rock anchor quickly achieves the full design strength after rotation of the bolt is stopped.

At the Proposed Project location, the wire mesh would be used and maintained as long as any activity is conducted at the base of the cut face. Palomar Aggregates will be responsible for maintenance during the time the mining project is in existence. Any required subsequent maintenance would be the responsibility of the then current land user drawing upon the perpetual fund set up for maintenance. If the area is used for a reservoir, as proposed, the mesh would no longer be required and would be removed as part of reclamation.

In its finished configuration following mining, the peak of the mountain (from approximate elevation 915 upward to elevation 992 and the westerly and southwesterly slopes) would remain undisturbed. The final configuration would result in the removal for processing of approximately 22 million tons of rock. At an approximate rate of 100,000 tons per month, mining would be complete in approximately 20 years.

3. Processing. Aggregate material, reduced by the portable jaw crusher to 6-inch minus size, will be delivered by conveyor to a stockpile (called a "surge pile") at the processing plant. The rock will then be conveyed to the highest level of the plant site to begin the crushing, screening and mixing process. The overall plant layout is shown in Figure 6.

The first step is the cone crushers where the 6-inch rock will be reduced further in size. As shown in Figure 12, a conveyor will feed the 6-inch rock over a screen and into the top of the cone crushers. These crushers will be mounted on steel or reinforced concrete platforms and be 12 to 14 feet in total height. The crushed rock will be discharged out the bottom of the cone crushers and onto another conveyor for transport onto a triple-deck vibrating screen where 1/2-inch, 3/8-inch, 3/4-inch and fine material will be sorted and conveyed to loading hoppers and to storage piles. The screens and loading bins will be 25 to 30 feet in height to permit drive-under loading of haul trucks. Oversize rock rejected by the screens will be conveyed to a "shorthead" cone crusher to be further reduced and returned to the screens. The screens, secondary crushers, and batching plants will all be within enclosures that will have openings only for conveyor belt transportation. Figures 13a and 13b are photographs of typical crushing and processing facilities, including a batch plant. Either the same facilities or similar facilities would be used at the project site. Crushed rock will also be conveyed to the concrete and asphalt plants shown in Figure 6. Concrete uses 3/8- and 3/4-inch rock which will be mixed with sand, cement and water at the ready-mix batch plant. All moving parts on the batch plant will be enclosed in baghouses.

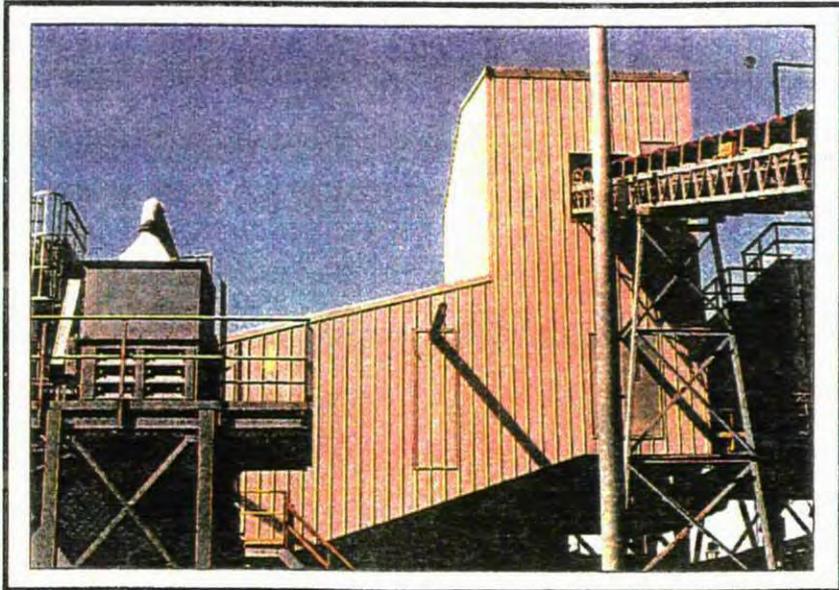
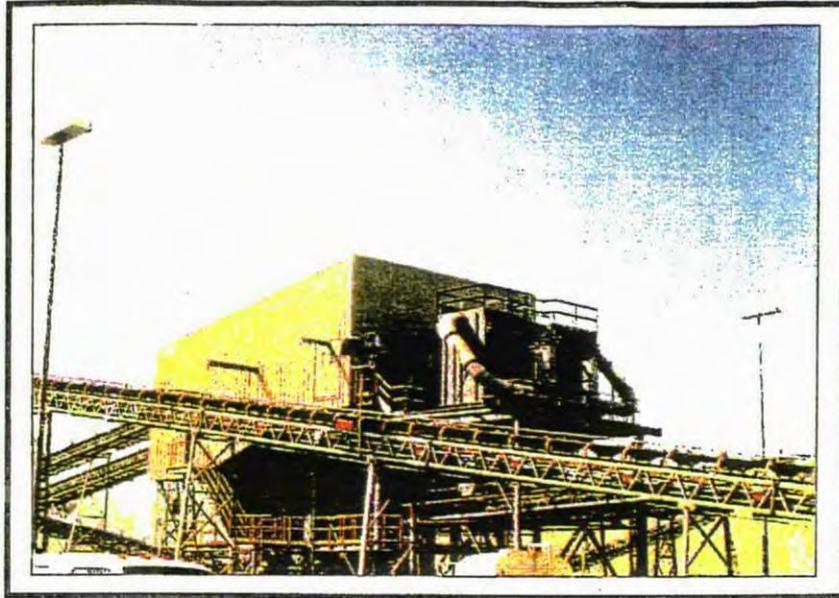


**Brian E. Mooney  
Associates**

NOT TO SCALE

**Typical Rock Crushing Process Diagram**

Figure 12



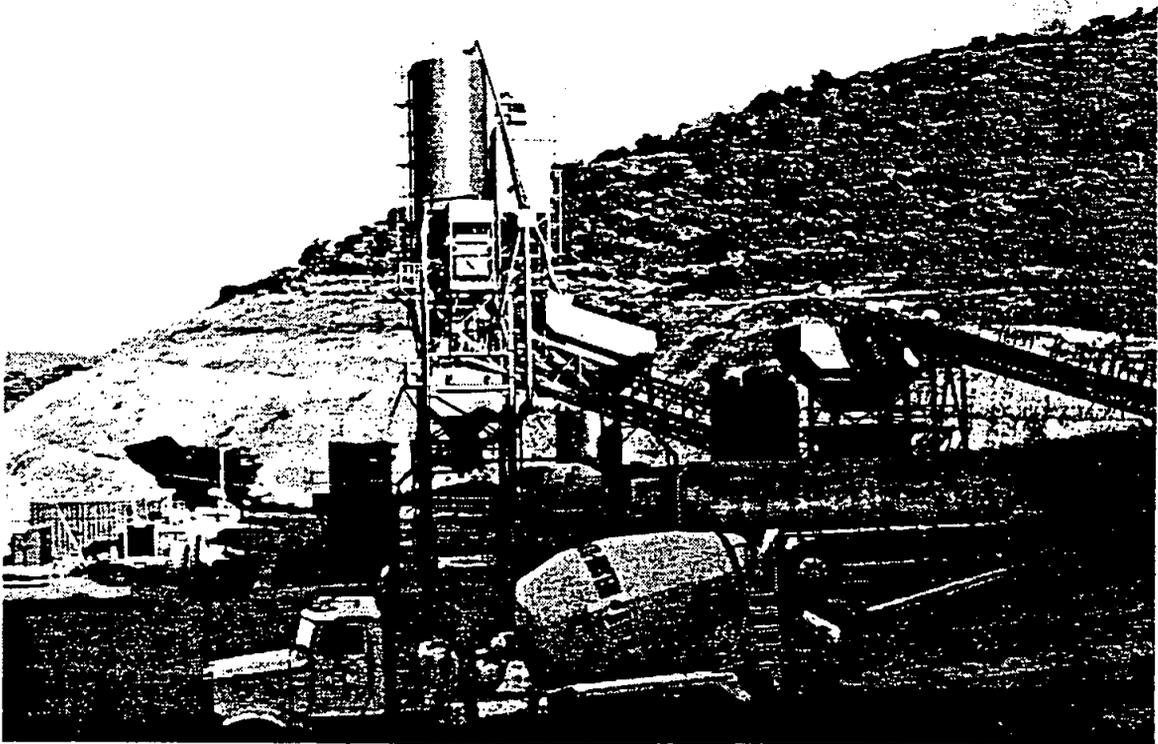
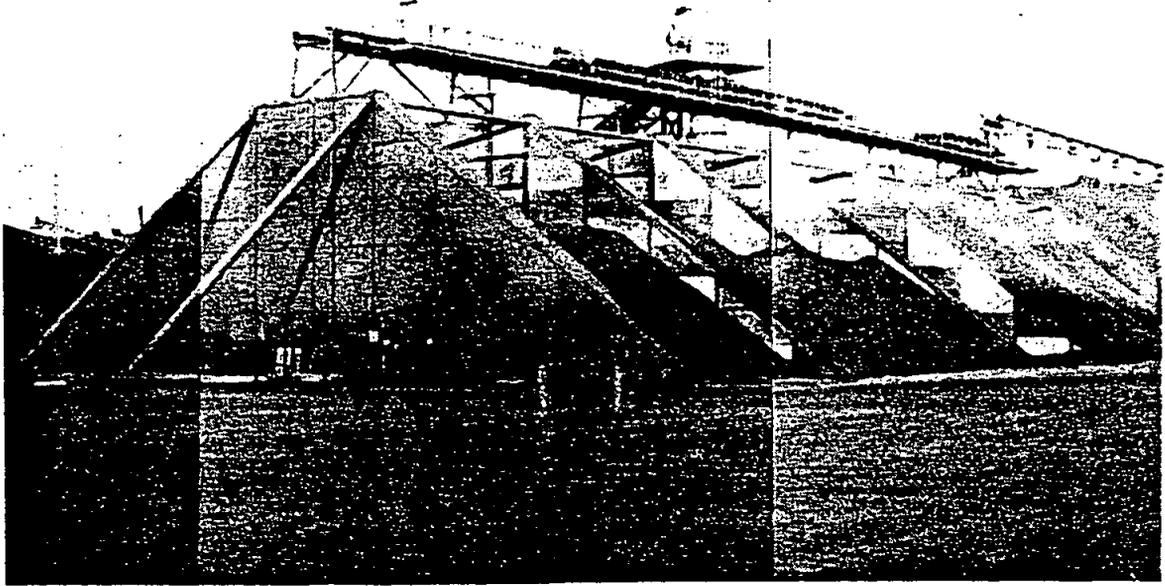
**Brian F. Mooney  
Associates**

**Enclosed Processing Facilities**

Figure 13a

006175

Palomar Aggregates Quarry EIR



**Brian F. Mooney  
Associates**

**Rock Sizing and Transfer to Storage Bins,  
and Typical Batch Plant**  
**006176**

Figure 13b

Rock products leaving the site will be loaded from the loading hoppers directly into single- or dual-trailer (25-ton capacity) trucks which will proceed over the scale and leave the premises. Stockpiled road base material will be moved by conveyor to the loading bins and into dual-trailer trucks and also proceed through the same sequence off-site. Sand, would be generated on-site and when necessary, imported to the site. Imported sand would be purchased from other existing mining operations in the area. These existing operations are located on the Pala Indian Reservation along the San Luis Rey River and to the north.

Sand will be unloaded from "belly dump" trucks to a drive-over sand loading hopper and, by conveyor, to a stockpile. It will then be transported by conveyors to the ready-mix and asphalt plant hoppers. All conveyors will be within tunnels under the stockpiles so that material can be automatically loaded from under the center of the pile and spray-watered to control dust as it exits the tunnel.

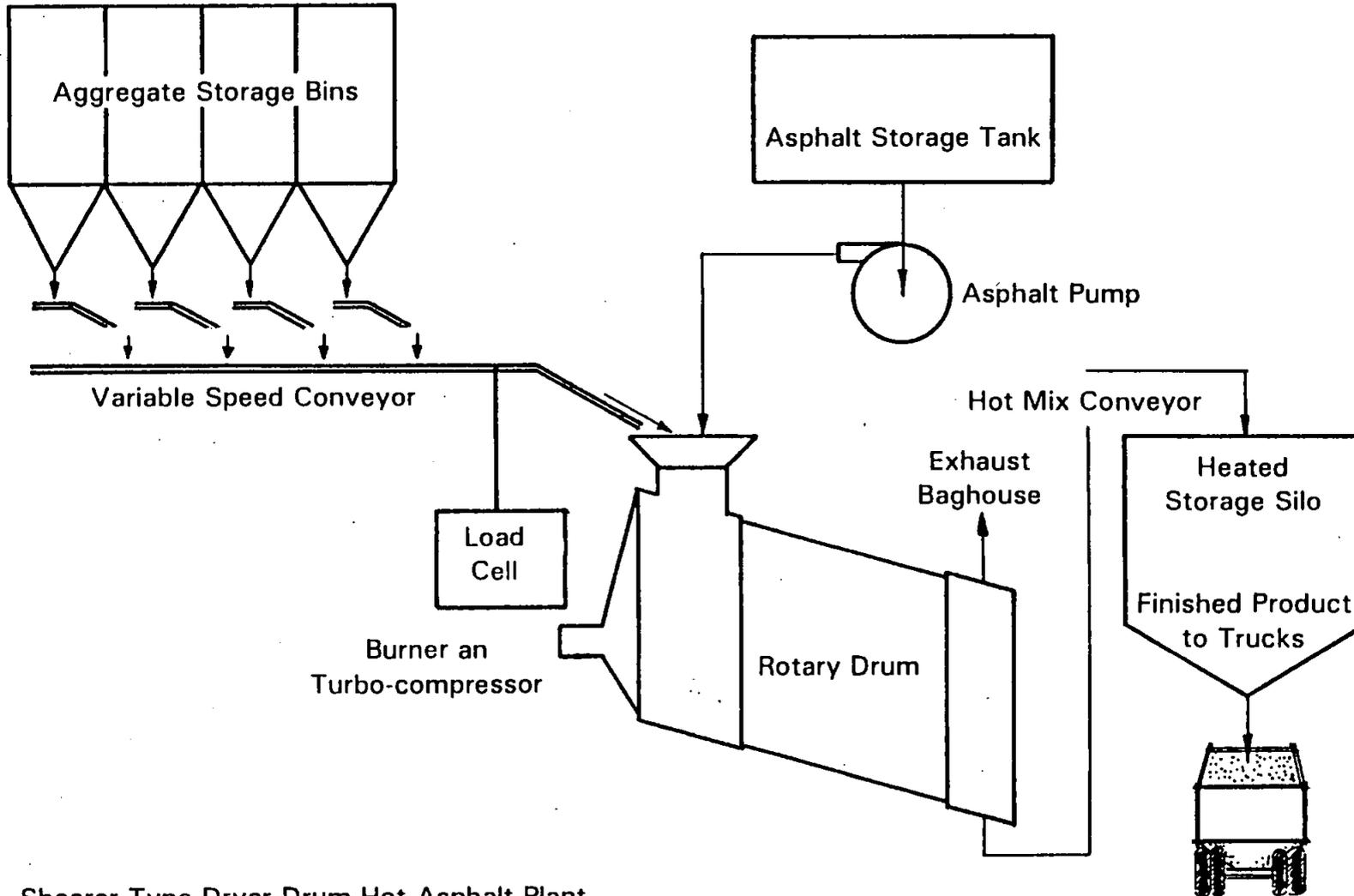
Cement products will be delivered to the site by semi-tractor trailers approximately four times per month and pneumatically conveyed into enclosed storage silos. From there, the cement is batched through a fully enclosed screw conveyor into an enclosed weigh batcher and storage bins.

Crushed rock will be moved by conveyor from the stockpiles into a 10-cubic yard weigh batcher and then into a holding hopper. Water is added from an overhead storage tank at the time the cement and batched aggregate are released from the hopper into 15-ton capacity ready-mix trucks. The storage hopper will be located as shown in Figure 6 and be mounted to permit back-under loading of trucks. Total height of the storage hoppers will be 30 to 35 feet.

For the asphalt plant, sand and varied-size crushed rock are moved by conveyor into a rotary drum where the aggregate is heated to dry and oil products are added, heated and mixed. The resulting "hot mix" is conveyed into a storage silo and released from overhead into 25-ton capacity asphalt hauling trucks for removal to a job site. The overall height of the AC storage hoppers are also 35 to 40 feet. Figure 14 is a diagram of a typical asphalt production process.

4. Product Output. The plant will export 100,000 tons of material per month. Based on 22 average work days per month, this is 4,545 tons per average work day. Of this, approximately 22,500 tons per month will leave the site as ready-mix concrete, approximately 42,500 tons per month will be crushed rock and base material, and 35,000 tons per month will be hot mix asphalt. On a daily basis, quantities of each product exported may vary, though the total export quantity of 4,545 daily tons is not expected to be significantly exceeded. These figures, and the 22 million tons over 20 years are intended to represent the maximum product quantity which would be exported from an efficiently operated, automated plant.

In order to maintain the maximum planned output of ready-mix and asphalt, approximately 425 tons per day of sand will need to be imported or manufactured from rock on-site.



Shearer Type Dryer-Drum Hot Asphalt Plant

006178

**Brian F. Mooney  
Associates**

Not to Scale

Typical Asphalt Production Diagram

Figure 14

Import can be accomplished by a maximum of 17 daily deliveries by 25-ton capacity sand haul trucks. The maximum 425 tons per day of sand is based on 5.25 tons of sand which is added to cement, crushed rock, and water in each ready-mix truck, times 68 trucks per day, which totals 357 tons of sand per day. An additional 1.25 tons of sand per truckload of asphalt, times 55 asphalt trucks per day, yields 68 tons per day. Crusher "fines" rather than mined sand will make up the majority of the sand-size aggregate needed for asphalt production. Figure 12 shows how "fine" material results from the rock crushing and screening process.

5. Hours of Operation. Monday through Friday, the plant would operate between the hours of 6:00 a.m. and 10:00 p.m. During a typical workday, equipment would start up at 6:00 a.m.; the first export truck would leave the site at about 7:00 a.m. and the last truck out would leave the site around 3:30 or 4:00 p.m. The remaining work hours would allow for on-site maintenance activities which would not generate significant traffic or noise. In accordance with federal regulations, road repairs are occasionally made on Saturdays or during the night. Plant operations would be extended on these rare occasions to supply materials required for road repair. It is anticipated that this situation will occur only a few times a year; for example, these circumstances occurred only twice during the year of 1989 at the Moreno Valley Sand and Gravel Plant (Aersterter 1990).

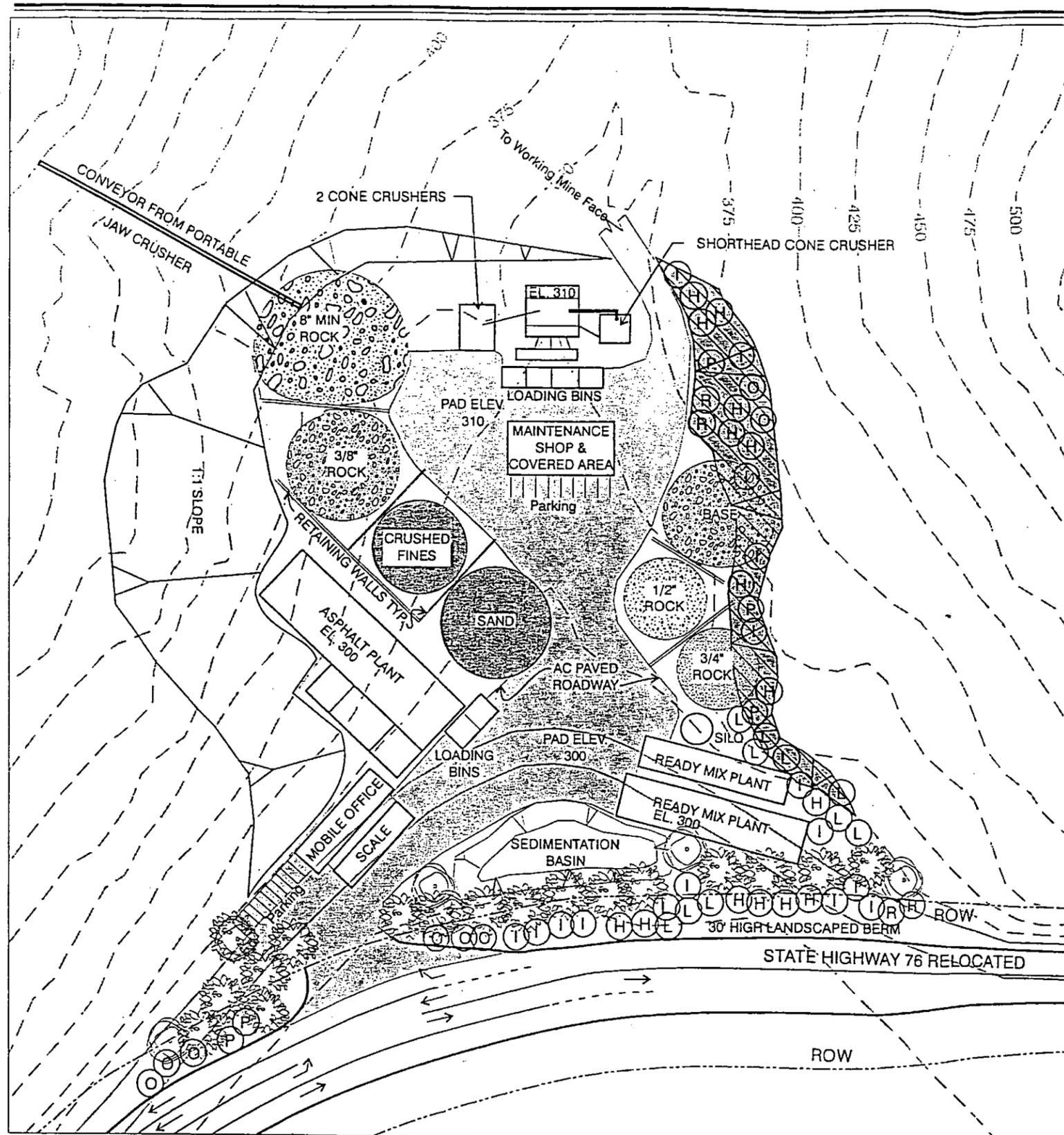
## F. Landscape Concept

The initial phase of landscaping would occur with grading of the processing plant site, and would be installed prior to commencement of mining and processing operations. The primary function of this landscaping will be to block views from SR-76 into the processing plant and to further reduce fugitive dust. All landscaping not associated with the actual mining face, would be installed prior to commencement of mining and processing operations. Landscape materials to be installed would be chosen from native or naturalizing species with rapid growth rates, dense foliage and drought tolerance. Figure 15 shows the initial landscape phase and recommended landscape materials for the processing area and proposed berm.

The main features of the landscape plan are a berm of 30 feet in height along the north side of SR-76. Toyon and Catalina Ironwoods are to be planted on the berm and would reach heights of 50 feet at maturity. A mixture of native and non-native drought tolerant plants would be located continuously along the SR-76, which would provide vegetative cover on the berm within four years.

The cut slope along the eastern project boundary is to be planted with native vegetation, including a hydroseed mixture of native plants.

The proposed mining plan is designed to avoid the horizontal lines typically associated with hard rock quarries. As the mining reaches the surface area which is to be the final reclaimed surface the method of blasting hole placement and gradient would change (see Figures 8 and 9). Final blasting would be done under the supervision of a blasting engineer and a landscape architect who will design an irregular rock surface that will resemble natural conditions. This, in effect, will be a "sculpted" rock surface with ledges, nooks and crannies which would be designed to receive and trap soil (see Figure 10). The ledges shall be irregularly located along the mining face to reduce the horizontal



PLANT LIST

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
<b>Trees</b>			
PRU ILI	<i>Prunus ilicifolia</i>	hollyleaf Cherry	36" box
LYON FLOR	<i>Lyonothmus Iloribunous ssp. asplenitoliuis</i>	fernleaf Catalina ironwood	15 gal
<b>Shrubs</b>			
HET ARB	<i>Heteromeles arbutifolia</i>	toyon	1 gal
ACA CYC	<i>Acacia cyclops</i>	NCN	1 gal
RHAM CRO	<i>Rhamnus crocea</i>	redberry	1 gal
RHUS INTEG	<i>Rhus integrifolia</i>	lemonade berry	1 gal
RHUS LAUR	<i>Malosoma laurina</i>	laurel sumac	1 gal
RHUS OVATA	<i>Rhus ovata</i>	sugar bush	1 gal

HYDRO SEED MIX

Species	Application Rate (LB/Acre)	%Purity/Germ
<i>Atemisia californica</i>	10	15/50
<i>Dichelostemna pulchellum</i>	5	95/50
<i>Eriogonum fasciculatum</i>	8	10/65
<i>Mimulus longiflorus</i>	1	2/55
<i>Penstemon spectabilis</i>	1	95/75
<i>Salvia apiana</i>	10	70/50
<i>Salvia columbariae</i>	10	90/60
<i>Salvia mellifera</i>	10	70/50
<i>Baccharis sarothroides</i>	15	5/40
<i>Isomeris arborea</i>	5	90/65
<i>Lotus sp.</i>	5	90/60
<i>Lupinus sp</i>	5	98/70
Cellulose wood mulch	2000	

Slope to be serrated with 18" benches and covered with the overburden from the site.

IRRIGATION

The irrigation system shall be designed to afford optimum coverage for the support of plant growth. The coverage shall meet the water requirements for the selected plant material and be within the given planting areas. The design shall take into consideration the type of exposure this system will have.

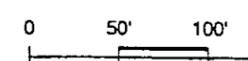
The irrigation system shall be designed with respect to water conservation. Irrigation heads shall be chosen for maximum coverage with low-gallonage and precipitation qualities. The irrigation system shall be fully automatic and as maintenance-free as possible.

The materials for the system shall be of an extremely durable nature, and will have been selected for wear resistance and long life. The overall system shall be designed for ease of maintenance.

MAINTENANCE

Regular planting maintenance operations shall begin immediately after each plant is planted. Plants shall be kept in a healthy, growing condition and in a visually pleasing appearance by watering, pruning, trimming, edging, fertilizing, restaking, pest and disease control, spraying, weeding, cleaning up and any other necessary operation of maintenance. Landscape areas shall be kept free of weeds, noxious grass, and all other undesired vegetative growth and debris. All plants found to be dead or in an impaired condition shall be replaced immediately within 3 days.

**Brian F. Mooney Associates**



Conceptual Landscape Screening Plan for Processing Area

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lines associated with hard rock quarries. They will be 2 to 12-foot wide, no greater than 66 feet long with no greater than 120 feet of vertical separation. The ledges shall also be angled toward the rock face so that 6-12 inches of soil can be installed. Wire mesh would be draped over the surface and secured with rock bolts. An example of rock sculpting most nearly comparable to the height of the Proposed Project was accomplished in the environmentally sensitive area of Glenwood Canyon, northwest Aspen, Colorado. The rock sculpting was so successful that it is difficult to detect the original environmental disturbance (see Figure 72).

Permeon, a non-toxic rock stain that has been developed by the University of Arizona would then be applied to the rock face. Permeon, a non-toxic rock stain consisting of iron salts, magnesium salts and trace elements will be applied to the rock surface by a manufacturer trained professional. As well as staining without environmental damage, the Permeon would release small amounts of nitrogen which would have a fertilization effect. Thus, the Permeon would actually enhance vegetative growth. The application which is colorless when first applied, is formulated to match the variation of colors of the adjoining rock surfaces. Full colors would develop in one to two weeks, depending on temperature and exposure to sunlight. Additional staining may be required on completed sections of the final face in both vertical and horizontal directions to assure a natural looking face. After application of Permeon, soil would be placed on the ledges and within the nooks and crannies and a hydroseed mix of native vegetation would be applied (see Table 1). Permeon has been successfully used throughout the Western States. Examples in San Diego County include the staining of concrete cliffs at Point Loma.

After application of Permeon, soil would be placed on the ledges and within the nooks and crannies and the following hydroseed mix (see Table 1) shall be applied for reclamation of the mining face after soil is placed on the ledges and in the "nooks and crannies."

## G. Reclamation Plan

The State Surface Mining Act of 1975 (SMARA) requires that surface mining operations be planned from their outset to provide for the progressive rehabilitation and stabilization of mined lands. The State Act has been implemented at the local level by standards and procedures in the County Zoning and Grading Ordinances. According to Section 87.704(d) of the Grading Ordinance:

"The reclamation plan shall, in addition to all other requirements, provide in designated phases for the progressive rehabilitation of the mining site land form so that, when reclamation is complete, it will contain stable slopes, be readily adaptable for alternate land uses, and free of derelict machinery, waste materials and scrap. The proposed mining site land form, to the extent reasonable and practical, shall be revegetated for soil stabilization, free of drainage problems, coordinated with present and anticipated future land use, and compatible with the topography and general environment of surrounding property."

In compliance with Section 2772 of SMARA, a Reclamation Plan has been prepared for the Project and is being concurrently processed with the Major Use Permit #P87-021/RP87-001. A copy of the Reclamation Plan has been attached as Appendix C of this FEIR.

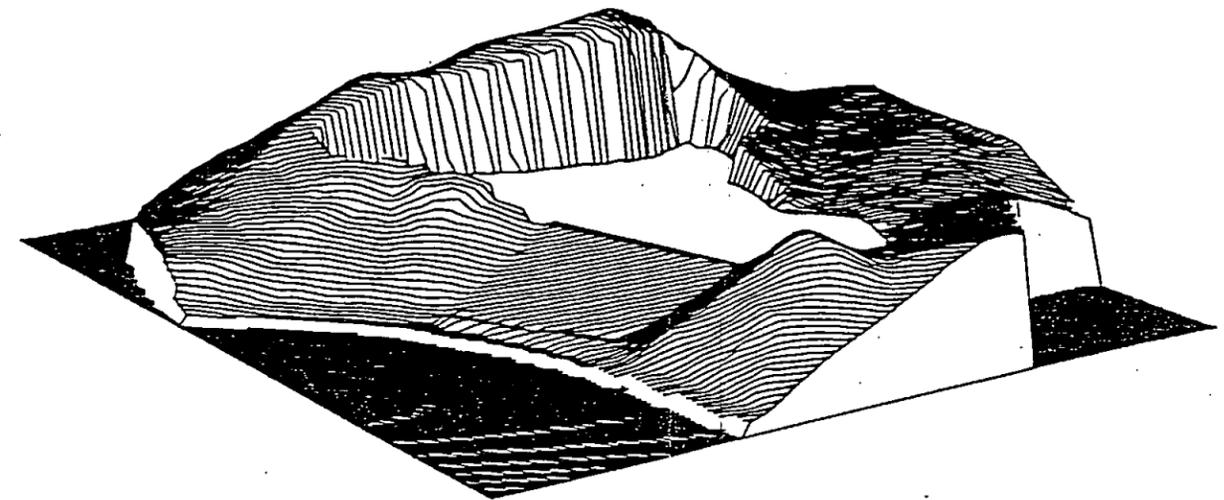
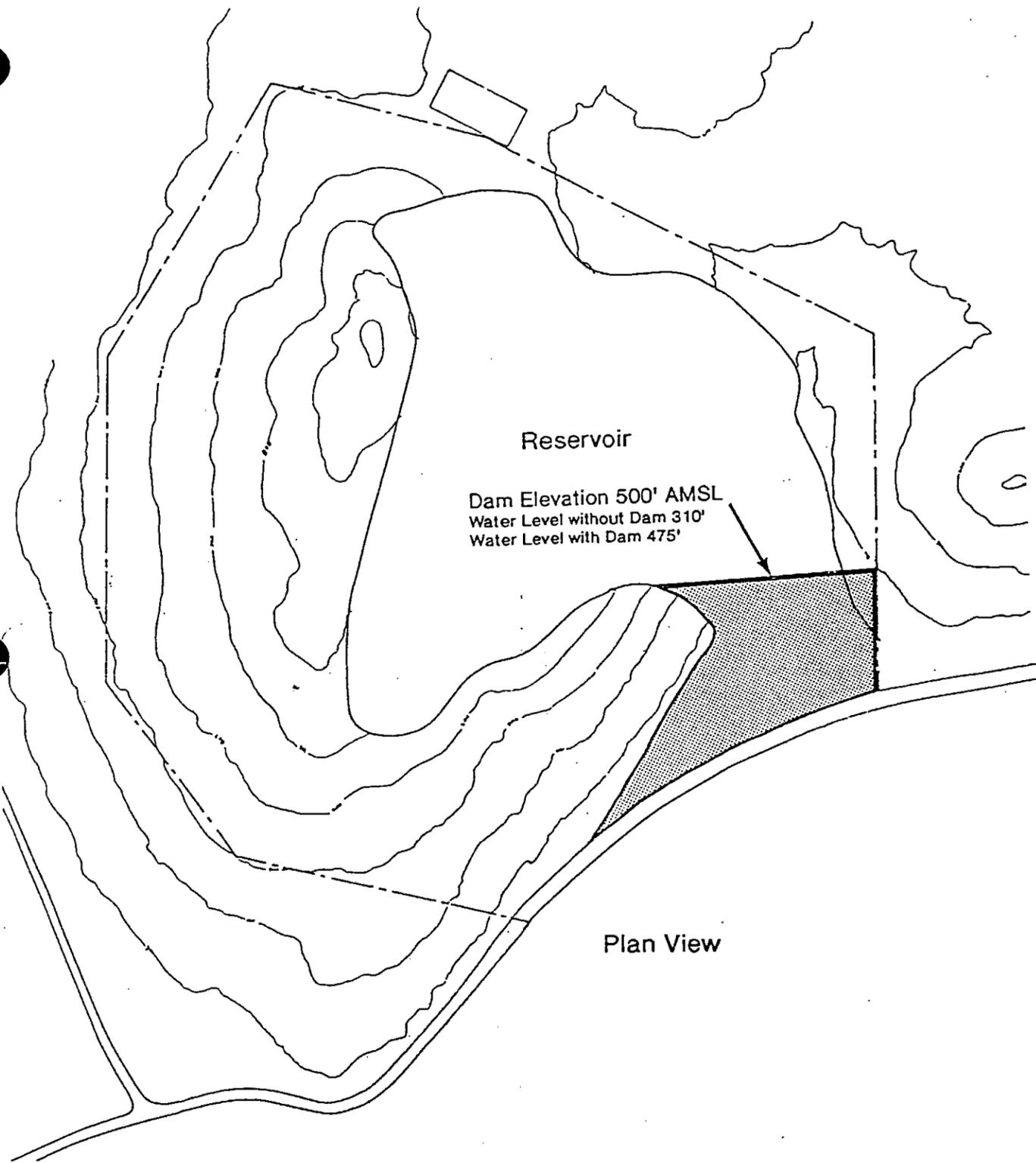
Upon completion of the 20-year mining process, the project site would have an amphitheater-like configuration with a base elevation of 200 feet AMSL. The final slopes of the quarry would vary in gradient but would not exceed 80°. The sculpted slopes would extend up to 715 feet in height along the west side of the quarry, and taper down to approximately 70 feet on the east side. Existing Reclamation would include removal of all plant equipment and facilities. Following completion of mining and site reclamation, the mining lease of the site with Pankey Ranch (or successor in interest) would be terminated. It is then proposed to use the site for a water storage reservoir.

The San Luis Rey Municipal Water District Water Basin Management Plan includes the need and requirement to provide for water storage in the District. Two alternative property configurations--one with an earthen dam and one without--are shown in Figure 16. Agricultural reuse of the site, as illustrated in Figure 17, is an alternative to the reservoir.

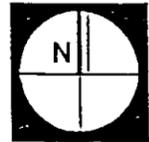
Without a dam, the finished quarry would have a water storage capacity of 2,500 acre feet with a water surface level of 310 feet AMSL. If a dam were desired in order to increase water storage capacity, the dam could be sited at the opening of the quarry with a maximum elevation estimated to be 500 feet AMSL. A dam constructed by a water agency is exempt from local zoning regulation but would require further engineering feasibility studies and environmental assessment. Considering the limited distance between Highway 76 and the geotechnical setting of the quarry site, rockfill dam with concrete face or rolled concrete type of dams would appear to be consistent with site conditions and the proposed mining plan. The engineering feasibility study would require approval by the Division of Mine Safety, State Department of Water Resources. Water surface elevation would be 475 feet AMSL with the dam, and storage capacity would be 5,800 acre feet. This storage capacity could be used for emergency storage, seasonal storage, or reclaimed water storage.

According to the San Diego Area Water Reuse Study (September 1987) there is an urgent need for emergency storage facilities especially in North County, making the County vulnerable to periodic water shortages resulting from drought or natural disaster. Availability of emergency water supplies would reduce dependence on imported water during summer months and provide water service while repairs to distribution systems are being made. During periods of low water demand, water could be diverted from the San Diego Aqueduct system into the reservoir to be stored for such emergencies. Currently, the San Diego County Water Authority is planning improvements to the aqueduct system to be completed by the year 2010. Upon completion of improvements, raw water would be available within the Second San Diego Aqueduct, located approximately two miles west of the project site.

The reservoir could also be used for seasonal storage. A large reservoir would allow storage of San Luis Rey River storm water run-off which has a lower salt content than groundwater. This would be better for crop production and reduce "burn" to fruit and foliage which is associated with continual use of high salt content groundwater. The storm run-off would be stored for the high water-use spring and summer months and reduce use of groundwater during these months. Another option is to connect with the San Diego County Water Authority's aqueduct system as described in the preceding paragraph. Seasonal storage would assure a reliable year-round source of water for agricultural use.



**Brian F. Mooney  
Associates**



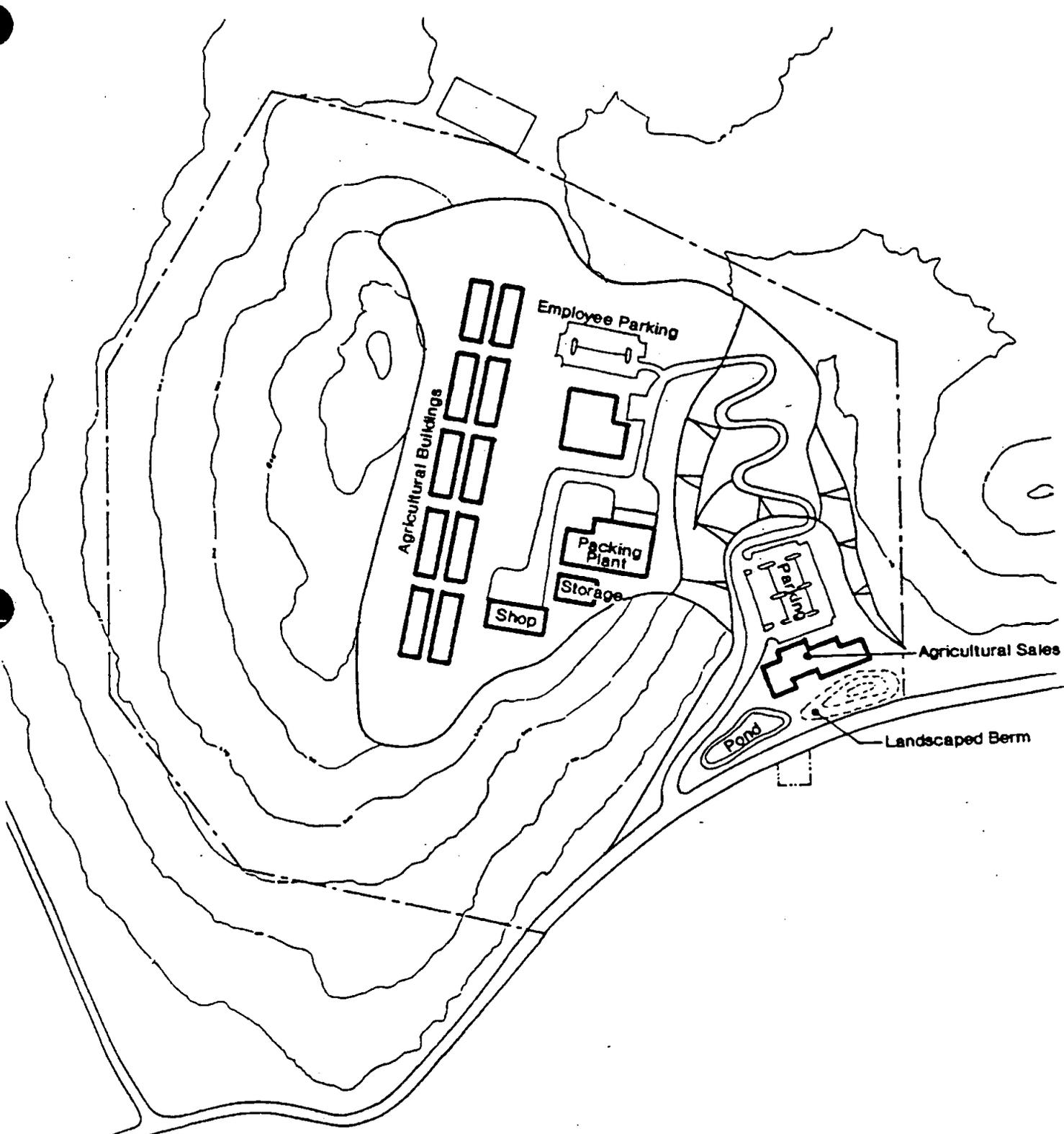
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Water Reservoir Reclamation Plan

Figure 16

006184 Palomar Aggregates Quarry EIR

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Brian F. Mooney  
Associates



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Agricultural Reclamation Plan

006186

Figure 17

Interest in reclaimed water is growing rapidly as imported water becomes an increasingly precious commodity. As the County's primary water provider, the San Diego County Water Authority has developed a strategy for securing water supplies to the year 2010 which includes 100,000 acre feet (af) per year of reclaimed water which is approximately 12.5% of the total projected annual demand (MacLaggan 1989). Use of the reservoir as a reclaimed water storage facility would comply with State and County goals of encouraging and promoting water reclamation. Further environmental review, including approval by the Regional Water Quality Control Board would be required if this alternative were chosen.

In order for reclaimed water to be a feasible alternative water source there must be a supply of wastewater, a market for the reclaimed water and the necessary treatment and conveyance facilities. Existing agriculture within the Bonsall and Pala hydrographic subareas, which bisect the property, is a potential market for reclaimed water; however, reclamation is not considered viable at this time due to the insufficient wastewater flows. Over the course of twenty years, however, it is likely that conditions more conducive to water reclamation will develop.

Proposed development within the project vicinity would create both a source of wastewater supplies and a potential market for reclaimed water. As stated in the Land Use/Community Character section of this report, a substantial amount of new urban-level development is planned in the area between the project site and Interstate 15. Waste water generated by development within the Interstate 15/Highway 76 Master Specific Plan Area (MSPA) may exceed 1,000,000 gpd by the year 2010 (Table 2).

**Table 2. Potential Waste Water Generation Interstate 15/  
Highway 76 Master Specific Plan Area**

Use	Acreage/Units	Waste Water Generation	Total (gpd)
Residential	956 edu	250 gpd/edu	239,000
Industrial	183 acres	3-4,000 gpd/ac	549,000-732,000
Commercial	20.3 acres	2,000 gpd/ac	40,600
RV	*300 spaces	0.6 edu/RV space	45,000
<b>Total gpd</b>			<b>873,600-1,056,600</b>
<b>Total af/y</b>			<b>978-1,183</b>

\* The number of RV spaces assumed is considered conservative as there are 77 acres available for this use.  
Note: The estimated waste water generation was based on information provided by the County Department of Public Works, Liquid Waste Division (Smith 1989).

These wastewater flows could be treated at a sewage treatment plant (for example, at the Rainbow Municipal Water District Plant B sewage treatment plant located at SR-76 and Old Highway 395), then piped to the site for storage and eventual distribution through separate non-potable water pipelines for golf course, landscape, or agricultural use. The District presently transports all raw sewage to the treatment plant and outfall in Oceanside. Their own treatment plant, with capacity of 100,000 gallons per day, has been deactivated; however, the plant remains available for re-use and

the potential for future expansion exists. Technical, economic, and environmental issues associated with plant expansion, storage and use of reclaimed water within the basin would require detailed analysis in the future. The Pankey Ranch also has need for large scale water storage. There are currently 3 water storage reservoirs that on the Pankey Ranch with a total capacity of 6 acre feet. Should no water district decide to utilize the site, Pankey Ranch may abandon several older reservoirs and utilize the new site for water storage.

In the event that the reservoir is not implemented, the site would still be usable by Pankey Ranch for agricultural related activities. This would include packing and processing facilities and ranch operations including maintenance and storage areas for farm equipment currently located elsewhere on the Pankey property. These existing farm operation and storage areas could then be reclaimed for cultivation. Growing sheds for a variety of non-sunlight-dependent agricultural products would also be feasible. Mushrooms are an extremely high-value crop, and are grown in darkness. In addition, houseplants and some food products are grown under artificial light in to order to vary light/dark time periods, thereby accelerating growth. Agricultural sales from the property could include a plant nursery, feed and grain store, or garden tool and supply store subject to major or minor use permits. Roadside sales of agricultural products produced on Pankey Ranch or other property leased by the Ranch would be a permitted use. Figure 17 shows a typical layout for agricultural re-use of the site.

The proposed mining and reclamation plan has been reviewed by Dr. Bing Yen, a Registered Geotechnical Engineer (#917). His firm, Bing Yen and Associates, has conducted and reviewed core borings taken from the site, seismic refraction surveys, gamma ray logs and sonic logs, and laboratory analyses of core samples. They have indicated that rock joints with unfavorable dipping may be encountered during mining which might affect slope stability. This condition is most likely to occur on the south-facing slopes in the northwestern part of the plot plan (Bing Yen and Associates 1990). For this reason, it has been recommended that the mining face be periodically inspected and mapped by a geotechnical engineer and/or engineering geologist and that the following step-by-step mining plan be implemented:

Mining shall be conducted from the top down and from south to north along the face being worked. The mining plan is designed for continuous operation (i.e. while one section is being drilled, the adjacent section will be scaled and loaded and the third section is being prepared for blasting) with the exception of the developed drill-and-blast sequence which would be limited to once a week. Mining shall begin at an elevation of approximately 915 feet AMSL. The working face shall be vertical with a maximum height of 33 feet and a minimum width of 66 feet, creating an interim benched slope configuration of 2:1 as mining proceeds downward at 33-foot intervals. This enables the geotechnical engineer or engineering geologist to make weekly inspections and to map the rock face which has just been scaled. Inspection and mapping of the mining face may be more frequent as needed, depending on the field conditions. The engineer or geologist shall record all inspections on a form satisfactory to the Department of Planning and Land Use and send a copy to the Code Enforcement Division within one week of any inspection.

Should the geotechnical engineer or engineering geologist decide that the rock face is safe and free from wedge type of failure, the bench may be removed for another 33-foot cut. Each 33-foot cut along the remaining final face shall be sculpted and stained as described

previously. Wire mesh shall be draped prior to each subsequent 33-foot cut. If wedge type failures or other hazardous geologic conditions are present, the geotechnical engineer or the engineering geologist shall approve only what is deemed safe for that area, taking into consideration the particular geologic constraints.

This mining procedure is illustrated in Figures 7, 8 and 9, and has been included as mitigation for potential public safety impacts. It has also been included in the mitigation monitoring program and as a note on the mining plan. A copy of the Preliminary Geotechnical Investigation was sent to Mr. Byron Ishkanian, Senior Engineer with the Division of Occupational Safety and Health for review and comment. In his letter dated November 9, 1990, Mr. Ishkanian stated, "I concur with the feasibility of the latest mining development plan so long as the stipulations noted in the latest revision (October 1990) are carried out." Mr. Ishkanian was contacted again regarding the most recent changes to the mining development plan. Although he is no longer employed with OSHA, he has contacted them concerning the newly proposed mining plan. In a letter dated February 14, 1995, Mr. Ishkanian stated "I feel that the aesthetic mitigation effort in the Rosemary Mountain Quarry at the conclusion of each 33 foot vertical drop can be safely accomplished. The mining phase in the original mining plan developed by Bing Yen and Associates, is in compliance with the Mine and Safety Orders of the State of California, specifically Section 6985(e) and the Federal regulations contained in the Mine Safety and Health Administration. With the use of wire mesh and rock anchors the working benches can be eliminated from the remaining rock face leaving a natural appearing area with random ledges and crevasses." Mr. Ishkanian's letter is included in this FEIR as Appendix D.

## H. Required Permit Approvals

The Proposed Project would require a Major Use Permit from the County of San Diego to operate. Also the County requires a Reclamation Plan as prescribed in state law to identify final configuration of the site with potential future land uses. The San Diego Air Pollution Control District will require a Permit to Operate which will focus on air pollution control of equipment and operation within the project. California Department of Transportation will require an Encroachment Permit for the realignment of SR-76 and the California Department of Fish and Game will require a 1603 permit for stream alteration. A Habitat Loss Permit would need to be approved by County of San Diego. Final approvals will be through the United States Army Corps of Engineers for a Section 404 permit, required when altering a navigable waterway. The U.S. Fish and Wildlife will require a Section 7 Consultation to assure that there would be no significant impacts to least Bell's vireo, southwestern willow flycatcher or arroyo southwestern toad habitat. The Regional Water Quality Control Board will also review the project, and may require a permit due to the site's proximity to the San Luis Rey River. This document addresses the environmental impacts which will result from the implementation of these various permits and the subsequent operation of the proposed quarry operation.

## II. ENVIRONMENTAL SETTING

### Regional Setting

The project site is located in the Community of Fallbrook in northern San Diego County east of I-15 and just north of State Route 76. Interstate 15 bisects Fallbrook in a north/south direction and State Route 76 runs in an east/west direction. The proposed site is located at the southern end of Monserate Mountain, a north-south trending ridge with several peaks. Situated approximately two miles south of the highest peak, which reaches an elevation of 1,567 feet AMSL and within the 800 acre Pankey Ranch, is the project site. Mining operations would take place on the eastern slopes of a cultivated and naturally vegetated mountain containing prominent rock outcrops. It has a peak elevation of 992 feet AMSL and a base elevation of approximately 300 feet AMSL at SR-76, which borders the site on the south. The processing operations would take place within a small box canyon. This canyon provides isolation and separation from the other Ranch areas to the north, west and east. The site is generally vacant and is bordered on the north, west, and east by large-scale citrus and avocado farming operations. These agricultural operations have characterized the area since the Ranch was purchased in 1946. State Route 76 and the San Luis Rey river valley are adjacent to the project site to the south. This portion of the Pankey Ranch contains a citrus orchard and three ranch homes and an inactive sand mining operation adjacent to the river. The project also includes the widening and relocation of Highway 76. This facility will be located within the floodplain of the San Luis Rey River, and would include a portion of the citrus grove mentioned above.

The following paragraphs summarize the environmental setting with reference to each of the environmental topics addressed in detail in the Environmental Analysis Section (Section III) of this FEIR.

**Traffic.** Regional access to the site is provided via I-15, an eight-lane freeway, to SR-76. Interstate 15 (I-15) currently carries 64,000 average daily trips (ADT) north and 63,000 ADT south of its interchange with SR-76.

Primary access to the project site is provided by State Route 76 (SR-76) which is an east-west two-lane rural highway running from Interstate 5 on the west, to State Highway 79 east of Lake Henshaw. The County of San Diego has designated SR-76 as a prime arterial (six lanes, divided) west of I-15 and as a major road (four lanes, divided) east of I-15. Several short radius curves exist on this roadway just east of the project site. Sight distance and driving conditions on this segment of SR-76 would be improved by realigning a short radius curve along the project's frontage and widening the roadway.

Other roadways in the vicinity of the project site include Old Highway 395 and Rice Canyon Road. Old Highway 395 runs north-south, parallel to and west of I-15 serving as a frontage road to the freeway. Although designated as a collector roadway (four lanes, undivided), it currently exists as a rural two-lane highway. This roadway forms a four-way intersection with SR-76, and has recently been signalized. Currently, this roadway carries 5,900 ADT north of SR-76 and 1,800 to the south.

Rice Canyon Road runs north of SR-76 just east of the Proposed Project site and is classified as a rural light collector (two lanes, undivided). Currently, this roadway is narrow and has several short radius curves. The most recent traffic counts for Rice Canyon Road indicate this roadway carries 450 ADT.

**Biology.** There are three sensitive native plant communities on-site and in the project area, including: Diegan coastal sage scrub, southern willow scrub, and oak woodland. The coast live oak woodland (oak woodland) covers approximately 3.0 acres of the site. A small area of oak woodland also occurs along SR-76, within the proposed road realignment. Southern willow scrub is located just west of the project site both north and south of SR-76, along Horse Ranch Creek and Shearer Crossing and east of the project site and the J.W. Sand Mining site along San Luis Rey River. Disturbed southern willow scrub also occupies a narrow drainage swale that is located near the eastern boundary of the site. This riparian habitat is the result of irrigation runoff from the avocado and citrus grove located north of the drainage. Diegan coastal sage scrub (sage scrub) covers approximately 40.1 acres of the site. As shown on Multiple Habitat Conservation Plan Maps, the on-site sage scrub represents the southwesternmost end of a strip of predominantly sage scrub that extends north nearly to Rainbow along the northern edge of San Diego County. This strip is interspersed with chaparral. Southern mixed chaparral habitat also occurs in the northern portion of the site.

Sensitive plants known from the area include thread-leaved brodiaea, Lakeside lilac, and Orcutt's dudleya. Nine sensitive bird species are known to use the property or land off-site. Those observed on-site were cliff swallow, Bewick's wren, black-shouldered kite and Cooper's hawk. Observed off-site to the west were green-backed heron, downy woodpecker, yellow warbler, and yellow-breasted chat. Although flycatchers have not been observed west of the site, the least Bell's vireo has been observed off-site both west and east of the project. In addition to the sensitive bird species, one sensitive amphibian and two sensitive reptiles have been observed in the project vicinity, including the arroyo southwestern toad, the San Diego horned lizard and the orange-throated whiptail.

**Visual.** Mountains and hills dominate the regional viewshed. East of I-15, the mountains are either covered with natural vegetation, citrus or avocado crops. Few homes are situated on the mountain foothills. Agricultural valleys lie between mountains. Several single family homes and agricultural-related buildings are scattered throughout the valleys. Visually, the project site is a prominent feature due to its shape, location and rocky features, even though other mountains to the north, south and east are higher. Viewed from I-15, the horizon is dominated by peaks of over 2,000 feet elevation immediately to the east, and over 4,000 feet in the Agua Tibia Mountain Range a few miles further east.

**Noise.** The Proposed Project site is located on a steep hillside covered with rock outcroppings interspersed with chaparral. The project area is best characterized as rural and undeveloped. Many of the surrounding hillsides are planted with grove crops. Houses are scattered among the hillsides and flatter areas. Three of the houses are located in relatively close proximity to SR-76 between the project site and Interstate 15. One home is located on top of a knoll approximately 1,000 feet east of Interstate 15 and 400 feet south of SR-76, and two existing farm worker homes are located on Pankey Ranch approximately 50 feet north of SR-76 between the project site and I-15. The proposed site is zoned A-70 and the surrounding properties are zoned A-70, A-72, and S-88. Thus, under

existing conditions, an hourly  $L_{eqh}$  of 50 decibels from 7:00 a.m. to 10:00 p.m. and 45 decibels from 10:00 p.m. to 7:00 a.m. is allowed.

The primary source of noise in the project site vicinity is vehicular traffic along State Route 76 (SR-76). The current traffic volume on SR-76 east of the Interstate 15/SR-76 interchange is 4,800 ADT (Willdan Associates 1996).

**Air Quality.** The general climate at the proposed project site is largely governed by the semi-permanent high pressure system over the Pacific Ocean and the atmospheric interaction between the cool ocean and the warm desert interior. The San Luis Rey Valley's sub-climate is somewhat warmer than the county's coastal corridor in the summer, and experiences less cloud cover and fog than along the ocean. The annual average temperature is 62° Fahrenheit. Winter mornings drop down into the upper 30s and summer afternoons reach the low 90s. Temperature extremes over 100° or much below freezing rarely occur because of the moderating influence of the ocean to the west. Annual rainfall averages approximately 14 inches, most of which occurs from late November until early April.

There are no recent air quality monitoring data available from the Pala Mesa area by which existing compliance with clean air standards can be determined. The nearest San Diego Air Pollution Control District monitoring station is in Escondido, approximately 15 miles to the south of the project site. Of the gaseous pollutants measured at the Escondido monitoring station, only the level of ozone exceeded the Federal clean air standard during the period 1990-1994. The Pala Mesa area is expected to have lower levels of carbon monoxide and nitrogen oxides than Escondido, with little probability of any violations, due to its lower level of urban development.

The nearest  $PM_{10}$  measurement sites to Pala Mesa are Oceanside (19 miles to the west) and Escondido (13 miles to the south);  $PM_{10}$  monitoring at these sites show compliance with Federal standards. No violations of the federal annual or 24 hour standard for  $PM_{10}$  have been recently recorded in San Diego County; however, the state annual standard and 24 hour standards were not met at several county monitoring stations during the period between 1990-1994.

**Hydrology/Erosion Control.** The project site is located within the San Luis Rey Hydrographic Unit of the San Diego Area (which includes a portion of southern Riverside County) Water Quality Management Planning Area. This hydrographic unit contains some 565 square miles drained by the San Luis Rey River. The San Luis Rey River leads to the Pacific Ocean approximately 25 miles to the west in Oceanside. Lake Henshaw, a major reservoir is located along this river. The reservoir is well removed upstream from the project site. The Monserate Range is the divide between two groundwater basins: Pala Basin to the east and Bonsall Basin to the west, both of which drain through tributaries into the San Luis Rey River. The project site, however, sits in a "notch" in the Monserate Range of approximately 120 acres and drains directly into the San Luis Rey River, rather than into one of the above-mentioned basins. The quantity of surface water in the river basin is dependent upon climatic conditions. During years of heavy rainfall, runoff is sufficient to overflow Lake Henshaw Dam and be carried downstream past the project site.

**Groundwater.** The source of groundwater within the San Luis Rey Hydrographic Unit is the Pala Basin. Although there are no detailed studies on the amount of groundwater available within the basin, studies conducted by the San Diego County Water Authority have estimated 50,000 acre feet

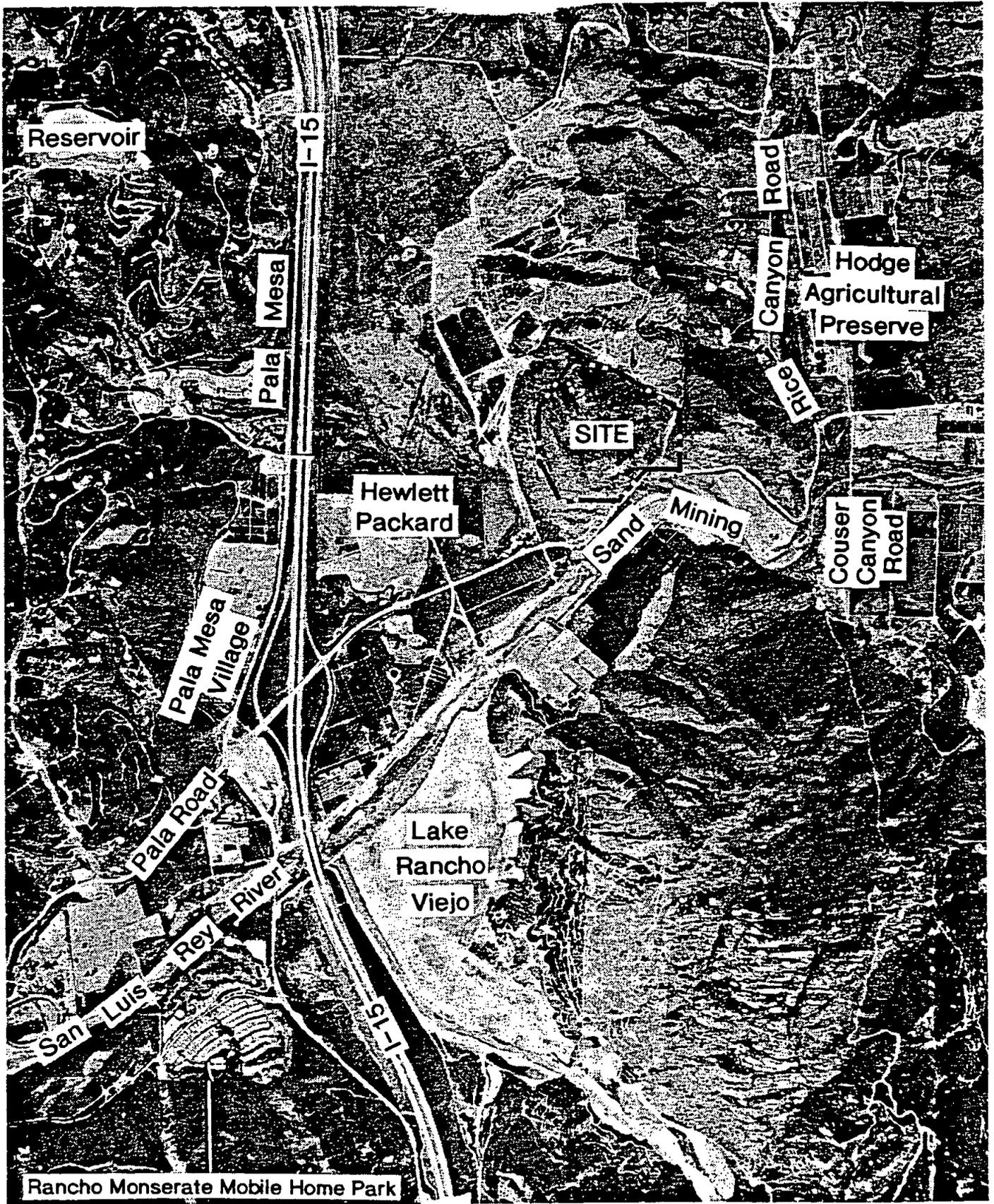
of storage capacity to be available (Buck 1991). Using a conservative estimate for groundwater recharge, the actual basin would contain between 10,000 and 12,500 acre feet.

The project site is also located within the San Luis Rey Municipal Water District. All District water users typically pump water from wells in the San Luis Rey River basin. The San Diego Aqueduct crosses the San Luis Rey River approximately one and one-half miles to the east of the project. With regard to the aqueduct, the San Diego County Water Authority reports that they are conducting very preliminary studies on potential groundwater storage of imported water from the aqueduct, as an alternative to open storage in reservoirs. They have indicated that prevention of groundwater degradation in the river basin is important to the continued viability of this groundwater storage concept.

**Land Use.** Existing land uses in the area include an inactive sand mining operation located south and southwest of the Proposed Project, an active sand mining operation located one and one-half miles east within the riverbed and a 469 acre master planned community of single family homes (Lake Rancho Viejo) located south of the San Luis Rey River and west of the project site (Figure 18). Resort, residential, commercial, (gas stations, hotel, offices/maintenance yard of a municipal water district), and recreational facilities (Pala Mesa Resort and Rancho Monserate Mobile Home Park) are located on the western side of I-15 approximately 1.25 miles to the west. The more distant surrounding areas are predominantly mountainous and naturally vegetated or planted with avocado or citrus groves. The project site is within the Fallbrook Community Plan, and is designated multiple rural use, as is the property to the north. Similar non-urban land use designations exist to the east ("Estate"), northeast ("Agricultural Preserve"), and south ("Impact Sensitive"). Adjacent to the west, however, the Community Plan proposes more urban-level land uses with a "Specific Planning Area" designation for the proposed Hewlett-Packard Campus Park and adjacent residential areas, both north and south of Pala Road.

**Public Safety.** The proposed mining site is an undeveloped, prominent hill known as Rosemary's Mountain. Existing slopes vary from approximately 2:1 to steeper than 1:1. Several areas fronting SR-76 consist of nearly vertical cuts in excess of 50 feet in height with large boulders or "floaters" perched precariously above the highway. Soil, slopewash, and weathered bedrock comprise the surficial materials of the site. Total depths of soil and slopewash are estimated to be 1 to 10 feet based on field observation and seismic refraction data. Colluvium comprised of soil material, decomposed granitic rock and small boulders is present throughout the low areas in the canyon between the hill to be mined and the hill located adjacent to the eastern project boundary, however it is not defined well enough to be a mappable unit. Boulders rounded by spheroidal weathering occur and "float" on most slopes of the quarry site with some as large as 15 feet in diameter (it should be noted, however, that floaters would not exist within the mining face). Vegetation consists of sparse chaparral on the hillside to the east and south with a small grove of oaks within the chaparral to the north. The western slope has been cleared for future agricultural use.

Surrounding the site are existing citrus and avocado orchards and farmland with very low residential densities. An existing sand mining operation is located east of the Proposed Project and a large aggregate operation is located to the east on the Pala Indian Reservation. The nearest existing residence to the mining area is the William Pankey home, located approximately 400 feet north from



Brian F. Mooney  
Associates

NOT TO SCALE

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Aerial Photo  
Mid 80's  
Figure 18

the nearest point of proposed mining operations. The nearest potential residential development area is the Robert Pankey SPA, which would be over 1,200 feet to the west of the nearest quarry operations area (Figure 78).

Approximately 11 kilometers (7 miles) northeast of the site lies the Elsinore fault zone. As estimated by the California Department of Mines and Geology (CDMG), the maximum probable earthquake (magnitude of 7) could cause a peak ground acceleration approaching 0.5 g (acceleration of gravity). The estimated maximum recurrence interval (slippage) for this fault zone is 250 years with the slip rate for that period being 3 to 7 millimeters per year (Lamar & Rockwell 1986). Recent displacement has not been recognized on the Elsinore fault zone. Thus, the equivalent of 3 to 7 millimeters per year of displacement is likely to occur as sudden ruptures every few hundred years. Earthquake with magnitudes of 6 to 7.5 can cause surface displacements of 1 to 7 feet on the fault. Much of the energy released from a 1 to 7 foot displacement will affect the entire region including SR-76 and the quarry site. The floaters on the steep slopes fronting SR-76 are a potential hazard as they may be dislodged during seismically induced groundshaking.

It should also be noted that several short radius curves exist on SR-76 and Rice Canyon Road just east of the project site. These sharp radius curves inhibit sight distance and contribute to poor driving conditions.

**Dark Skies.** The Palomar Observatory, located on Mt. Palomar approximately 13 miles east of the project site and the Mt. Laguna Observatory, located on Mt. Laguna approximately 48 miles south-east of the project site. Night sky illumination in the San Diego area has reduced the efficiency of telescope viewing through this sky by fifty percent (Brucato 1987). Thus, Palomar Observatory has already been adversely impacted by light pollution, resulting in a reduction in the efficiency of the operation of the 200-inch telescope to that of a 140-inch instrument (Brucato 1987). The problem stems from the type of outdoor lighting being used within a 30-mile radius (Branigan 1987) around the telescope. The Palomar Aggregates Quarry site lies well within this designated area, being less than fourteen miles to the west.

The Conservation Element of the General Plan addresses dark skies as an environmental resource to be considered in planning and development policies. Dark skies is also considered a locally significant resource under the provision of the State of California Guidelines for the provisions of the Conservation Element (Government Code Section 65302 (d)).

The County of San Diego's regulatory ordinance for light pollution is Title 5, Division 9, of the Code of Regulatory County Ordinances (amended July 17, 1986). The intent of the Light Pollution Code is to restrict the permitted use of outdoor light fixtures emitting undesirable light rays into the night sky which have a detrimental effect on astronomical research (Sec. 59.101). All artificial outdoor light fixtures must be installed in conformance with the provisions of this Code.

The County has designated two zones for the Light Pollution Code: Zone A consists of a circular area 15 miles in radius centered on Palomar Observatory and a circular area 15 miles in radius centered on Mt. Laguna Observatory (Figure 81); Zone B includes all areas within the territorial limits of the unincorporated portion of the County which are not included in Zone A. The Palomar Aggregates Quarry is located 13 miles west of the Palomar Observatory and is, therefore, within Zone A. Light source and shielding requirements are stricter in Zone A than in Zone B.

**Effects Found Not to be Significant.** Environmental issues that were considered to be affected by the Proposed Project include: Traffic Circulation, Biological Resources, Visual/Aesthetics, Noise, Air Quality, Hydrology/Erosion Control, Groundwater, Land Use/Community Character, Public Safety, and Dark Skies. The existing conditions, impacts and proposed mitigation measures for each issue are outlined in greater detail in Section III of this FEIR. Environmental issues considered and found not to be significant are listed in Section VI of this FEIR.

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### III. ENVIRONMENTAL ANALYSIS

#### A. Traffic/Circulation

The following is a summary of a Traffic Analysis prepared for the Proposed Project by Willdan Associates dated May 19, 1990 and revised October, 1990 and January 1996. The 1996 revised report is included in this FEIR as Appendix E.

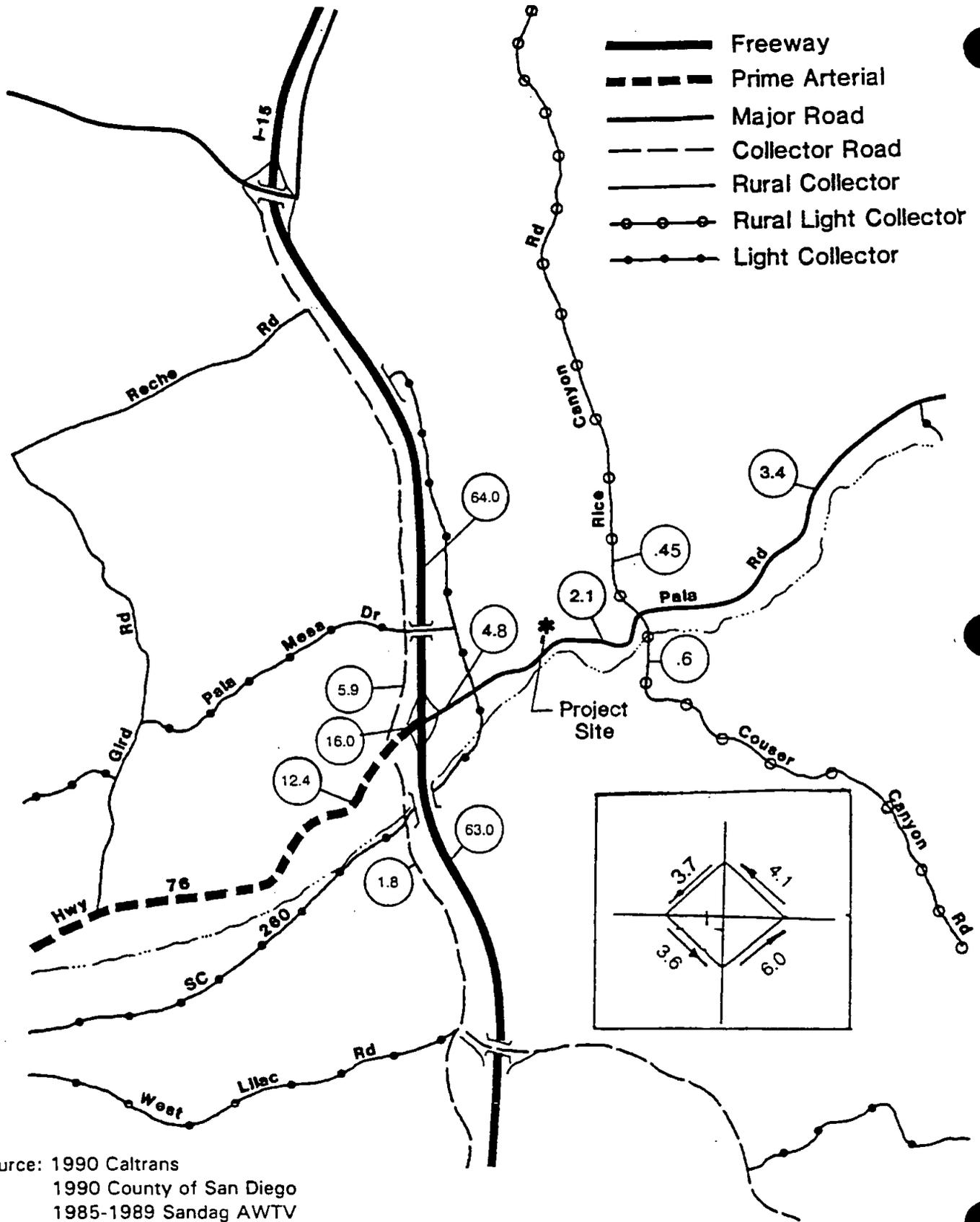
##### 1. Existing Conditions

Regional access to the site is provided via I-15, an eight-lane freeway, to SR-76. Interstate 15 (I-15) currently carries 64,000 average daily trips (ADT) north and 63,000 ADT south of its interchange with SR-76 (Figure 19).

Primary access to the project site is provided by State Route 76 (SR-76) which is an east-west two-lane rural highway running from Interstate 5 on the west, to State Highway 79 east of Lake Henshaw. The County of San Diego has designated SR-76 as a prime arterial (six lanes, divided) west of I-15 and as a major road (four lanes, divided) east of I-15. The latest available traffic counts done by Caltrans (1994) indicate that this roadway carries 4,800 ADT east of I-15, 16,000 ADT west of I-15 and 12,400 ADT west of Old Highway 395 (Figure 19). In 1990, Caltrans indicated that the heavy vehicle composition was above average (15 percent) due to the number of mining operations located along the San Luis Rey River. It should also be noted that several short radius curves exist on this roadway just east of the project site. Sight distance and driving conditions on this segment of SR-76 would be improved by realigning a short radius curve along the project's frontage and widening the roadway.

As part of the project, Highway 76 would be realigned and widened from two lanes to four lanes between I-15 and the western project boundary. The highway would transition to three lanes including two westbound lanes and one eastbound lane, at the western boundary and then back to two lanes just the east of the project. Geometrics at the project driveway would also incorporate an eastbound left turn pocket and a westbound right turn only lane. The project driveway would accommodate a shared outbound left and right turn lane. Westbound traffic leaving the site would enter the westbound auxiliary lane allowing them to enter the traffic stream without disturbing westbound traffic. This widening (illustrated on Figure 20) would be constructed by Palomar Aggregates during the initial phase of the project and available for use prior to any export of material from the site.

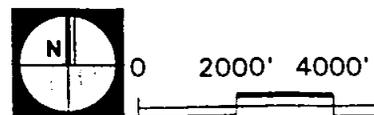
Other roadways in the vicinity of the project site include Old Highway 395 and Rice Canyon Road. Old Highway 395 runs north-south, parallel to and west of I-15 serving as a frontage road to the freeway. Although designated as a collector roadway (four lanes, undivided), it currently exists as a rural two-lane highway. This roadway forms a four-way intersection with SR-76, and has recently been signalized. Currently, this roadway carries 5,900 ADT north of SR-76 and 1,800 to the south.



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Source: 1990 Caltrans  
 1990 County of San Diego  
 1985-1989 Sandag AWTV

**Brian F. Mooney Associates**

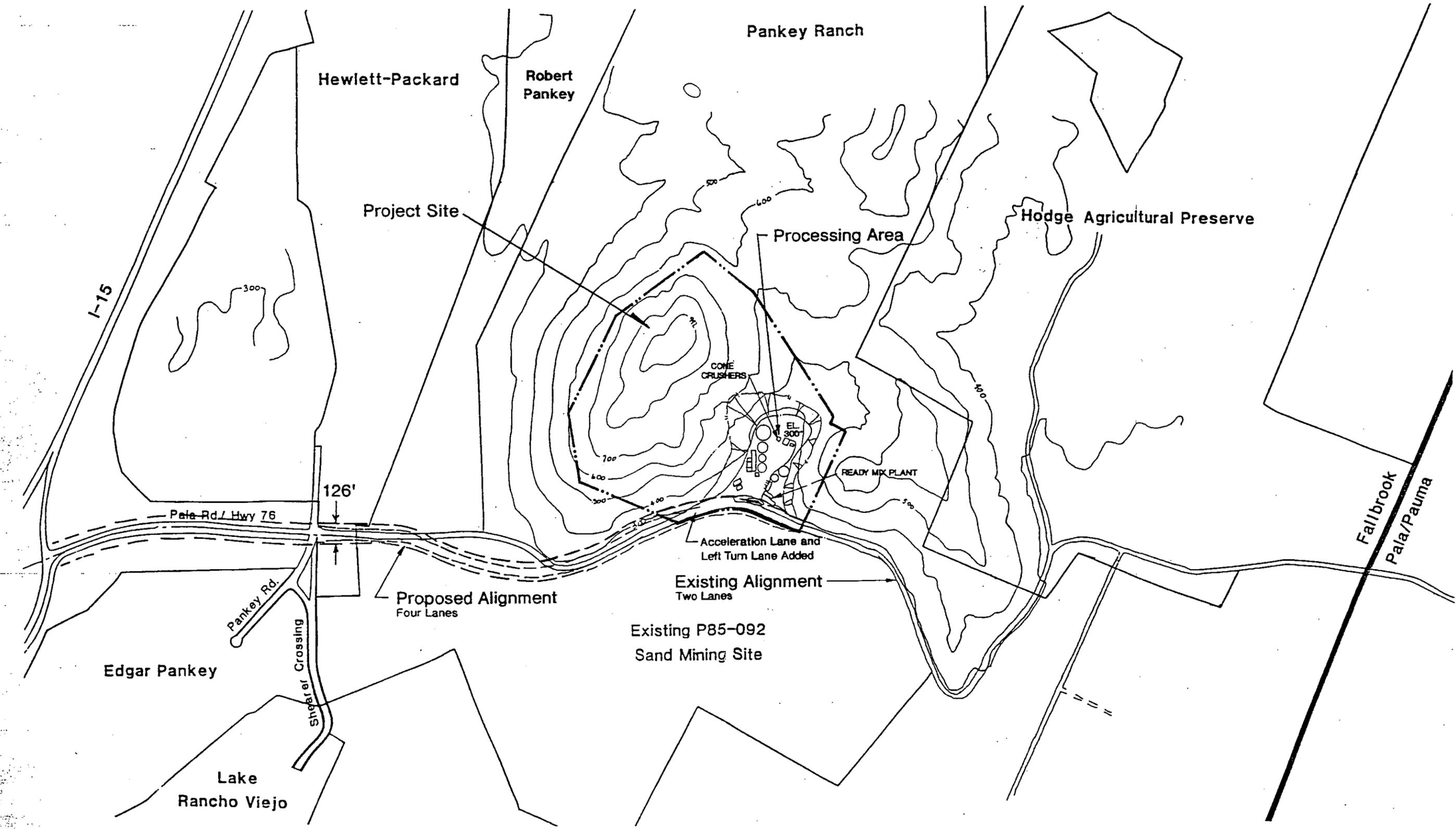


Existing ADT in Project Vicinity

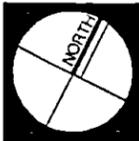
Figure 19

Source: Willdan Associates

Palomar Aggregates Quarry EIR



**Brian F. Mooney  
Associates**



**Pala Road Realignment  
00620C**

Figure 20

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Rice Canyon Road runs north of SR-76 just east of the Proposed Project site and is classified as a rural light collector (two lanes, undivided). Currently, this roadway is narrow and has several short radius curves. The most recent traffic counts for Rice Canyon Road indicate this roadway carries 450 ADT.

## 2. Environmental Impacts

Potential impacts associated with the Proposed Project were evaluated with respect to trip generation, trip distribution, street segments, intersections and access.

### Trip Generation

Since there are no published or generally accepted trip generation rates for quarries, traffic generation was calculated by adding the various operational components of the Proposed Project. The Proposed Project involves extraction of 22 million tons of rock over a 20-year period with an on-site crushing plant. At full operation, 100,000 tons of material per month would be exported from the site. The Proposed Project would generate 514 ADTs. Based on the conversations with the project applicant, the projects' daily trips were calculated as follows:

Sand Importation:	425 tons of sand per day @ 25 tons per truck load yields <u>17 truck trips per day</u> .		
Ready-Mix:	22,500 tons per month @ 15 tons per truckload = 1,500 trips per month. Dividing this by 22 yields <u>68 trips per day</u> .		
Aggregate and Asphalt:	77,500 tons per month @ 25 tons per truckload = 3,100 trips per month. Dividing this by 22 yields <u>141 trips per day</u> .		
Employees and Miscellaneous:	This was derived by assuming 10 to 12 employees; total trips were estimated at <u>31 trips per day</u> .		
Totals:	Sand Importation	17 Trip Ends x 2 =	34 ADT
	Ready Mix	68 Trip Ends x 2 =	136 ADT
	Aggregate	141 Trip Ends x 2 =	282 ADT
	Employees	31 Trip Ends x 2 =	62 ADT
	Total Trips	=	514 ADT

Since the proposed quarry would provide rock products to construction projects, it is anticipated that the majority of their operation would occur between the hours of 7:00 a.m. and 3:00 p.m., in order for the product to arrive at construction sites and be handled prior to the shutdown of construction activities. On an average, each hour would account for 12.5 percent of the daily traffic volume. However, the traffic volumes would be higher during the morning hours, as trucks would be attempting to provide aggregate to the construction sites as quickly as possible. There is a limitation on the number of trucks which would be loaded during any one hour. It is assumed that the morning peak hour would be 1.5 times the average or 18.75 percent of the truck trips would occur between the hours of 7:00 a.m. and 8:00 a.m. ( $514 \times .1875 = 96$ ).

Due to the nature of construction industry and the timing of projects that use aggregate material, ~~Project ADT would have the potential to vary from day to day.~~ Also, weather related delays are often offset by intensified material deliveries to get back on schedule. Therefore, in addition to normal operational ADT, a worst case scenario of a 100% increase in ADT was analyzed. The analysis for this worst case scenario was based on 1028 trips (514 x 2) and is discussed along with the average daily analysis. This equates to 193 trips (1028 x .1875) in the AM peak hour. It should be noted that the 514 ADT includes 62 trips for employees, however the additional traffic would be comprised of trucks alone. In order to keep analysis of the worst possible case scenario relatively simple, 1028 trips (966 truck trips and 62 employee truck trips) were used. The worst case analysis is presented for the sole purpose of determining whether or not the critical intersections or segments would be significantly impacted by a potential short-term increase in trips.

### **Trip Distribution and Assignment**

As existing and potential markets for aggregate are concentrated in areas accessible from I-15 rather than areas east of the project site, it is reasonable to assume a 10/90 percent east/west split from the project access onto SR-76. Figure 21 shows the assignment of the Proposed Project trips onto the surrounding street system. Trips from the east would consist of trucks importing sand, employee and miscellaneous trips, with most of the truck trips orienting to and from the west. After reaching the I-15/State Route 76 interchange, 55 percent of the trips would orient to the south, 25 percent would orient to the north and 10 percent would orient to the west (Figure 22).

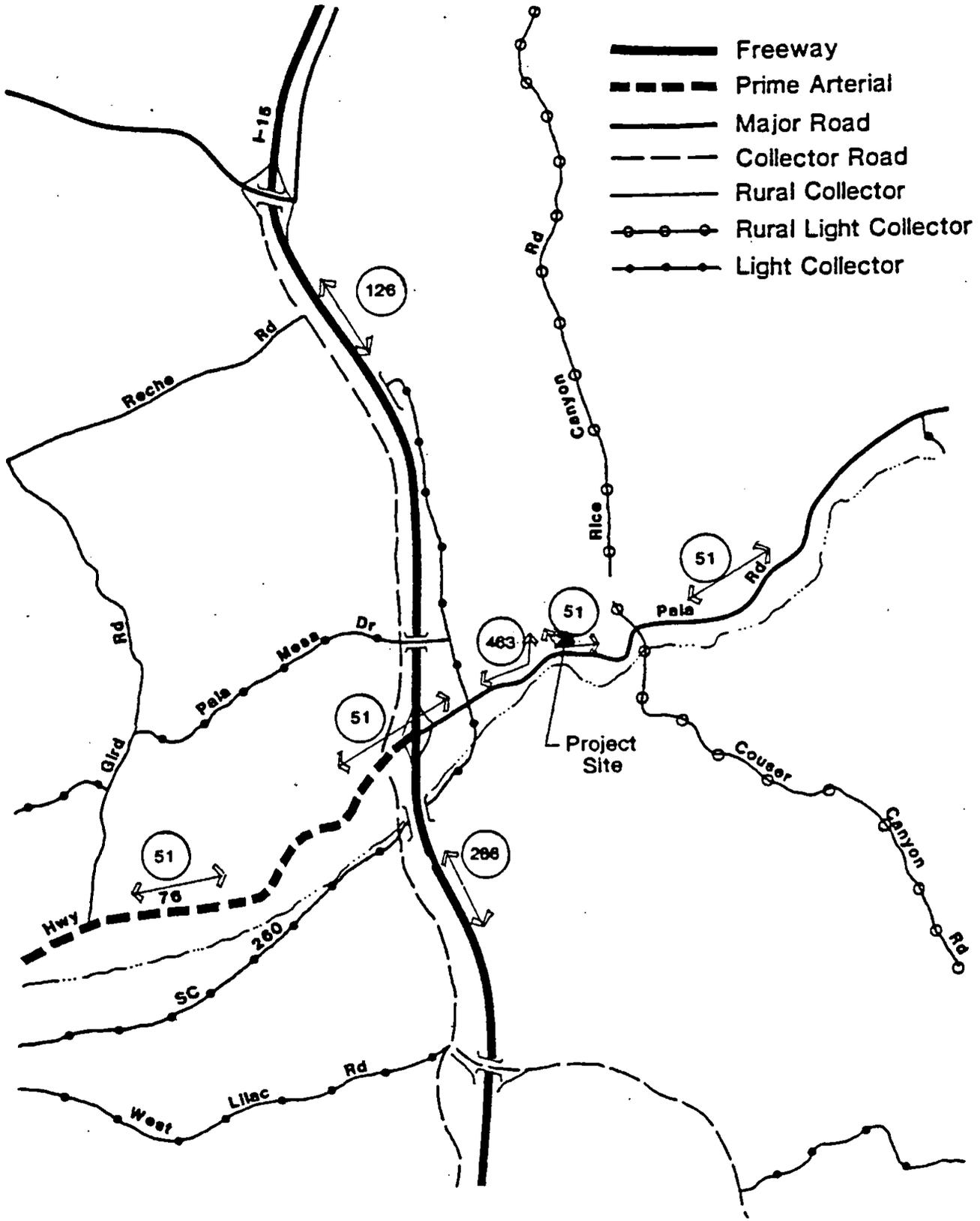
### **Street Segments (Existing + Project)**

The proposed project would have the greatest impact on SR-76 between the project access and I-15. The I-15 on- and off-ramps (with State Route 76) would also be impacted. Although SR-76 currently carries 4,800 ADT, approximately 15 percent (or 720) are trucks. Using the Transportation Research Board's 1994 Highway Capacity Manual, Special Report 209, the truck volume was converted into passenger car equivalent (PCE) by multiplying the number of existing trucks by 2.2 as specified in Table 8.6. Therefore, by performing the calculation  $[4,800 - 720 + (720 \times 2.2)]$ , the existing adjusted ADT on SR-76 is 5,664.

When the proposed project traffic is added to the daily stream on SR-76 between the project access and I-15, the adjusted volume is 6,617 ADT  $[5,664 + 463 \text{ (westbound truck trips)} - 408 \text{ (westbound employee trips)} + (408 \times 2.2)]$ . This volume would result in LOS C. West of I-15, ADT on SR-76 would increase by 51 truck trips (or 224 PCE) as a result of the project. This represents an increase of less than two percent of the total daily traffic on this facility, thus would not cause any significant impact.

### **Intersections (short-term)**

The intersections most impacted by the Proposed Project would be the southbound and northbound on- and off-ramps for I-15 and SR-76. The most recent Caltrans ramp volumes (October 19, 1994) indicate that the southbound on-ramp carries 3,600 ADT, with 356 vehicles occurring during the AM peak hour while the northbound on-ramp carried 4,100 ADT, with 385 vehicles occurring during the PM peak hour. However, this is well below the Caltrans design criteria (approximately 900 vehicles



**Brian F. Mooney Associates**

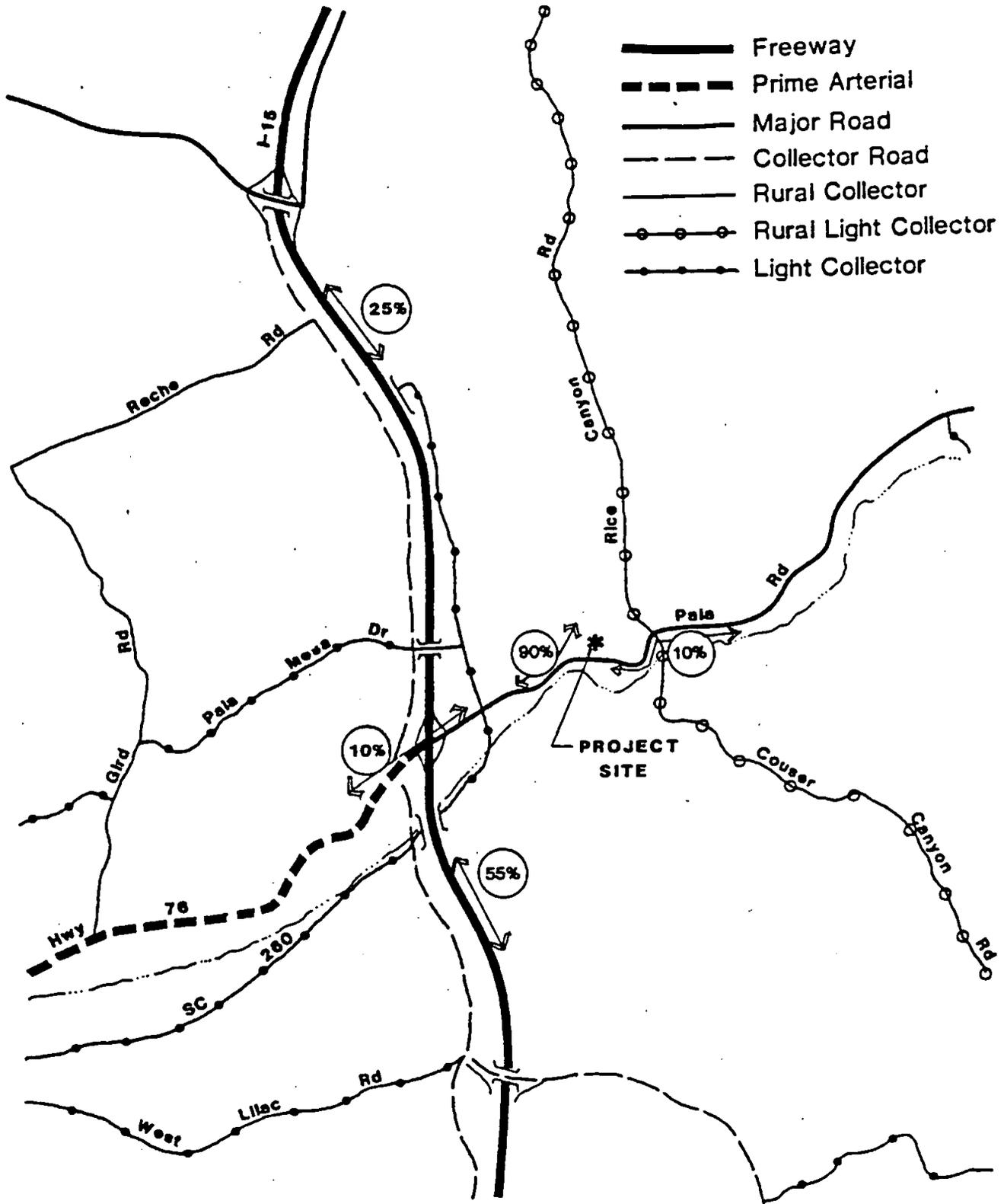


0 2000' 4000'

Project Only Assignment ADT

006204

Figure 21



**Brian E Mooney Associates**



0 2000' 4000'

Project Trip Distribution (Truck Trips Only)

Figure 22

per hour) and would remain so with the addition of the Proposed Project trips. As shown on Table 3a, left turning vehicles from the I-15 northbound off-ramp experience long delays during the PM peak hour. The proposed project, however, would add little or no traffic in the peak hour. Therefore, existing plus project conditions would be similar to the existing conditions. For the worst case scenario, the only degradation evident is the left turn from minor movement for both the ramps. The northbound ramp intersection would change from LOS C to LOS D and the southbound ramp would change from LOS B to LOS C. Table 3b summarizes the results of the analysis for this worst case scenario.

**Table 3a. Existing and Existing + Project Intersection Operations**

Intersection	Existing				Existing + Project			
	Left Turn from Major		Left Turn from Minor		Left Turn from Major		Left Turn from Minor	
	AM	PM	AM	PM	AM	PM	AM	PM
SR 76/I-15 Northbound ramps	A	A	C	F	A	A	C	F
SR 76/I-15 Southbound ramps	A	A	B	C	A	A	B	C

**Table 3b. Existing and Existing + Project Intersection Operations (Worst Case)**

Intersection	Existing				Existing + Project			
	Left Turn from Major		Left Turn from Minor		Left Turn from Major		Left Turn from Minor	
	AM	PM	AM	PM	AM	PM	AM	PM
SR 76/I-15 Northbound ramps	A	A	C	F	A	A	D	F
SR 76/I-15 Southbound ramps	A	A	B	C	A	A	C	C

As the area builds out, signalization of these ramps may become necessary. In the short-term, lengthening of the left turn pocket from Route 76 to southbound I-15 is expected to be required by Caltrans during their review of the encroachment permit.

**Short-term Cumulative Impacts**

In order to determine the short-term cumulative impacts in the project vicinity, the Lake Rancho Viejo residential development traffic was added to the street system along with the existing daily traffic and project related traffic. Eight-hundred and sixteen homes are currently being constructed within the Lake Rancho Viejo development. At a trip generation rate of 10 trips per dwelling unit, the project is estimated to generate 8,160 ADTs. These trips were assigned to the street system as follows: 45% south on I-15, 25% north on I-15 10% east and west on SR 76, and 5% north and south on Old Highway 395.

Additionally, the proposed Pala Indian Gaming Facility east of the project area, is expected to generate approximately 4,202 ADT. For purposes of this report, we assumed the same west/east

distribution of 90/10 distribution as other area projects. Furthermore, based on similar 24 hour gaming facilities in rural locations, hourly trips tend to evenly distributed throughout the day, therefore the peak hour trips can be determined as  $4,202/24 = 175$  trips.

Figure 23 depicts the existing, plus project, plus short-term cumulative daily traffic volumes in the vicinity of the Proposed Project. As shown on Figure 5, SR-76 between Pankey Road and the I-15 ramps would experience significant increases in daily traffic volumes. The daily traffic volumes are projected to increase from 4,800 ADT under existing conditions to 14,038 ADT under existing plus short-term cumulative conditions. It should be noted that the proposed project would add less than 500 ADT to this road segment between Pankey Road and the I-15 ramps.

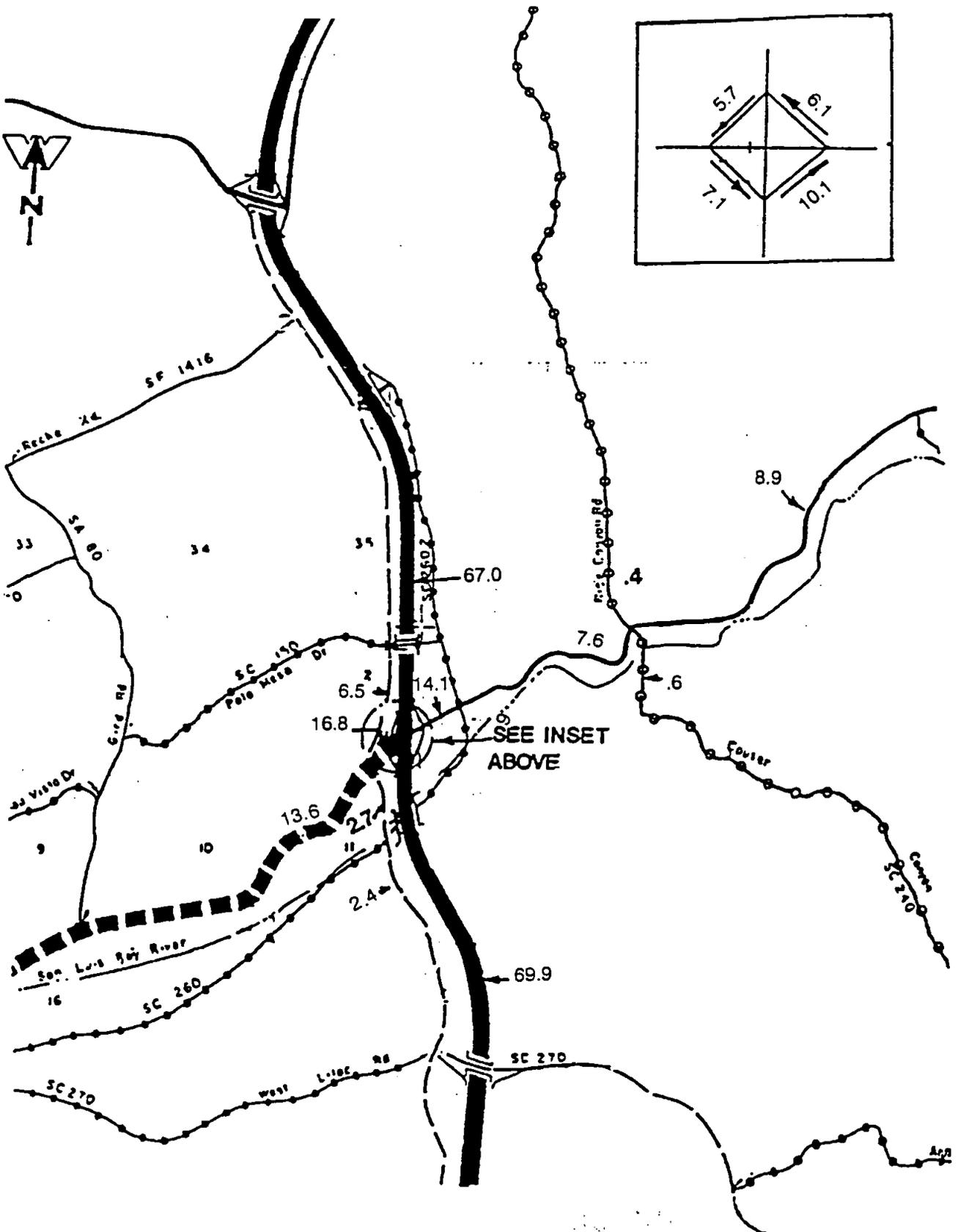
In order to assess the short-term cumulative impacts at the I-15 northbound and southbound ramp terminals with SR-76, an analysis was performed under existing plus short term cumulative development conditions with existing lane configurations and stop control on the off-ramps. It was concluded that left turns from the I-15 northbound and southbound off-ramps would experience congestion under existing plus short-term cumulative AM and PM peak hour conditions. However, if the northbound and southbound ramp terminals with SR-76 were signalized, they would operate at LOS C under AM peak hour conditions. Under PM peak hour conditions, the northbound ramp would operate at LOS B and the southbound at LOS A.

Table 3b shows the results of the worst case analysis for the short-term cumulative scenario. As can be seen between Tables 3a and 3b, there is no change in LOS for the doubling of project trips. Signal warrants were conducted at both the northbound and southbound ramps to determine whether they met the requirements for installation of traffic signals under existing conditions and it was determined that the northbound and southbound ramps currently meet the minimum warrants for installation of traffic signals.

#### Street Segments (long-term)

In order to assess the long-range impacts of the project on the surrounding street system, SR-76 corridor traffic studies prepared by for Caltrans District 11 by Bankston-Pine Associates were utilized. It should be noted that recently approved projects along the SR-76 corridor were built out and SANDAG Series 7 land use was assumed outside the study area. Other projects (Hewlett Packard, Lake Rancho Viejo, etc.) were included in these forecasts. Figure 24 shows the Year 2010 daily traffic volumes on the street system surrounding the project. As shown on Figure 24, SR-76 was projected to carry approximately 36,900 ADT west of I-15 and approximately 55,000 ADT east of I-15 to Pankey Road. The ADT decreases substantially east of Pankey Road. State Route 76 would require six travel lanes west of I-15 and four lanes east of I-15.

The proposed project is located in Traffic Analysis Zone (TAZ) No. 1175 which is comprised of rural estate, multiple rural, and intensive agricultural uses. Assuming four dwelling units (DUs) on the project site (one DU per 20 acres) in the forecast, the proposed project would add approximately 440 daily trips to the street system over what was forecast by the County. This is only a 1 to 2 percent increase over the Year 2010 projections.



**Brian F. Mooney Associates**



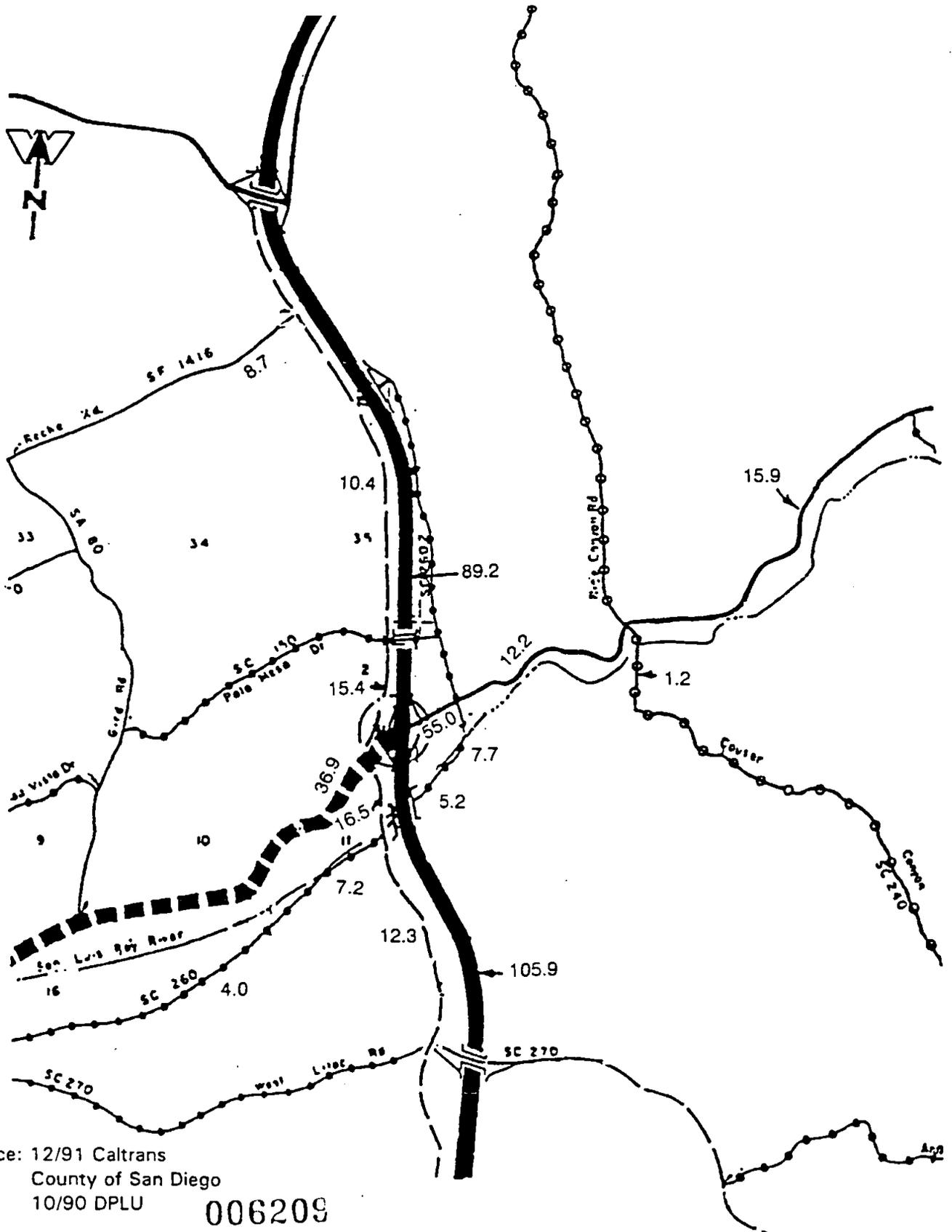
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**Existing + Project + Short Term Cumulative ADT**  
 (in Thousands)  
**006208**

Figure 23

Source: Willdan Associates

Palomar Aggregates Quarry EIR



**Brian F. Mooney  
 Associates**



0 2000' 4000'

**Year 2010 Traffic Volumes in the Project Vicinity  
 (in Thousands)**

Figure 24

Source: Willdan Associates

Palomar Aggregates Quarry EIR

### Access (long-term)

The project is proposing access to SR-76 approximately 1 mile east of I-15. The project, in conjunction with Caltrans, is proposing to realign a short radius curve along this segment of highway.

During the critical AM peak hour, approximately 96 trucks would enter and exit the project site, splitting evenly between inbound and outbound movements. Since most project-related traffic would orient to and from the west it would be necessary to widen SR-76 at the project access to allow for a left-turn pocket (eastbound) and an acceleration lane (westbound) to minimize interruption of flow and enhance safety on this facility. Appropriate warning signs and/or lights should also be installed on SR-76 in advance of the project access to warn motorists of slower moving vehicles.

Because traffic safety is a major concern on this segment of SR-76, accident statistics compiled by Caltrans have been examined. The Caltrans statistics show that there were five accidents between I-15 and Cole Grade Road (12 miles east of project access drive) with zero fatalities. According to Caltrans the expected rate was 2.16 accidents per million vehicle miles (ACC/MVM) while the actual rate was 3.20 ACC/MVM. This appears to be substantial, however, only one of the five accidents involved more than one vehicle. This suggests that the primary cause of the accidents was not vehicle volumes but other factors, such as travel speed, short radius curves, or other roadway conditions. Therefore, realigning the curve along the project frontage may help to decrease the overall accident rate and enhance safety on this roadway in the project vicinity.

### 3. Summary of Impact Significance

Impacts to Traffic/Circulation are considered significant but mitigable. Road improvements included in the design of the project will increase capacity and safety along SR-76 from the project site to the I-15 interchange. The improvement will accommodate the truck trips associated with the project.

### 4. Mitigation Measures

The following measures shall be incorporated into the project:

- A-1. During the initial stage of the project and prior to export of material from the site, SR-76 shall be widened from two lanes to four lanes between I-15 and the western boundary of the project. The highway would transition to three lanes at the western boundary and then back to two lanes just east of the project. This widening (illustrated on Figure 20) shall be constructed by the applicant and available for use prior to any export of material from the site.
- A-2. Prior to project operation, five-hundred and fifty (550) feet of intersectional sight distance shall be provided along SR-76 from the proposed driveway entrance to the satisfaction of Caltrans.

- A-3. During the initial stage of the project and prior to export of material from the site, State Highway 76 will be improved from I-15 to the project entrance to a four-lane road with bike lanes, asphaltic concrete pavement over approved base, asphaltic concrete dikes, asphaltic concrete acceleration/deceleration lanes, asphaltic concrete widening to accommodate a left turn lane at the project entrance, and asphaltic concrete taper to existing pavement at the eastern boundary of the project, to the satisfaction of the Director of Public Works and Caltrans.
- A-4. Prior to commencement of work in the State right-of-way, an encroachment permit shall be obtained from Caltrans.
- A-5. Prior to the realignment of SR-76, the right-of-way for the existing on-site alignment of SR-76 shall be vacated to the satisfaction of the Director of Public Works and Caltrans.
- A-6. Prior to construction, ~~all proposed improvements~~ shall be coordinated with both Caltrans and the County Traffic Engineer and all necessary permits shall be secured.
- A-7. Prior to the commencement of quarry operations, appropriate warning signs shall be installed east and west of the project's access onto SR-76 to warn motorists of slow moving vehicles.
- A-8. Prior to commencement of construction, in accordance with County policy, the project shall contribute its fair share towards future improvements to the I-15 northbound and southbound SR-76 on and off-ramps (including signalization of the ramps), widening of SR-76, and for maintenance and repair of SR-76 due to damage from project-related heavy truck traffic. Caltrans shall determine, during its feasibility analysis for the road widening, the appropriate amount of money or other assurance to be provided for maintenance of SR-76 and other Caltrans requirements.
- A-9. As a condition of the Major Use Permit and prior to construction, the applicant shall enter into a Secured Agreement with the County of San Diego for funding a Project Study Report (PSR) with Caltrans for the construction of SR-76 relocation environmental approval and the design of the relocated segment.
- A-10. Prior to quarry operations, all parking areas and driveways shown on the plot plan shall be improved with a minimum of one and one-half inches of road oil mix, asphaltic concrete or PCC concrete, and parking spaces shall be delineated.
- A-11. During quarry operations, average daily trips generated by the Proposed Project shall not exceed a monthly average of 514 ADTs or ~~reach exceed~~ 1,028 ADTs for more than five consecutive days. The project proponent (Palomar Aggregates Inc.) shall keep a daily log of truck and automobile trips and make it available to the Department of Planning and Land Use on an on-call basis.

## 5. Summary of Impacts After Mitigation

Traffic and Circulation impacts would be mitigated to a level below significance with the implementation of the above listed mitigation measures. Road safety and project access would be improved with the widening and realignment of SR-76. The widening and realignment would straighten sharp radius curves, assure adequate intersectional sight distance, and allow for safe access into the proposed site. The project would avoid land use and noise impacts by not exceeding a monthly average of 514 ADTs.

## B. Biological Resources

Four field surveys were conducted during the initial biological assessment of the proposed project site, three in the fall of 1987 and one in the winter of 1988. Nine additional surveys were conducted in late spring/early summer 1991 to determine the presence or absence of the least Bell's vireo in the riparian woodlands off-site to the west. Based on survey results, a biological technical report was prepared by Brian F. Mooney Associates (BFMA). Three focused California gnatcatcher surveys were conducted in the fall of 1992 by BFMA. Sweetwater Environmental Biologists conducted four additional gnatcatcher surveys in the summer of 1993.

Several additional information documents were prepared by BFMA (BFMA 1992 and July 1993) subsequent to the completion of the biological technical report and the initial EIR. The documents were prepared in response to revisions to the original EIR, to document a new analysis of the vegetation on-site, and to address the change in status of the California gnatcatcher. In addition, a survey to assess any changes to existing conditions was conducted in the winter of 1994. BFMA prepared a summary/addendum to the above mentioned biological technical studies (March of 1993) which is included as Appendix F of this FEIR. The following discussion provides a summary of the above mentioned items.

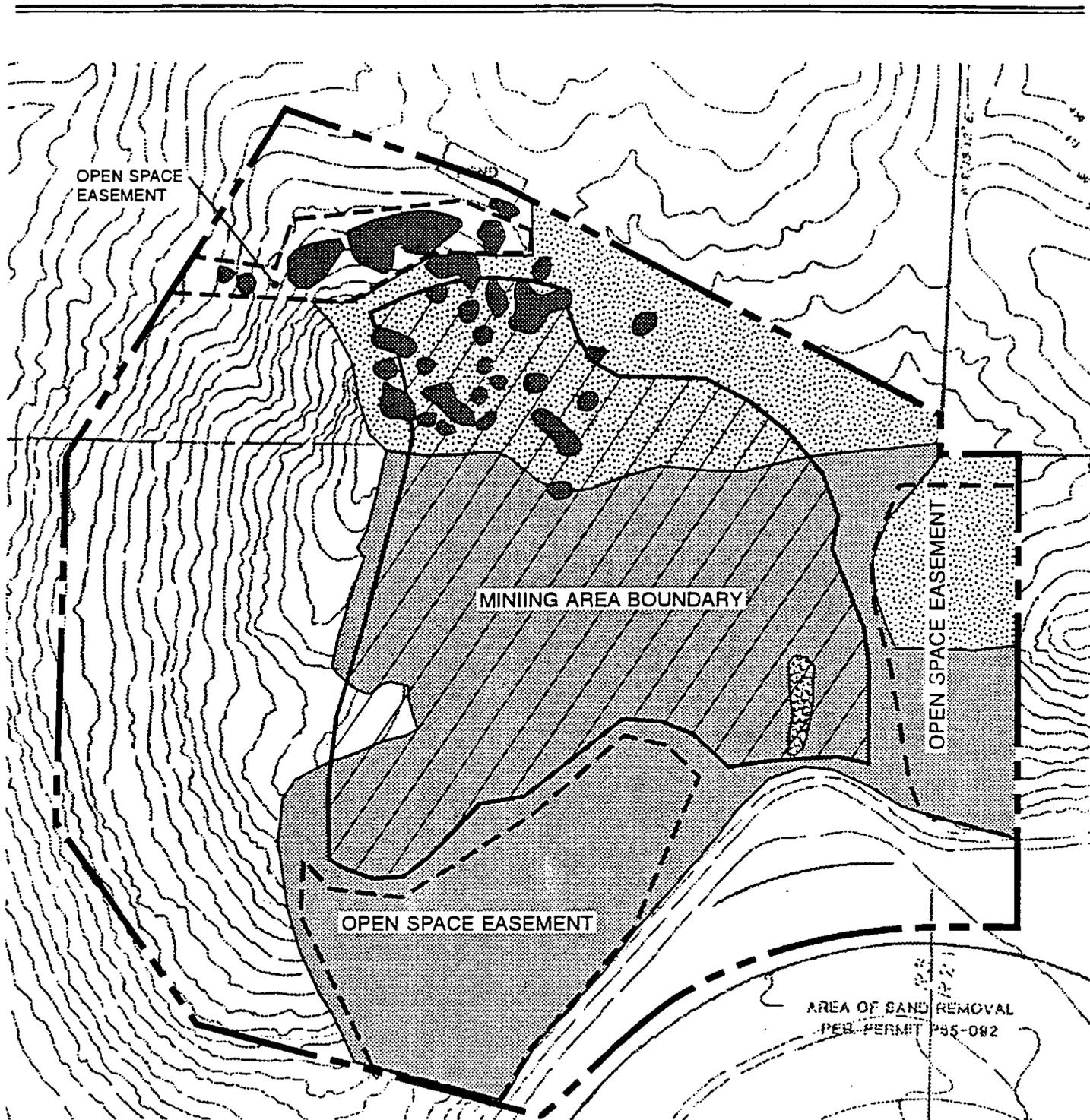
### 1. Existing Conditions

The area of effect discussed in this section includes both the MUP site (96.4 acres) and the 12 acres that will be impacted by the road realignment. The major use permit site is a massive rock outcrop. Where native vegetation remains it has a very open canopy and is comprised of shrubs, grasses and oaks. Most of the west facing slope of Rosemary's Mountain is either currently under cultivation or consists of disturbed vegetation as a result of being cleared in the past in preparation for planting with avocados. Underlying soils are Cieneba very rocky coarse sandy loam over the majority of the site and acid igneous rock in a small southeastern portion of the MUP site. The area of the SR-76 road realignment is within the floodplain of the San Luis Rey River. This area has been highly modified by the existing highway alignment, sand mining and agriculture. Underlying soils consist of Tujunga sand and Grangeville fine sandy loam, with minor amounts of Ramona sandy loam and Arlington coarse sandy loam.

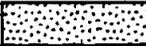
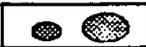
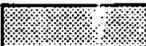
Surrounding land uses include agriculture and undeveloped land to the west and agriculture to the north. The land to the east is undeveloped. Sand mining within the San Luis Rey River borders the site to the south. This sand mining operation, covered by a Major Use Permit (#P87-021/RP87-001) which was subject to the EIR and 404 Permit review process (EAD Log #87-2-13), is currently not in operation. A riparian revegetation program would be required as a condition for this major use permit. The proposed quarry and road realignment is not expected to impact the J.W. Sands riparian mitigation area.

#### Botany

Four native plant communities are found on the proposed project area: coast live oak woodland, southern mixed chaparral, southern willow scrub and Diegan coastal sage scrub, (Figure 25 and Table 4). The coast live oak woodland (oak woodland) covers approximately 3.0 acres of the site.



LEGEND

-  Chaparral
-  Coast Live Oak Woodland
-  Diegan Coastal Sage Scrub
-  Southern Willow Scrub
-  Disturbed

**Brian F. Mooney Associates**



0 200' 400'

**Vegetation Map of MUP Area**  
**006214**

Figure 25

Table 4. Palomar Aggregates Impacts and Mitigation Summary<sup>1</sup>

Habitats	Area of Effect <sup>2</sup>		Mitigation							
			Preservation				Revegetation		Total	
	Existing	Impacts	MUP Site	Adjacent to MUP Site	West of Shearer Crossing	South of San Luis Rey River	Subtotal	West of Shearer Crossing		Subtotal
Oak Woodland	3.0	1.3 <sup>3</sup>	1.7			7.4	9.1			9.1
Chaparral	14.5	9.4	5.1				5.1			5.1
Southern Willow Scrub	0.3	0.3 <sup>4</sup>			6.7 <sup>5</sup>		6.7	9.8	9.8	16.5
Sage Scrub	40.1	27.3	12.8	10.6		6.4	29.8			54.6 <sup>6</sup>
Disturbed	50.5 <sup>7</sup>	50.5 <sup>7</sup>			6.4		6.4			6.4
Freshwater Marsh					2.5		2.5			2.5
<b>Totals</b>	<b>108.4<sup>7</sup></b>	<b>88.8<sup>7</sup></b>	<b>19.6</b>	<b>10.6</b>	<b>15.6</b>	<b>13.8</b>	<b>59.6</b>	<b>9.8</b>	<b>9.8</b>	<b>94.2</b>

<sup>1</sup> Numbers are provided in acres.

<sup>2</sup> Major Use Permit.

<sup>3</sup> Forty coast live oak trees will be impacted by the proposed project.

<sup>4</sup> An additional 0.6 acres of riparian habitat along Horse Ranch Creek would be impacted by traffic generated noise. Isolated trees along the SR-76 realignment will also be impacted: 3 western cottonwoods, 13 California sycamores and 6 Bracelin's willows.

<sup>5</sup> Includes 0.3 acre of disturbed riparian habitat.

<sup>6</sup> Includes an additional 24.8 acres of habitat from the immediate area to be preserved. This site has not been identified.

<sup>7</sup> Includes 12.0 acres of off-site road realignment and road widening area of which 3.2 acres are within designated vireo critical habitat and proposed willow flycatcher critical habitat.

The community replaces the mixed chaparral on the northern slope of the mountain and is dominated by over 60 coast live oaks of varying age. Due to the steepness of the slope and the understory of poison oak at the time of the original biological field survey, a representative sample of twelve trees was measured. The average diameter at breast height (DBH) of those individuals measured was approximately 30 cm, with a range from 9 cm to 67 cm. Toyon and mission manzanita are also important components of this habitat. The 1994 site review revealed that most of the understory of poison oak had been cleared.

A small area of oak woodland also occurs along SR-76, within the proposed road realignment. This woodland is comprised of one large coast live oak and two Fremont cottonwoods.

Southern mixed chaparral (chaparral) habitat occurs in the northern portion of the site, comprising approximately 14.5 acres of the site. This habitat is relatively undisturbed. This association is dominated by chamise. A small drainage adjacent to the citrus orchard near the northern boundary of the site contains chaparral with additional species such as honeysuckle, toyon and white sage. Although more commonly found in sage scrub, flat-top buckwheat and California sagebrush were also detected. Large portions of this habitat have been converted to avocado groves in the surrounding areas.

Disturbed southern willow scrub (willow scrub) occupies a narrow drainage swale that is located near the eastern boundary of the site. The drainage swale itself is approximately 1,200 feet long and 36 feet wide. The willow scrub extends approximately 300 feet from the southern terminus of the drainage, covering about 0.3 acre of the site. This riparian habitat is the result of irrigation runoff from the avocado and citrus grove located north of the drainage. A small wet area of less than 500 square feet receives the runoff, the water then collects in a small excavated basin, passes under the existing graded dirt road along the eastern boundary of the project site and flows into the natural drainage and into the San Luis Rey River. The wet area is covered by opportunistic and weedy species including castor bean, umbrella-sedge, small-flowered tamarisk, wild radish and sow thistle. Cat-tail was also observed. The riparian habitat functions as an agricultural drain and transports overflow south to the San Luis Rey River channel. Because of this function, it has been partially cleared as a measure to increase flow, but the dominant species still include Fremont cottonwoods, red willow and Bracelin's willow. Mule-fat and laurel sumac are also common. Many plants take advantage of the now open canopy and resulting abundant sunlight. These include celery, cat-tail, prickly lettuce, curly dock, and white nightshade.

Diegan coastal sage scrub (sage scrub) covers approximately 40.1 acres of the site. Dominant species within this community include California sagebrush, flat-top buckwheat and laurel sumac. Other species include slender wild oats and ladies-fingers. The vegetation within this community is regarded as low quality sage scrub. The slope of the subject property averages approximately 50% and the hillsides are covered with innumerable huge granitic slabs with pockets of vegetation growing between them.

Approximately 50.5 acres (38.5 acres of the quarry itself and 12.0 acres which are associated with the road realignment) of the project site is cleared of native vegetation. These areas can be classified as one of three types: cultivated, ruderal vegetation, or bare ground. Cultivated vegetation occurs as a grapefruit orchard and several stands of Peruvian pepper trees in the San Luis Rey River

floodplain and along SR-76. A citrus orchard occurs at the northern boundary of the site. The lower elevations of the west-facing slope of Rosemary's Mountain have been planted with avocados.

Ruderal vegetation occurs at the west end of the proposed road realignment and north of the existing road. The species of this area are primarily non-native annuals including Bermuda grass, mustard, wild radish, wild oat, and brome. In addition, most of the vegetation on the west facing slope of Rosemary's Mountain above the avocado groves has been cleared in the past. A farm road has been cut to switchback down the slope which contains ruderal species with scattered laurel sumac.

~~Almost all of the project's vegetation in the San Luis Rey River has been removed. The portion of the project site along the San Luis Rey River is almost devoid of vegetation.~~ Remnants of the river's wetland vegetation occur in this area adjacent to the road. This remnant vegetation is represented by three mature Fremont cottonwoods, twelve mature and one sapling western sycamores, six mature Bracelin's willows, and a sparse understory of native and ruderal species. Ruderal species also occur closer to the river.

One hundred and five plant species were identified on-site with 30 species (29 percent) being non-native. Due to the time of the year the survey was conducted, some herbaceous annual plants may have been present, but were not detected.

### Zoology

One amphibian species and three reptile species were observed on-site. Pacific treefrog was observed in the riparian habitat. Side-blotched lizard and western fence lizard were observed in all native habitats. A red diamond rattlesnake was observed in the chaparral. The western toad and several other reptile species including the San Diego banded gecko, San Diego alligator lizard, San Diego gopher snake, and California kingsnake are expected to occur on the site.

Twenty avian species were noted on-site, but because of the presence of the four vegetation communities more are expected. Red-tailed hawks, American kestrels and common ravens were seen roosting and hunting on and around the site. Scrub jays and California towhees were common on the site. Mourning doves were observed using the open areas in the chaparral for feeding. Say's phoebe and cliff swallows were observed feeding just off-site, around the pond along the northern boundary. Ruby-crowned kinglets were common in the riparian strip.

Seven mammal species were detected primarily in the sage scrub and oak woodland habitats. Brush rabbit, mule deer, and coyote were also seen or detected in the riparian habitat. Raccoon was detected in the riparian habitat only. A complete list of mammalian species and all other wildlife species observed or expected on-site can be found in the Biological Resources Technical Report for the Palomar Aggregates EIR (1991).

### Sensitive Species

Plant and animal species are considered sensitive if they have been listed as such by Federal or State agencies, or by special interest groups such as the California Native Plant Society (CNPS) (Skinner and Pavlik 1994). The California Department of Fish and Game (CDFG) publishes separate comprehensive lists for plants and animals through the California Natural Diversity Data Base (CNDDDB) (CDFG 1995a and 1994). The CDFG also publishes the CNDDDB RareFind, a

computerized inventory of information on the location and condition of California's Rare, Threatened, Endangered, and sensitive plants, animals, and natural communities (CDFG 1995b). These lists include taxa officially listed by California or the Federal Government as Endangered, Threatened, or Rare, and candidates for State or Federal listing. Candidate Species are considered either Category 1 or 2. Category 1 species are those taxa for which the United States Fish and Wildlife Service has sufficient biological information to support a proposal to list as Endangered or Threatened. Category 2 species are those taxa for which existing information may warrant listing, but substantial biological information to support a proposed rule is lacking. These categories can be applied to both plants and animals. The animal list also includes Fully Protected Species and Species of Special Concern.

**Sensitive Plant Species.** CNPS provides a comprehensive listing of plant species. Their sensitivity evaluation of a species is based on its rarity, endangerment, and distribution (Skinner and Pavlik 1994). Number values are assigned to these categories which, when considered together, are the basis for placement on one of four lists: List 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere; List 2: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; List 3: Plants About Which We Need More Information - A Review List; and List 4: Plants of Limited Distribution - A Watch List. For the purposes of this report, species on State or Federal lists or CNPS Lists 1B and 2 were of prime consideration.

No sensitive plant species was observed on the site. CNPS reports three sensitive plant species are known in the project vicinity (Skinner and Pavlik 1994). In addition, USFW also considers three other plant species in the project vicinity to be sensitive. For the purpose of this report, only species on List 1B: Plants Rare, Threatened or Endangered in California and Elsewhere and List 2: Plants Rare, Threatened or Endangered in California, But More Common Elsewhere are considered. The project vicinity is defined as the area covered by the Bonsall, Pala, Pechanga, and Temecula U.S.G.S. Quad Maps.

The three sensitive plants listed by CNPS known from the area include thread-leaved brodiaea, Lakeside lilac, and Orcutt's dudleya. Thread-leaved brodiaea is a perennial herb of grasslands and vernal pools. The occurrence of this species on site is unlikely due to a lack of appropriate habitat. This species is a Federal Candidate Category 1 species, is listed by the state as endangered and is also a CNPS List 1B species. CNPS reports this species is "seriously threatened by residential development, agriculture and off road vehicles." Lakeside lilac is an arborescent shrub of chaparral. This species is not expected to occur on site since its large size and perennial growth habitat would have made it visible at the time of the field surveys. This species is a Federal Candidate Category 2 species and is a CNPS List 1B species. Orcutt's dudleya is a perennial herb of dry, rocky or gravelly places in the coastal scrub. This species is known primarily from the Border Field area of south San Diego County; Beauchamp (1986) notes the "Records for Pala and Pala Canyon are doubtful." This species was not observed on site and is not expected. Orcutt's dudleya is a Federal Candidate Category 2 species as well as a CNPS List 2 species.

USFW considers the following plants in the project vicinity to be sensitive: Long-spined spineflower, Felt-leaved monardella, Parry's tetracoccus.

Long-spined spineflower is an uncommon annual that is typically found on clay soils which are largely devoid of shrubs. Occasionally it is observed on the periphery of vernal pools and mountain meadows near vernal seeps. This species is a former Federal Category 2 candidate species and a CNPS List 1B species that is not expected on-site due to the lack of appropriate habitat. Felt-leaved monardella is a former Federal C3c species and a CNPS List 1B species that has a tendency to occur on undeveloped peaks and on mountainous ridgelines. This perennial herb is not expected on the site since it should have been observed in the chaparral during the spring survey if it was present. Parry's tetracoccus is a former Federal Candidate Category 2 species as well as a CNPS List 1B species.

This species is typically found in low-growing chamise chaparral. Parry's tetracoccus is a perennial species that should have been visible at the time of the field surveys. This species is not expected on the site.

**Sensitive Animal Species.** The Audubon Society has provided sensitive bird listings on the national and local level. The Blue List (Tate 1986) is a national listing which is an early warning system for sensitive birds. The local Audubon Society has published a list of sensitive bird species for San Diego County (Everett 1979). This listing categorizes species as Threatened, Declining, or Sensitive. Threatened status is accorded to those species or subspecies which have undergone dramatic, non-cyclical, long-term population declines, to the point where the situation has reached the critical level throughout their range. Declining status is given to species whose local breeding populations have been steadily reduced, or in some cases extirpated. Sensitive species are those for which declines have not been documented, but are regarded as such because of: (a) extremely localized or limited distribution, (b) sensitivity to disturbance, (c) actual or impending destruction of essential habitat, or (d) lack of sufficient data on current or past status which significantly increased the potential for serious reduction of a local population.

Analysis of sensitive reptiles and amphibians, beyond the State and Federal lists, is provided by the San Diego Herpetological Society (SDHS). This group has published a listing of endangered and threatened reptile species of San Diego County (SDHS 1980) and a status report for indigenous amphibians (SDHS 1980a). For reptiles, an endangered species is defined to be one whose population and habitat distribution have been reduced to such a widespread extent that the species is unable to reproduce at a normal rate and is imminently near extinction throughout the majority of its remaining (County) distribution. A threatened species is defined to be one which has had significant population depletion and/or habitat destruction and is potentially endangered but is presently reproducing at or near normal where it still occurs. The amphibian report has similar endangered and threatened definitions, but also lists species as undetermined and stable. Undetermined status has been assigned to those species for which there is insufficient data available to draw any conclusions with regard to current distribution and abundance in the county. Stable status is given to a species (or subspecies) whose county population levels appear to be holding their own.

Nine sensitive bird species are known to use the property or land off-site. Those known from on-site are cliff swallow, Bewick's wren, black-shouldered kite and Cooper's hawk. Observed off-site to the west were green-backed heron, downy woodpecker, yellow warbler, and yellow-breasted chat. The least Bell's vireo has been observed off-site both west and east of the project.

Cliff swallow and Bewick's wren are not considered sensitive in San Diego County due to relatively stable breeding populations, however, both of these species are on the Blue List (Tate 1986). The sage scrub, chaparral and oak woodland are the on-site habitats for the Bewick's wren. The cliff swallow was observed foraging over the entire property. A black-shouldered kite and Cooper's hawk were observed flying overhead. Although Unitt (1984) reports population levels of black-shouldered kite are locally stable at this time, this species is a California Department of Fish and Game (CDFG) species of special concern. Unitt reports that the Cooper's hawk has declined in number probably due to human disturbance and habitat losses from agricultural and urban development. This species is a CDFG species of special concern, is on the Blue List (Tate 1986), and is also considered to be declining by Everett (1979).

Green-backed herons forage around lakes, estuaries, ponds, and lagoons, and are common visitors to San Diego County. The heron was seen in Horse Ranch Creek. It is a species of local concern on the Blue List (Tate 1986) and Everett (1979) considers it to be declining. Unitt (1984) considers the green-backed heron to be uncommon to fairly common.

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Many adult downy woodpeckers and young were observed west of the project in Horse Ranch Creek. Downy woodpeckers are typically found in this type of extensive mature riparian habitat. This species is considered declining by Everett (1979).

Yellow warbler is a state species of special concern, is on the Audubon Society's Blue List (Tate 1986), and is also considered a declining species (Everett 1979). It is a fairly common spring migrant, uncommon and localized summer resident, fairly common to common fall migrant, and rare winter visitor. Migrants disperse throughout the County, but are not numerous in the mountain zone. Yellow warbler was observed in the riparian forest in Horse Ranch Creek. This species breeds exclusively in riparian woodlands and evidence of breeding was observed in this forest.

Yellow-breasted chat is a CDFG species of special concern, is considered declining (Everett 1979), and is rarely seen as a migrant in either spring or fall. It was also observed in Horse Ranch Creek. This migratory species breeds uncommonly in San Diego County, primarily in riparian forest in the coastal lowland of the County.

The least Bell's vireo (vireo) is an obligate riparian habitat, migratory songbird and has been recorded in the San Luis Rey River, approximately 2,000 feet east of the site (RECON 1989). It is unknown if vireos have continued to use the area since the 1986 sighting. The vegetation is currently isolated, small in size and appears to be of marginal value for the vireo.

The species has also been observed along Horse Ranch Creek west of the project. One singing male was detected in Horse Ranch Creek during two of the nine focused vireo surveys in 1991 while a pair was observed in 1994 (Moran 1995). Both observations in 1991 were in the same location, approximately 800 feet north of SR-76 and 150 feet east of Pankey Road. The observation in 1994 occurred approximately 1,000 feet north of SR-76.

The vireo is a state and federal endangered species. Critical habitat was designated for the species by the United States Fish and Wildlife Service (USF&WS) on March 4, 1994 and published in the Federal Register. Ten rivers or creeks within five counties of southern California were designated as critical habitat, including the section of the San Luis Rey River between I-5 and Pala. There are 3.2 acres of critical vireo habitat located south of the project site; SR-76 is the northern boundary and the 325 foot elevation contour is the southern boundary. A Habitat Conservation Plan (HCP) for the vireo and the San Luis Rey River was initiated by the San Diego Association of Governments (SANDAG), however, the continued development of an HCP is no longer under consideration.

Two additional bird species, which are also sensitive, may use the property: turkey vulture and red-shouldered hawk. Turkey vultures are a Blue List species of special concern (Tate 1986) and are considered to be declining by Everett (1979). This wide ranging species is known to use the surrounding undeveloped areas for foraging and although not observed during the field survey, it is expected to occasionally use the property. Like the Cooper's hawk, the red-shouldered hawk is on the Blue List (Tate 1986). The local numbers of red-shouldered hawks, however, have remained stable or increased in number since 1930 (Unitt 1984).

Another species that has been historically detected along the San Luis Rey River is the southwestern willow flycatcher (willow flycatcher). The willow flycatcher is state listed as endangered and the subspecies that is found in San Diego County is ~~proposed for federal listing~~ federally listed as

endangered. In addition to a federal proposed status as endangered for the subspecies, critical habitat was also proposed for the species and published in the Federal Register in 1993. There are 3.2 acres of proposed critical willow flycatcher habitat located south of the site. However, the project is outside of the limits of the species' proposed critical habitat. Willow flycatchers nest exclusively in willow riparian woodland, however, they may be found in a variety of habitats (Unitt 1984). This species is not expected on-site due to the absence of appropriate habitat.

The most publicized sensitive species inhabiting sage scrub is the coastal California gnatcatcher (gnatcatcher). The gnatcatcher is a CDFG species of special concern and in March 1993, the USF&WS listed the gnatcatcher as a threatened species. This action was reversed by the courts in April 1994. However, the gnatcatcher was relisted as a federal threatened species in June 1994. A gnatcatcher was identified on-site by a Caltrans biologist during the interim between the publication/review of the first draft EIR (1991) and the First Additional Information Document (1992). However, no gnatcatchers were observed during focused surveys in 1992 and 1993 and it was concluded that "in all probability, the individual observed by the Caltrans biologist was a transient that was dispersing following the breeding season". It should be noted that the original detection of the gnatcatcher on the site was determined through a single vocalization during a one-time visit by a Caltrans contract biologist. No birds were actually sighted (Marquez 1993). Based on maps prepared for the Multiple Habitat Conservation Program (MHCP), the closest known sighting of gnatcatchers to the subject property (aside from the California gnatcatcher heard by Caltrans biologists on the proposed project site) is north of SR-76 and west of I-15 approximately one and one-half miles away.

In addition to the sensitive bird species, one sensitive amphibian and two sensitive reptiles may also be impacted by the proposed project. The arroyo southwestern toad (arroyo toad) typically occurs in washes, stream courses, and other permanent or intermittent drainages that have shallow, gravelly pools adjacent to sandy terraces in the foothill areas of the County. It frequents sandy banks grown to willows, cottonwoods, or sycamores. The species is a CDFG species of special concern and was listed as a federal endangered species in January 1995. Evidence of arroyo toads was detected in the spring of 1994 near the Highway 395 bridge, approximately 1.25 miles west of the site (Copp 1995). Several presence/absence surveys were conducted for Caltrans rock slope protection projects located adjacent to the project site in the Spring of 1995. No arroyo toads were detected during these surveys (Copp 1995).

Although no arroyo toads were detected on the project site, a juvenile was observed approximately 1,000 feet southeast of the project site adjacent to the San Luis Rey River during a habitat suitability survey conducted for the proposed project in July 1995. This habitat suitability study further determined that appropriate potential habitat does not exist on the project site, inclusive of the drainage swale located north of SR-76 near the eastern edge of the site (Copp 1995).

The San Diego horned lizard and the orange-throated whiptail are expected to occur due to the open chaparral and sage scrub habitat present on the site. Both are CDFG species of special concern and Category 2 Candidate species for federal listing. The San Diego Herpetological Society considers the San Diego horned lizard to be endangered and the orange-throated whiptail to be threatened. The orange-throated whiptail is expected to use the site because it occurs in the same habitats and has the same general range as the red diamond rattlesnake; both species are associated southern California batholith species. The San Diego horned lizard is expected to only occasionally use the site, preferring to concentrate its activities further down the slope in the more sandy substrate.

The project site is within the range of Stephens' kangaroo rat, a federal endangered and state threatened species. However, evidence of this rodent was not observed.

**Sensitive Habitats.** Plant communities are considered sensitive if they provide habitat for a diversity of wildlife species; provide habitat for rare, endangered or threatened plant and animal species; and/or are diminishing due to increased developmental pressures. The oak woodland on-site is considered sensitive. Oak woodlands constitute a very small percentage of San Diego County's native vegetation. This community has always been a relatively scarce vegetation type, but recent impacts from rural and urban development have further reduced its distribution. However, wherever this community occurs, it provides habitat for a diversity of bird species.

The southern willow scrub plant community would also be considered sensitive. Due to their ability to support a diversity of wildlife species, wetlands, including southern willow scrub, are a valuable resource. Proximity to water, interface between a variety of habitat types, and vertical stratification of foliage are factors which contribute to the richness and productivity of wetlands. ~~Although within designated critical habitat for the vireo,~~ The value of the narrow riparian strip on-site is diminished since it is a small island of highly disturbed habitat. If it had not been used as a sand mine, the area in the river below would be much more significant because it could support riparian vegetation, and ultimately sensitive species such as the vireo and the arroyo toad. The river channel represents an example of why this habitat is sensitive. Riparian habitats by their nature are limited in Southern California and have rapidly been lost to flood control and other modifications over the last fifty years. The area in the river is also within the area designated as vireo critical habitat.

Sage scrub is usually regarded as a sensitive habitat because, although once widespread in coastal southern California, its areas have been greatly reduced by development. Over ten years ago it was estimated that between 85 and 90 percent of its former range had been replaced by urbanization and agriculture (Bowler 1990). Furthermore, there is a high potential for continuing impacts to the remaining areas. Related to the displacement of these habitats has been a corresponding reduction in certain plant and animal species which are also regarded as sensitive. The sensitivity of the sage scrub on-site, however, is compromised because of the presence of huge granitic slabs with pockets of vegetation growing between them and the lack of sensitive plant and wildlife species. In addition, it has low habitat value for the threatened gnatcatcher due to its steep slopes (the slopes average approximately 50%).

## 2. Environmental Impacts

Impacts to the flora and fauna observed or expected at the site were determined to be significant or insignificant based upon sensitivity of the resource and the extent of the impact. A significant impact to a sensitive resource may be direct, indirect, or cumulative. An impact is regarded as direct when the primary effects of the project result in loss of habitat that would cause a reduction in the density or diversity of biological resources within the region. The magnitude of an indirect impact is the same as a direct impact, however, the impact occurs from a secondary effect of the project. An example of a secondary effect is the possible effect increased noise may have on breeding birds. An impact is regarded as cumulative when the project impact is not significant but the combined incremental impact of it and other projects in the region is significant.

## Direct Impacts

**Habitats.** The project (which includes the quarry and the road realignment) would impact 88.3 acres including 1.3 acres of oak woodland, 9.4 acres of chaparral, 0.3 acres of southern willow scrub, 27.3 acres of sage scrub, and 50.5 acres of previously disturbed areas. Impacts to the disturbed areas include 12.0 acres that will be impacted by the road realignment, of which 3.2 acres are within designated vireo critical habitat and proposed willow flycatcher critical habitat.

The loss of 1.3 acres of live oak woodland from the quarry site would be regarded as a significant impact. The total number of coast live oak trees impacted by this project would be 40.

A 9.4 acre loss of chaparral would not be considered a significant direct impact. At the present time, this community is common on those areas not converted to avocado groves north and south of the site.

All of the riparian strip north of SR-76 (approximately 0.3 acre of southern willow scrub) would be lost as a result of the proposed project. Although this loss is relatively small and the habitat is disturbed, this loss is considered a significant impact because wetlands constitute relatively rare and rapidly declining habitats in the region. ~~In addition, the impact would occur to designated vireo critical habitat (see Table 4).~~

The proposed project would impact 27.3 acres of sage scrub. No direct impacts would occur to adjacent sage scrub. Recognizing that sage scrub is generally regarded as a sensitive habitat, the direct impacts to on-site sage scrub are significant. However, based upon the biological survey conducted for the EIR and upon the subsequent directed searches for gnatcatchers, no federal or state listed birds, reptiles, plants, mammals, or other species would be directly affected by the proposed project. The project would have indirect (noise) impacts on potential vireo and flycatcher habitat as well as on designated vireo critical habitat and proposed flycatcher critical habitat. The project would also directly impact arroyo toad habitat.

Approximately 50.5 acres of previously disturbed habitat (38.5 acres from the quarry itself and 12.0 acres from the road realignment) would be impacted. The road realignment would also impact 0.1 acre of oak woodlands, however this acreage has been included in the woodland discussion above. Impacts to disturbed areas include 3.2 acres of vireo critical habitat and proposed willow flycatcher critical habitat that have been cleared by agricultural and sand mining activities. This area also contains remnants of riparian vegetation including a number of isolated riparian trees along the existing road. These trees (twelve western sycamore, six Bracelin's willow, and one Fremont cottonwood) would be impacted by the road realignment. The impact to critical habitat for the vireo and the proposed critical habitat for the flycatcher is regarded as significant. The impact to the isolated trees along SR-76, however, is not significant. Based on recent studies conducted in San Diego County, it has become apparent that the behavior and general use area of the arroyo toad is not completely understood. As a result of these recent studies and the confirmation that arroyo toads occupy areas adjacent to the project site, it has been concluded that the subject property could potentially serve as habitat. This habitat extends throughout the areas identified for the least Bell's vireo, California gnatcatcher, and the southwestern willow flycatcher.

**Plants and Wildlife.** Impacts to the sensitive plant species previously observed in the project's vicinity (thread-leaved brodiaea, Lakeside lilac, and Orcutt's dudleya) are not anticipated.

The impact to habitat for the horned lizard and orange-throated whiptail (chaparral and sage scrub) is considered significant. ~~Direct impacts to the arroyo toad are not anticipated since there is no suitable habitat on the project site.~~

Impacts are not anticipated for the cliff swallow, Bewick's wren, green-backed heron, Downy woodpecker, yellow warbler, yellow-breasted chat, and southwestern willow flycatcher for the following reasons: they maintain locally stable populations; they were either observed or are anticipated off-site in quality habitat that does not occur within the project boundaries; or there are large amounts of undeveloped land (potential foraging and/or breeding habitat) off-site.

There would be a loss of on-site habitat (oak woodlands) for the Cooper's hawk, black-shouldered kite and red-shouldered hawk, and a loss of habitat (sage scrub, chaparral, ruderal, and oak woodland) for the turkey vulture. Although these losses ~~do not represent a continuing loss of the existing habitat for these species, they do not represent a significant reduction in the total habitat occupied by these bird species at the present time. , they do represent a continuing loss of the existing habitat base for these species. Therefore, impacts to these species are not considered significant.~~

Direct impacts to the vireo ~~and the willow flycatcher~~ are not anticipated. No vireos ~~or willow flycatchers~~ occur within the project site. However, the loss of critical habitat ~~and proposed critical habitat for the two species~~ (3.2 acres south of SR-76 ~~and 0.3 north of SR-76~~) is significant and necessitates consultation with the USF&WS under the FESA.

Since no gnatcatchers reside on the project site, no impacts to gnatcatchers would occur with implementation of the proposed project. Although the 27.3 acres of sage scrub impacted by the project is large enough to support a pair of gnatcatchers, whose territories range in size from 6 to 45 acres (with inland territories typically larger than those found in coastal areas), adequate area alone does not guarantee the presence of the species. As indicated previously, the hillsides of the subject property are covered with huge granitic slabs with vegetation between them, and the slope of the subject property is approximately 50%. Statistical data suggests that California gnatcatchers prefer slopes with less than a 40% gradient (Mock 1993). Therefore, while potentially suitable for foraging and dispersal, the site is considered to have only low to moderate potential for nesting.

When evaluated using the Natural Communities Conservation Plan (NCCP) Guidelines, sage scrub within the project boundaries is considered to have low regional value for the following reasons: the site's steep terrain, relative small size, isolation due to agricultural uses to the immediate north and west, and lack of sensitive species. The sage scrub also does not provide connectivity between areas of high habitat value. In addition, according to the Multiple Habitat Conservation Plan, the project does not occur within a "core" habitat area, and it does not provide linkages to core habitat areas. The regional value of sage scrub will be discussed in further detail under the 4(d) Findings section.

### Habitat Loss Permit

The Natural Community Conservation Planning (NCCP) program was initiated by the State of California to provide protection and perpetuation of natural wildlife diversity on a regional basis while allowing compatible land use and appropriate development. The primary directive of the planning process is to shift focus from a single species conservation effort to effectively protecting species and habitats on a natural community level. The southern California sage scrub NCCP program is the first NCCP program and is viewed as a model for which conservation will be accelerated at a regional scale and other NCCP programs will follow. This first NCCP program provides for the long-term protection of species in the sage scrub community in southern California.

The regional sage scrub planning area consists of approximately 6,000 square miles and includes parts of San Diego, Orange, Riverside, Los Angeles, and San Bernardino counties. The five-county planning area is divided into several large subregions to better facilitate the planning efforts.

Participants, including numerous local jurisdictions and both public and private landowners, agree voluntarily to protect sage scrub habitat on enrolled lands and lands within their jurisdiction.

At the time the gnatcatcher was federally listed as Threatened, the USF&WS proposed a special rule under Section 4(d) of the Federal Endangered Species Act (FESA) that defined the conditions under which take of the species would not be considered in violation of Section 9 of the FESA. The special rule supports the NCCP efforts and closely ties the NCCP program to federal actions under the FESA. Under the special rule, the USF&WS will permit take of the gnatcatcher associated with land use activities covered by an approved plan prepared under the NCCP program in accordance with the conservation guidelines established under the NCCP process.

During the interim period in which the subregional NCCP programs are completed and adopted, agencies with jurisdiction over subregional planning areas will strive to protect areas of higher long-term conservation value as defined by the extent of sage scrub habitat, proximity of the sage scrub habitat to other habitat, value as wildlife corridors, or presence of species of concern. Development should, therefore, be directed toward areas that have lower long-term conservation value such as areas that are smaller in extent, are more isolated, have limited value as corridors, and support comparatively fewer individuals of species of special concern.

San Diego County jurisdictions have devised several local plans to protect against the increasing loss of wildlife and native habitats while allowing compatible land use. The programs have been accepted by the state as meeting the requirements of the NCCP. Historic attempts at conservation of native environments have been addressed on a project-by-project basis. Fragmented habitat preserves have resulted, compounding impacts to the sensitive species these preserves are intended to protect. In addition, the conservation plans of state and federal agencies often address one species at a time and only after the species has become a listed species. Conservation efforts in the San Diego region have been designed to accelerate planning efforts for protection of species before their listing by a state and/or federal agency is warranted and to provide interconnected open space preserves.

Of the four Habitat Conservation Planning Areas or subregions in San Diego County, the proposed project site is located in the "Multiple Habitat Conservation Program" area (Figure 26), also known as the "North County Wildlife Forum Study Area." Although the total acres of sage scrub remaining within the Multiple Habitat Conservation Program area, or MHCP, has not been computed (Fairbanks 1993), it is estimated at 110,000 acres (Barron 1993). It is presently anticipated that the USF&WS will allow the taking of five percent of existing sage scrub habitat within each of the four subregions, providing that adequate mitigation is adopted. Five percent of the 110,000 acres estimated for the MHCP translates to approximately 5,500 acres.

Impacts to sage scrub for the proposed project (27.3 acres) will involve the loss of approximately 0.5% of the 5,500 acres that may ultimately be allowed for development by the USF&WS. From another perspective, the 27.3 acres of sage scrub on the project site represent approximately 0.025% of the estimated 110,000 acres of habitat remaining in the MHCP. Importantly, of the sage scrub ultimately allowed for development, the USF&WS will likely place preference on "lower potential value" habitat, and will likely require the off-site preservation of habitat that contributes to the goals mentioned above.



According to the Draft Conservation Guidelines of the Natural Community Conservation Planning program, a site would be regarded as being a "Higher Value District" if it is of a large size and is the most dense sage scrub in its Subregion. A site would be regarded as land of "Intermediate Potential Value for Long-term Conservation" if it 1) is close to land regarded as a "Higher Value District", 2) is located in a corridor between "Higher Value Districts", or 3) contains significant populations of target or endemic species. If a site does not meet the above criteria, it would be regarded, under the draft Guidelines, to be of "Lower Potential Value." Development would be allowed on a site of Lower Potential Value with adequate mitigation. The proposed project site was determined to be of low habitat value due to its steep terrain, relative small size, isolation due to agricultural uses to the immediate north and west (lack of connectivity), and lack of sensitive species.

As shown on the MHCP, the on-site sage scrub represents the southwesternmost end of a strip of predominantly sage scrub that extends north nearly to Rainbow along the northern edge of San Diego County. This strip is interspersed with chaparral. However, site visits and aerial photographs show that with the exception of a strip of chaparral and sage scrub, approximately 1,400 feet wide which runs in a north/south direction just east of the site, the project is generally surrounded by agricultural development. The eastern portion of the site adjacent to this strip will be dedicated for preservation as part of the proposed project.

**4(d) Findings**

In order to comply with the FESA and the NCCP program, the County of San Diego adopted Ordinance 8365 to regulate sage scrub while regional habitat conservation programs are completed. Ordinance 8365 allows the County Board of Supervisors to issue a Habitat Loss Permit (Appendix F) for projects impacting sage scrub. This process is intended to provide a streamlined procedure for complying with Federal regulations and will be used in lieu of the cumbersome mechanism available under Sections 7 and 10(a) of the FESA. The following findings were based on the Habitat Loss Permit pursuant to Section 4(d) of the Federal Endangered Species Act:

1. The proposed habitat loss is consistent with the interim loss criteria in the NCCP Conservation Guidelines and with any subregional process established by the subregion.
  - a. The habitat loss does not cumulatively exceed the 5% guideline.

The following chart tabulates the coastal sage scrub cumulative loss history in both the unincorporated area of San Diego County and within the Northern Subregion.

Sage Scrub	County-Wide	Northern Subregion
Total loss allowed under 5%:	6,825.1 acres	1,876.9 acres
Cumulative loss to this date:	179.16 acres	18.1 acres
Net loss due to this project:	27.3 acres	27.3 acres
Total cumulative loss:	206.46 acres	45.4 acres
Remaining loss allowed under 5% guideline	6,618.64 acres	1,831.5 acres

As shown in the above table, when added to the total loss to date (subsequent to the March, 1993 listing of the California gnatcatcher) of 179.16 acres, the net loss of 27.3 acres due to this project

will bring the total county-wide loss to 206.46 acres and the total northern subregion loss to 45.4 acres, which will not result in the loss of greater than 5% of coastal sage scrub within the County's jurisdiction, or within the northern subregion.

- b. The habitat loss does not preclude connectivity between areas of high habitat values.

~~According to the Multiple Habitat Conservation Plan, the on-site sage scrub represents the southwesternmost end of a strip of predominantly sage scrub that extends north nearly to Rainbow along the northern edge of San Diego County. This strip is interspersed with chaparral. A variety of land uses in the project area have contributed to the fragmentation of coastal sage scrub. Agriculture occurs directly north and west of the site while undeveloped land occurs east of the site, west of Rice Canyon Road. State Route 76 borders the site on the south and several acres of cropland which has been disced and planted for approximately 40 years is situated in between SR-76 and the San Luis Rey River. Wildlife would be somewhat blocked from moving north from the project site by the agriculture on the northern and western slopes of Rosemary's Mountain. In addition, the site itself does not provide connectivity between habitat to the northeast and the south since it is more likely that wildlife would use the land to the east of the site. Therefore, when considered in a regional context, the habitat on-site does not link similar scrub habitat with habitat within the San Luis Rey River or farther south on Lancaster Mountain. The area that the project would impact is considered to be of low value due to the site's steep terrain, relative small size, isolation due to agricultural uses to the immediate north and west, and lack of sensitive species. The sage scrub to be impacted is of low value and does not provide connectivity between areas of high habitat value.~~

- c. The habitat loss will not preclude or prevent preparation of the subregional NCCP.

The project does not occur within a "core" habitat area, and it does not provide linkages to core habitat areas (California Dept. of Fish and Game 1993). The proposed mitigation will preserve 54.6 acres of on-site, adjacent and near-by sage scrub habitat. Therefore, implementation of the project as proposed would not preclude the preparation of the subregional NCCP.

- d. The habitat loss has been minimized and mitigated to the maximum extent practicable.

The area that the project would impact is considered to be of low value due to the site's steep terrain, relative small size, isolation due to agricultural uses to the immediate north and west, and lack of sensitive species. Further, the impact to 27.3 acres of sage scrub that would occur under the proposed project shall be mitigated by the preservation of 54.6 acres of sage scrub both on and off-site providing a 2:1 mitigation ratio for this habitat. Therefore, habitat loss has been minimized and mitigated to the maximum extent practicable in accordance with Section 4.3 of the NCCP Process Guidelines.

2. The habitat loss will not appreciably reduce the likelihood of the survival and recovery of listed species in the wild.

Based on the biological survey conducted for this EIR and upon the subsequent directed searches for gnatcatchers, no federal or state listed plants, birds, reptiles, mammals, or other species will be affected by the proposed project.

### 3. The habitat loss is incidental to otherwise lawful activities.

An EIR has been prepared and is being completed in compliance with CEQA, and all required approvals will be brought before the County Board of Supervisors in public hearings.

#### Indirect Impacts

Traffic generated noise will increase as a result of the proposed project. However, adjacent wildlife within the sage scrub will not be significantly impacted by noise or other indirect impacts. Regarding noise, in particular, no thresholds have been established for sage scrub. As described in the Final San Diego County Water Authority Capital Improvement Program Biological Assessment and Mitigation Program for the California Gnatcatcher (San Diego County Water Authority and Pacific Southwest Biological Services, Inc. 1993), gnatcatchers are regularly observed in areas with high noise levels.

Preliminary data concluded that the vireo appeared to be sensitive to equivalent hourly noise levels greater than 60 dB (A) (SANDAG 1988). The use of 60 dB (A) has been used as the cutoff for noise impacts for vireos and has more recently been applied to gnatcatcher impacts. However, a 1993 noise study involving several bird species in San Diego county suggested that suitable habitat is more important to bird breeding success than noise and that there is no biological justification for the use of 60 dB L(A) for the cutoff for mitigation of noise impacts (Awbrey 1993). Individuals of several species that were studied, including two California gnatcatchers, successfully nested in an area directly under the incoming flight path for Lindbergh Field where sound levels exceed 70 dB(A) often throughout the day. Sound exposure at these levels completely mask the calls of most of the nesting bird species, yet birds continue to nest successfully. Awbrey concluded that the reason for the nesting success in the area was due to the excellent habitat.

While Awbrey's study focused on species that reside in scrub habitats rather than woodlands where vireos breed and it did not assess whether bird population densities or reproductive patterns differ as a function of noise, it does cast doubt on the validity of 60 dB(A) as the cut-off for noise mitigation for both vireos and gnatcatchers. In addition, Caltrans found portions of several vireo breeding territories along the San Luis Rey River west of the project within existing 61 dB(A) contour lines indicating that this noise level may not be excessive for the vireo. However, the regulatory agencies are adhering to the use of 60 dB(A) as the cut-off, therefore the analysis for this project will use 60 dB(A) for the cut-off for possible noise impacts.

Due to the nature of the construction industry and the timing of projects that use aggregate, Project ADT would have the potential to vary from day to day. Also, weather related delays are often offset by intensified material deliveries to get back on schedule. Therefore, in addition to normal operational ADT, a worst case scenario of a 100% increase in ADT (1,028 trips) was analyzed. In order to identify worst case impacts, worst case traffic projections were used to calculate indirect impacts to biological resources associated with noise.

The increase in traffic noise due to project implementation may indirectly impact a total of 17.8 acres of existing and/or potential vireo and flycatcher habitat within and in the vicinity of the project site. All of the approximately 13.1 acres of potential vireo habitat directly south of the site that may be indirectly impacted by noise occurs within designated vireo critical habitat and proposed willow flycatcher critical habitat. However, no vireos or flycatchers have been reported in the immediate project vicinity, likely because the area, ~~has been cleared and/or is disturbed~~ was previously cleared

and disturbed. Therefore, no vireos would be impacted in the vicinity of the project by noise generated by project operations.

Native vegetation has recently begun to re-establish itself, but has not developed sufficiently to constitute good vireo habitat. If the vegetation in that area were to develop to a point where it constituted good vireo habitat, then noise from project-related truck trips could degrade the value of the habitat. Because a noise berm would be constructed adjacent to SR-76, this potential impact is expected to be mitigated. Impacts to the south of the site would be further evaluated by Caltrans when final design plans for proposed improvements to SR-76 are completed. If any additional impacts on vireos are determined at that time, then project mitigation efforts would be increased proportionately as compensation.

Although flycatchers have not been observed west of the site, vireos have been observed to the west, between the project site and I-15 in riparian vegetation along Horse Ranch Creek. With project implementation, the peak hour noise level would increase by 3.0 dB  $L_{eq}$  along this segment of SR-76. This increase in noise would extend the peak hour 60 dB  $L_{eq}$  approximately 195 feet (1.9 acre) further into the potential vireo and flycatcher habitat area (Figure 27). However, this increase in noise is well outside of the locations where vireos were observed in 1991 and 1994. Therefore, no significant impacts would occur to occupied vireo habitat although 1.9 acre of potential vireo and flycatcher habitat would be affected.

With implementation of the project, the existing peak hour 60  $L_{eq}$  east of the project site will increase by less than 1.0 dB due to project traffic. This increase would extend the 60 dB  $L_{eq}$  contour 75 feet further (2.8 acres) into the area where vireos were recorded by RECON (1989) and into potential flycatcher habitat (Table 5).

Table 5. Quarry Plus SR-76 Traffic Peak Hour 60 DB LEQ Contour Distances<sup>1</sup>

Traffic Condition	Area of Known Vireo Habitat West of Project Site <sup>2</sup>	Area of Known Vireo Habitat East of Project Site <sup>3</sup>
Existing Noise Levels <sup>4</sup>	195 feet	425 feet
Existing Plus Project Noise Levels	295 feet	470 feet
Existing Plus Worst Case Traffic	390 feet	500 feet

<sup>1</sup> Distances measured from center line of road.

<sup>2</sup> Habitat area below road elevation - soft site assumption.

<sup>3</sup> Habitat area at grade with road - hard site assumption.

<sup>4</sup> Alignment without existing emergency s-curve detour at Horse Creek Ranch.

Source: Pacific Noise Control

### 3. Summary of Impact Significance

Direct and indirect impacts to Biological Resources are considered significant but mitigable. The quarry and road realignment would impact 88.8 acres including 27.3 acres of sage scrub, 9.4 acres of chaparral, 1.3 acres of oak woodland, 0.3 acre of southern willow scrub, and 50.5 acres of previously disturbed areas. Traffic generated noise would increase as a result of the proposed project. The increase in traffic noise due to project implementation may indirectly impact a total of 17.8 acres of existing and/or potential vireo and flycatcher habitat within and in the vicinity of the project site, of which 1.9 acre necessitates mitigation.

#### 4. Mitigation Measures

Any potential impacts to biological resources will be mitigated with implementation of the following mitigation measures which will include preservation of habitat both on and off-site.

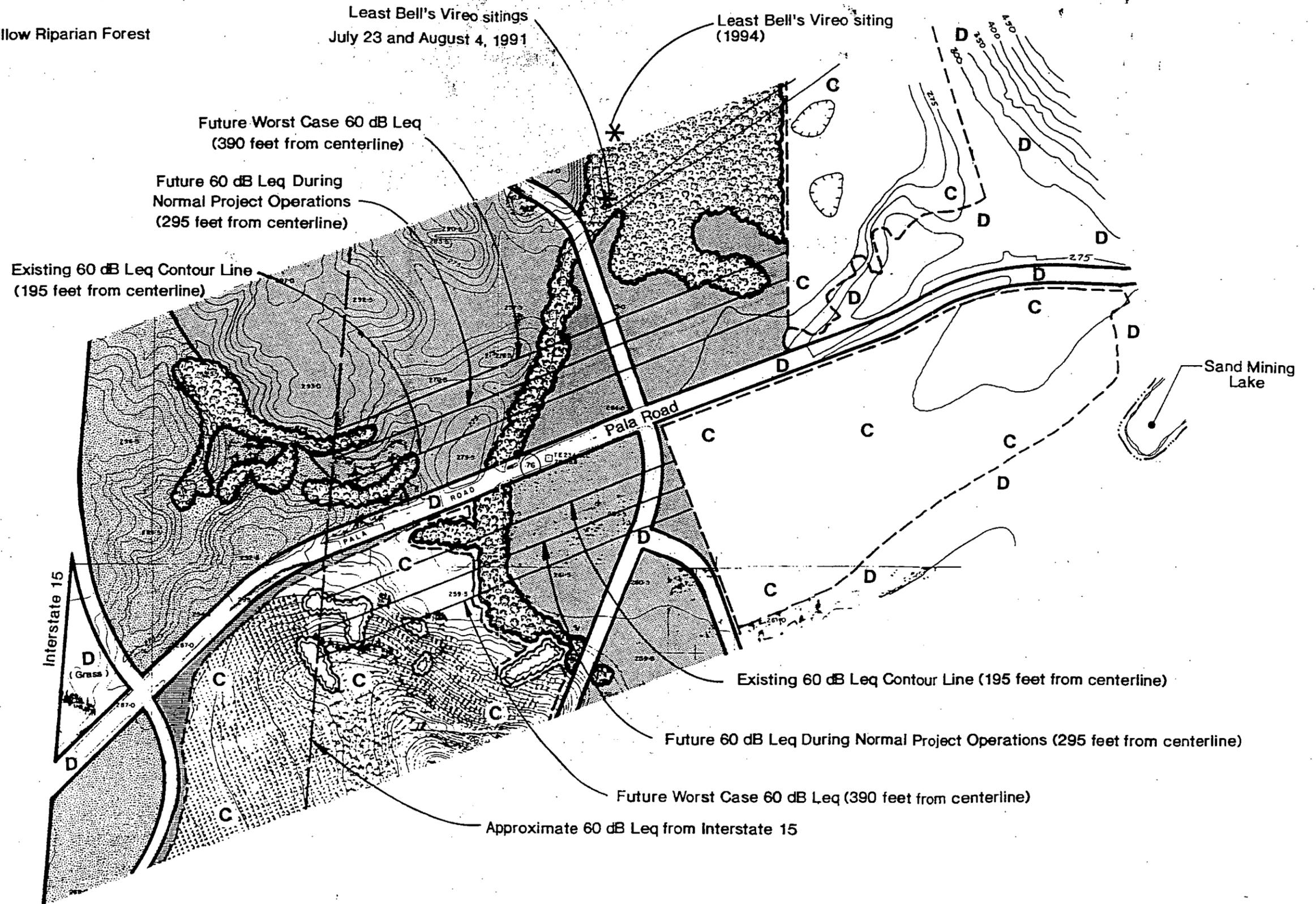
- B-1. Prior to the preparation of final mitigation plans, the area will be revisited and conditions mapped with the use of an up-to-date aerial to reflect any fluctuations in the vegetative conditions. The numbers provided below describe current conditions at the Shearer Crossing mitigation site for both the existing vegetation and the area to be restored. However, riverine systems are dynamic in nature, often scouring vegetated areas during flooding, while other areas undergo vegetative development where historically vegetation was absent. It is likely that conditions within and adjacent to the San Luis Rey River may change in the future. Although the total mitigation parcel size of 18.4 acres will not change, there may be differences between the future acreages of both the existing vegetation and the area to be restored, and the numbers provided below.
- B-2. Prior to any grading, an approximately 6.7 acre area of southern willow scrub shall be preserved in open space at the mitigation site west of Shearer Crossing (Figure 29). Although a portion of the mitigation area west of Shearer Crossing may not be suitable for vireo breeding because it is within the I-15 60 dB(A) noise contour, it has been approved as a mitigation area based on its local and regional importance for vireo migration and dispersal.
- B-3. Prior to operation of the processing facilities, revegetation for southern willow scrub shall be completed in accordance with the Palomar Aggregates Revegetation Plan (Appendix G). Revegetation shall take place at two sites: in the river west of Shearer Crossing, and north of the river along side the future realignment of SR-76, on the fill slope facing the river. Cuttings from the willows in the drainage north of SR-76 shall be used as part of the revegetation plan. The recommended restoration at the site west of Shearer Crossing shall include the revegetation of approximately 9.8 acres. This amount is derived from a 3:1 replacement (6.6 acres) for the 4.9 0.3 acre impact to riparian vegetation at the quarry site and 0.7 1.9 acre of noise impacted area along Horse Ranch Creek plus a 1:1 replacement (3.2 acres) for the loss of vireo critical habitat and proposed willow flycatcher critical habitat south of the road. Approximately 11.7 acres of potential southern willow scrub restoration area will be available subsequent to the purchase of the mitigation parcel west of Shearer Crossing.

If the road realignment impacts any of the J.W. Sand revegetation area, then the amount of this revegetation would be increased. The area of increase would range from a 1:1 to a 3:1 ratio based on the quality of the revegetated habitat at the time of the impact and whether impacts are direct or indirect. Impacts to extant southern willow scrub is typically replaced at a 3:1 ratio, therefore the revegetation will lower the significant cumulative impact to southern willow scrub and the cumulative noise impact below a level of significance.

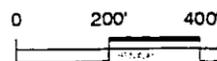
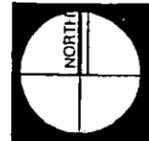
- B-4. Prior to any use or reliance on the MUP, the applicant shall enter into a Secured Agreement with the County of San Diego to ensure success of the revegetation plan.

**Legend**

-  Southern Cottonwood / Willow Riparian Forest
-  Coast Live Oak Woodland
-  Ruderal
-  Non-Native Grassland
-  Cultivated Vegetation
-  Disturbed

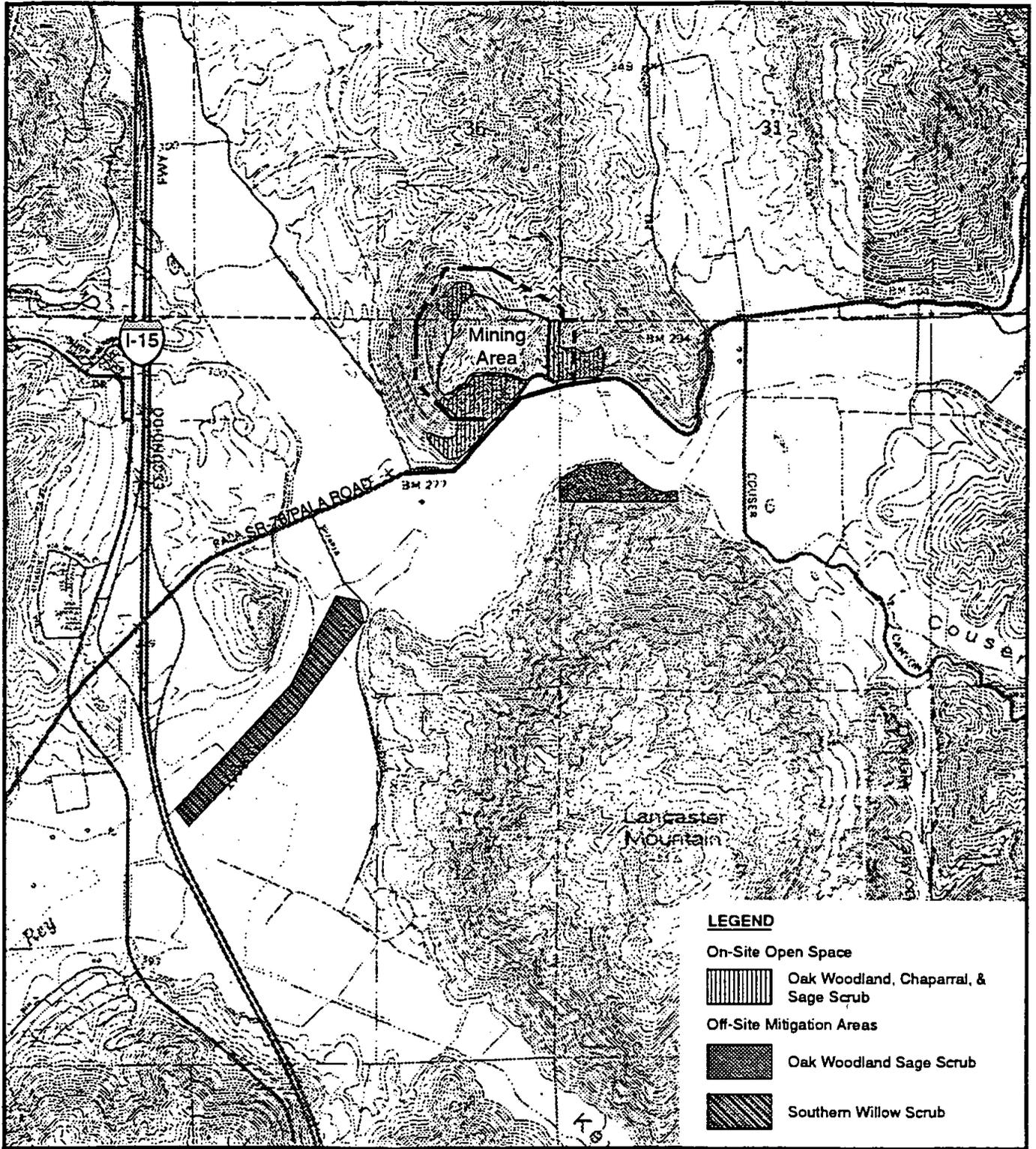


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Associates**



**Traffic Impact Area West of Project**

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**Brian F. Mooney  
Associates**



0 1000' 2000'

Palomar Aggregates MUP and Mitigation Sites

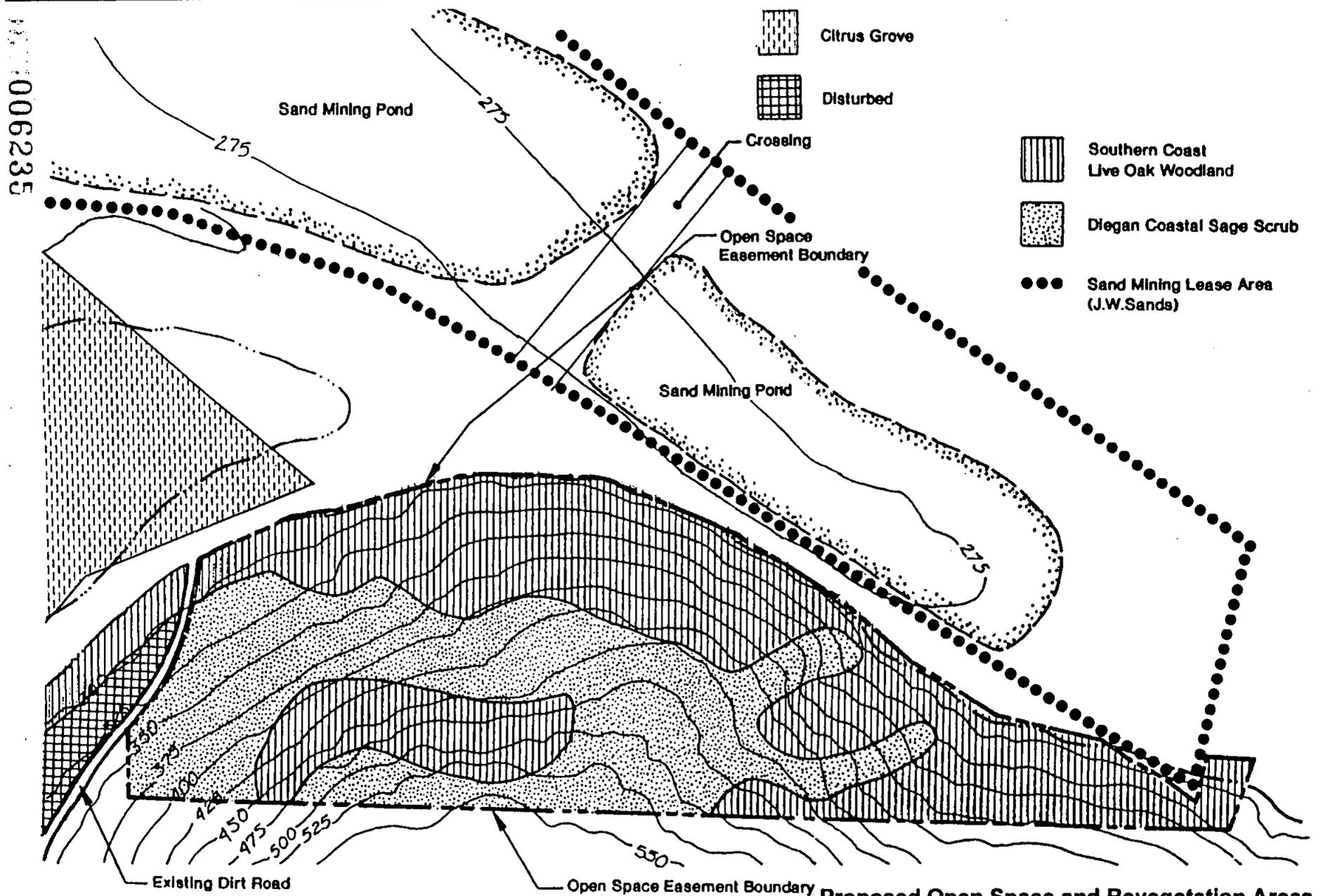
006234

Figure 28

SOURCE: U.S.G.S. 7.5 MIN QUAD (PALA-BONSALL)

Palomar Aggregates Quarry EIR

006235



Brian F. Mooney Associates

0 100' 200'

Proposed Open Space and Revegetation Areas - South of San Luis Rey River

Figure 29

Palom. Jales Quarry EIR

- B-5. Prior to any use or reliance on the MUP, the loss of 1.3 acres of oak woodland shall be mitigated with off-site mitigation at a ratio of 5.7:1 by dedicating a hillside south of the San Luis Rey River that supports oak woodland to open space (7.4 acres) (Figure 30). The woodland outside the mining area (1.7 acres) but within the MUP shall also be placed in open space (see Figure 25).
- B-6. Prior to any use or reliance on the MUP, most of the chaparral at the quarry site (5.1 acres) not impacted by the mining shall be dedicated as open space (Figure 31).
- B-7. Prior to operation of the processing facilities, riparian plantings shall be completed along the SR-76 slope bank and adjacent streambed. Revegetation shall include twelve tree and shrub species and a hydroseed mix of five species that would be planted at various elevations within the channel. The riparian planting along SR-76 will mitigate for impacts from the realignment of SR-76 to the individual riparian trees (Figure 31). The terms of the replacement measures shall be negotiated through consultation with CDFG and Army Corps of Engineers, and subject to a Federal 404 Permit of the Clean Water Act and, possibly, State "1601" or "1603" Streambed Alteration Agreements.
- B-8. Prior to any use or reliance on the MUP, 54.6 acres of sage scrub (see Table 4) shall be preserved both on- and off-site providing a approximately a 2:1 mitigation ratio for this habitat. Approximately 29.8 acres have been identified on the project site, adjacent to the site and south of the San Luis Rey River (Figures 25, 28 and 29). The yet to be identified 24.8 acres required to mitigate impacts to the California Gnatcatcher also shall mitigate potential impacts to the arroyo southwestern toad. That is, the property shall be contiguous to potential river habitat of the arroyo southwestern toad, accessible to the arroyo toad and acceptable to the United States Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). Two methods suggested by CDFG staff that may enhance connectivity between the river habitat to the yet to be identified 24.8 acre sage scrub mitigation parcel, include minor grading of riverbanks and conversion of adjacent existing agricultural land to native habitat.
- The property should be located in the project vicinity and shall be maintained in perpetuity as open space through a transfer fee title or conservation easement to an organization acceptable to the USFWS and CDFG.
- B-9. Prior to any grading, as shown on the plot plan, a ten six foot high fence topped with one foot of barbed wire shall be constructed at a 50-foot set back from the mining face. This fence is intended to serve as both a safety feature to restrict access and as a protective barrier to prevent mining activities from impacting the adjacent on-site biological and archaeological open space. The perimeter fencing shall be maintained in good repair throughout the period of operation. Final approval of the location of the mitigation area will be by the Department of Planning and Land Use, the United States Fish and Wildlife Service and California Department of Fish and Game.
- B-10. As an ongoing condition of the MUP, surveys of the vegetation east of the site where vireos were sighted in 1986 (RECON 1989) shall be conducted in early March during every year of the project to determine if the vegetation could support vireos and/or flycatchers. If the vegetation is found to be of inadequate quality for the species, then truck traffic associated

with the proposed project will be allowed to proceed during the spring and summer months. If survey results reveal that there is a potential for vireos and/or flycatchers to be using the site, then the following mitigation measure will apply to mitigate potential noise impacts to vireos and/or flycatchers in the area:

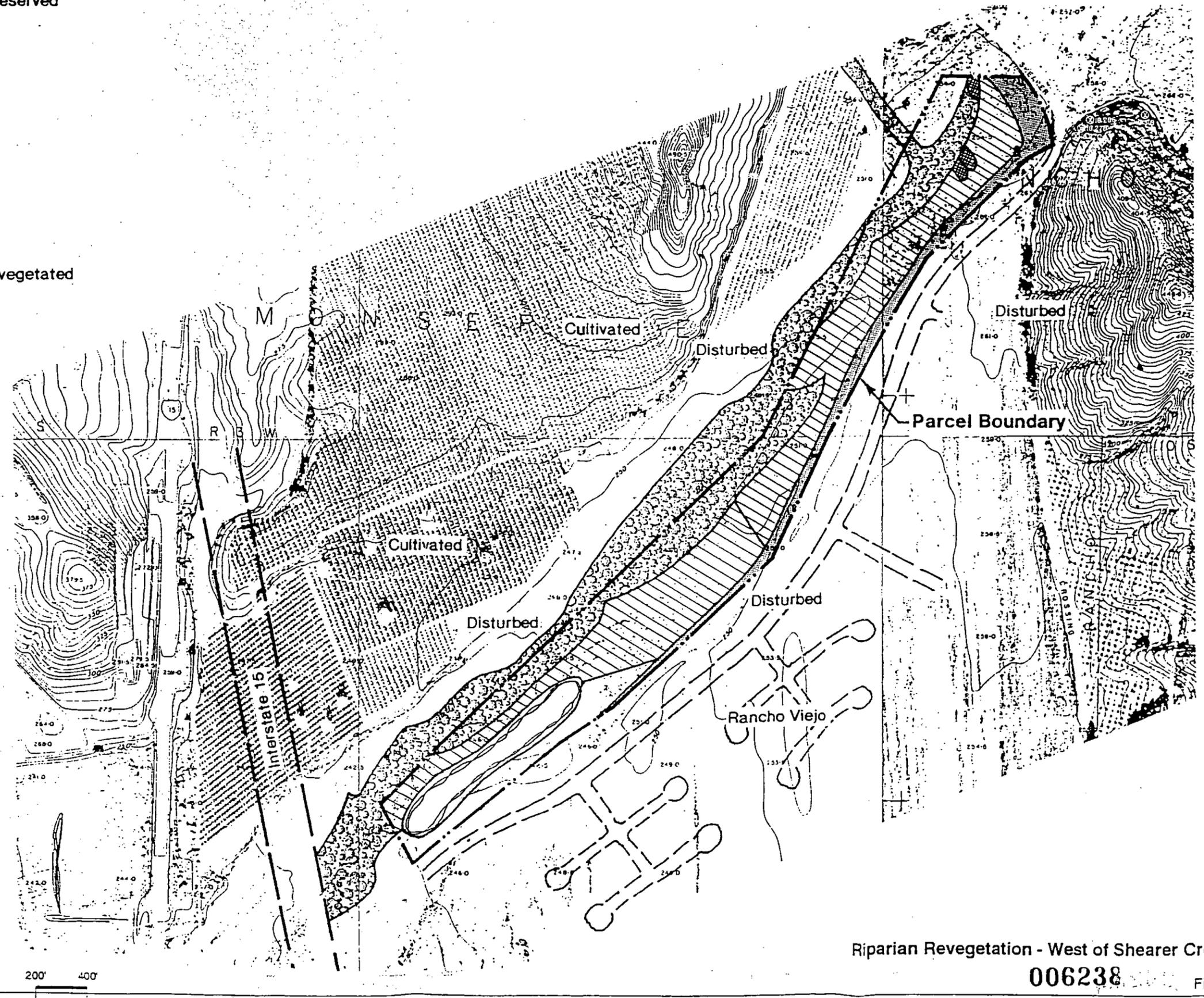
- B-11. As an ongoing condition of the MUP, no sand or other raw materials may be trucked to the Palomar Aggregates site from the east between March 15 and September 30, inclusive. To notify project employees of the restricted truck traffic distribution, a sign shall be prepared which states that no truck trips, either importing or exporting material, shall be allowed east of the project site during the vireo and flycatcher nesting seasons (March 15 - September 30). This sign shall be posted annually on March 15 and shall remain posted through September 30. Verification of posting shall be provided to the County Department of Planning and Land Use (DPLU) in the form of an annual letter report to be prepared by a qualified biologist. This mitigation measure may be eliminated if the least Bell's vireo and flycatcher is no longer considered an endangered species by the Federal government or annual surveys indicate no vireos or flycatchers are present.

## 5. Summary of Impacts After Mitigation

Impacts to oak woodland, southern willow scrub (including least Bell's vireo critical habitat) and Diegan coastal sage scrub will be fully mitigated to a level below significance with the implementation of the above mitigation measures including the preservation of habitat both on and off-site, and the revegetation of habitat as outlined in the Palomar Aggregates Revegetation Plan. Potential impacts to the San Diego horned lizard and the orange-throated whiptail will be mitigated to a level below significance by the preservation of habitat on-site (both chaparral and sage scrub) and off-site (sage scrub) as described in the Palomar Aggregates Revegetation Plan. Potential noise impacts to the least Bell's vireo east of the project site will be avoided by eliminating truck travel from the project site eastward during March 15 and September 30 if surveys reveal the potential for the species to occur in the area east of the project site.

**Legend**

-  Southern Willow Scrub \*to be preserved  
(6.7 Acres Total)
-  Disturbed Riparian
-  Freshwater Marsh
-  Disturbed
-  Concrete Slope & Riprap
-  Southern Willow Scrub \*to be revegetated  
(9.8 Acres Total)



**Brian F. Mooney  
Associates**



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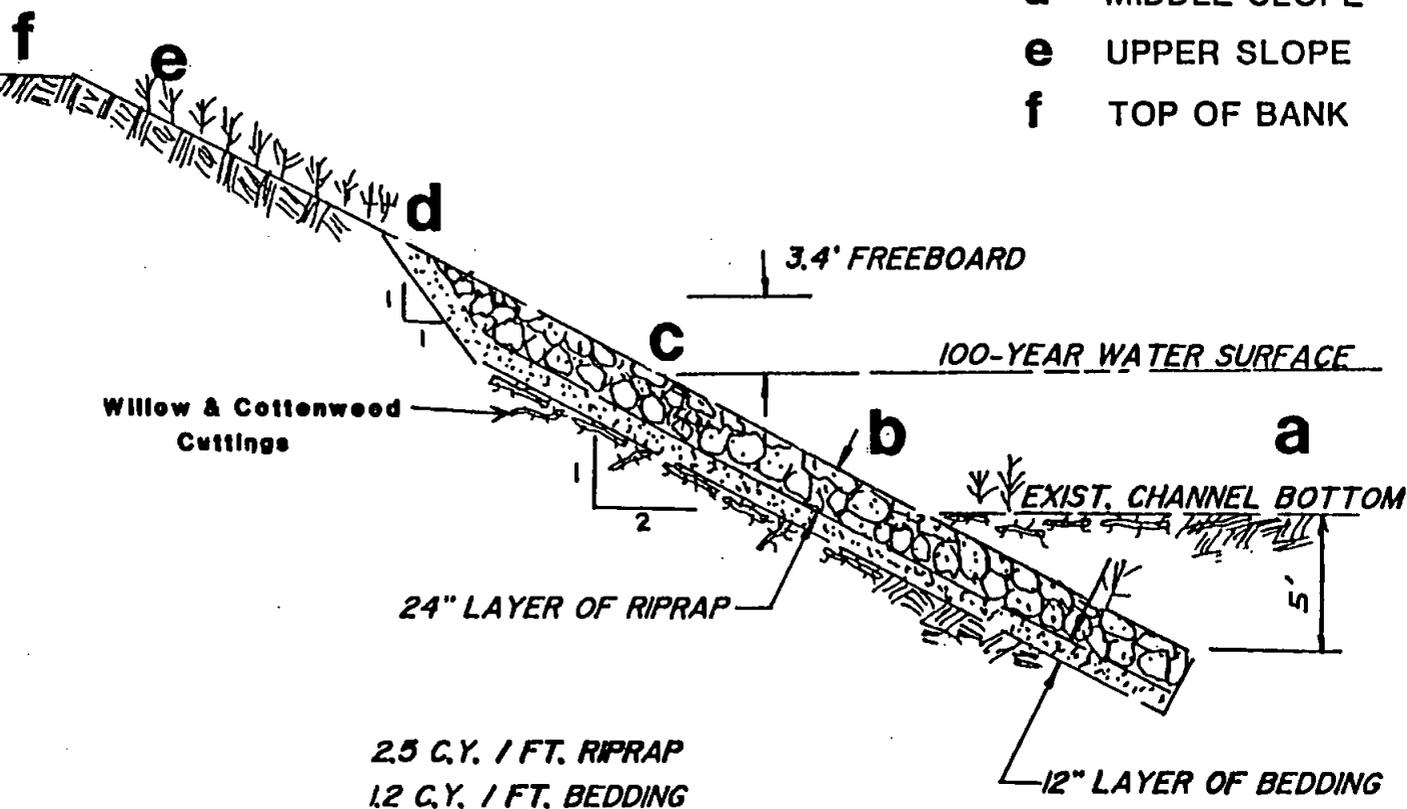
Riparian Revegetation - West of Shearer Crossing

006238

Figure 30

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CENTERLINE OF PROPOSED PALA ROAD  
( CALIF. HIGHWAY 76 )



Key to Planting Locations  
or Localized Conditions

- a** STREAMBED
- b** TOE OF CHANNEL
- c** LOWER SLOPE
- d** MIDDLE SLOPE
- e** UPPER SLOPE
- f** TOP OF BANK

006240

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Typical Section - Pala Road Riprap Protection &  
Channel Planting Locations

Figure 31

## C. Visual/Aesthetics

### 1. Existing Conditions

The Proposed Project site is located on a rocky hillside, at the southern tip of the Monserate Mountain Range, immediately north of the San Luis Rey River. West of the site lies a wide north-south trending plain formed by alluvial deposits. Interstate 15 (I-15) is located within this plain and State Route-76 (SR-76) extends east from I-15, along the southern edge of the project site, separating it from the river. The steep slopes of the entire project area are covered with rock outcroppings interspersed with chaparral. Motorists driving south on I-15 view the northwest and southwest quadrants of the hill and the skyline of the adjoining mountain range. Northbound traffic on I-15 view the southeast and southwest quadrants of the hill, within the backdrop of the skyline features of the adjacent mountains. From SR-76, and the adjacent section of freeway, the site's topographic relief (i.e., rock outcrop surface) is observed.

Existing disruptions to the visual setting of the area include the large fill slopes associated with I-15; cut-and-fill slopes for Rancho Monserate Mobilehome park; grading and streambed channelization for Lake Rancho Viejo; an earthen dam for a large reservoir located in the hills northwest of Pala Mesa; several water storage tanks, and access roads to them, on mountaintops in the vicinity; power line towers trending north-south just east of the project site; cleared land associated with immature avocado groves planted in the last few years; and the existing sand mining in the riverbed. The reader is referred to the aerial photo (see Figure 18) in the "Environmental Setting" of this FEIR for the above-referenced visual features.

#### Land Use

The surrounding area is best characterized as rural and undeveloped. Many of the hillsides are planted with avocado trees or covered with rock outcrops. Houses are scattered among the hillsides and flatter areas, with the most prominent developments in the vicinity represented by Rancho Viejo, the Pala Mesa residential resort area and the Rancho Monserate Mobile Home Park, located  $\frac{3}{4}$ , 1, and  $1\frac{3}{4}$  miles, respectively, to the west. Open space with riparian vegetation forms a corridor along the San Luis Rey River to the south and has grown in pockets further north and south along the river where the water table is high, adding textural variety to the landscape.

Surrounding land use as viewed from the site includes open and mountainous terrain in all directions, with the river valley at the southern foot. Residences are generally located on large agricultural acreages east of I-15 and are frequently obscured by groves of trees. An exception is a residence on the ridgeline to the southwest (owned by Victor Pankey), which is visible from the site. Previous sand mining in the riverbed is highly visible from the site. Vegetation varies on the mountain sides, from native green plant material to rows of citrus and avocado trees and to entire slopes covered with rock outcrops. I-15 and its associated fill slopes are seen to the west and a further backdrop of mountains are seen to the east. Homes in Rancho Monserate, vacant hillsides and the river are seen to the southwest. Steep hillsides, groves of trees, rock outcrops and scattered houses are seen to the north.

## Visibility

In order to assess the quality of views from the surrounding areas it is necessary to locate the significant viewsheds. To accomplish this, an analysis of the surrounding area was done and a map showing the zones of visibility, denoting physical distance from the site, was created. Figure 32 illustrates three zones of visibility, with views from Zone 1 having the greatest impact since the viewing distance would range from 0 to 1 mile. Zone 2 would have a viewing range of 1 to 2 miles. The viewer is visually aware of the mountain but it is becoming part of a larger visual area. Zone 3 would have a viewing range of 2 to 3 miles in which the project site becomes part of a larger scene and represents only a small portion of the overall panoramic view. Views of the project site are not possible from all areas of the three zones due to intervening topography.

Within the three visual zones, nineteen vantage points were chosen to depict the range of possible views. These vantage points are illustrated on Figure 33. Each of these vantage points were distinguished according to two criteria: view range and view frame. View range was divided into three categories: short, medium and long, denoting the project site's visual distance from the viewer. Viewframe refers to the total area visible from that position. The three categories for view frame were:

1. *narrow* - referring to a view that is filled by foreground features;
2. *limited* - a certain amount of background is visible but the foreground still predominates; and
3. *wide* - the background fills the view frame.

The vantage points were then grouped into six viewsheds (Figure 34). It should be noted that visibility of the site varies within each viewshed and may be partially or fully blocked at times by intervening dwellings, vegetation or topographic features. The vantage points chosen within each viewshed are intended to illustrate the most significant views from different distances from the site. Vantage points were chosen based on two primary considerations: existing development and prominence of view. Lancaster Mountain vantage points would have the most direct views of the site. Yet, it was not chosen because it is generally inaccessible and probably undevelopable. The lower northerly slopes are within the Pankey Ranch ownership, and only one other owner, with a house on the ridgeline near Shearer Crossing, would be impacted.

Vantage points 1 through 4 are located along the I-15 Corridor Viewshed. Vantage point 5 is located in the Rancho Monserate Mobile Home Park Viewshed. The Pala Mesa Viewshed contains vantage points 6a thru 11 of which vantage point 11 lies on the northern boundary of the Pala Mesa development area. The Western Ridge Viewshed, vantage point 12, is located along the ridgeline west of the project site on Wilt Road. The Couser Canyon Viewshed is located southeast of the project site and includes vantage points 13, 14 and 15. The Rice Canyon Viewshed is located northeast of the project site and includes vantage points 16 thru 18.

Computer generated visual simulations of the proposed mining face were superimposed onto actual photographs taken of the site from the I-15, Couser Canyon, and Rice Canyon viewsheds. The visual simulations show existing conditions, the area of effect and how the mining face would potentially look

with the visual mitigation measures applied. This was accomplished through infield surveying of known points on-site. These known points were then located in the photographs and the proposed mining plan was entered into the computer and accurately inserted into the photographs. This method provides a representation of what the mining face would look like from these viewsheds. Three viewsheds were used for computer simulation: one from I-15 Corridor viewshed; two from Couser Canyon; and the last from Rice Canyon viewshed. The results of this process were included in the analysis of potential visual impacts and the mitigation of these impacts. A detailed description of each viewshed follows.

**I-15 Corridor Viewshed.** The I-15 freeway runs north-south approximately 1.25 miles to the west of the project site. The project site is visible for 4.25 miles to the north on I-15 and is also visible for 2.25 miles to the south on I-15. Even though the project site is visible from I-15, none of the resulting cliff face would be visible, and the processing area would only be visible approximately two-tenths of a mile along northbound I-15 in visual zone 2. The I-15 viewshed is depicted on Figure 35. Described below are vantage points, proceeding from south to north on I-15.

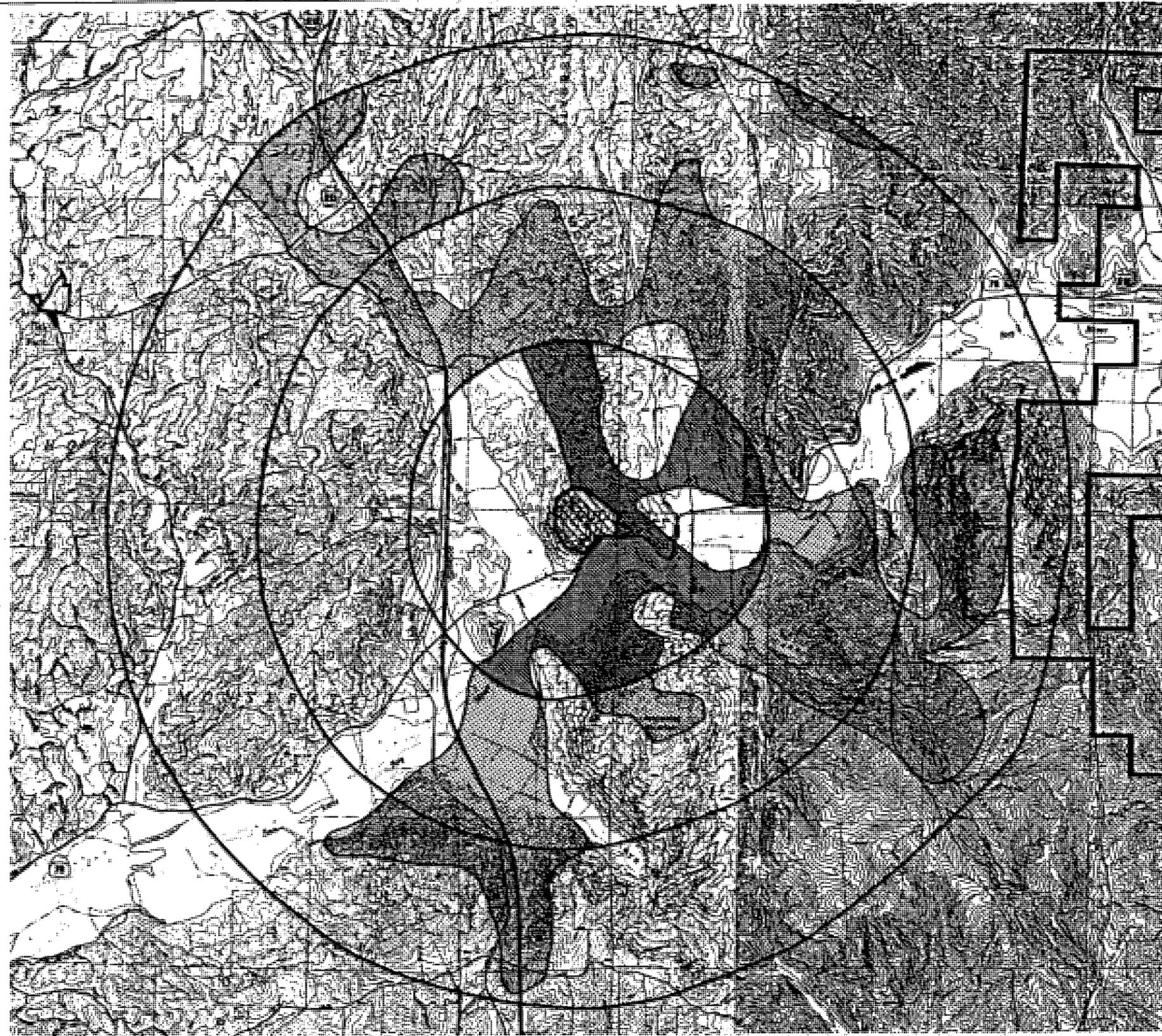
Vantage point 1 (Figure 36) is located approximately 2.25 miles southwest of the project area on the east side of I-15. From this point, views of the project site are long-range, have a wide angle view frame and are in visual zone 3. Ridgeline modifications would be seen from this location; however, no view of the processing site or mining face are visible.

Vantage point 2 (Figure 37) is located approximately 1.25 miles southwest of the project area on the east side of I-15. From this point, views of the project site are medium-range, have a wide view frame and are in visual zone 2. Ridgeline modifications would also be seen from the vantage point, however, the mining face would not be seen. Figure 38 is a computer simulation representing the mined face as viewed from this vantage point after the completion of mining activities and subsequent reclamation.

Vantage point 3 (Figure 39) is located on SR-76 just off the I-15 off-ramp approximately .75 mile from the project site. From here, the viewer has a short-range limited view frame of Rosemary's Mountain and is in visual zone 1. However, the mining and processing areas would not be seen from this vantage point.

Vantage point 4 (Figure 40) is located approximately 2.25 miles northwest of the project site, southbound on I-15. From this location the viewer has a long-range view, a wide view angle of Rosemary's Mountain and is in visual zone 3. Slight ridgeline modification would be seen; however, the mining face and processing areas would not be seen.

**Rancho Monserate Mobile Home Park Viewshed.** This viewshed comprises a north-facing hillside situated west of the freeway and south of the San Luis Rey River approximately 1.75 miles from the project site. The Rancho Monserate Mobile Home park ranges in elevation from 280 AMSL to 480 feet AMSL. Views from this location are primarily northerly to the San Luis Rey River and surrounding south-facing hillsides. Rosemary's Mountain is one of the hillsides that is visible from this viewshed. Slight ridgeline modifications would be noticed and a limited long-range view of a portion of the concrete batch plant area would be visible only from the higher elevations of the Rancho Monserate Mobile Home Park; however, the mining face would not be visible. Figure 41 illustrates the Rancho Monserate Mobile Home Park viewshed.



Areas From Where  
Project is Visible

-  Zone 1 (0-1 Mile)
-  Zone 2 (1-2 Miles)
-  Zone 3 (2-3 Miles)

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Associates

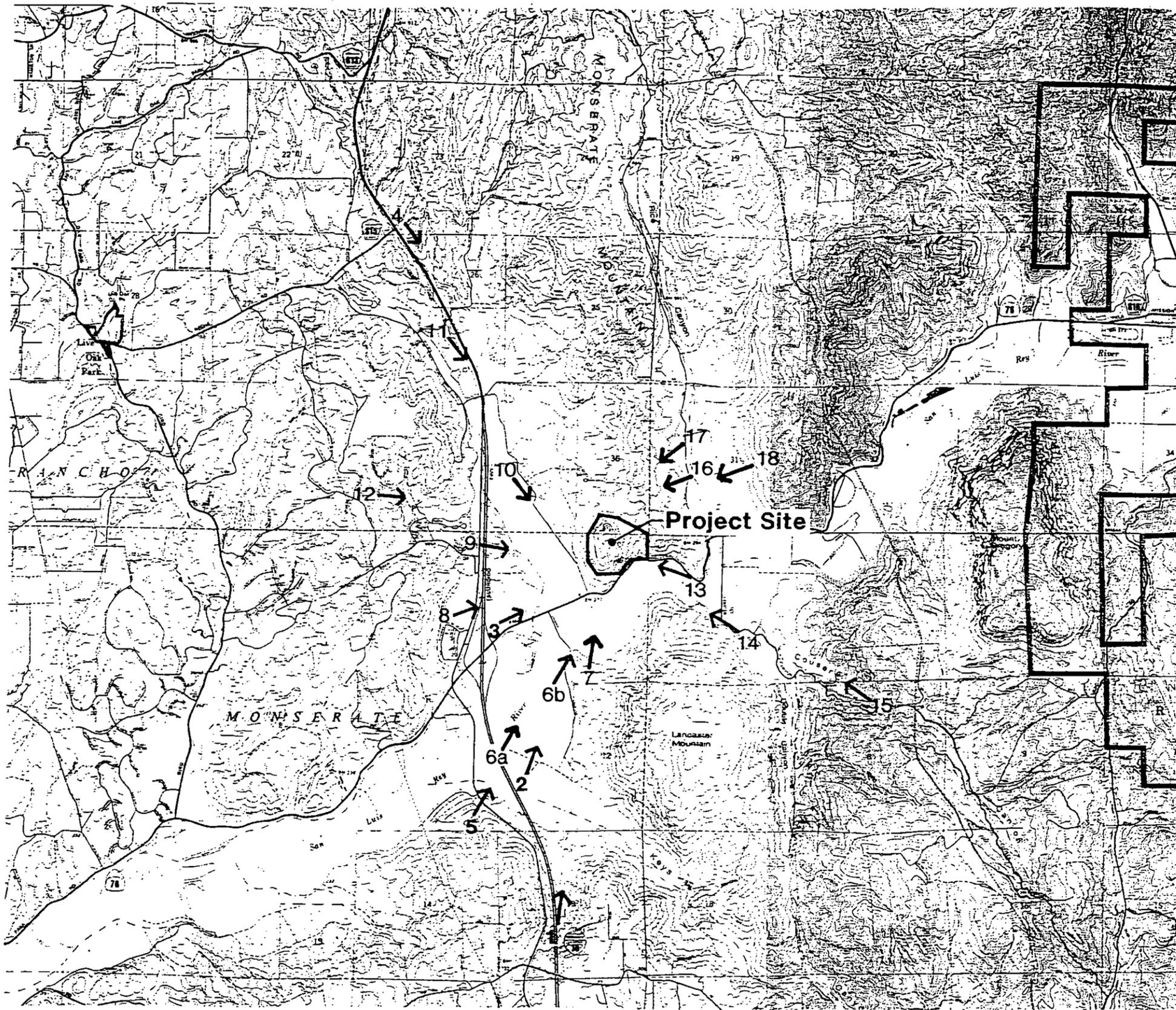


0 2000' 4000'

Zones of Visibility  
006244

Figure 32

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- I-15 Corridor Viewshed  
(Vantage Points 1-4)
- Rancho Monserate Mobile Home Park Viewshed  
(Vantage Point 5)
- Pala Mesa Viewshed  
(Vantage Points 6-11)
- Western Ridge Viewshed  
(Vantage Point 12)
- Couser Canyon Viewshed  
(Vantage Points 13-15)
- Rice Canyon Viewshed  
(Vantage Points 16-18)

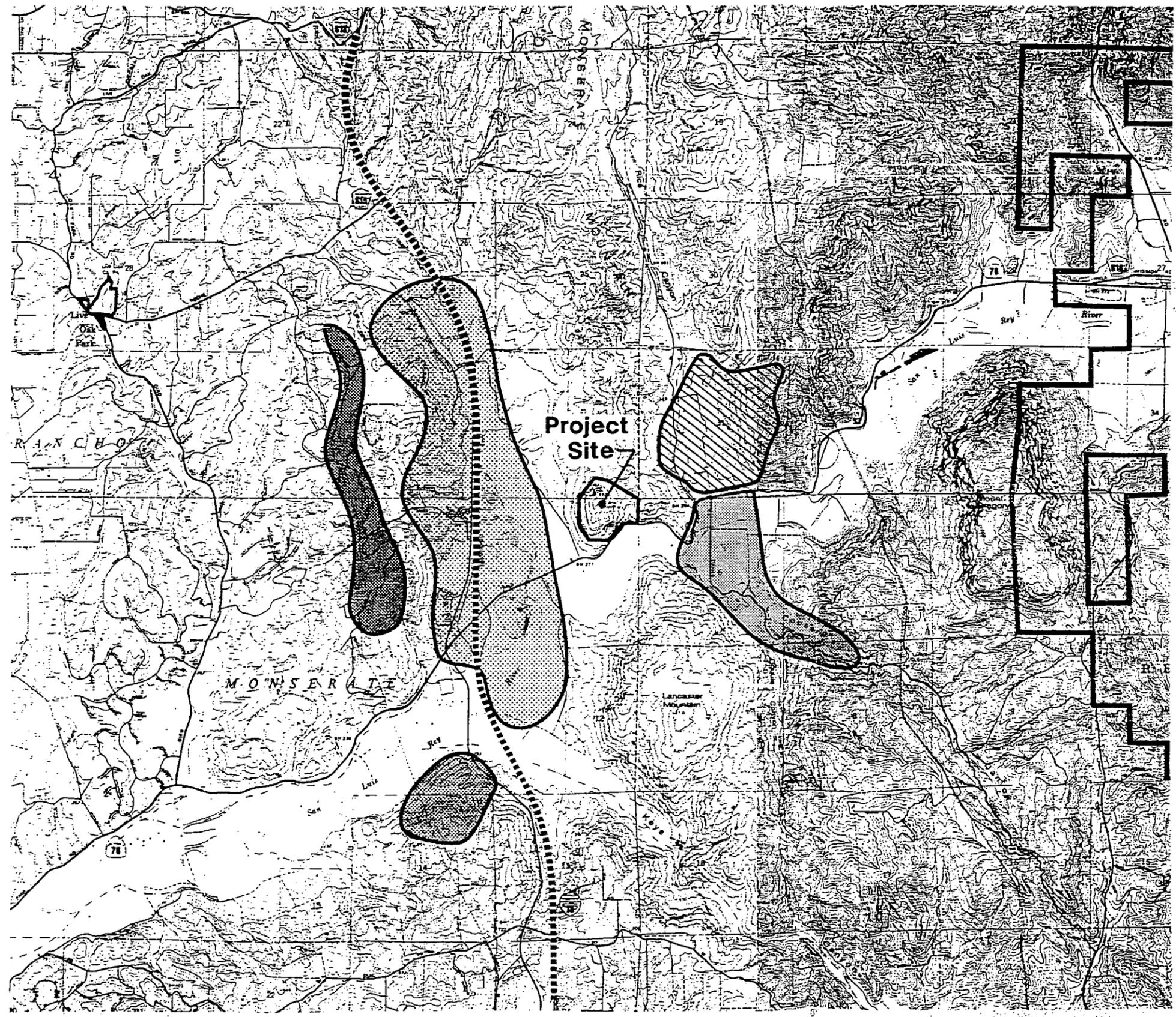
**Brian E. Mooney Associates**



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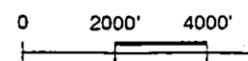
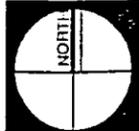
Vantage Point Locations  
**006246** Figure 33

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- I-15 Corridor
- [Stippled Box] Pala Mesa
- [Cross-hatched Box] Couser Canyon
- [Dotted Box] Rancho Monserate Mobile Home Park
- [Dark Stippled Box] Western Ridge
- [Diagonal Lines Box] Rice Canyon

**Brian F. Mooney Associates**



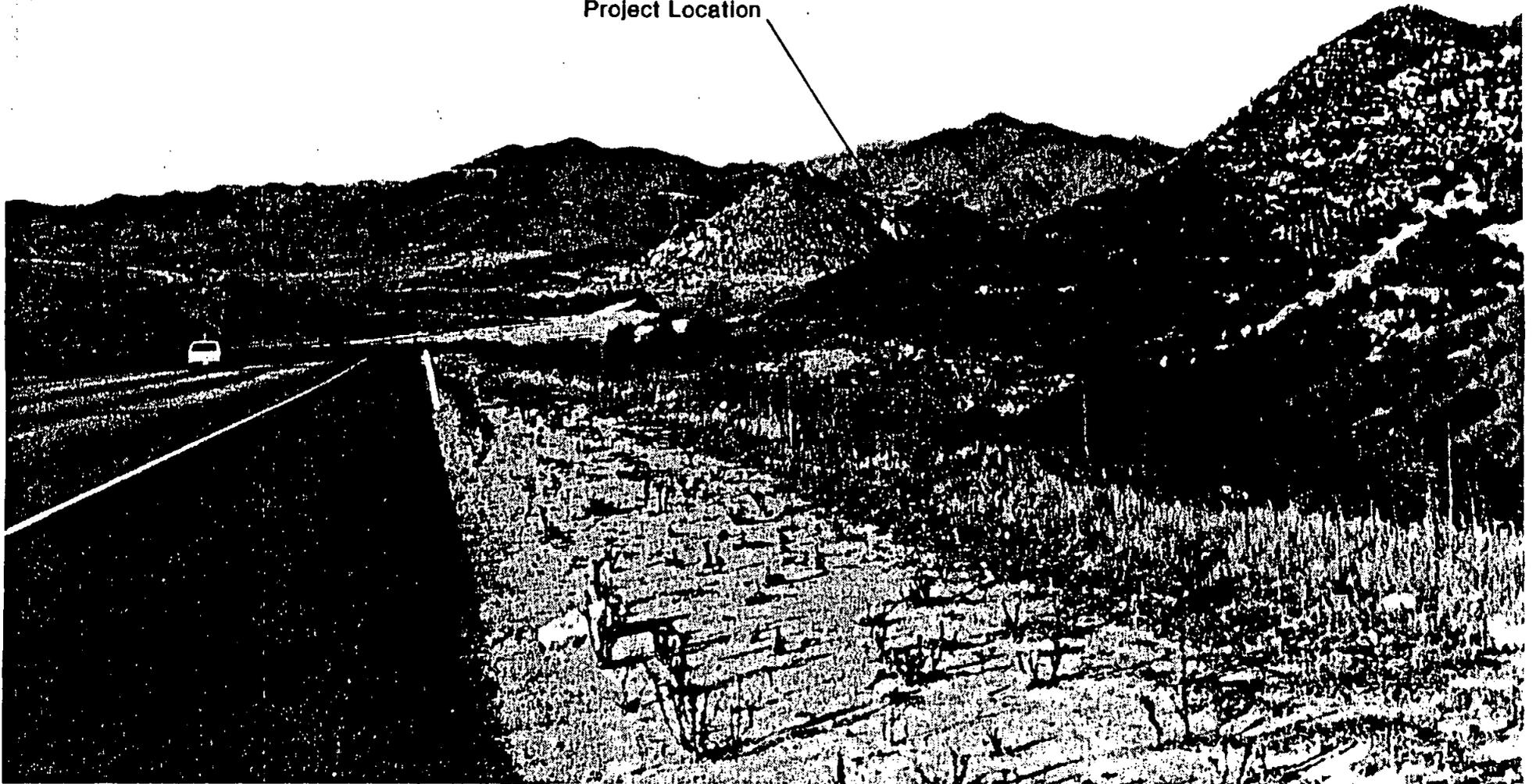
Viewshed Locations  
**006248** Figure 34

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006251

Project Location

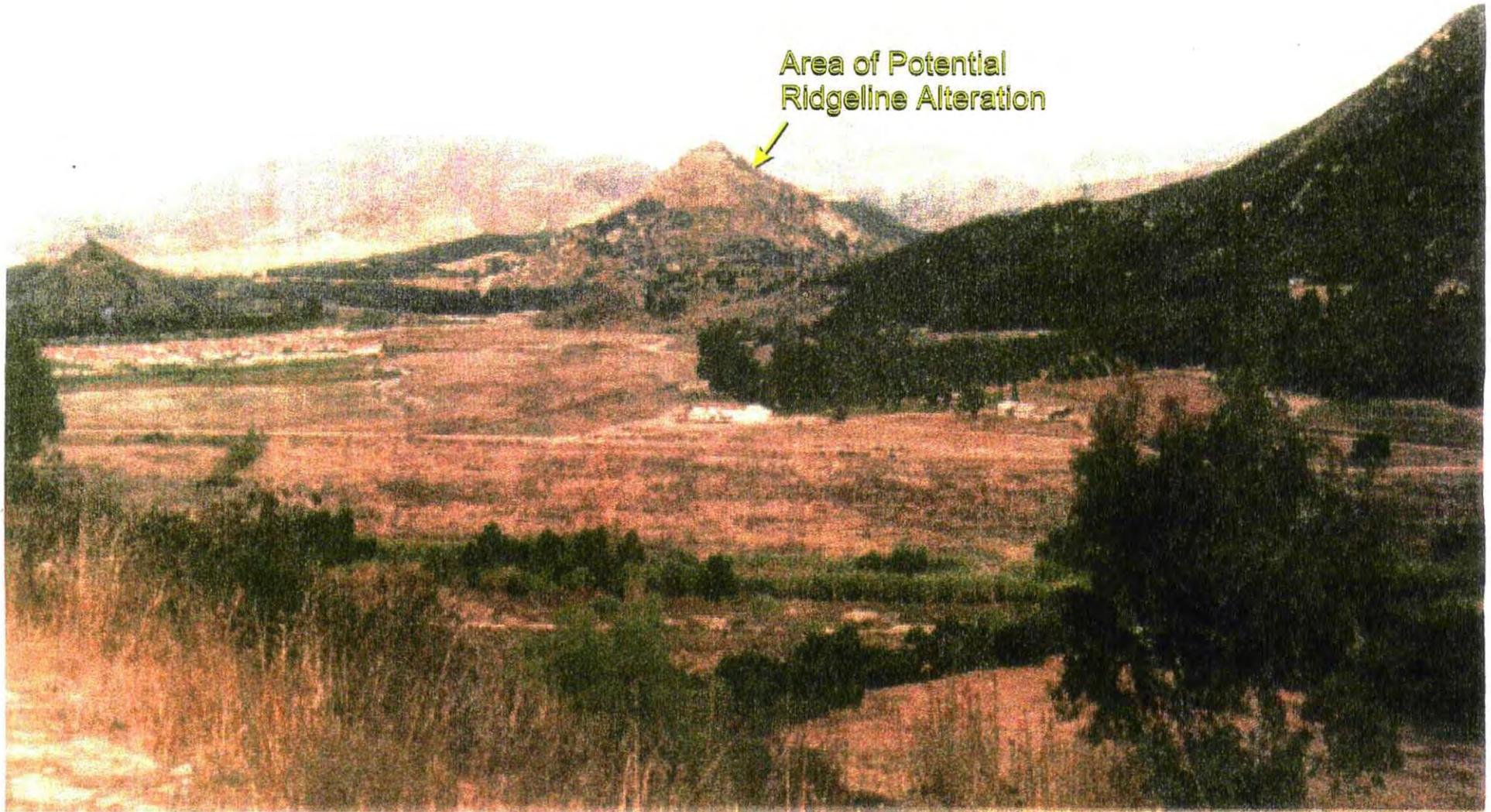


Brian F. Mooney  
Associates

Vantage Point 1- I-15 Corridor Viewshed Looking Northeast

Figure 36

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Area of Potential  
Ridgeline Alteration



006253

Brian F. Mooney  
Associates

SOURCE: DDS

Vantage Point 2 - I-15 Corridor Viewshed Looking Northeast

Figure 37

Palomar Aggregates Quarry EIR



006254

Brian F. Mooney  
Associates

SOURCE: DDS

Vantage Point 2 - I-15 Corridor Viewshed Looking Northeast with Mitigation Measures Applied

Figure 38



Area of Potential  
Ridgeline Alteration

006263

**Brian F. Mooney  
Associates**

**Vantage Point 6b - Pala Mesa Viewshed from East End of Lake Rancho Viejo**

**Figure 45**

SOURCE: DDS

Palomar Aggregates Quarry EIR



008264

**Brian F. Mooney  
Associates**

**Vantage Point 6b - Pala Mesa Viewshed from East End of Lake Rancho Viejo  
with Mitigation Measures Applied**

**Figure 46**

SOURCE: DDS

Palomar Aggregates Quarry EIR

Area of Potential  
Ridgeline Alteration



006265

Brian F. Mooney  
Associates

SOURCE: DDS

Vantage Point 7 - Pala Mesa Viewshed Looking North

Figure 47

Palomar Aggregates Quarry EIR



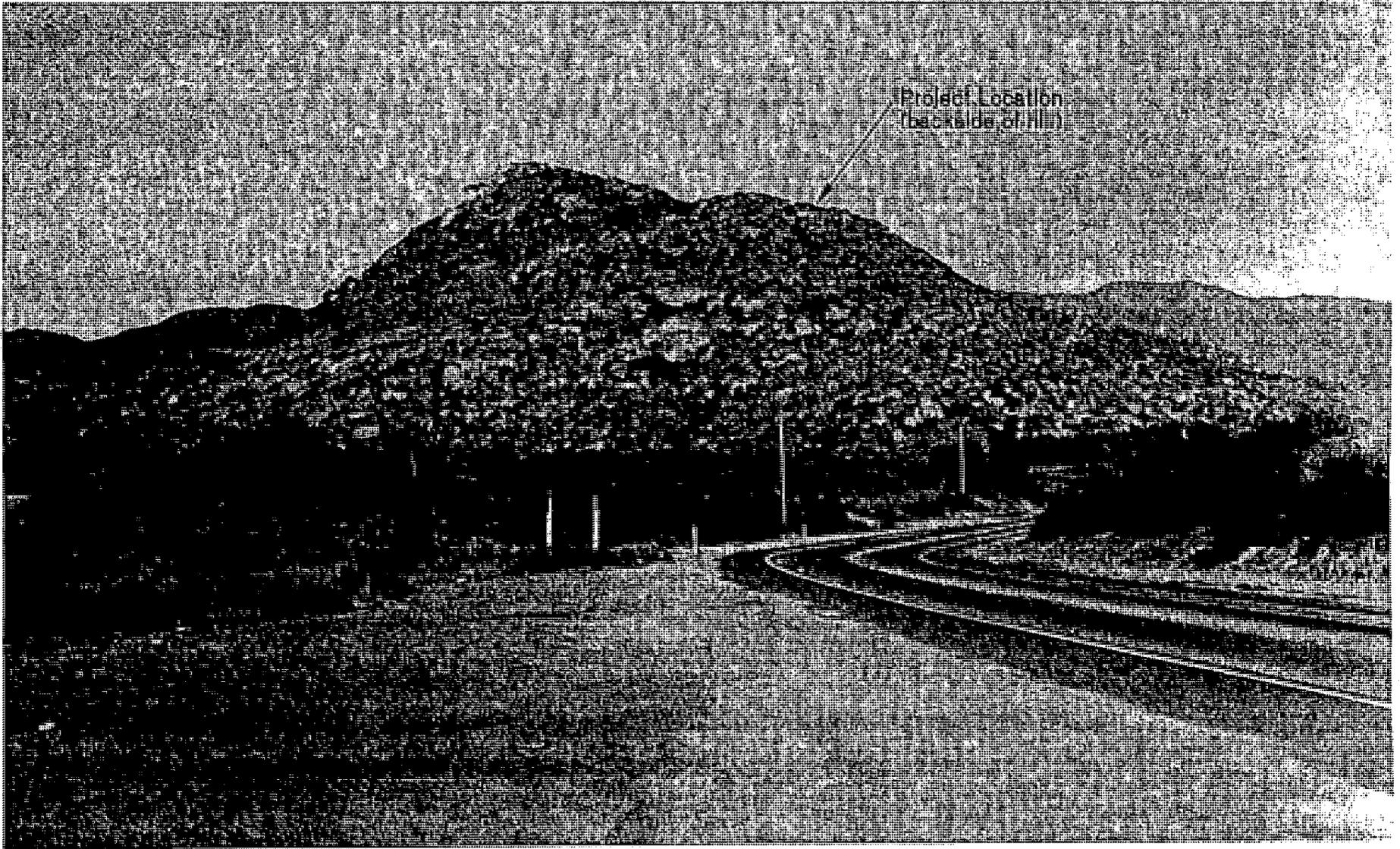
006266

**Brian F. Mooney  
Associates**

SOURCE: DDS

**Vantage Point 7 - Pala Mesa Viewshed Looking North with Mitigation Measures Applied**

**Figure 48**

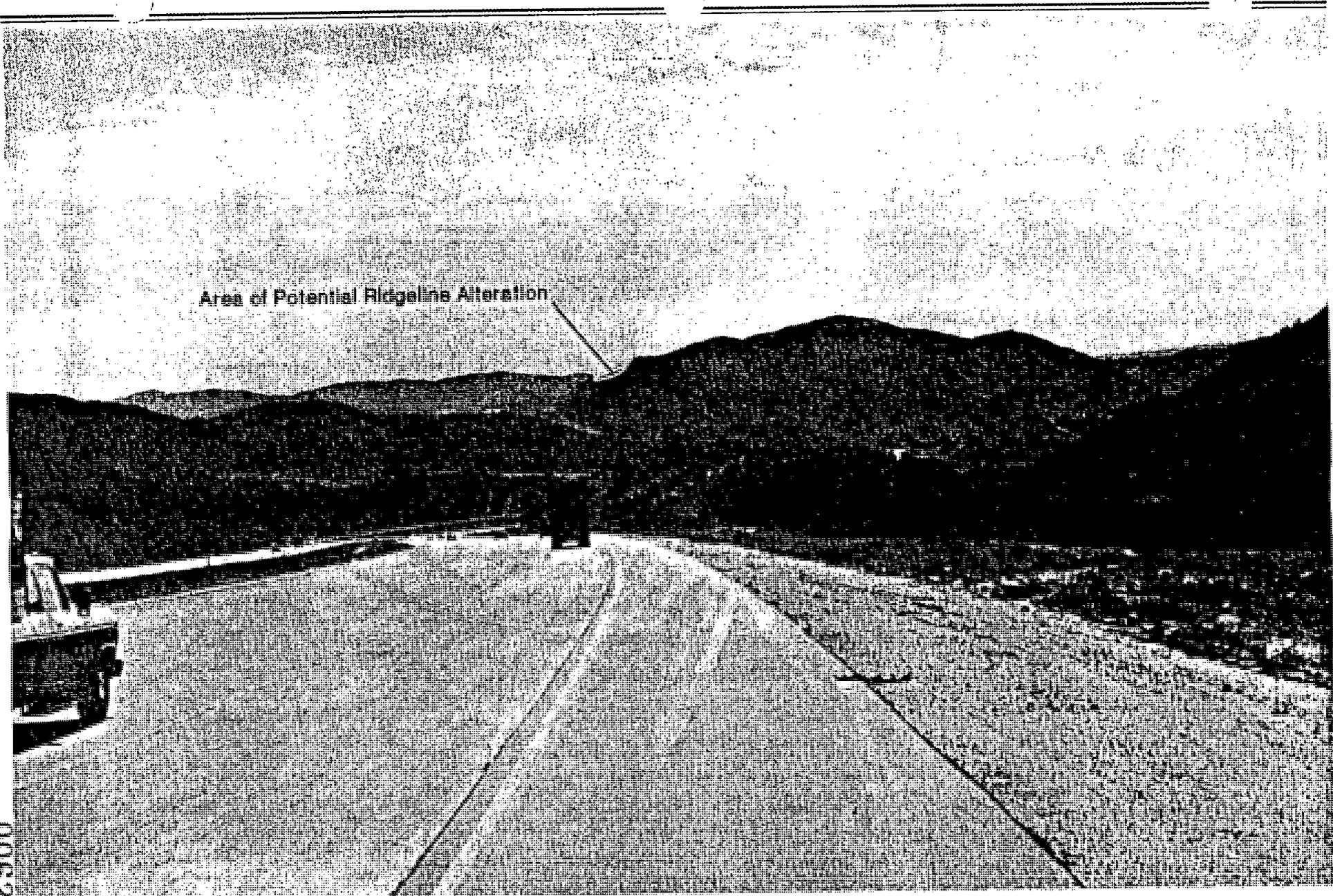


006255

Brian F. Mooney  
Associates

Vantage Point 3-1-15 Corridor Viewshed  
Looking East from Pala Road

Figure 39



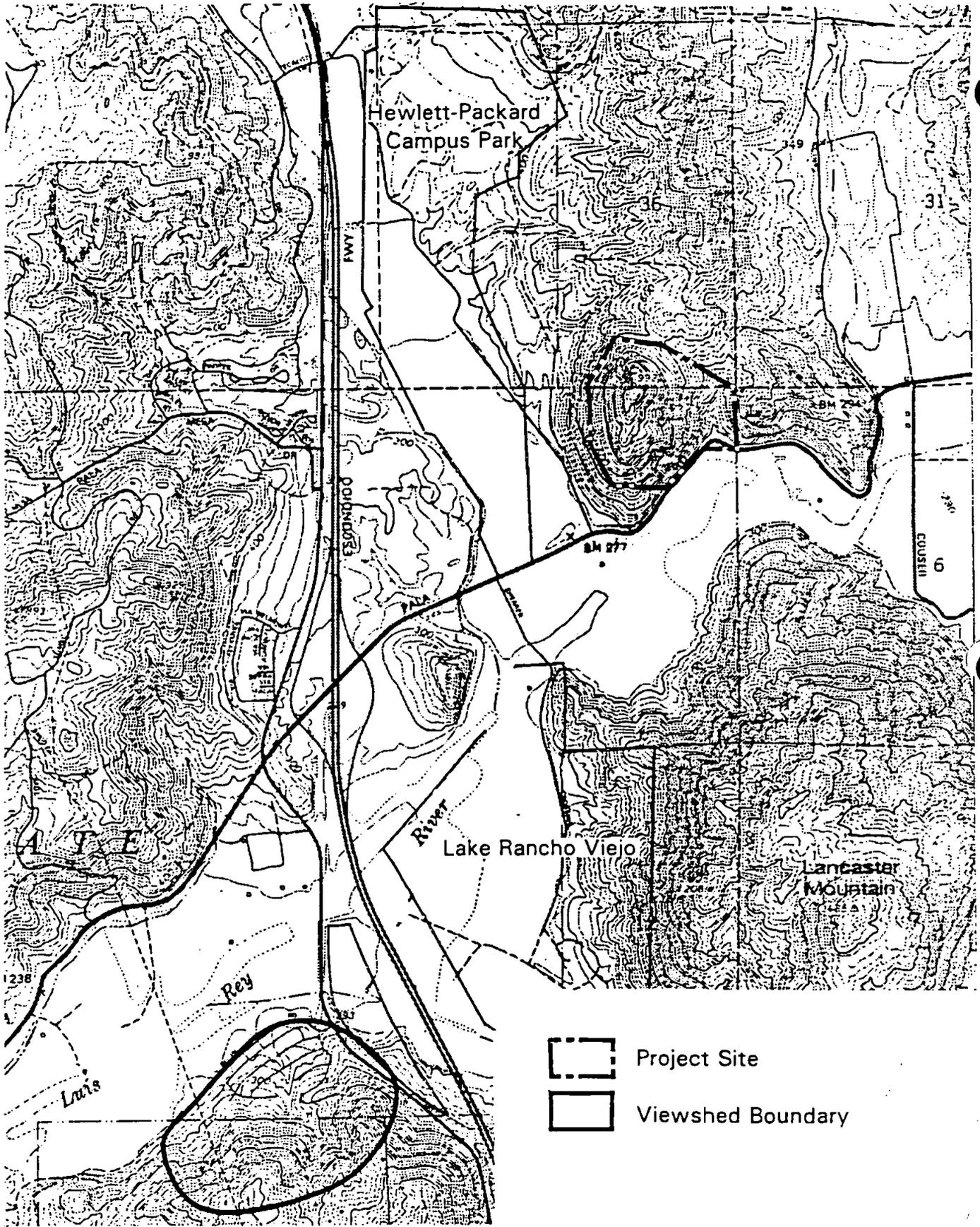
Area of Potential Ridgeline Alteration

Vantage Point 4- I-15 Corridor Viewshed Looking Southeast

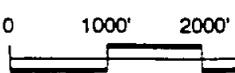
006256

Brian F. Mooney  
Associates

Figure 40



**Brian F. Mooney  
Associates**



**Rancho Monserate Mobile Home Park Viewshed**

Figure 41

006257

Vantage point 5 (Figure 42) is located approximately 1.75 miles southwest of the project site. From this vantage point the viewer has a medium to long-range view with a wide view frame of Rosemary's Mountain. This vantage point is in visual zone 2.

**Pala Mesa Viewshed.** This viewshed (Figure 43) comprises a portion of the valley west of the project site, and includes both sides of the I-15 freeway. Development within this viewshed consists of Pala Mesa, a recreational and residential resort community which includes a motel, restaurant and golf course. The Pala Mesa development is located approximately one mile from the project site.

Lake Rancho Viejo is under construction. It is located southwest of the project site, south of SR-76. The approved project consists of 476 acres proposed for 816 manufactured home units.

The Hewlett Packard development would be within .33 to .5 mile from the project site. It is located on the east side of I-15, across from the Pala Mesa Resort. The 442-acre Hewlett Packard Campus Park Specific Plan includes 83 acres of industrial research park (including parking), 43 acres for residences, 10.5 acres for commercial, 46.5 acres for roads and 259 acres of open space.

Both project locations are identified on the viewshed maps. The view from Lake Rancho Viejo would be blocked, for the most part, by an intervening ridge, though homesites in the northwestern portion of the proposed development would have views toward the processing area. However, the proposed landscaped berm along SR-76 would block the processing area from these homesites. All of the other portions of the Pala Mesa Viewshed would not see the mining or processing areas of the project and, therefore, would not be visually affected by this project. Planned developments within this viewshed east of I-15 are described in the Land Use/Community Character section of this report.

Vantage point 6a (Figure 44) is located at the western end of Lake Rancho Viejo development. This vantage point provides the viewer with a short range view, a limited view frame of Rosemary's Mountain, and is in visual zone 1. Some ridgeline modification would be visible from this vantage point, but not the mine face or processing area.

Vantage point 6b (Figure 45) is located at the easternmost end of Lake Rancho Viejo development. This vantage point also provides the viewer with a short range view, a limited view frame of Rosemary's Mountain, and is in visual zone 1. As with Vantage Point 6a, some ridgeline modification would be visible from this vantage point, but the mine face and processing area would not be visible. Figure 46 is a computer simulation representing the mined face as viewed from this vantage point after the completion of mining activities and subsequent reclamation.

Vantage point 7 (Figure 47) is located on the lower slopes of Lancaster Mountain. From this vantage point the viewer has a short range view, limited view frame of Rosemary's Mountain, and is in visual zone 1. Ridgeline modification would be visible from this vantage point, but not the mine face or processing area. Figure 48 is a computer simulation representing the mined face as viewed from this vantage point after the completion of mining activities and subsequent reclamation.

Vantage point 8 (Figure 49) is located at the west end of Via Belmont Drive in the Pala Mesa development. This vantage point provides viewers with short-range viewing, limited view frame of Rosemary's Mountain, and is in visual zone 1. No view of ridgeline modification, mine face, or processing area would be evident from this vantage point.

Vantage point 9 (Figure 50) is located at the intersection of Pala Mesa Road and Old Highway 395. This vantage point also provides viewers with short-range viewing, limited view frame of Rosemary's Mountain, and is in visual zone 1. No mining or processing would be evident from this vantage point.

Vantage point 10 (Figure 51) is located in the central portion of the Hewlett-Packard property. This vantage point also provides viewers with short-range viewing, limited view frame of Rosemary's Mountain, and is in visual zone 1. The mining face and processing facilities would not be evident from this vantage point, however, some modification of the ridgeline due to mining activities would be visible. Figure 52 is a computer simulation representing the mined face as viewed from this vantage point after the completion of mining activities and subsequent reclamation.

Vantage point 11 (Figure 53) is located at the northern boundary of Pala Mesa resort on Camonita Drive. From this vantage point the viewer has medium-range viewing and a limited view frame of Rosemary's Mountain because of the narrowing of the valley. This point is in visual zone 2. Only slight ridgeline modification would be visible from this vantage point.

**Western Ridge Viewshed.** This viewshed (Figure 54) includes areas of the ridgeline above the Pala Mesa resort. Currently the development of the area includes avocado orchards and scattered single-family residences. This viewshed would not have any views into the mining or processing areas and also would not be affected by this project.

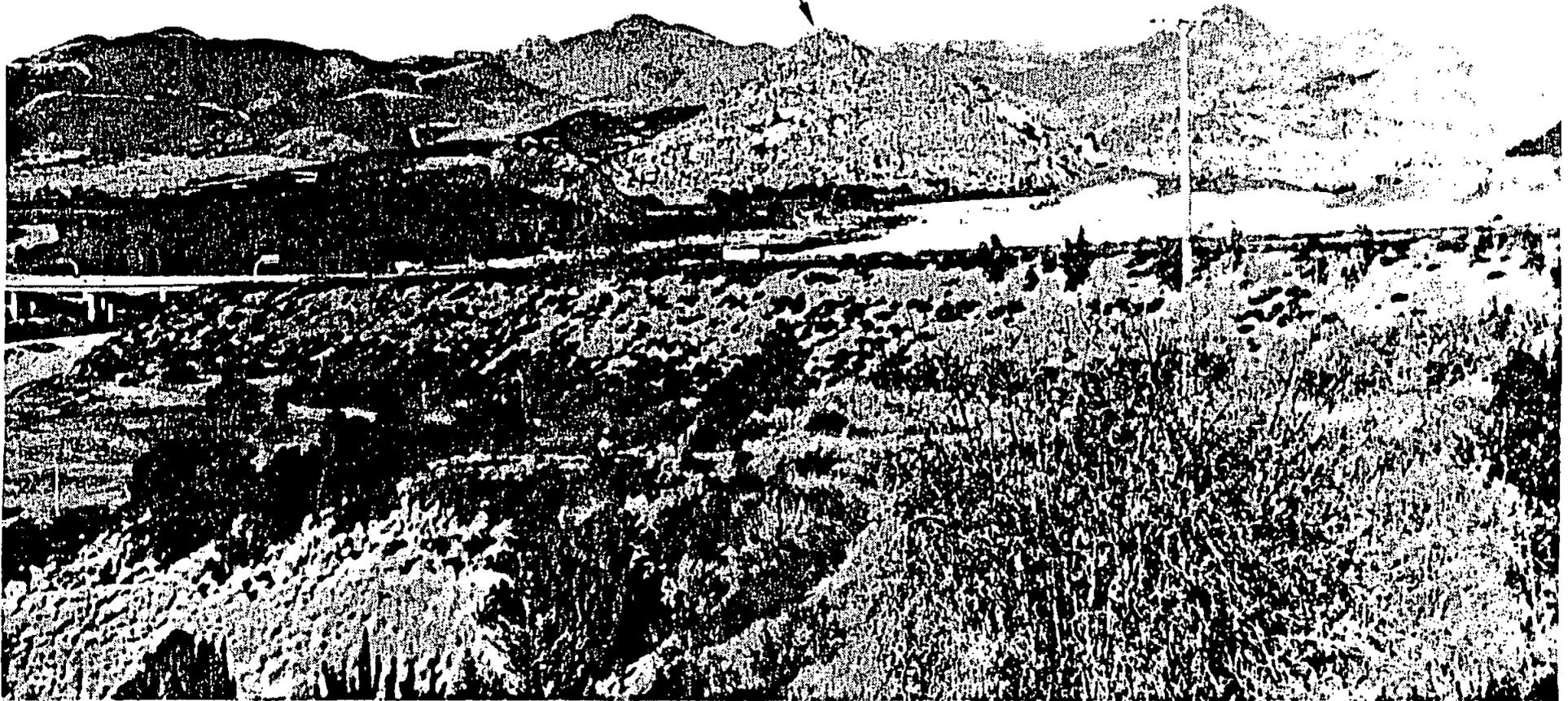
Vantage point 12 (Figure 55) is located on Wilt Road approximately 1.5 miles west of the project site and slightly higher than the subject mountain. From this vantage point the viewer has medium-range viewing, limited view frame of Rosemary's Mountain and is located in visual zone 2. The mining and processing areas would not be seen from this vantage point.

**Couser Canyon Viewshed.** This viewshed (Figure 56) comprises a valley that is southeast of the project area. Development of the valley consists of farms, dairies and rural residential land uses. The major view from this viewshed is from Couser Canyon Road, southeast of the project site; and from SR-76, adjacent to the project.

Vantage point 13 (Figure 57) is situated on the north side of SR-76 facing the project site, approximately 3,000 feet east. It has a short visual range, a narrow view frame and is in visual zone 1. The mine face would be highly visible from this vantage point. Figure 58 is a computer simulation representing the mined face as viewed from this vantage point after the completion of mining activities and subsequent reclamation.

Vantage point 14 (Figure 59) is located on Couser Canyon Road approximately one mile southeast from the project site. The viewer from this vantage point has a medium view range, limited view frame and is in visual zone 2. The mine face would be highly visible from this vantage point. Figure 60 is a computer simulation representing the mined face as viewed from this vantage point after the completion of mining activities and subsequent reclamation.

Project Location  
(backside of hill)

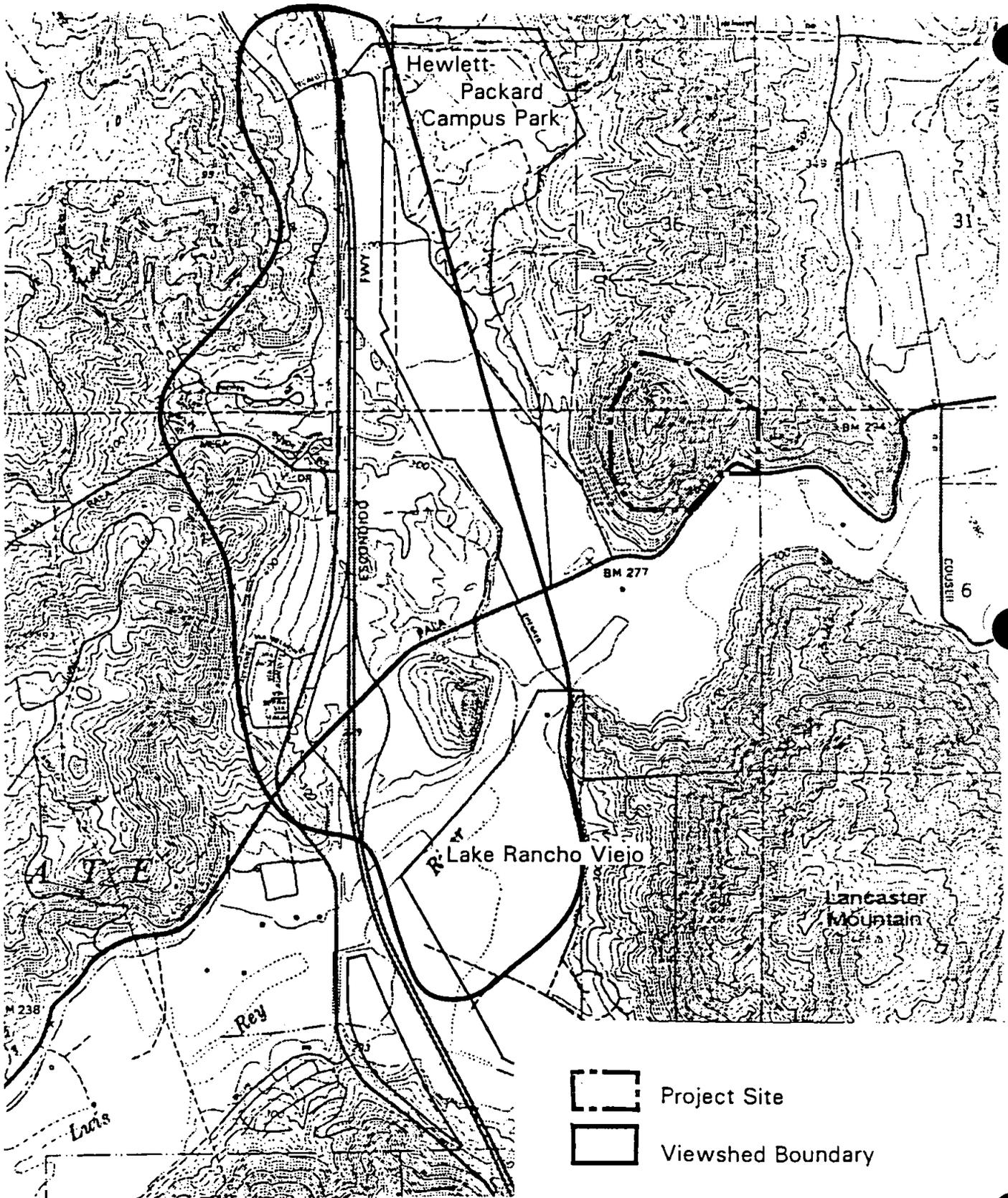


Vantage Point 5 - Rancho Monserate MHP Viewshed Looking Northeast

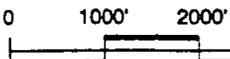
Brian F. Mooney  
Associates

006260

Figure 42



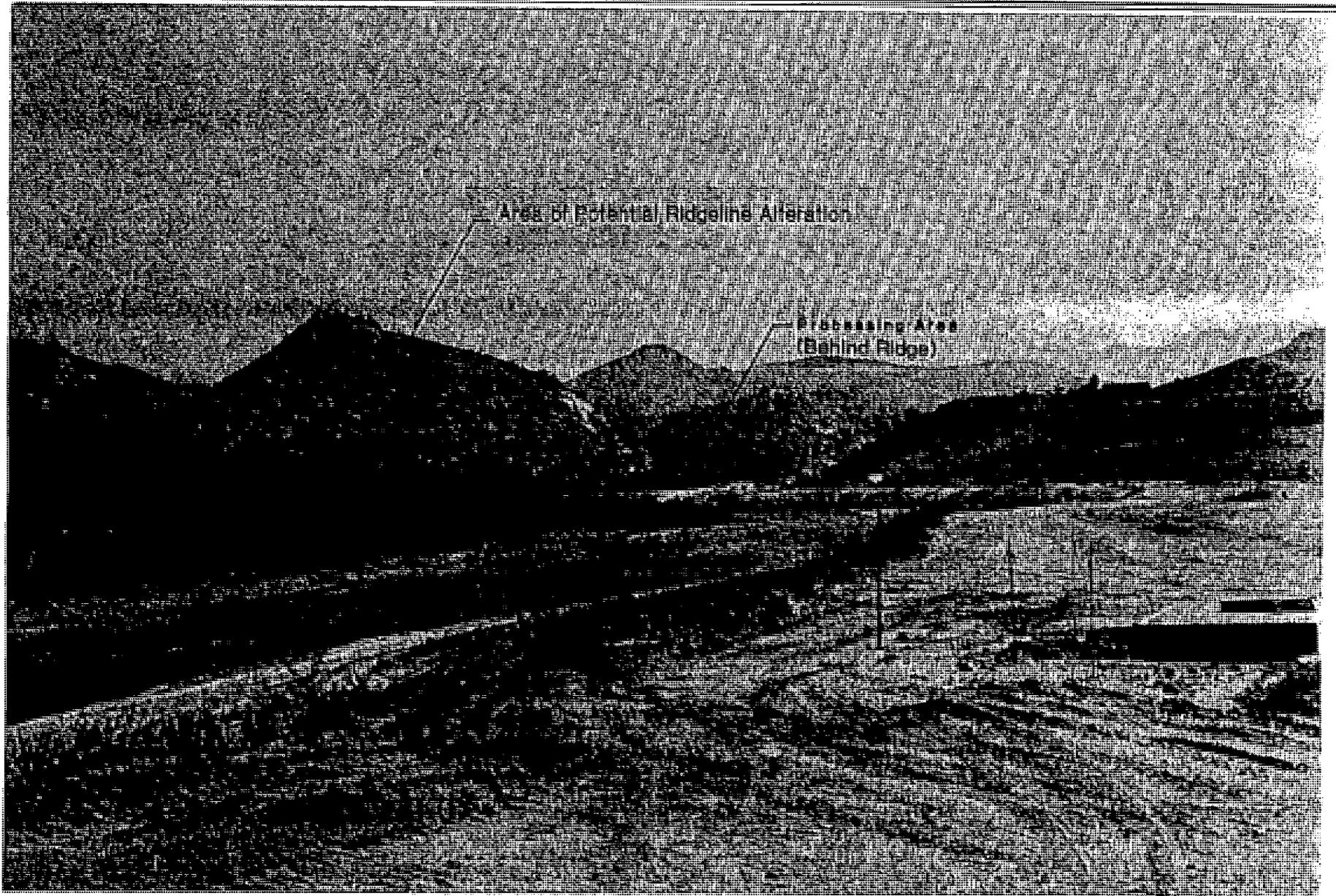
**Brian F. Mooney  
Associates**



006261

**Pala Mesa Viewshed**

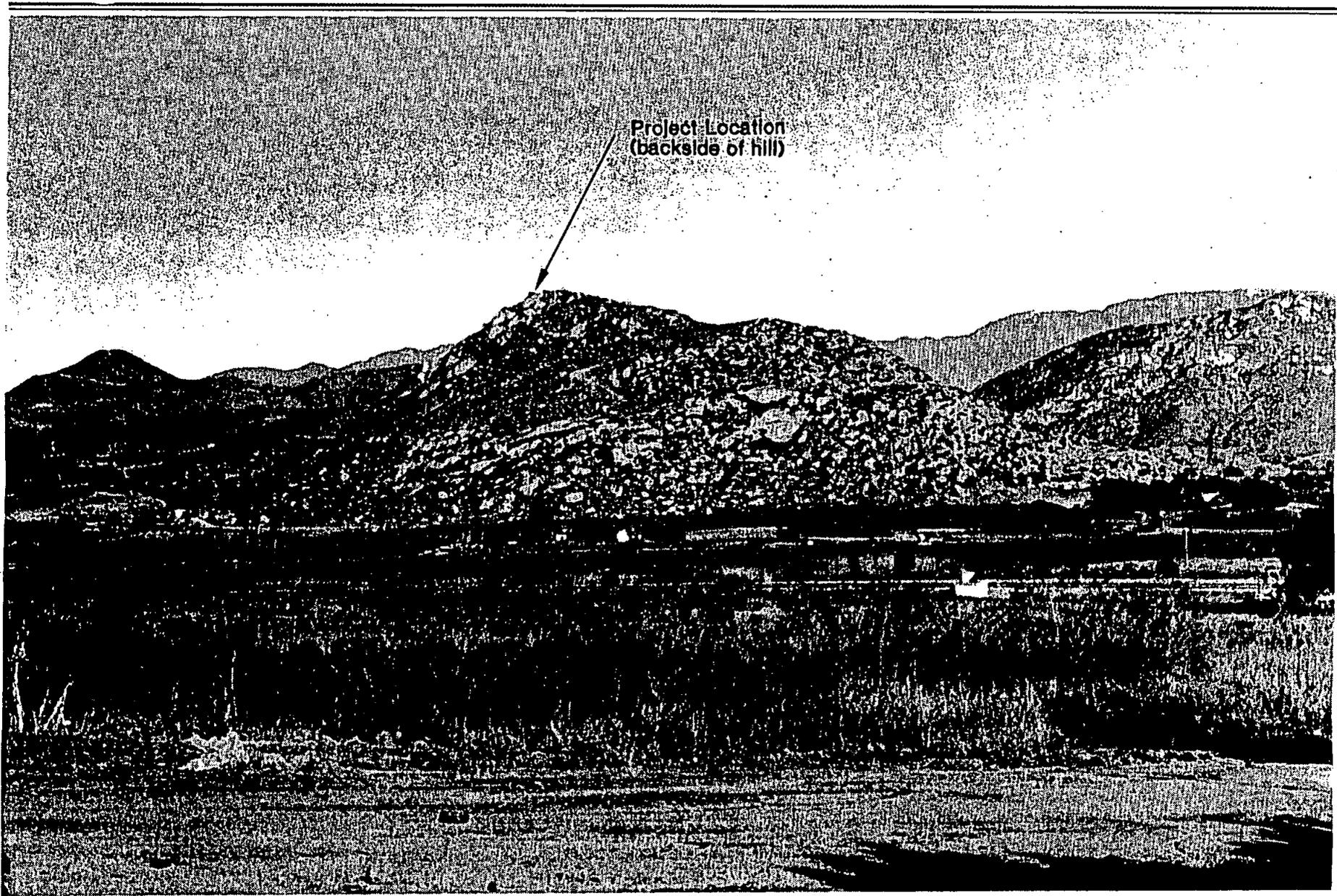
Figure 43



006262

Brian F. Mooney  
Associates

Vantage Point 6a  
Lake Rancho Viejo Viewshed Looking Northeast  
Figure 44



Project Location  
(backside of hill)

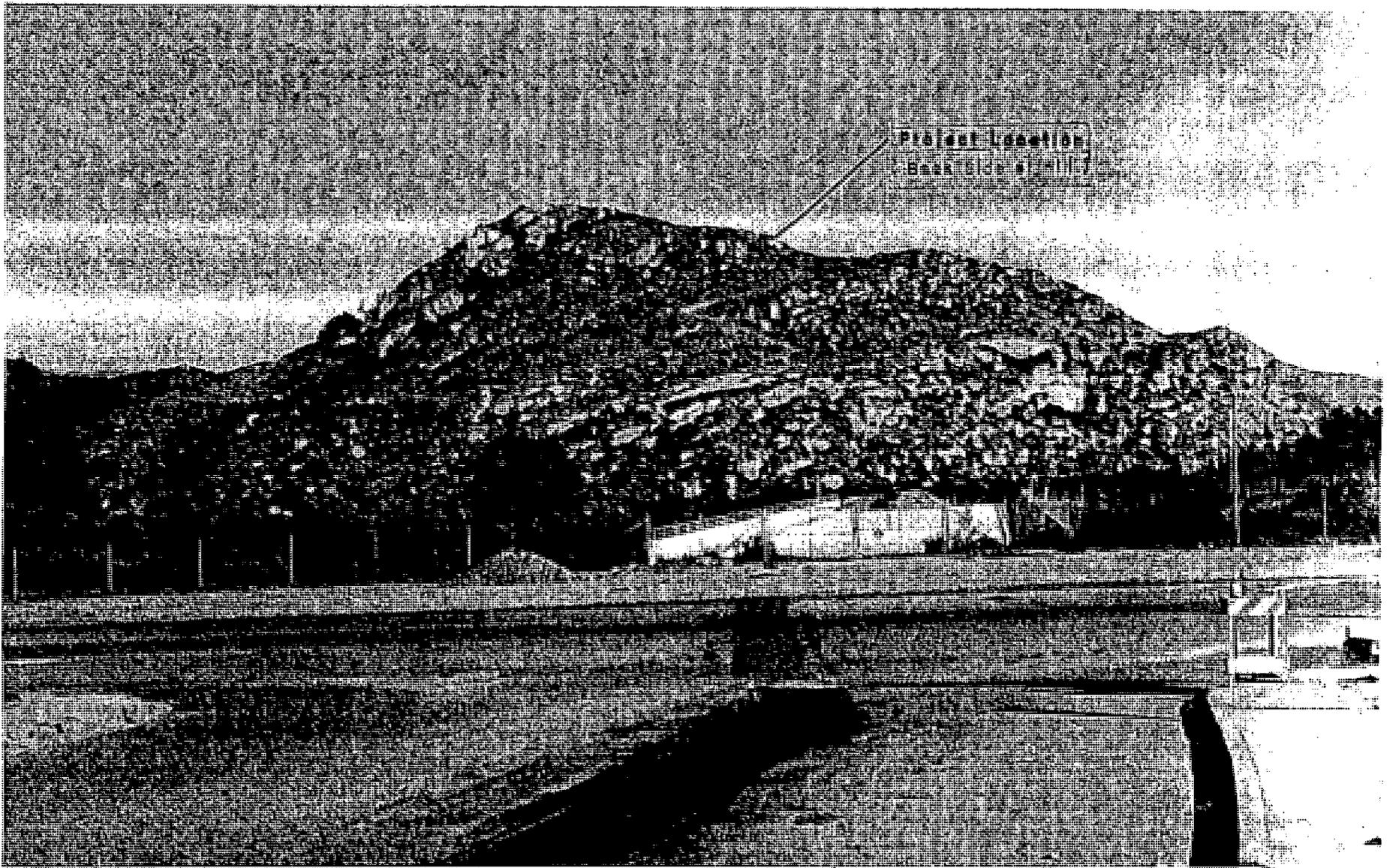
Vantage Point 8 - Pala Mesa Viewshed Looking East

Brian F. Mooney  
Associates

Figure 49

Palomar Aggregates Quarry EIR

006267



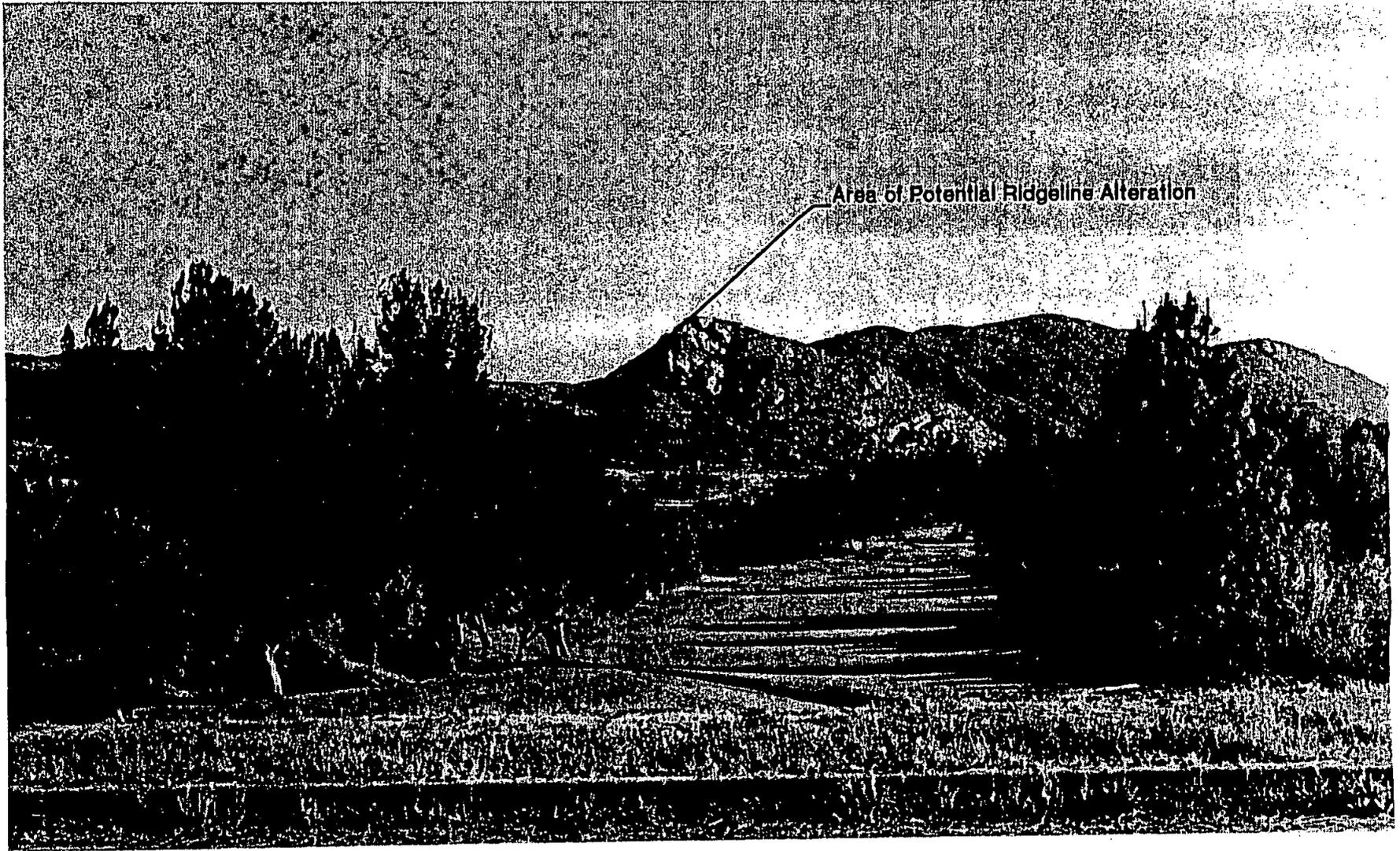
Project Location  
Base Side #11111

006268

Brian F. Mooney  
Associates

Vantage Point 9 - Pala Mesa Viewshed Looking East

Figure 50



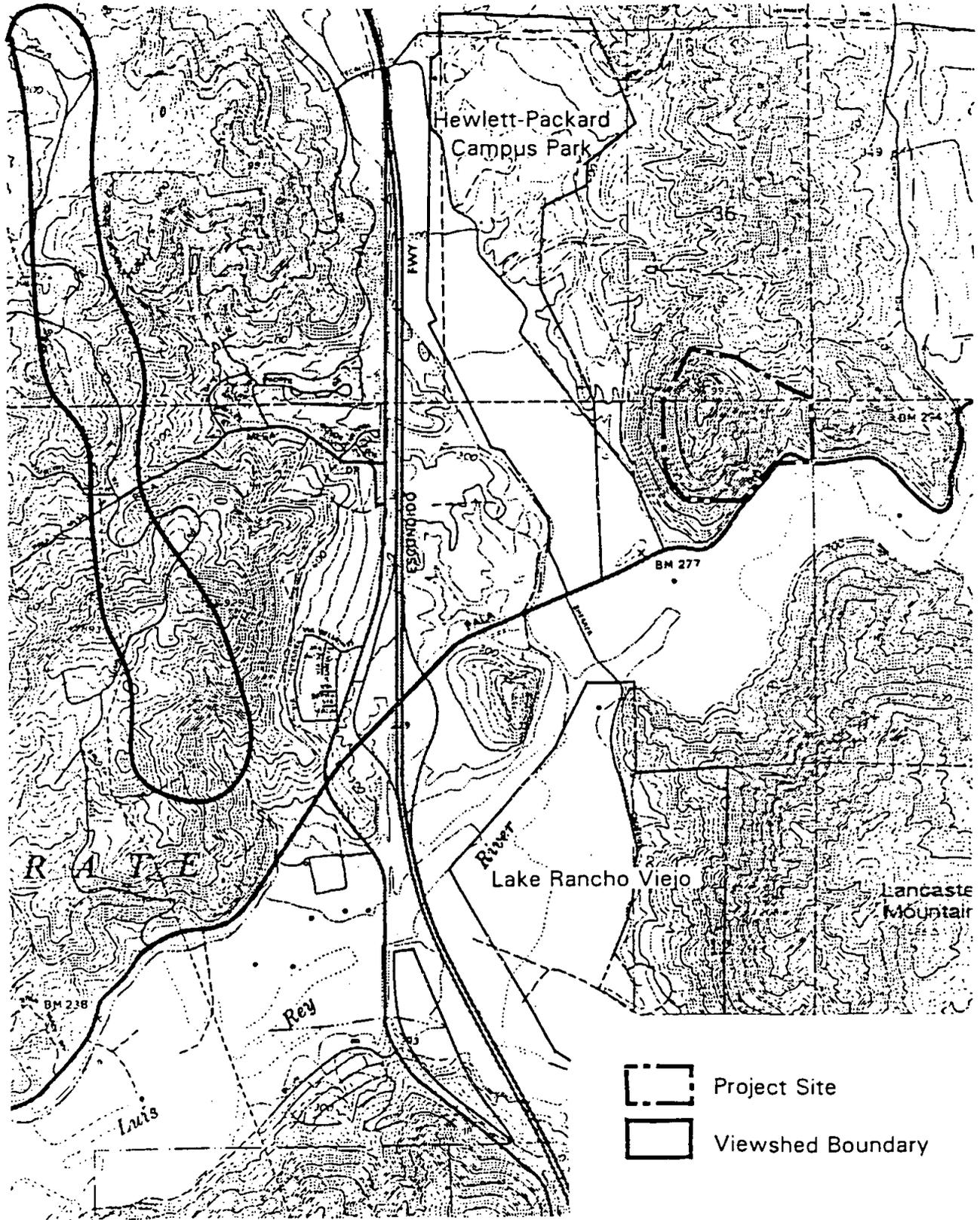
Area of Potential Ridgeline Alteration

Vantage Point 11 - Pala Mesa Viewshed Looking Southeast

Brian F. Mooney  
Associates

Figure 53

006271



-  Project Site
-  Viewshed Boundary

**Brian F. Mooney**  
Associates



0 1000' 2000'

Western Ridge Viewshed

006272 Figure 54

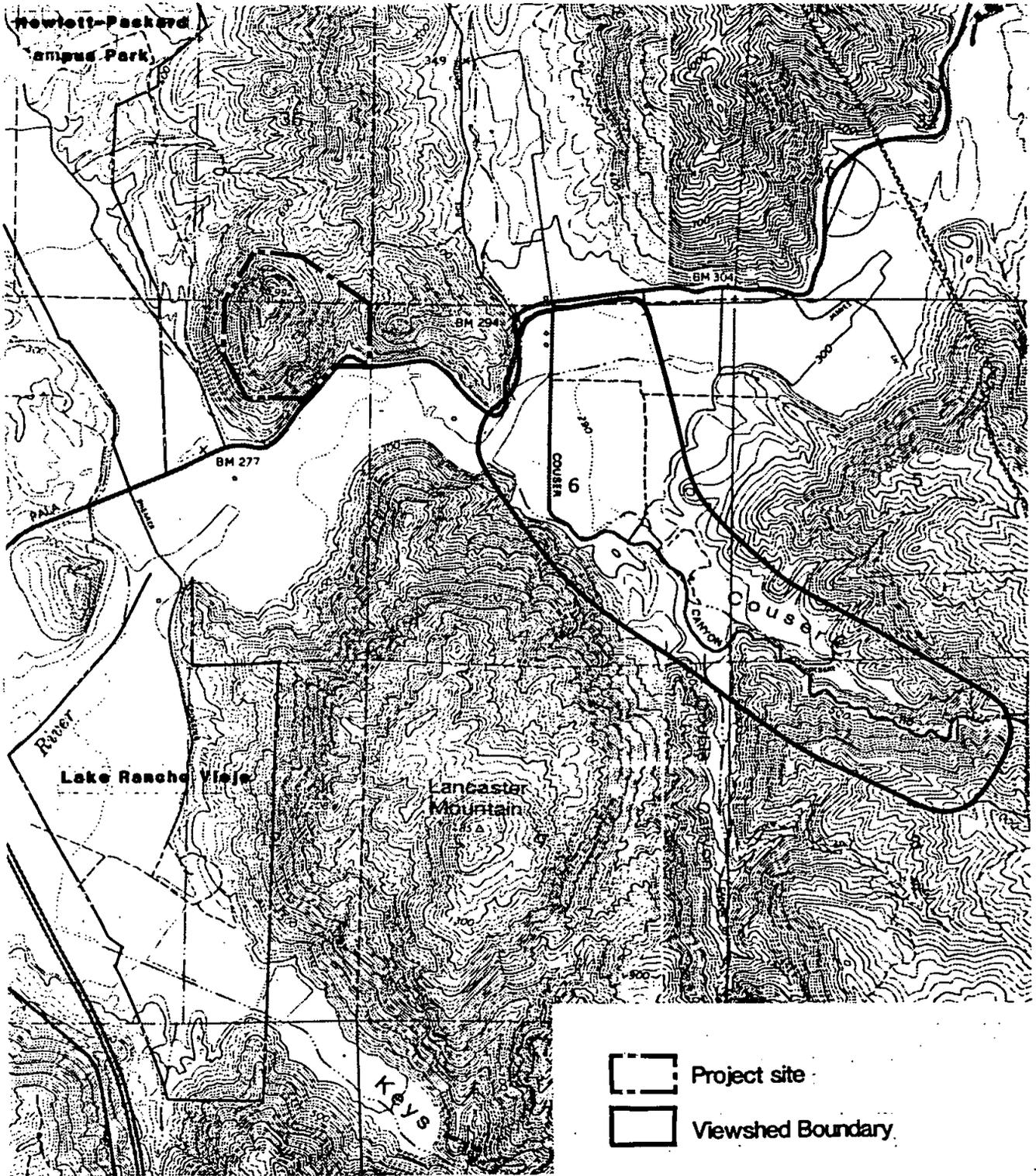
006273

**Project Location**  
(Back Side of Hill)



**Brian F. Mooney**  
Associates

Vantage Point 12 - Western Ridge Viewshed Looking East



-  Project site
-  Viewshed Boundary

**Brian F. Mooney  
Associates**



0 1000' 2000'

**Couser Canyon Viewshed**

**Figure 56**

006274 Palomar Aggregates Quarry EIR

Vantage point 15 (Figure 61) is located on Couser Canyon Road approximately 2 miles from the project site. This vantage point has a medium to long-range view, a limited view frame and is in visual zone 3. The mine face would be highly visible from this vantage point. Figure 62 is a computer simulation representing the mined face as viewed from this vantage point after the completion of mining activities and subsequent reclamation.

**Rice Canyon Viewshed.** This viewshed (Figure 63) comprises a valley that is located northeast of the project area. Development in the valley consists of agricultural and limited residential land uses.

The major western view is of the intervening ridges and only a small portion of the top of Rosemary's Mountain is visible from the western flanks of the valley. The eastern flanks of the valley would see approximately the top one-quarter of Rosemary's Mountain.

Vantage Point 16 (Figure 64) is located along the west side of the valley at 35058 Rice Canyon Road. From this vantage point the viewer has a short range view, limited view frame of Rosemary's Mountain, and is in visual zone 1. Approximately 1/4 of the top portion of the mine face would be highly visible from this vantage point. Figure 65 is a computer simulation representing the mined face as viewed from this vantage point after the completion of mining activities and subsequent reclamation.

Vantage Point 17 (Figure 66) is located along the west side of the valley at 35236B Rice Canyon Road. The viewer from this vantage point has a short range view, limited view frame, and is in visual zone 1. No mining or processing would be evident from this vantage point.

Vantage Point 18 (Figure 67) is located along the east side of the valley. The viewer from this vantage point has a short range view, limited view frame, and is in visual zone 1. The upper portion of the mine face would be visible from this vantage point. Figure 68 is a computer simulation representing the mined face as viewed from this vantage point after the completion of mining activities and subsequent reclamation.

### Scenic Qualities

Scenic qualities of the project site must be considered in context with the surrounding San Luis Rey River Valley which includes a riparian woodland comprised of western sycamore, cottonwood, coast live oak and willow trees. Large areas in all directions from the project site are currently being worked as farms, ranches, dairies, or mining operations. Mountains covered with natural vegetation and/or agricultural groves create the visual backdrop for the area. These mountains range from 2,000 to 4,000 feet elevation to the north, east and south. The more urbanized development is mainly limited to the west side of I-15. Rosemary's Mountain, with its steep slopes and many rock outcroppings, is a highly visible feature rising from the river valley.

**Designated Scenic Highways.** The County of San Diego has established a Scenic Highway Element (May 18, 1983) in the General Plan which is intended to enhance scenic, historic and recreation resources within both rural and urban scenic highway corridors. The criteria for establishing the Scenic Highway System Priority List are as follows:

- Routes traversing and providing access to major recreation, scenic, or historic resources;

- Routes traversing lands under the jurisdiction of public agencies;
- Routes supported by significant local community interest;
- Routes offering unique opportunities for the protection and enhancement of scenic recreational and historical resources.

Projects which meet three or more of the above criteria are classified as first priority. Routes which meet only two of the above criteria are classified as second priority projects and routes which meet only one of the criteria are considered third priority.

State Route 76 east of I-15 is designated as a third priority scenic highway. Interstate 15 north of SR-76 is designated as a third priority scenic highway (Figure 69).

## 2. Environmental Impacts

### Visibility

This section has received the most comment from both County staff and local residents. As discussed in the Project Description, the currently proposed mining configuration is an attempt to reduce long term visual impacts by preserving the western face of the mountain. At the outset of the operations, an existing access road on the east side of the mountain would be used for access to the east face of the mountain where excavation would begin. The eastern face would be incrementally removed over a period of 20 years and would begin at approximately 915 AMSL. The upper part of the mountain, approximately 77 feet, would remain undisturbed. Mining would result in an amphitheater-like bowl with the final blasting of the rockface being worked to create a natural looking rockface with "ledges, nooks and crannies". The final mining face would have a maximum height of 715 feet which would not exceed a varying slope of 80°. The newly cut areas would be stained to match the surrounding natural surfaces. The ledges, nooks and crannies would have soil placed in them and hydroseed consisting of native species would be applied to the soil.

Implementation of the development proposals for the project site would result in the alteration of the existing land form and visual characteristics due to the excavation of rock and the processing of material. In terms of visual impacts of the proposed mining operations, the "final cut slope" refers to the cut slope formed from actual removal of aggregate material; and the "processing area" refers to the buildings, structures, and equipment required for crushing, batching, sizing, storage, and product output. These terms will be used throughout this document.

In conjunction with the extraction activity, crushing and mixing equipment would be located on-site. State Route-76 would be widened and realigned in accordance with a design prepared by Caltrans to eliminate a curve in front of the project site and a curve to the west (see Figure 20).

Area of Potential  
Ridgeline Alteration



006269

**Brian F. Mooney  
Associates**

SOURCE: DDS

**Vantage Point 10 - Pala Mesa Viewshed Looking Southeast**

**Figure 51**

Palomar Aggregates Quarry EIR



**Brian F. Mooney  
Associates**

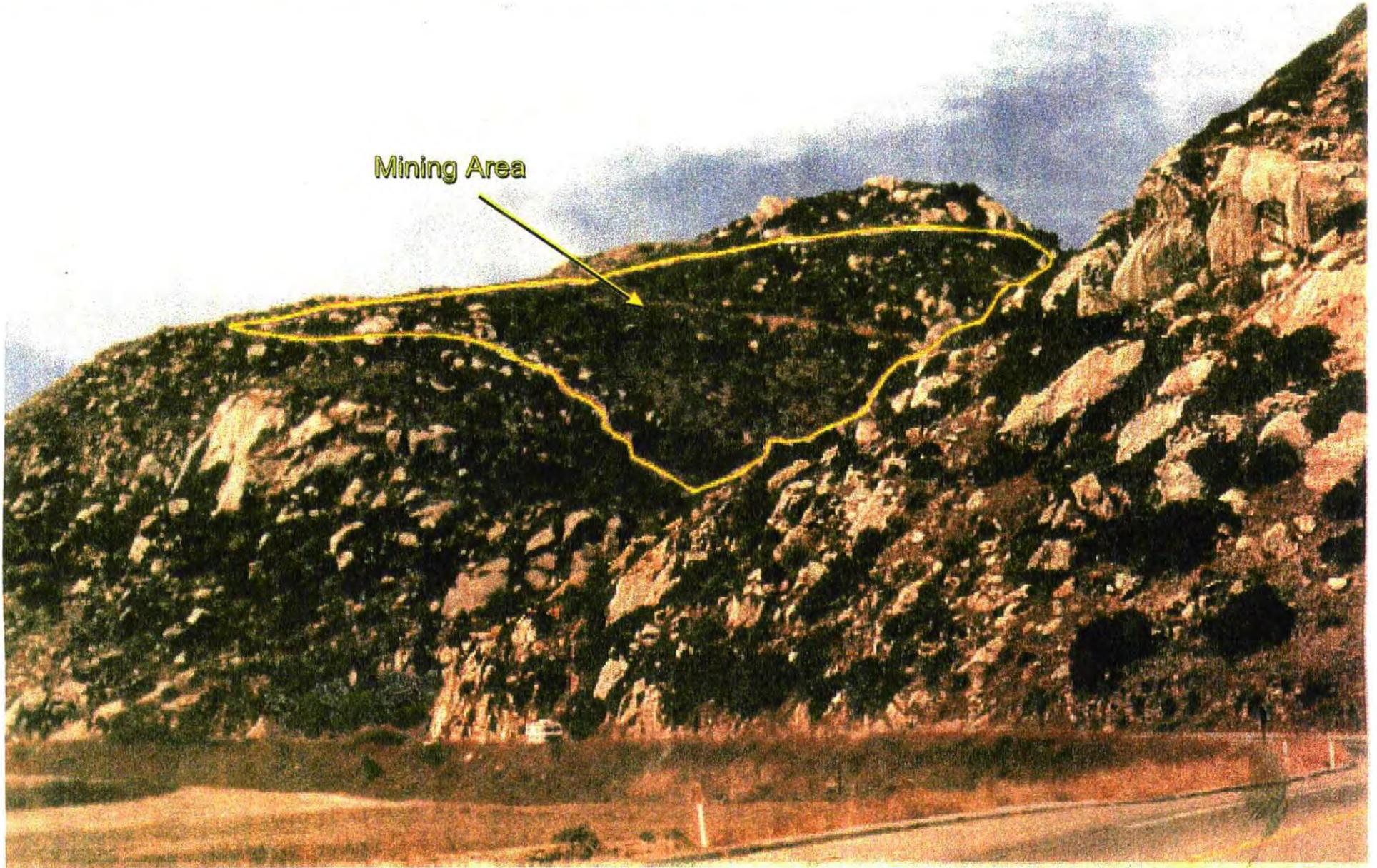
**Vantage Point 10 - Pala Mesa Viewshed Looking Southeast with Mitigation Measures Applied**

**Figure 52**

SOURCE: DDS

Palomar Aggregates Quarry EIR

006270



Mining Area

Vantage Point 13 - State Route 76 Viewshed Looking Northwest

Figure 57

**Brian F. Mooney  
Associates**

SOURCE: DDS

Palomar Aggregates Quarry EIR

006275



**Brian F. Mooney  
Associates**

**Vantage Point 13 - State Route 76 Viewshed Looking Northwest with Mitigation Measures Applied**

**Figure 58**

SOURCE: DDS

Palomar Aggregates Quarry EIR

006276



Mining Area

Vantage Point 14 - Couser Canyon Viewshed Looking Northwest

Figure 59

Brian F. Mooney  
Associates

SOURCE: DDS

Palomar Aggregates Quarry EIR

006277



006278

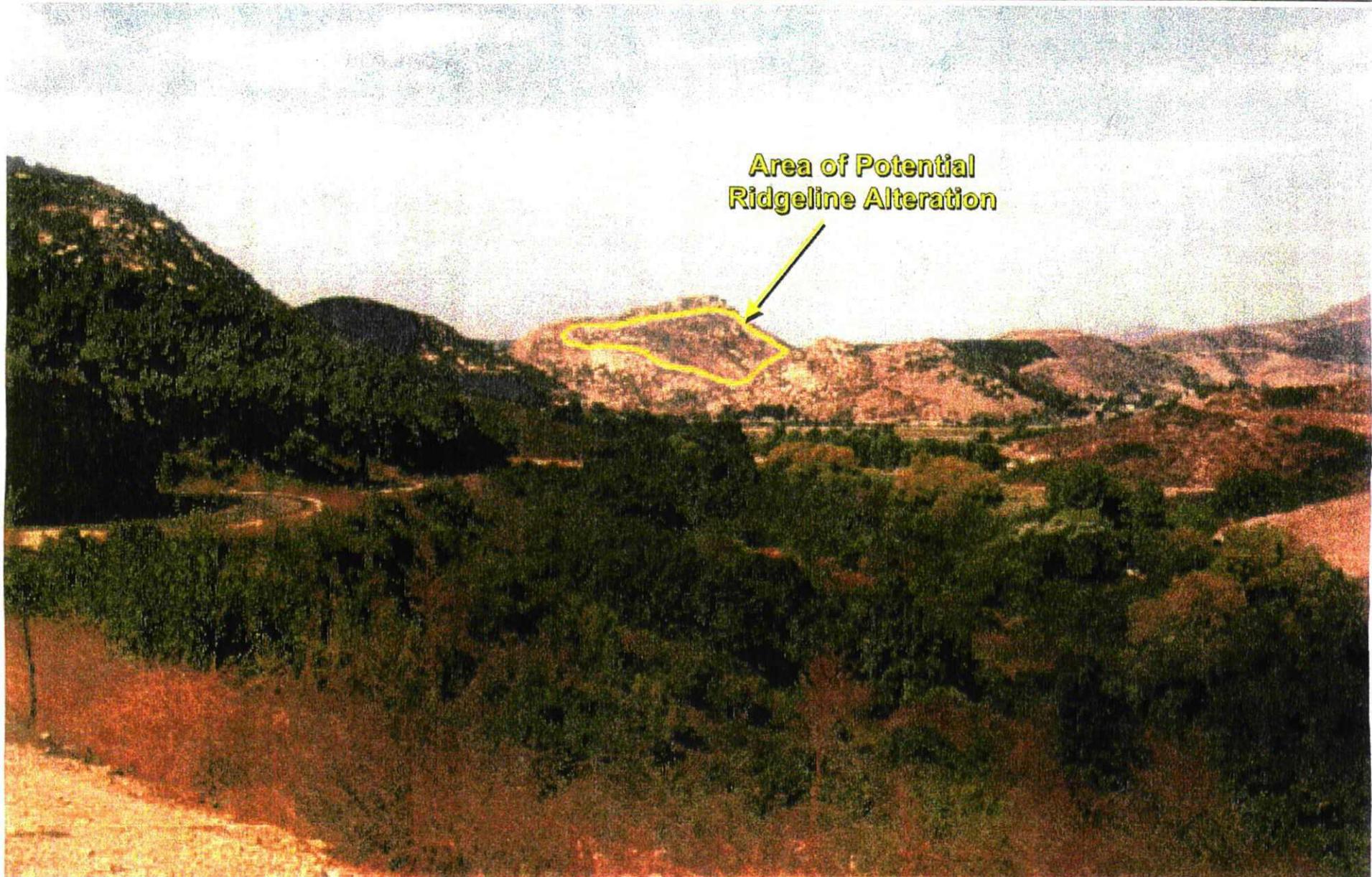
Brian F. Mooney  
Associates

SOURCE: DDS

Vantage Point 14 - Couser Canyon Viewshed Looking Northwest with Mitigation Measures Applied

Figure 60

Palomar Aggregates Quarry EIR



Area of Potential  
Ridgeline Alteration

**Brian F. Mooney  
Associates**

**Vantage Point 15 - Couser Canyon Viewshed Looking Northwest**

**Figure 61**

SOURCE: DDS

Palomar Aggregates Quarry EIR

006281



006282

**Brian F. Mooney  
Associates**

**Vantage Point 15 - Couser Canyon Viewshed Looking Northwest with Mitigation Measures Applied**

**Figure 62**

SOURCE: DDS

Palomar Aggregates Quarry EIR



Mining Area

Brian F. Mooney  
Associates

Vantage Point 16 - Rice Canyon Viewshed Looking West

Figure 64

006287

SOURCE: DDS

Palomar Aggregates Quarry EIR



006286

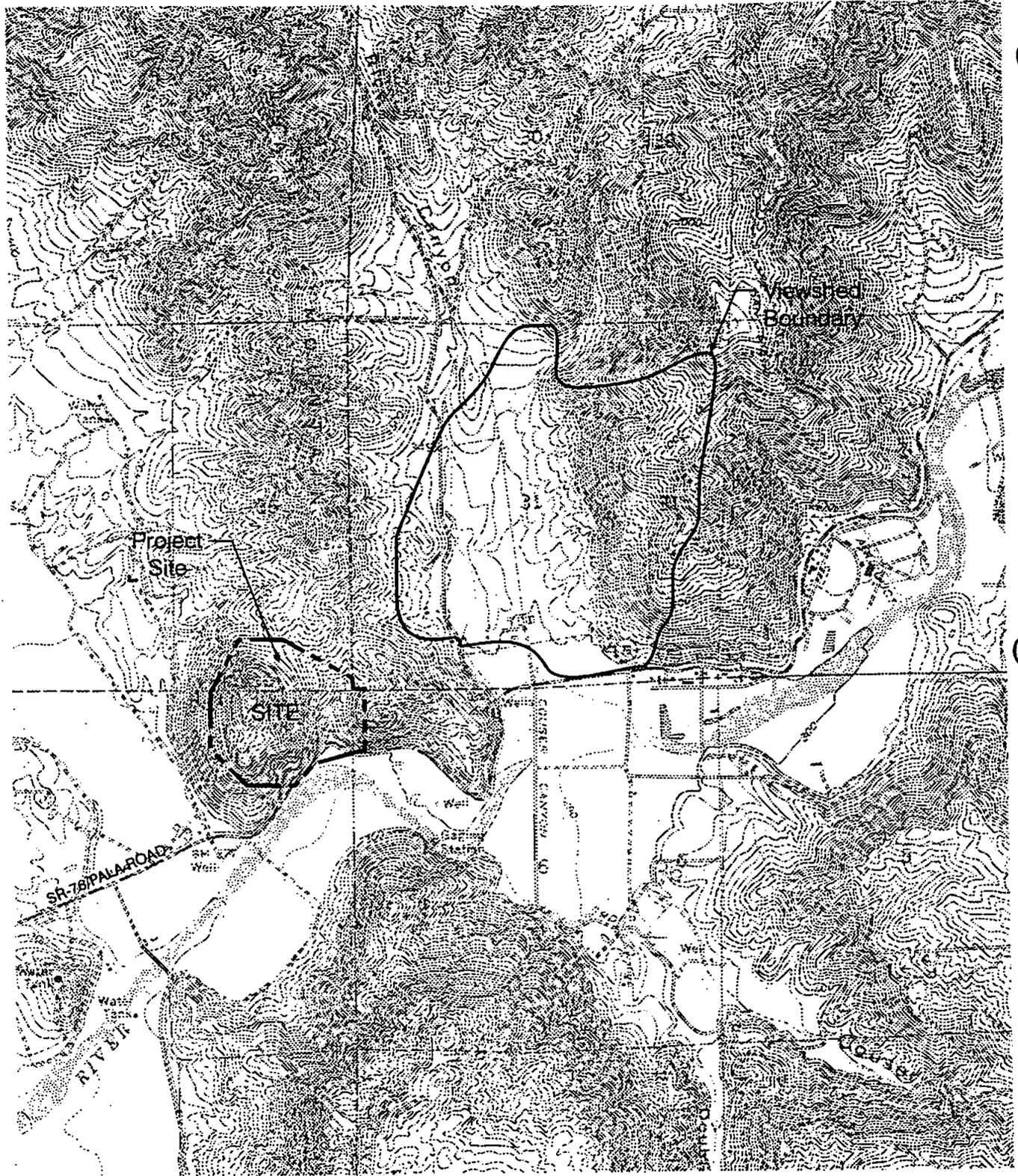
**Brian F. Mooney  
Associates**

**Vantage Point 16 - Rice Canyon Viewshed Looking West with Mitigation Measures Applied**

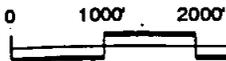
**Figure 65**

SOURCE: DDS

Palomar Aggregates Quarry EIR



Brian F. Mooney  
Associates



Rice Canyon Viewshed

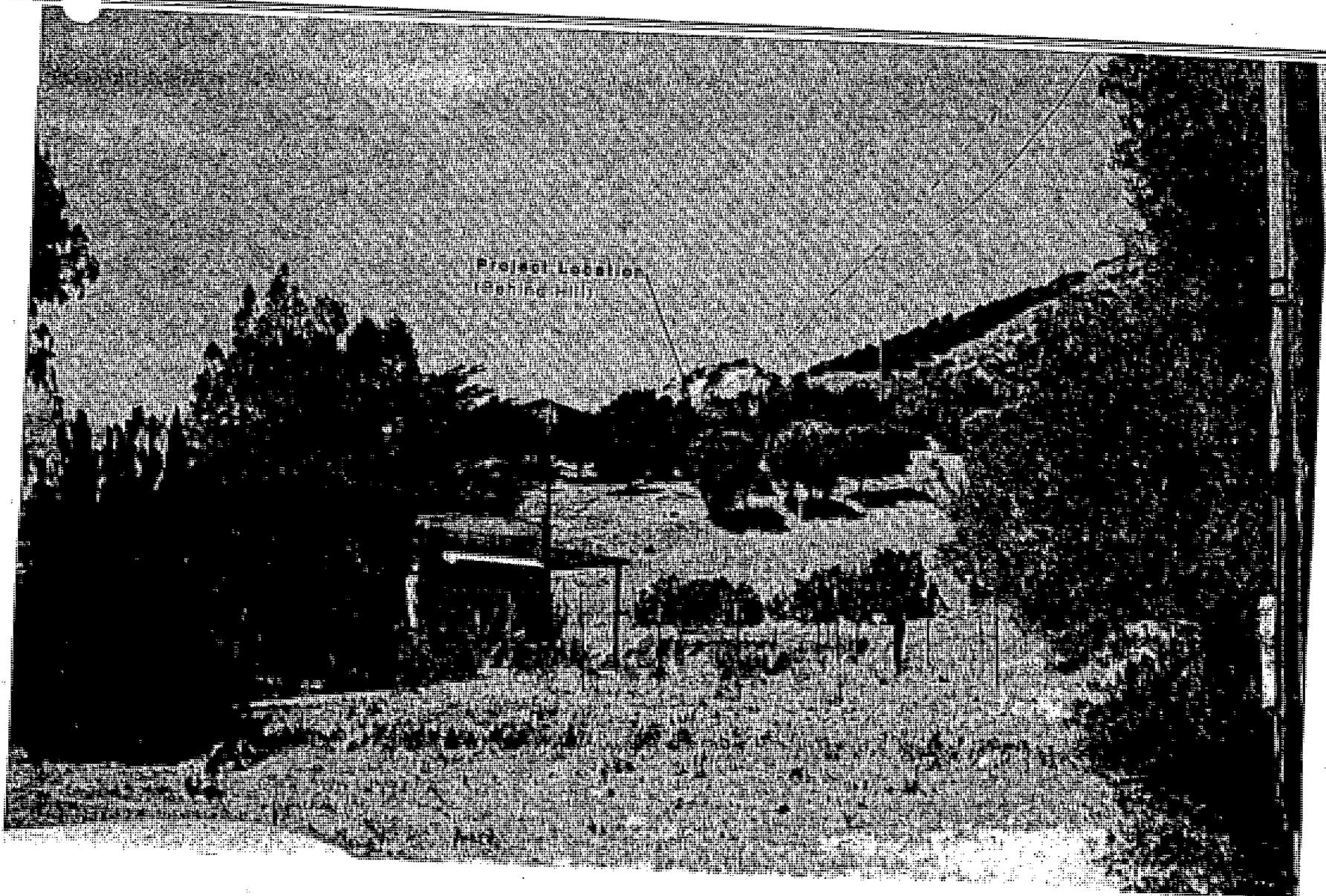
Figure 63

Palomar Aggregates Quarry EIR

SOURCE: U.S.G.S. 7.5 MIN QUAD (PALA-BONSALL)

006283

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Project Location  
(Spring Hill)

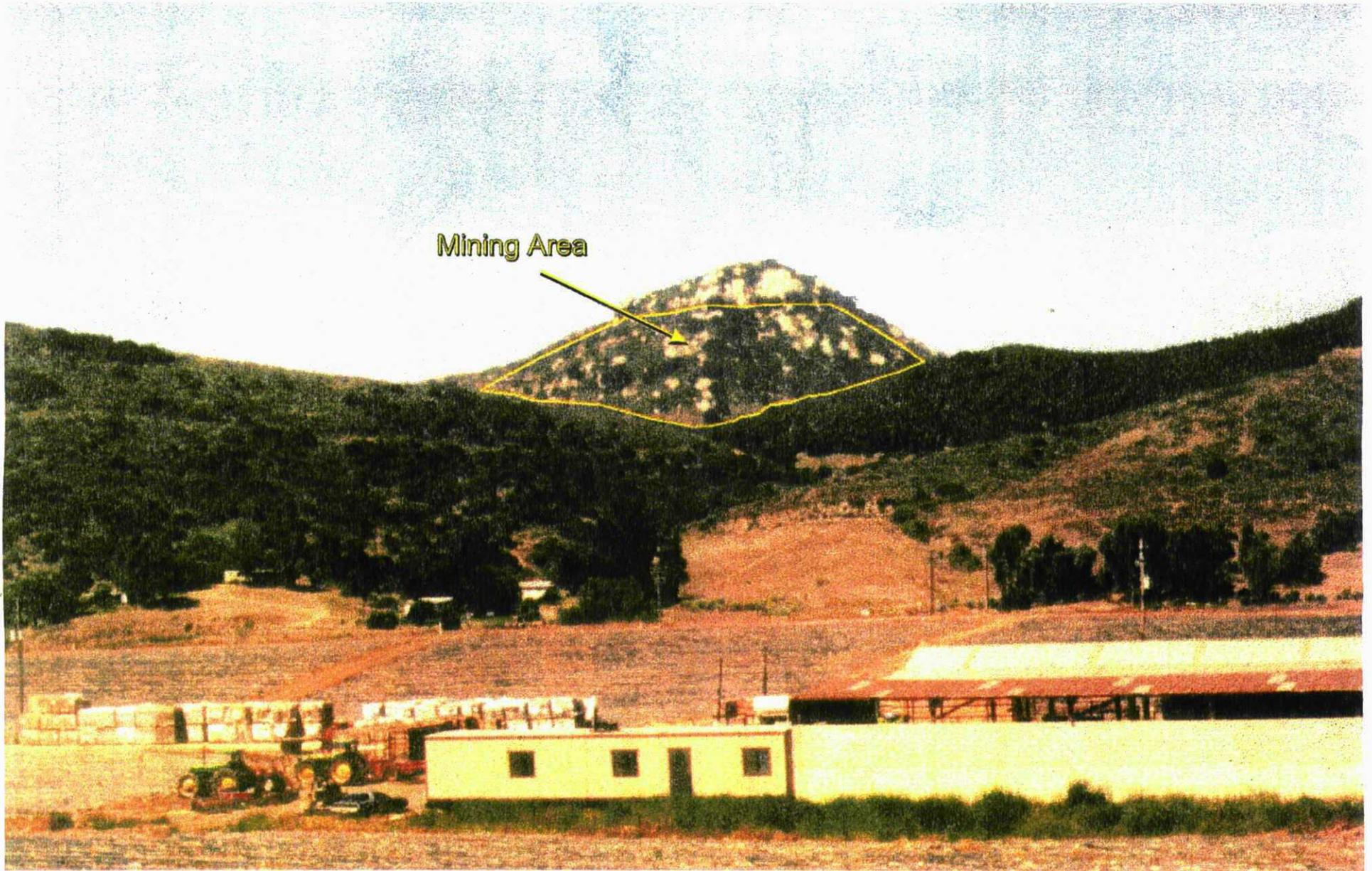
006287

Brian F. Mopney  
Associates

Vantage Point 17 - Rice Canyon Viewshed Looking West

Figure 66

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Mining Area

Vantage Point 18 - Rice Canyon Viewshed Looking West

Figure 67

**Brian F. Mooney  
Associates**

SOURCE: DDS

Palomar Aggregates Quarry EIR

006289



006290

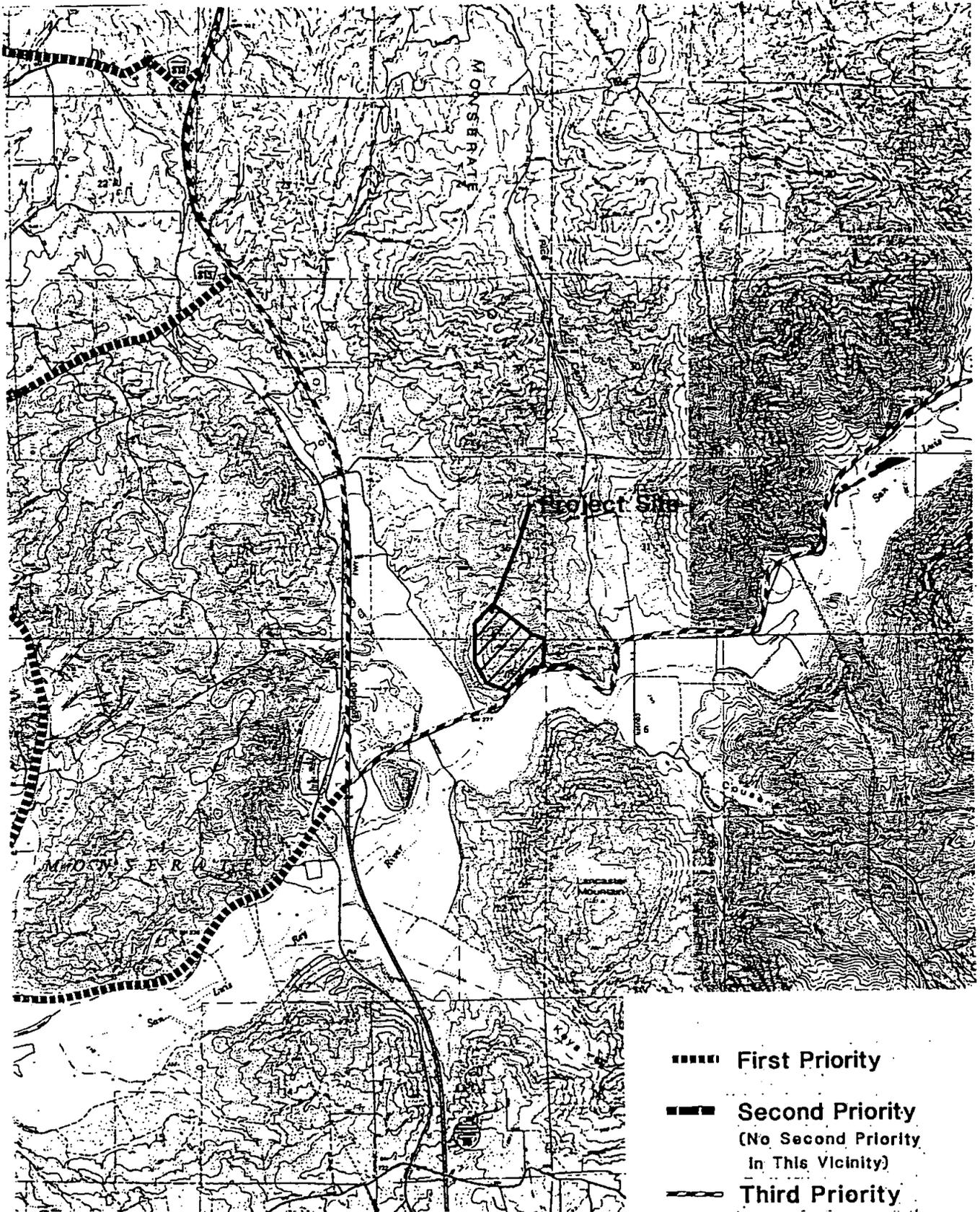
**Brian F. Mooney  
Associates**

SOURCE: DDS

**Vantage Point 18 - Rice Canyon Viewshed Looking West with Mitigation Measures Applied**

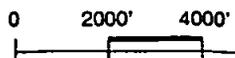
**Figure 68**

Palomar Aggregates Quarry EIR



- ..... First Priority
- Second Priority  
(No Second Priority  
In This Vicinity)
- Third Priority

Brian F. Mooney  
Associates



Scenic Highways

Figure 69

Palomar Aggregates Quarry EIR

006291

Although, the passing motorist along SR-76 would be affected by the project, it is for a short distance (1,500 feet) and along a curve which limits the view of the mining face to be momentary in nature. The landscaped berm proposed along SR-76 would shield the processing plant from view of the passing motorist and the ongoing reclamation of the mined face including sculpting, staining, and revegetation would leave the final reclaimed face natural looking. Therefore, the overall adverse visual quality impact of the project site is not considered significant.

**I-15 Corridor Viewshed.** Both north-bound and south-bound traffic on I-15 approach the project area on downhill slopes. The focus of views is the open expanse of the river valley contained by the steep mountainous terrain on either side of the corridor. The visual analysis indicated that north-bound traffic may notice a small notch taken from the mountain. This ridgeline modification would be visible for a distance of approximately one-half mile within visual Zone 2 (see Figure 37). Due to the long visual range and wide angle viewframe as well as short time frame this was found not to be significant (see also Figures 36 and 37).

When north-bound and south-bound traffic are directly west of the project site, there would be no noticeable change in the mountain's feature (since excavation is taking place on the east face only; see Figure 39).

South-bound traffic's viewshed would only be slightly affected by incremental alteration of the ridge profile on the north-eastern side of the mountain (see Figure 40). The cut slope face would not be visible from I-15. There would not be a significant modification of the feature and impacts to the skyline would not be affected, since the Lancaster Mountain Range to the south dominates the skyline, and the quality of the total viewshed would not be lost. Therefore, no significant impacts to current or future development within this viewshed is anticipated.

**Rancho Monserate Mobile Home Park Viewshed.** Generally, the range of elevations within the mobile home park is the same as the project site. The project would only have a slight impact on the existing viewshed because the majority of the west and southwest facing slopes would remain intact. Due to the intervening elevation of I-15, most existing homes in Rancho Monserate do not have views of the project site. From upper portions of the mobile home park incremental alteration of the ridge profile would be visible. The cut slope face would not be visible from this viewshed (see Figure 42); and, only a limited long-range view of the batch plant portion of the processing area would be evident from the upper portion of the park. Due to the 2-mile distance, and the lack of significant modifications to the western side of Rosemary's Mountain, no significant impacts are anticipated for current or future development within this viewshed.

**Pala Mesa Viewshed.** As shown in Figures 43-53, the processing area and cut slope would not be visible from this viewshed as the processing and excavation would be from the east side of the mountain. Because of the extent and quality of residential development in this area, visual disruption to this viewshed from alteration of the mountain profile could be considered significant. For this reason, project plans have been revised to preserve the land form features when viewed from the Pala Mesa area. Within this same viewshed, views from the proposed development of Hewlett-Packard would also be preserved.

Approximately ten residential units would be adversely affected on the easternmost end of the Lake Rancho Viejo development, however, the impact to this development would not be considered

significant due to the intervening ridgeline and expected lack of direct, unobscured views into the project site. The lower slopes of Lancaster Mountain would be considered significant if development was proposed for this area. However, grading for tree crops is presently occurring here and it is not likely that development would occur due to the steepness and inaccessibility of this area. As such, the impact would not be significant.

**Western Ridge Viewshed.** Views from the hillside above Pala Mesa, have a mid-range visual path and a limited angle view frame. No feature modification would occur. No cut slopes would be visible from this viewshed (see Figure 54). As the project site is lower than the current skyline, the skyline would not be affected. Therefore, no significant impacts to current or future development within this viewshed is anticipated.

**Couser Canyon Viewshed.** This viewshed would be severely impacted by excavation which would be visible for the first two phases of the project. The processing area would not be seen from this viewshed. Figure 57 shows the area of impact as seen from SR-76. If site specific environmental constraints and steep slopes were not considered, and Couser Canyon was built-out to the maximum density allowed by the existing zoning and land use designations, a total of 95 homes would eventually occupy this viewshed. The first phase of the mining operation would commence at an elevation of 915 AMSL and would mine down to a base elevation in the first phase of 825 AMSL. The second phase would mine until elevation 300 AMSL was reached. During these first two phases of the operation, the viewshed would be significantly affected. However, the outline of the hill would be left intact (see Figure 60). The face of the mined area, with maximum heights of approximately 565 feet would be visible from this viewshed at the completion of this project. However, with the ongoing reclamation only 33 vertical feet of unreclaimed surface would be visible at any time. These alterations of the hillside would be considered significant but mitigable.

**Rice Canyon Viewshed.** The mining face would be visible from certain portions of this viewshed and would cause visual impacts. The main area of impact would be the lower eastern flanks of Rice Canyon where an intervening ridgeline drops in elevation and approximately top one-fourth of Rosemary's Mountain becomes visible (see Figure 68).

Several existing homes have the potential to be affected by the mining face. If site specific environmental constraints and steep slopes were not considered, and Rice Canyon was built-out to the maximum density allowed by the County zoning and land use designations, approximately 49 homes could ultimately occupy this viewshed. From the property located at 35058 Rice Canyon Road (see Figure 65), the viewer would see approximately the top one-eighth of the mined face through a gap in the intervening ridgeline. During the first and a portion of the second phase, mining equipment would be visible. The outline of the hillside would remain intact. With the proposed mitigation measures which would require that each 33 foot cut along the final face be immediately reclaimed. It is anticipated that no more than 33 feet of unreclaimed mining face would be visible at any time. This alteration to the hillside would be considered a significant but mitigable visual impact. The property located at 35236B Rice Canyon Road would not see any of the mining face and therefore would not be affected.

### Scenic Qualities

The visual resources, such as major rock outcroppings, associated with the project site would be significantly altered on the eastern face of the mountain by the Proposed Project. The significance of the loss of these features is subjective, but must be considered a significant visual impact. Figures 57 and 59 illustrate where the impact to existing scenic qualities would be most affected.

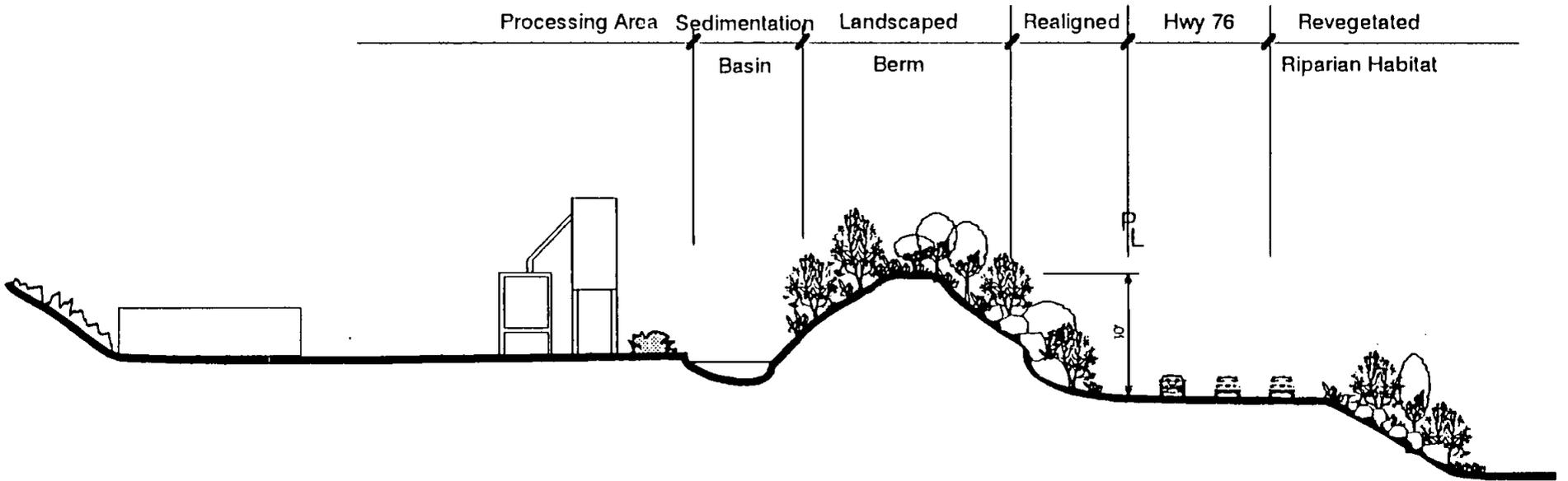
### Scenic Highways

Two roads adjacent to the project site are designated as scenic highways by the County of San Diego, and include SR-76 and I-15. The vicinity of the project area west of I-15 and north and south of SR-76 is currently impacted with development and will be further impacted by development proposed on the east side of I-15 (Hewlett-Packard and Lake Rancho Viejo). Implementation of the Proposed Project would result in a varying slope not exceeding 80°, that would be visible from SR-76, to the southeast of the project. To travellers on SR-76, the cut slope would be blocked by vegetation bordering the plant site (Figure 70), but would be visible to westbound traffic along a 1,500-foot portion of SR-76 from the curve in the road 2,500 feet to the east, to a point approximately 1,000 feet to the east (see Figure 57). Caltrans has acquired right-of-way to eliminate this curve east of the project area, at which time views from SR-76 into the site would be largely blocked by vegetation and the roadway cut bank. Therefore, impacts to this scenic highway are not considered to be significant. Incremental ridgeline modification would be visible for a distance of approximately 2.25 miles along I-15, northwest of the proposed project site; however, no cut slopes would be visible from I-15 and the mountain profile would remain largely intact. Therefore this is not considered a significant impact.

The wire mesh proposed for use at the Palomar Aggregates site is not expected to create a visual impact beyond the project perimeter. The mesh resembles chain link fencing, would approximate the color of the rock that it overlays, and typically is not visibly distinguishable from distances of 250 feet or more when draped over quarry slopes. As indicated in Figure 71, which present photographs taken from various distances of wire mesh in use at another quarry, the mesh is clearly visible at 15 feet and 50 feet; at 250 feet and 500-1000 feet, however, it is difficult to discern slopes that are draped with the mesh. Since all surfaces proposed to be overlain are farther than 250 feet from the project perimeter, the wire mesh is not expected to create a visual impact. The project proponent shall establish a permanent fund for wire mesh maintenance.

The rock sculpting, staining and revegetation would create a final face that would blend with the existing rock outcrops that are located on the project site as well as on the surrounding mountainside (see Figure 8). An example of rock sculpting most nearly comparable to the height of the Proposed Project was accomplished in the environmentally sensitive area of Glenwood Canyon, northwest Aspen, Colorado. The rock sculpting was so successful that it is difficult to detect the original environmental disturbance (Figure 72).

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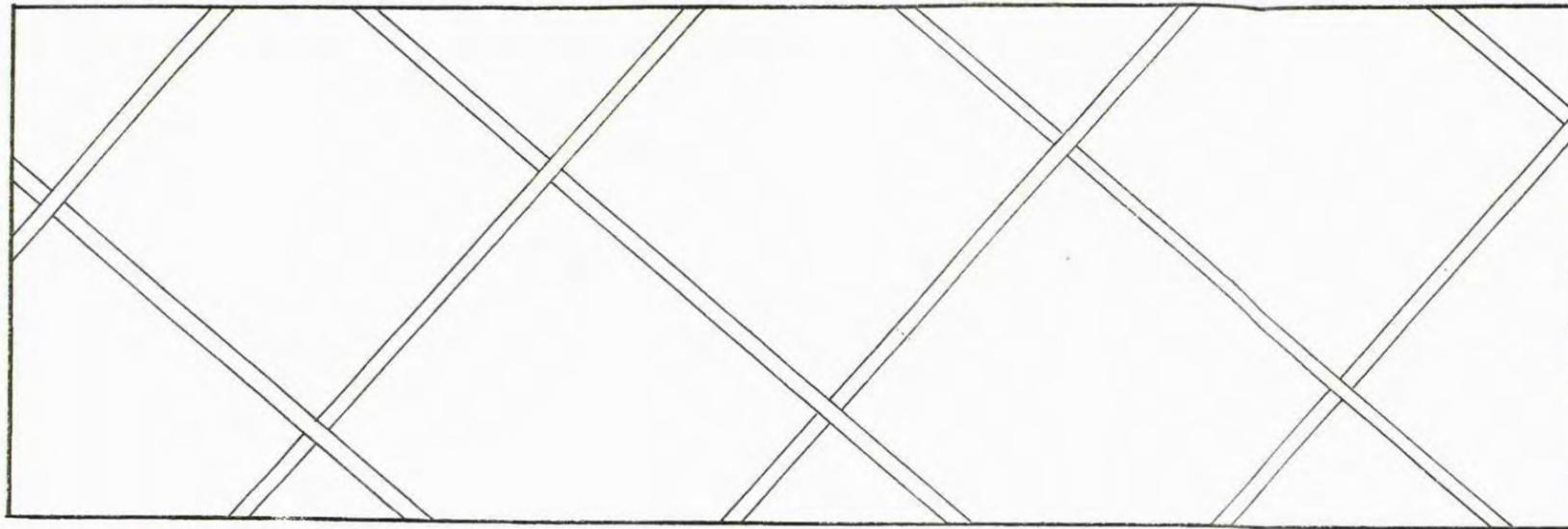


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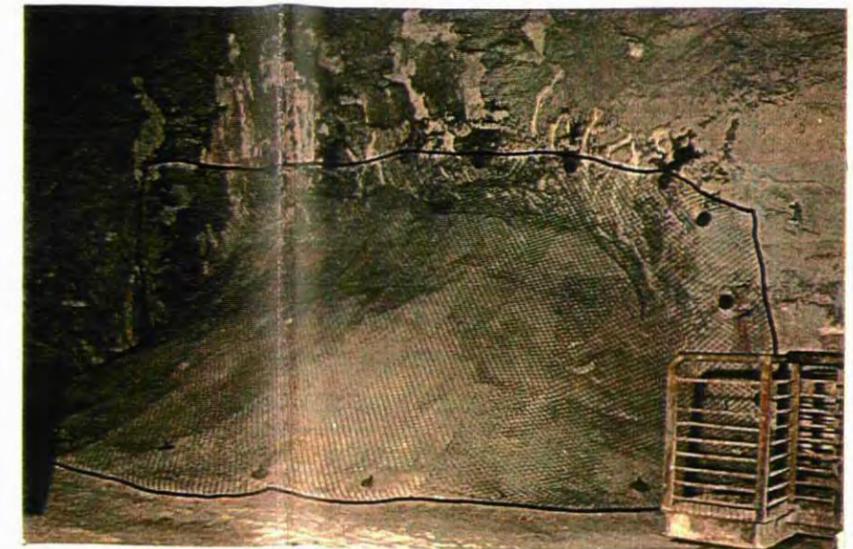
0 20' 40'

Typical Cross-Section Thru Processing Area

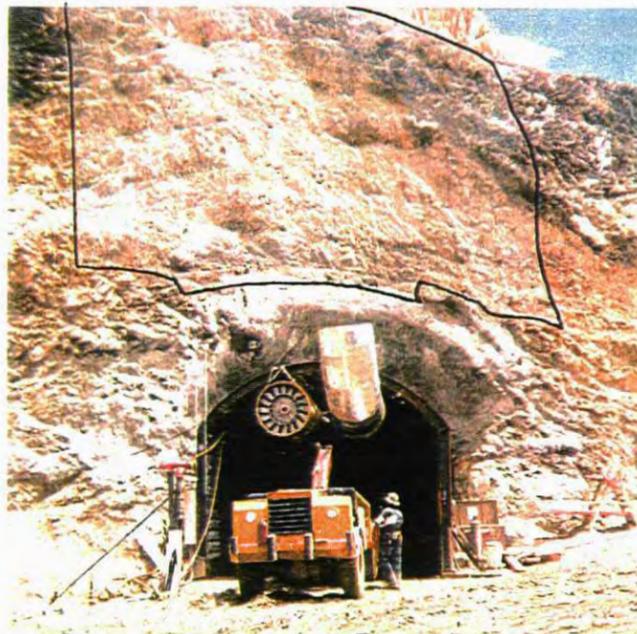
Figure 70



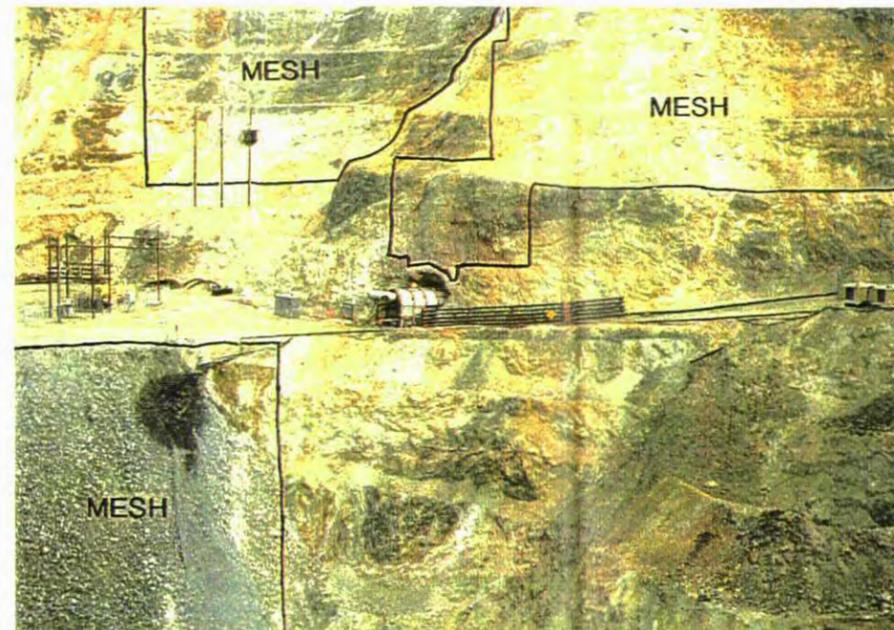
A Sketch of 6 - Gauge (0.192") Wire Mesh with 2" Mesh Opening (Actual Size)



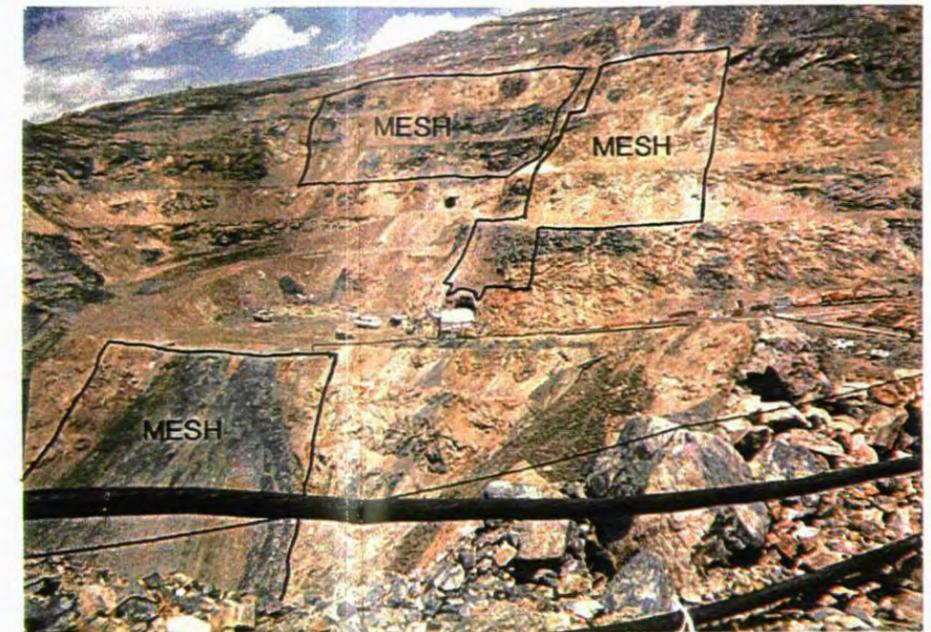
B Photograph of Wire Mesh in Use at 15'



C Photograph of Wire Mesh in Use at 50'

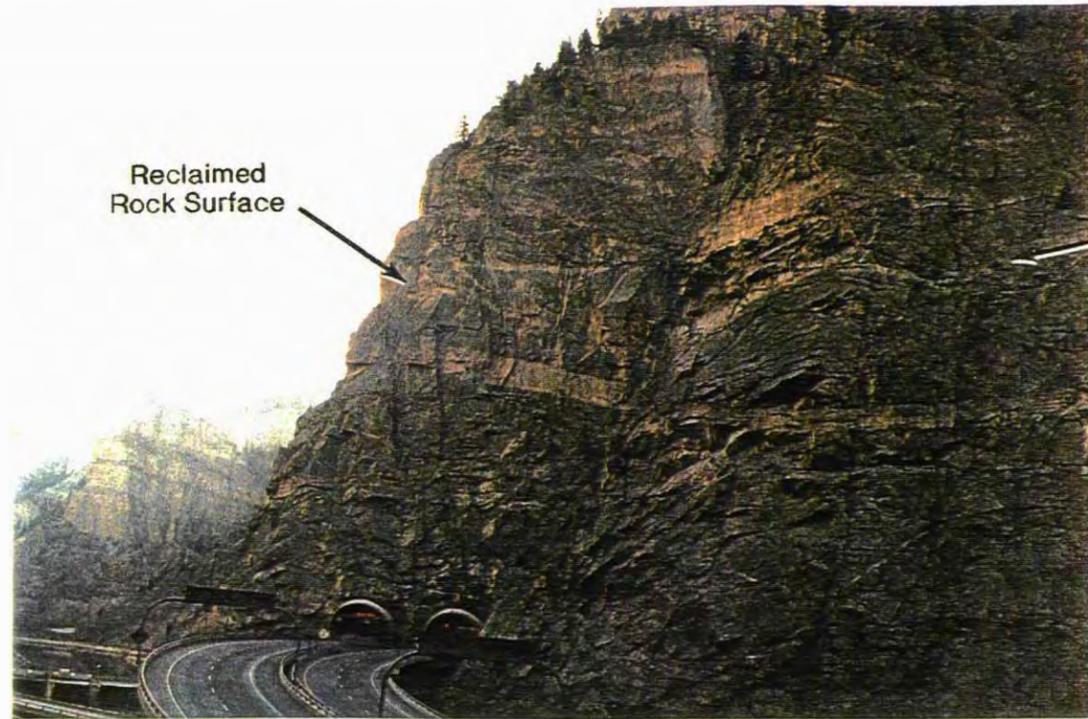


D Photograph of Wire Mesh in Use at 250'



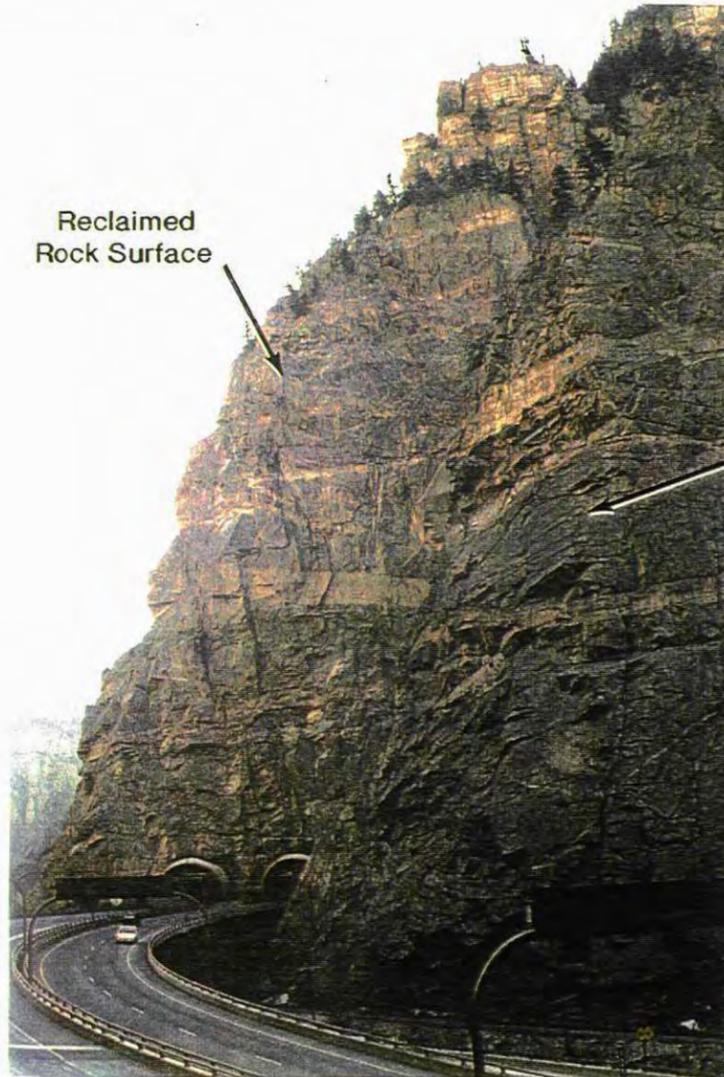
E Photograph of Wire Mesh in Use at 500'-1000'

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Reclaimed  
Rock Surface

Natural Rock Surface



Reclaimed  
Rock Surface

Natural Rock Surface



Reclaimed  
Rock  
Surface

Natural Rock Surface

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### 3. Summary of Impact Significance

Overall, impacts to Visual/Aesthetics are considered significant but mitigable. In summary, project impacts are considered not significant with regard to views from I-15. Also, no significant impacts would occur to visual features as seen from the Pala Mesa and Western Ridge viewpoints or the Rancho Monserate Mobilehome Park. However, severe cut slopes would be visible from the Couser and Rice Canyon viewsheds. This visual impact would be significant, but mitigable. In addition, the impact on scenic qualities east of the project site, and on a 1,500 foot portion of a designated scenic highway (SR-76), would be considered significant but mitigable.

### 4. Mitigation Measures

The following section outlines the proposed mitigation measures for the mining plan. Letters from a Permeon consultant, a blasting professional and the project landscape architect, all concerning the feasibility of the following mitigation measures have been included in this FEIR as Appendices A, B, and H).

- C-1. Prior to operation, processing equipment shall be painted in earth tone colors, excluding white and orange, to further minimize the visual impact.
- C-2. Prior to operation, a 30 foot high earthen berm shall be constructed and landscaped upon the relocation of SR-76, to screen views of the processing plant in accordance with the Conceptual Landscape Plan (see Figure 15).
- C-3. Prior to operation of the concrete and asphalt plants, the berm and its landscaping shall be installed. This landscape screen along SR-76 shall be in place six months before operation of the batch plants. At a minimum, the final landscape plan shall provide for the following tree container size by percentage: 24-inch box (25%), 15-gallon (25%), 5-gallon (50%). Shrub container sizes shall be according to the following proportions: 5-gallon (20%) and 1-gallon (80%). The final landscape plan shall also provide for specific performance standards to be assessed by a 5-year monitoring and maintenance program to assure that the goals of the landscape plan are met. A survival rate of 80% shall be maintained for all container stock during the life of the 5-year monitoring period. Combined vegetative cover milestones of 40% (after year one), 60% (after year three), and 100% (after year five) shall be met. Remedial measures such as replanting or modifying irrigation shall be conducted annually as necessary to meet performance standards. Monitoring and maintenance shall continue until the conditions specified at the end of year five are met. Figure 15 shows the initial landscape phase and recommended landscape materials for the processing area and proposed berm.
- C-4. As part of the ongoing reclamation plan, the following mitigation shall be implemented: As the mining reaches the surface area which is to be the final reclaimed surface, the method of blasting hole placement and gradient will change. The final blasting pattern of this 33-foot high mining face shall consist of a random pattern of drill holes at variable depths and angles which would result in sculpting of irregular sloped surfaces with ledges of 2 to 12-foot wide, no greater than 66 feet long with no greater than 120 feet of vertical separation. This, in effect, will be a "sculpted" rock surface with ledges nooks and crannies designed to trap and

hold soil (see Figures 8). The ledges shall also be angled towards the rock face so that 6-12 inches of soil can be installed. The resulting mining face shall have irregularly shaped ledges at varying height locations. Soil shall be placed in the nooks and crannies and on the ledges, and hydroseeded. Wire mesh shall then be placed over the rock face and bolted down with rock bolts. One outstanding example of a sculpted face and rock coloration can be found in Glenwood Canyon near Glenwood Springs in south-central Colorado, northwest of Aspen (see Figure 72).

- C-5. After the completion of rock sculpting and the hanging of mesh on each 240 foot horizontal section of the final face, and after a sufficient distance of 240 feet is obtained from the adjacent working area, Permeon, a non-toxic rock stain consisting of iron salts, magnesium salts and other trace elements shall be applied by a manufacturer trained professional. As well as staining without any environmental damage, the Permeon would release small amounts of nitrogen which has a fertilization effect that would enhance the growth of vegetation. The application, which is colorless when first applied, is formulated to match the variation of colors of the adjoining rock surfaces. Full colors would develop in one to two weeks, depending on the temperature and exposure to sunlight. Additional staining may be required to be modified on completed sections of the final face in both vertical and horizontal directions to assure a natural looking face. Examples in San Diego County include the staining of concrete cliffs at Point Loma.

This method allows for the mining face to be in constant reclamation. Table 1 shows the hydroseed mix that shall be applied for reclamation of the mining face after soil is located to the ledges and nooks and crannies.

- C-6. After the sculpting blast but prior to the beginning of the reclamation process, the resulting mining face shall be inspected by a design professional (i.e. landscape architect) to determine that the resulting mining face meets with the intent of this document. The design professional shall then submit a letter to DPLU, with photographs, that the mining face does meet the intent of this document. ~~This design professional shall have final design authority on the resultant rock face.~~ DPLU shall have final approval of the design of the resultant rock face.
- C-7. As part of the ongoing reclamation, an engineering geologist and a landscape architect shall determine the project's conformance with rock sculpting and determine the project's conformance with structural safety mitigation measures as identified in the EIR after the completion of the first section of final face consisting of 240 horizontal feet by 33 vertical feet. This inspection of the final face will continue every 240 feet along the first two working benches, and after it is determined the rock sculpting program is in conformance with the EIR mitigation measures, additional inspections will occur on a random basis as determined by DPLU. If it is determined that sculpting is not in conformance with the EIR, changes will be required in the blasting and excavation design to achieve mitigation.
- C-8. As part of the ongoing reclamation, an oblique aerial photograph shall be taken on an annual basis and submitted to DPLU to determine conformance with visual mitigation measures.
- C-9. If after the first rainy season the hydroseeding has not germinated, a temporary irrigation system shall be installed to assist the vegetative growth on the reclaimed face. The system

shall be an overhead spray and shall be attached to the wire mesh that will be draped over the rock face.

- C-10. As part of the ongoing reclamation, the cut slope along the eastern project boundary shall be planted with native vegetation, including a hydroseed mixture of native plants as the mining proceeds.
- C-11. Prior to obtaining any building or other permits, a final landscaping plan shall be submitted and approved and a review fee shall be submitted to the DPLU. The Landscape plan shall apply to the earthen berm and shall include the types and locations of all landscaping features, including planting and irrigation. Landscaping will include native vegetation.
- C-12. At the completion of mining activities, the final reclamation shall include removal of all plant equipment and facilities, and regrading of the processing area. Then it is expected to either be filled with water at this point or a dam constructed to elevation 500 feet AMSL and then filled with water. Reclamation to reuse the site as a reservoir would further reduce the visual impacts resulting from the visibility of mined slopes from the Couser Canyon viewshed.
- C-13. Prior to use or reliance of the MUP, the project proponent shall establish a permanent fund for wire mesh maintenance.

## 5. Summary of Impacts After Mitigation

Blasting techniques used to create an irregular rock face, rock sculpting, staining with Permeon; the landscaped berm, and preservation of the western slope of Rosemary's Mountain, would reduce visual impacts to SR-76 and the Couser Canyon and Rice Canyon viewsheds to a level below significance.

## D. Noise

Several noise assessments have been prepared for this project. The most recent studies were completed by Pacific Noise Control in January, 1995 and October, 1995. The following discussion is based on the studies included in Appendix I, the San Diego County General Plan and the San Diego County Zoning Ordinance. The following discussion will focus on noise impacts to human receptors. Potential noise impacts to the least Bell's vireo are discussed in the Biological Resources section of this FEIR.

### 1. Existing Conditions

#### Applicable Noise Limits

Community noise levels are measured in terms of the "A-weighted decibel" (dB(A)). Human hearing is more sensitive to sound energy at higher frequencies than at lower frequencies, and the relative sensitivity to different frequencies changes somewhat with the level of the sound. The dB(A) is a noise level that has been corrected to correspond to the noise frequencies to which the human ear is sensitive. Comparative noise levels for a variety of sound sources in the home, work, and ambient environments are summarized in Figure 73.

An average noise level for a specified time period is an "equivalent noise level" ( $L_{eq}$ ). It can be thought of as the level of a continuous noise which has the same energy content as the fluctuating noise level.

The Noise Element of the San Diego County General Plan establishes general noise exposure standards for determining land use/noise compatibility. These standards are described in terms of Community Noise Equivalent Level (CNEL), which is the average noise level for a 24-hour period. The CNEL standards are most frequently applied in describing the relationship of a relatively continuous noise source, such as traffic, to the desirable ambient noise level for the land use type. The CNEL is adjusted to reflect the greater sensitivity to noise intrusion during evening and night hours, with a 5 dB(A) penalty for noise occurring between 7:00 p.m. and 10:00 p.m. and a 10 dB(A) penalty for noise occurring between 10:00 p.m. and 7:00 a.m.

The above mentioned Noise Element establishes outdoor and indoor noise limits for new residential developments. The outdoor noise standard for exterior living areas for residential land use is 60 CNEL. The indoor noise standard for residential land use is 45 CNEL. Mining operations are relatively insensitive to noise, and therefore there are no standards regulating the noise impacting the mining site itself.

The San Diego Noise Ordinance also establishes other exterior noise standards. They are designed to protect residential and other land uses from non-transportation related noise sources. The noise limits are expressed in terms of a one-hour equivalent noise level ( $L_{eqh}$ ). Sound level limits by zone are listed in Table 6.

Table 6. County of San Diego Noise Ordinance Sound Level Limits

Zone		Applicable Limit One-Hour Average Sound Level (Decibels)
R-S, R-D, R-R, R-MH, A-70, A-72, S-80, S-81, S-87, S-88, S-90, S-92, R-V, and R-U Use Regulations with a density of less than 11 dwelling units per acre	7 a.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
R-RO-R-C, R-M, C-30, S-86, R-V and R-U Use Regulations with a density of 11 or more dwelling units per acre	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
S-94 and all other commercial zones	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	55
M-50, M-52, M-54	Anytime	70
S-82, M-58, and all other industrial zones	Anytime	75

Section 36.404 of the Noise Ordinance discusses sound level limits applicable to various designated zones and it reads as follows:

Unless a variance has been applied for and granted pursuant to this chapter, it shall be unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property on which the sound is produced, exceeds the applicable limits set forth below except that construction noise level limits shall be governed by Section 36.410 of this chapter.

The proposed site is zoned A-70 and the surrounding properties are zoned A-70, A-72, and S-88. Thus, under existing conditions, the area belongs to the first category shown in Table 6 with an applicable hourly  $L_{eqh}$  of 50 decibels from 7:00 a.m. to 10:00 p.m. and 45 decibels from 10:00 p.m. to 7:00 a.m.

By comparing the noise levels generated by the mining activities to the Noise Ordinance, the acceptability of the noise levels can be determined. Usually, the sound level is measured at the property boundary. If the location is between two zoning districts, the limiting sound level is the arithmetic mean of the limits for the two districts. For extractive industries, however, an exemption is made. Specifically the Noise Ordinance states "...the sound level limit applicable to extractive industries including but not limited to borrow pits and mines, shall be 75 decibels at the property line regardless of the one where the extractive industry is actually located." A Major Use Permit (MUP) is proposed which, if approved, would reclassify the site as an extractive use. Therefore, if approved, the proposed mining operation must not exceed a  $L_{eq}$  noise level of 75 dB(A) at the property boundary to be in compliance with the San Diego Noise Ordinance.

### Existing Noise Levels

The Proposed Project site is located on a steep hillside covered with rock outcroppings interspersed with chaparral. The project area is best characterized as rural and undeveloped. Many of the surrounding hillsides are planted with grove crops. Houses are scattered among the hillsides and flatter areas. Three of the houses are located in relatively close proximity to SR-76 between the project site and Interstate 15. One home is located on top of a knoll approximately 1,000 feet east of Interstate 15 and 400 feet south of SR-76, and two existing farm worker homes are located on Pankey Ranch approximately 50 feet north of SR-76 between the project site and I-15.

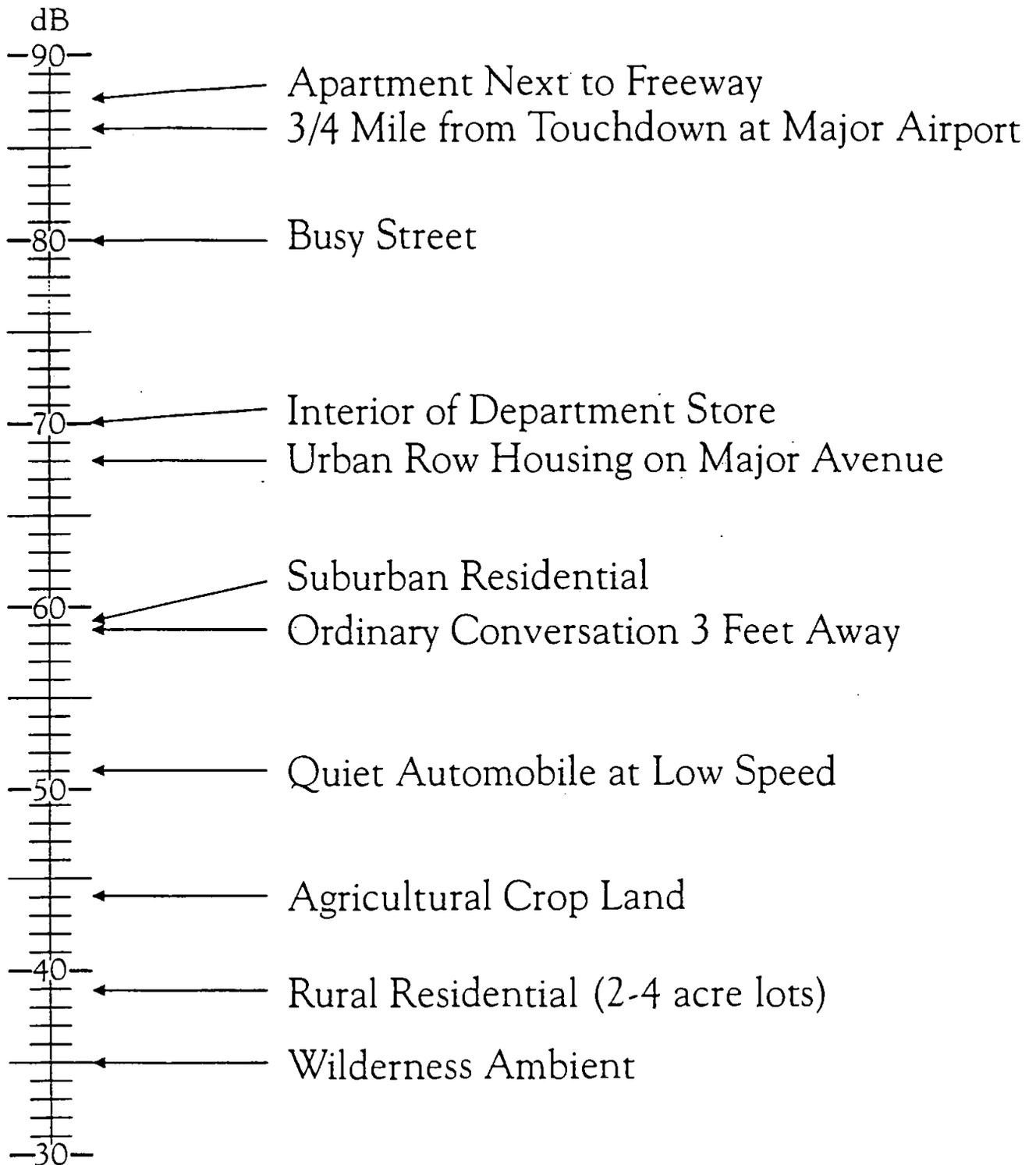
The primary source of noise in the project site vicinity is vehicular traffic along State Route 76 (SR-76). The current traffic volume on SR-76 east of the Interstate 15/SR-76 interchange is 4,800 ADT (Willdan Associates 1995). Tables 7 and 8 depict the existing and the existing plus project CNEL noise contours west of the project site. The noise contours are based on the results of the long-term noise measurement and assume vehicle speeds of 55 mph, without the s-curve, and no intervening topography or barriers.

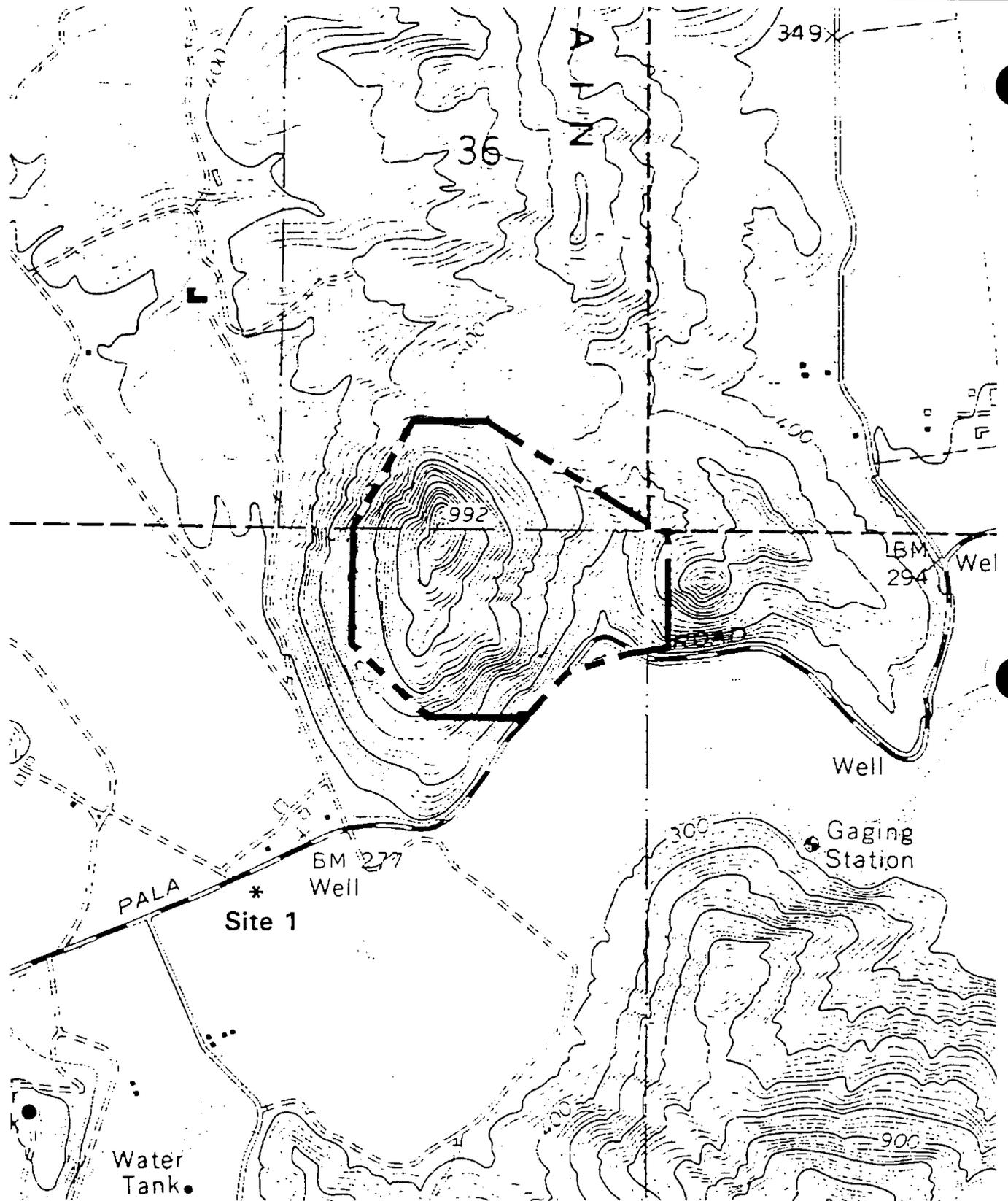
A long term noise measurement was conducted adjacent to SR-76 between October 10, 1995 and October 12, 1995 to assess existing noise conditions. The long-term noise measurement site was along the same segment of SR-76 as previously measured (Illingworth and Rodkin 1991). The sound level meter was positioned approximately 50 feet south from the center line of the road (Figure 74). The highest one-hour noise level was 70.0 dB  $L_{eq}$  and occurred between 7:00 and 8:00 a.m. on October 12, 1995.

The existing unattenuated noise levels due to traffic on SR-76 were calculated to be 70 dB(A) for both hard- and soft-site conditions, at 50 feet from centerline. Existing roadside conditions are characterized as soft-site, though this could change with future development west of the site pursuant to the I-15/SR-76 Interchange Specific Plan (see Land Use/Community Character section of this FEIR). Soft-site conditions occur when the intervening ground between the source and receiver is relatively flat and the ground cover is grass, loose dirt or soft ground. Hard site conditions occur when the intervening ground surface is reflective such as a parking lot or hard ground; or the average elevation difference between the source and receiver is approximately 10 feet or more. The approximate distance to CNEL contours for SR-76 are depicted in Table 7. The contour distances are shown for both hard and soft site conditions.

Table 7. Existing CNEL Noise Contours at the Project Site

Roadway	Distance to CNEL Contours		
	70 CNEL	65 CNEL	60 CNEL
Highway 76 (soft) (assumes soft site begins at 50 ft.)	50 ft.	85 ft.	180 ft.
Highway 76 (hard)	50 ft.	185 ft.	370 ft.





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0 500' 1000'

**Noise Monitoring Locations**

Figure 74

Table 8. Existing + Project Noise Contours

Roadway	Distance to CNEL Contours		
	70 CNEL	65 CNEL	60 CNEL
State Route 76 (soft)	60 ft.	110 ft.	225 ft.
State Route 76 (hard)	70 ft.	185 ft.	495 ft.

## 2. Environmental Impacts

### State Route 76 Traffic Noise

The proposed project would typically generate 514 ADT (Willdan Associates 1995). Total project traffic would consist of 452 heavy trucks and 62 automobiles. It is estimated that 18.75 percent of the heavy truck traffic would operate during the 7:00 to 8:00 a.m. peak hour (Willdan Associates 1995). Of particular concern is the increase in truck traffic. Based on the remote location of the proposed project, a 10/90 percent east/west split from the proposed access onto SR-76 was assumed.

Due to the nature of the construction industry and the timing of projects that use aggregate, Project ADT would have the potential to vary from day to day. Also, weather related delays are often offset by intensified material deliveries to get back on schedule. Therefore, in addition to normal operational ADT, a worst case scenario of a 100% increase in ADT (1,028 trips) was analyzed. According to the traffic analysis prepared by Willdan Associates (1995) no catastrophic failures would occur if truck trips temporarily doubled. The only degradation evident would be the left turn from minor movement for both the ramps. The northbound ramp intersection would be LOS D and the southbound ramps would operate at LOS C.

As a part of the project, the applicant is proposing to expand and realign State Route 76 from the site to Interstate 15. The alignment would primarily affect two existing farm-houses located west of the project site. After the realignment, the distance from the farm-houses to the highway would increase from approximately 50 feet to 135 feet for one house and to 250 feet for the other.

Project generated increases in roadway noise were determined for both CNEL and peak hour  $L_{eq}$ . Traffic noise levels in terms of CNEL were computed, using the Federal Highway Administration (FHWA) Stamina 2.0 computer noise prediction model (FHWA DF-82/001a). The FHWA model uses traffic volume, vehicle mix, vehicle speed, and roadway geometry in computing the equivalent noise levels to determine the CNEL. As a result of the Proposed Project, the existing CNEL of 70 dB(A) at 50 feet from the centerline of SR-76 would increase by approximately 1 dB(A) to 71 dB(A) between the project site and I-15 and decrease at the two existing farm homes adjacent to SR-76, between the project site and Interstate 15. In community noise assessment, noise level increases greater than 3 dB(A) are often identified as significant, while changes less than 1 dB(A) are not discernible to local receptors. Therefore, an increase of 1.0 dB(A) is not considered significant. The distances to the future CNEL contours for SR-76 west of the project site are given in Table 8. Note that these values do not take into account the effect of any noise barriers or topography that may affect future ambient noise levels.

As compared to the existing conditions, the peak hour  $L_{eq}$  would increase by approximately 3 dB from west of the project site to Interstate 15. During the worst-case scenario, the peak hour  $L_{eq}$  would increase by approximately five to six dB west of the project site to Interstate 15. East of the site, the existing daytime noise levels would increase by less than one dB(A) total noise level as a result of the project's traffic. The CNEL would remain essentially the same. During peak hour (7:00 a.m. to 8:00 a.m.) the project would increase noise levels by approximately 0.5 dB(A). The increase would not be discernible to local receptors.

### Quarry Operations

An increase in noise levels generated by the proposed mining operations would result from various sources. These include excavation equipment, drilling, blasting, rock crushing and aggregate sizing operations, asphalt plant and concrete batch plant operations. Each of these operations is discussed separately below. The noise levels are based on anticipated implementation of applicant-proposed noise control measures that are outlined in the following mitigation section. To determine equipment noise levels, noise measurements and published information were obtained for various types of equipment and materials. Although the exact type of equipment used may vary, or change as operations proceed, the following is considered indicative of what may be expected for the Proposed Project.

**Excavation Equipment.** Excavation equipment will work the mining face. Noise measurements for similar mining and earth moving operations made previously are indicative of what may be expected for the Proposed Project, though the exact type of equipment used may vary, or change as operations proceed. An electric power shovel would be operated within the excavation area. Electric equipment is typically quieter than diesel powered equipment of similar size. Several manufacturers were contacted to obtain noise level data for the proposed electric power shovel/excavator, however, this information was not currently available for the size of power shovel required for this project. Therefore, manufacturers of diesel powered shovels were contacted. Based on noise level data provided for a John Deere model 992 excavator, the maximum sound level would be 75 dB at 50 feet. To further reduce noise impacts, resilient materials such as rubber pads shall be installed inside the portable rock crushing unit. Approximately 5 dB of noise attenuation would be expected by using the resilient materials. Therefore, with the resilient materials the portable crushing unit would be expected to generate a one-hour average sound level of approximately 75 dB  $L_{eq}$  at 100 feet. Worst case measurements from existing construction and mining sites, given in terms of the equivalent noise level for the measurement period, are presented in Table 9.

**Drilling.** Drilling equipment would also be used along the mining face. According to Mr. Bing Yen, the project geotechnical consultant, a 3½ in diameter drill bit would be used. One drilling rig will operate 40 hours per week at the project site. Operations will take place during the daytime hours. Drilling operations are expected to remain constant over the lifetime of the project.

Measurements of drilling operations have been conducted by Illingworth & Rodkin. Small diameter rock drills generate average noise levels of approximately 79 dB  $L_{eq}$  at 100 feet. Large diameter rock drills typically generate average noise levels of approximately 81 dB  $L_{eq}$  at 100 feet.

Table 9. Quarry Equipment Source Noise Levels

Source	Source Level ( $L_{eq}$ )
Rock Processing Area	
Secondary Crushers (2)	86 dB per crusher at 25 ft.
Screens	86 dB at 25 ft.
Shorthead Crusher	86 dB at 25 ft.
(With Proposed Enclosure)	
Secondary Crushers <sup>1</sup> (2)	76 dB per crusher at 25 ft.
Screens <sup>1</sup>	76 dB at 25 ft.
Shorthead Crusher <sup>1</sup>	76 dB at 25 ft.
Asphalt Plant <sup>2</sup>	72 dB at 150 ft.
Concrete Plant	82 dB at 100 ft.
Excavation/Drilling <sup>3</sup>	
Power Shovel	75 dB at 50 ft.
Drill Rig	79 dB at 100 ft.
Primary Crusher	75 dB at 100 ft.
(Cumulative)	81 dB at 100 ft.

<sup>1</sup> Assumes crushing and screening equipment is enclosed and resilient materials are placed on the impact surfaces of the screening and secondary crushing units.

<sup>2</sup> Equipment assumed to be similar to the All-American Asphalt Plant in Irvine, CA.

<sup>3</sup> Assumes either electric power shovel/excavator or diesel power shovel with maximum noise level of 75 dB or less at 50 feet; drill rig with noise level of 79 dB at 100 feet; and resilient materials would be placed on the impact surfaces of the portable crusher.

**Blasting.** The mining face would be blasted once a week. Noise levels measured at similar blasting operations by Mestre Greve were used as the basis for determining the noise which would be generated at the proposed Palomar Aggregates site. Blasting noise was expressed in terms of the Noise Ordinance  $L_{eq}$  standard rather than the CNEL standard because it is a relatively infrequent impulsive noise. Measurements were also expressed in terms of A-weighted decibels because, the human ear is less sensitive to low frequency noises than it is to high frequency noises, and the A-weighted noise scale has a frequency correction that correlates overall sound pressure levels with the frequency response of the human ear. The resultant A-weighted maximum noise level is 59 dB(A) at 1,300 feet, which is significantly less than the unweighted peak noise level of 84 dB(A) measured at a low noise frequency of 31 Hz (Hertz: A unit of frequency equal to one cycle per second).

**Rock Crushing and Aggregate Sizing.** Noise measurements have been previously made for operations at existing sand and gravel plants. Based on these noise measurements, the equivalent noise level associated with unenclosed crushers and screens, would be 86 dB  $L_{eq}$  at 25 feet. To reduce noise impacts, screens and secondary crushers would be fully enclosed except for the openings necessary to accommodate the conveyor belts. Also, the screens and crushing units would have resilient materials, most likely rubber linings, installed on the impact surface areas. Several studies have been conducted for the U.S. Bureau of Mines assessing the effectiveness of enclosures, barriers and resilient materials. These studies generally showed noise attenuation of 10 to 15 dB using an acoustical enclosure and an overall 3 to 7 dB noise attenuation using resilient material. The

acoustical enclosure was custom designed and manufactured by an acoustical noise control manufacturer and used sound absorbing materials on the inside surfaces. Assuming the crushers and screens are enclosed and resilient materials are used, the noise level would be approximately 76 dB  $L_{eq}$  at 25 feet as shown in Table 9.

**Asphalt Plant.** Sand and crushed rock will be moved by conveyor belts to the asphalt plant (see proposed location on Figure 6). Aggregate will be dried and mixed with tar in an enclosed rotating drum. Noise measurements at a similar operation, taken at approximately 150 feet from the asphalt plant, yielded an  $L_{eq}$  of 72 dB (see Table 9).

**Concrete Batch Plant.** Sand and crushed rock is also conveyed to the enclosed concrete batch plant where it is mixed in a sealed drum (to prevent fugitive dust pollution) with imported cement. Measurements taken at a distance of 100 feet from a concrete batch plant yielded an  $L_{eq}$  of 82 dB (see Table 9). The loudest noise levels measured from this process were due to the truck engines. The trucks used very high engine speeds while being loaded increasing the engine noise levels. The conveyors and other equipment were much quieter than the trucks.

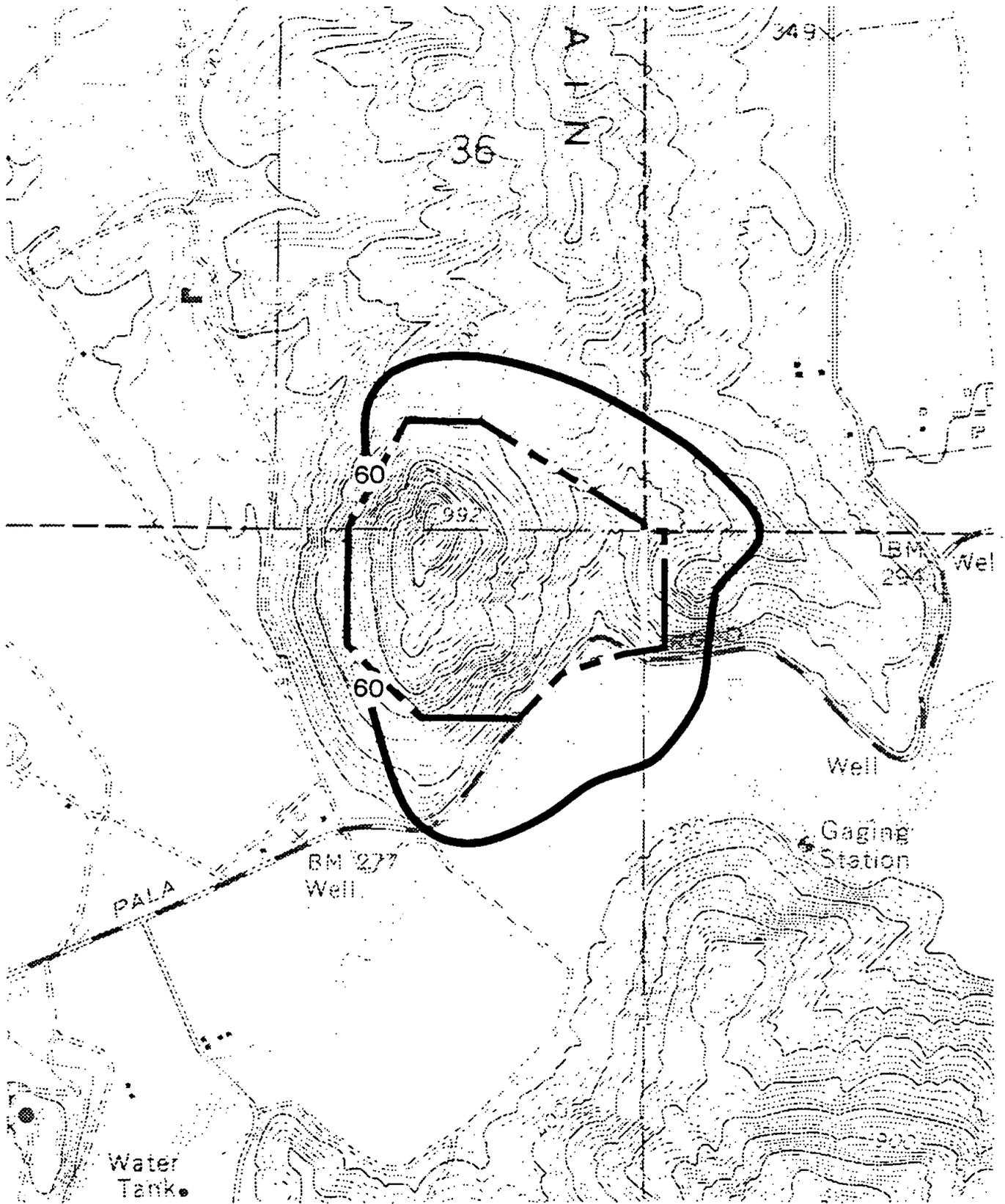
### Cumulative On-Site Noise Impacts

Cumulative on-site noise levels were determined at the permit boundary, areas zoned for residential development on land not owned by the mining property owner/lessor and at the closest existing residential home.

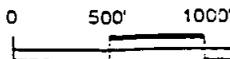
According to the mining plan, the site would be mined so that an earthen barrier would remain between the mining operations and receptors to the north, south, and west. The barrier would attenuate noise levels by 5 to 20 dB(A) depending on the depth of excavation. However, worst-case noise conditions would occur for about one to six months when the initial cut of the mining face is occurring adjacent to the closest permit boundary. Figure 75 depicts the approximate location of the worst case 60 dB noise contour. This contour assumes that excavation equipment is operating at the existing ground elevation, and at the limits of grading adjacent to the closest permit boundary line. Noise attenuation associated with the intervening topography beyond the limits of grading is included. Because excavation operations would continuously be moving lower in elevation, transmission of noise beyond the permit boundary and exceeding 60 dB will gradually be eliminated adjacent to most of the excavation areas. This worst case noise contour location is only applicable until the ground attenuation at the adjacent locations. It should be further noted that sound levels exceeding 60 dB would not be constant, but rather intermittent.

In the following, worst-case noise levels refer to noise levels anticipated when all quarry equipment is operating, and the excavation equipment is operating at the existing ground elevation at the limits of grading, adjacent to the closest major use permit boundary line.

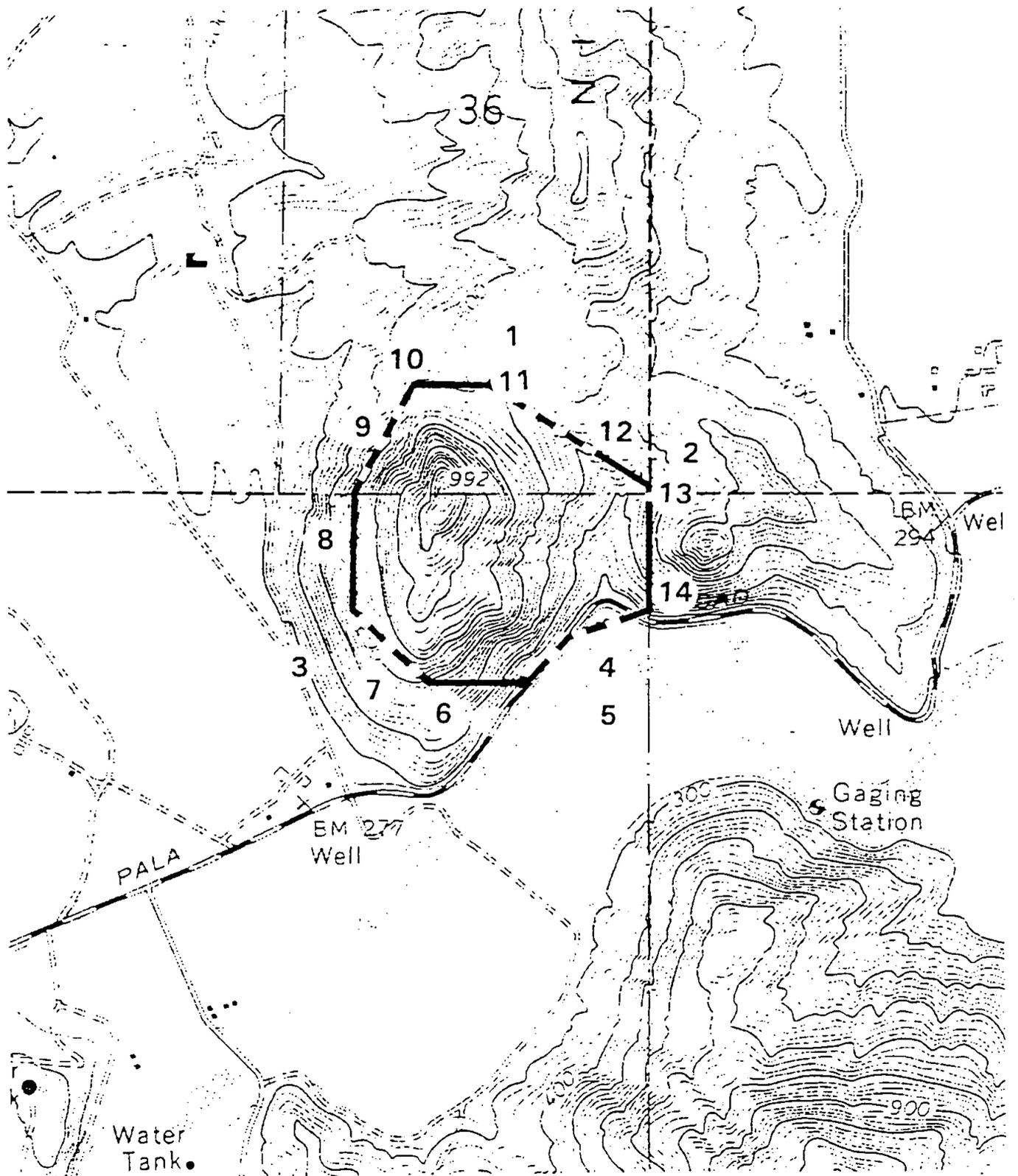
**Permit Boundary.** To determine compliance with the County's noise ordinance criteria worst case noise levels were calculated at the north, south, east, and west major use permit boundaries (Locations 6-14 in Figure 76 and in Table 10). As indicated in Table 10, the worst case noise levels would be hourly  $L_{eq}$ 's of 75 dB(A) (north), 60 dB(A) (south), 72 dB(A) (east), and 44 dB(A) (west).



**Brian E. Mooney  
Associates**

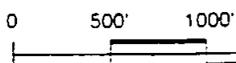
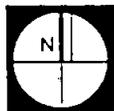


**Worst Case 60 dB One Hour Average  
Noise Level Contour**  
006312 110000 Figure 75



006313

**Brian E. Mooney  
Associates**



**Noise Receptor Locations**

Figure 76

Table 10. Worst Case Cumulative Noise Levels at Various Locations

Location	Description	Worst Case Cumulative Noise Level ( $L_{eq}$ )	Existing Daytime Noise Level
1	Pankey Residence	65	42 <sup>4</sup>
2	Hodges Property	66	45 <sup>3</sup>
3	Future Residential	40	45 <sup>3</sup>
4	South of SR-76	63	
5	South of SR-76	60	
6	Southern Boundary	60	
7	Southwestern Boundary	46	
8	Western Boundary	44	
9	Northwestern Boundary	47	
10	Northwestern Boundary	66	
11	Northern Boundary	75	
12	Northern Boundary	75	
13	Northeastern Boundary	72	
14	Eastern Boundary	72	

<sup>1</sup> Blasting activities would not occur while other activities are occurring and were not included in the cumulative noise level.

<sup>2</sup> Calculations assume worst case conditions (e.g., all equipment operating, excavation and drilling activities occurring adjacent to receiver location.)

<sup>3</sup> Estimated noise level.

<sup>4</sup> Measured noise level (ABC Acoustics 1989).

The project would comply with the 75 dB  $L_{eqh}$  criteria. At the north, south, and west permit boundary locations the noise would primarily be the result of excavation and drilling activities occurring in close proximity to the boundaries. The noise level at the eastern boundary would be primarily associated with the concrete batch plant which is located adjacent to the eastern boundary.

The noise levels at the north, south and east permit boundary locations would exceed the currently allowed sound level limits of 50 dB(A)  $L_{eq}$  during the entire life expectancy of the project. If the project is approved as an extractive industry, then the applicable sound level limit would be 75 dB(A)  $L_{eq}$ .

**Areas Zoned For Residential Development.** There are lands zoned for residential development adjacent to the site which are under separate ownership than that of the mining property. The first area is located 500 feet at its closest point to the project area permit boundary. It is a minimum of 1,200 feet from the nearest location that mining would occur, approximately 1,800 feet from the center of the proposed mining operations, and 2,400 feet from the processing plant (Location 3 in Figure 76). The noise level at this potential residential site was calculated for cumulative on-site operations. The worst-case noise level would be an hourly  $L_{eq}$  of 40 dB (see Table 10). This noise level would comply with the County's noise ordinance sound level limit for extractive industries, and would meet the County's Noise Element guidelines (60 CNEL dB(A)) for future residential development.

The nearest property line where future residential development may occur is to the northeast of the processing plant area (Location 2 in Figure 76). However, this is a remote corner of the 450-acre Hodge Brothers Agricultural Preserve, and is on the back side of a steep ridge. It is unlikely, due to topographic constraints, that residential development would occur in this area, or elsewhere within 1,000 feet of the processing plant. Under a worst-case scenario, the equivalent noise level at 1,000 feet would be 66 dB(A). After excavation in the northeastern portion of the quarry the predominant noise source would be from the processing plant, which would have a  $L_{eq}$  less than 60 dB. Should this remote area be developed prior to the completion of mining activities, additional noise mitigation measures could be required to meet County guidelines. The Hodge brothers understand the potential ramifications of the proposed project and they have written a letter of support (see Appendix J).

**Existing Residence.** The William Pankey residence is the closest home to the project site (Location 1 in Figure 76). This residence is approximately 400 feet north of the permit boundary. As indicated in Table 10, the noise level would be an  $L_{eqh}$  of approximately 65 dB(A). This noise level would not exceed the County noise ordinance 75 dB(A) criteria during worst case conditions, however, as compared to the existing allowable noise level limits of 50 dB(A) and existing noise level during the daytime hours, this would be a significant increase. Impacts to the Pankey residence are not, however, considered to be a significant impact for the following reasons. This condition would occur during a relatively short-term period of one to six months during the initial excavations at areas immediately adjacent to the permit boundaries. During this time, the quarry noise would result in a short-term significant noise impact at the existing residence. Pankey Ranch is the owner and lessor of the mining property and can affect the conduct of mining operations (e.g., hours of operation or equipment used) while this initial cut is being made. The resident of the home has indicated that they have no objection to this short-term noise impact (William Pankey personal communication).

After the initial excavation is made, operations would be below grade and the worst case conditions at the residence would no longer occur. The noise level after the initial excavation is made would be less than 60 dB which includes the attenuation of the intervening topography. As the excavation continues noise levels would eventually be below 50 dB  $L_{eq}$ . The quarry noise at this noise level would be audible but would not interfere with indoor or outdoor activities and would not be considered significant.

Although no adverse noise impacts from on-site operations, except for short-term impacts at the Pankey residence and the vacant land located adjacent to the northeast corner of the site, are anticipated, it should be noted that granting of the major use permit would not preclude application of County Noise Ordinance standards, or determination of a noise nuisance based on complaints from future residents.

### 3. Summary of Impact Significance

Impacts to noise from on-site operations are considered significant but mitigable. Noise sensitive receptors which would be significantly impacted during worst case conditions include the Pankey residence and the vacant residential land located adjacent to the northeast corner of the site.

#### 4. Mitigation Measures

- D-1. Prior to operation, screens and secondary crushers shall be fully enclosed except for the openings necessary to accommodate the conveyor belts. Also, the screens and crushing units shall have resilient materials, most likely rubber pads, installed and maintained on the impact surface areas.
- D-2. Prior to operation, sound absorbing materials on the inside surfaces of the enclosures shall be installed and maintained throughout the life of the permit.
- D-3. Prior to operation, the material used for enclosing the secondary crushers and screens shall have a minimum surface density of approximately 2.0 lb/ft<sup>2</sup>.
- D-4. Prior to operation, the applicant shall demonstrate that the power shovel/excavator does not exceed a maximum noise level of 75 dB at 50 feet. The applicant shall also demonstrate that the drill does not exceed 79 dB at 100 feet. Or, the cumulative noise level associated with the excavation equipment including the portable primary crusher shall not exceed a one-hour average noise level of 81 dB at 100 feet.
- D-5. Prior to operation a minimum 30-foot high berm as measured from pad elevations of the asphalt and concrete batch plant shall be constructed adjacent to SR-76.
- D-6. Prior to operation the permittee shall demonstrate that all moving parts on batch plant facilitates are enclosed in baghouses.
- D-7. Prior to operation, the enclosures shall be designed so that the screens and cone crushers, as well as their support structures shall not contact the enclosure walls or ceilings. All wall to wall, wall to roof, wall to floor joints, and holes cut for control and power lines shall be sealed.
- D-8. Prior to operation, enclosure doors shall be metal with an insulating foam core. Door frames shall have gaskets and seals to provide a tight seal.
- D-9. Prior to the project being placed in operation, noise testing shall be conducted for the proposed equipment. The design noise levels shall be attained for the individual pieces of equipment as shown in Table 9 in the EIR. For excavation/drilling equipment, the individual design noise levels shall be met; or the cumulative noise level associated with the excavation equipment including the portable primary crusher shall not exceed a one-hour noise level of 81 dB L<sub>eq</sub> at 100 feet.

Alternatively, it may be possible that even though an individual piece of equipment may exceed the noise design criteria, that with all of the equipment operating the cumulative on-site operation noise level would still meet the County's noise ordinance limits at the permit boundary. This would result if greater than anticipated noise attenuation is achieved due to intervening topography and structures, or other individual pieces of equipment are quieter than the design criteria. Therefore, if all the equipment is operating, and the cumulative

noise level with equipment that does not meet the individual design criteria would still not exceed the County's noise standard at the permit boundary, then the nonconforming individual piece(s) of equipment would not be required to meet the specific design noise levels in Table 9 in the EIR. This must be shown to the satisfaction of the Department of Planning and Land Use.

- D-10. Every three months for the first year of operation and every six-months thereafter, noise testing shall be conducted along the permit boundary to ensure design noise levels are maintained during ongoing operations. The noise testing protocol shall be conducted in accordance with the County's noise ordinance and performed by a County certified acoustical consultant. Also, this condition specifies that the 60 CNEL exterior noise level shall not be exceeded by the project as measured at any residential building site or other noise sensitive location which may be developed in the future. The results of the noise tests shall be submitted in a written report to the County Department of Planning and Land Use within one week after conducting the noise tests. If the design noise levels are not met, the quarry operator will have 60 days to correct the problem. If after 60 days, the problem has not been corrected, the quarry operator will only be allowed to operate the remaining equipment which will meet the design noise levels. The quarry operator shall fund the noise testing and County's staff time to review the results of the noise tests.

## 5. Summary of Impacts After Mitigation

Mitigation for on-site noise consists of three general measures. The measure required would include the installation of noise control treatments, conducting noise tests on the equipment prior to start-up to ensure successful implementation of the noise abatement treatments, and implementing a noise monitoring plan for the ongoing operation. Potential noise impacts will be reduced to a level below significance.

## E. Air Quality

An air quality analysis of the proposed Palomar Aggregates Quarry was performed by AWR Engineering Group in January of 1988 (Appendix K). This original report was updated in 1991 and 1996 to reflect current regulations. The following section is a summary of the 1996 report.

### 1. Existing Conditions

#### Air Quality Strategies

In an effort to improve the nation's air quality, Congress passed the Clean Air Act in 1970. This Act, and subsequent amendments, required federal air quality standards to be set and enforced by the Environmental Protection Agency (EPA). State and local agencies were also established to develop air quality strategies, monitor compliance with federal standards, and regulate emission sources.

The California Air Resources Board (CARB) regulates of mobile sources of emissions, primarily motor vehicle pollution. Regulation of stationary emissions, such as the proposed aggregate plant and the asphalt and concrete batch plants, is the responsibility of the San Diego County Air Pollution Control District (SDAPCD). This agency also prepares the State Implementation Plan (SIP) and a Reasonable Further Progress Report for the San Diego area.

State Implementation Plans became mandatory after an amendment to the Federal Clean Air Act in 1977. The SIP must address control strategies for the five major pollutants (ozone, carbon monoxide, particulate matter, nitrogen dioxide, and sulfur dioxide). Attainment levels were to be met by 1982; however, for those areas which could not meet this deadline, an extension was given until 1987 to attain the standards. Attainment levels for carbon monoxide, nitrogen oxide and sulfur dioxide have been met for the San Diego region. Compliance with ozone standards continues to be a problem for the San Diego region, related in large part to meteorological conditions which transport ozone from the Orange/Los Angeles County areas to San Diego.

An extension for ozone compliance was received with a requirement to submit a revision to the existing SIP. The SDAPCD revised the SIP in 1994, and is forecasting attainment of the Federal ozone standard by the required date of 1999.

Hydrocarbons and nitrogen oxides emitted from mobile and stationary sources react with sunlight to produce ozone, commonly referred to as smog. The control strategy for ozone is to reduce reactive hydrocarbon emissions, more than half of which are produced by motor vehicles.

Prior to 1987, particulate matter was measured as Total Suspended Particulate. In 1987, the standard was changed to measure only that portion of particulates which are less than ten microns in diameter, known as  $PM_{10}$ . These are the particles which present the greatest threat to human health. For  $PM_{10}$ , the San Diego Air Basin is unclassified.

In addition to the SIP, the APCD is also required to prepare annually Reasonable Further Progress (RFP) Reports to assess progress in attaining healthful air quality in the San Diego region. The

Federal Clean Air Act defines Reasonable Further Progress as "annual incremental reductions of emissions of the applicable air pollutant which are sufficient in the judgment of the Administrator of the Environmental Protection Agency to provide for attainment of the applicable national ambient air quality standard by the date required". The report's primary objective is to reaffirm the validity of claims made in the SIP reports, and to prevent future emission trends from interfering with attainment of air quality standards. The next RFP is expected to continue to focus on control strategies for ozone, which remains the major pollution problem in San Diego.

The major emphasis of the SDAPCD's efforts is on "new source review" which requires regulated activities, such as the Proposed Project, to obtain "Authority to Construct" and "Permit to Operate". Four sets of SDAPCD regulations are applicable to the proposed aggregate plant, hot-mix asphalt plant and concrete batch plant:

- Prohibitive Standards that limit the amount of emissions from each process;
- New Source Performance Standards (NSPS) that require stricter controls for the proposed hot-mix asphalt and aggregate plants; and,
- New Source Review Standards that require Best Available Control Technology (BACT) be applied to all portions of the proposed facility, and that the air quality impacts of all proposed quarry operations be fully evaluated if emissions exceed certain threshold values. BACT is defined as the "maximum degree of air contaminant reduction which the Air Pollution Control District determines is achievable".
- Federal EPA Title V Standards that would require a Federal operating permit if certain annual emission thresholds are exceeded.

The APCD's regulations forbid construction until the entire proposed facility can demonstrate that it would comply with all four sets of standards.

### Local Conditions

The general climate at the proposed project site is largely governed by the semi-permanent high pressure system over the Pacific Ocean and the atmospheric interaction between the cool ocean and the warm desert interior. The San Luis Rey Valley's sub-climate is somewhat warmer than the county's coastal corridor in the summer, and experiences less cloud cover and fog than along the ocean. A morning breeze, resulting from local heating of the east and south facing slopes, travels northwards at the proposed quarry. By mid-to late morning the regional sea breeze penetrates the area and these winds from the southwest and west are generally light until mid-afternoon. A stronger breeze then prevails until late evening, especially in the summer and on the higher hills on either side of I-15. At night the winds are primarily offshore, especially in the winter, when they drain down off the hills surrounding the area and flow south before heading southwest down the river channel. The annual average temperature is 62° Fahrenheit. Winter mornings drop down into the upper 30s and summer afternoons reach the low 90s. Temperature extremes over 100° or much below freezing rarely occur because of the moderating influence of the ocean to the west. Annual rainfall averages approximately 14 inches, most of which occurs from late November until early April.

There are no recent air quality monitoring data available from the Pala Mesa area by which existing compliance with clean air standards can be determined. The nearest San Diego Air Pollution Control District monitoring station is in Escondido, approximately 15 miles to the south of the project site. Of the gaseous pollutants measured at the Escondido monitoring station, only the level of ozone exceeded the Federal clean air standard during the period 1990-1994. The Pala Mesa area is expected to have lower levels of carbon monoxide and nitrogen oxides than Escondido, with little probability of any violations, due to its lower level of urban development.

The nearest PM<sub>10</sub> measurement sites to Pala Mesa are Oceanside (19 miles to the west) and Escondido (13 miles to the south); PM<sub>10</sub> monitoring at these sites show compliance with Federal standards. No violations of the federal annual or 24 hour standard for PM<sub>10</sub> have been recently recorded in San Diego County; however, the state annual standard and 24 hour standards were not met at several county monitoring stations during the period between 1990-1994.

## 2. Environmental Impacts

The major source of air pollutants in aggregate mining and processing activities occurs from the release of dust particles during excavation, processing and hauling. This release of dust is commonly referred to as "fugitive emissions". With respect to a rock quarry, the initial blasting, crushing, and transfer of aggregate are the major sources of fugitive emissions. The emissions generated by blasting are not calculated into the total particulate emission estimate, however, since information on blasting at stone quarries is, according to EPA document AP-42 (Rev 9/88) Section 8.19.2, sparse and unreliable.

If not properly controlled, fugitive dust could be dispersed throughout the area and settle on nearby parked vehicles, structures, outdoor furniture, and foliage. The distance dust would be carried depends on the wind velocity, the particle size, the altitude to which it would rise, and topographical features which would influence air flow. The early morning breezes would carry the dust northward, toward the existing nearby Pankey residence and groveland. By mid to late morning the dust would be carried more to the northeast and east, towards a hill which remains covered with natural vegetation. The western slope of the project site would shield the quarrying activities from the westerly winds, so only the finer particulate which have risen to higher altitudes would be carried by these winds. Beyond the hill to the east are existing farmlands which may receive some of the dust, especially later in the afternoon when the wind velocities have increased. Existing grovelands immediately to the southwest would not receive much dust unless there is no wind or a Santa Ana condition exists.

A second source of air quality impacts is gaseous pollutants which are generated in the preparation of hot-mix asphalt and by combustion emissions from vehicles involved in the mining and transporting of aggregate materials. Only those generated by the production of asphalt are addressed in this report, since the vehicular emissions are a regional issue and would result primarily from the transport of the products for use throughout the area.

### Fugitive Particulate Emissions

Fugitive particulate emissions have been calculated for each source, other than blasting for dust particles less than 10 microns in diameter ( $PM_{10}$ ). Estimates of fugitive particulate emissions, are summarized in Table 11. These estimates are based on application of BACT and other control measures described in this report and on project plot plans.

**Table 11. Estimate of Particulate Emissions ( $PM_{10}$ )**

Source	Pounds/Hour	Pounds/Day	Tons/Year
Processing	12.98	95.1	10.13
Crushing & Screening	8.23		
Asphalt Production	4.36		
Concrete Production	0.39		
Handling, Transfer & Storage	12.27	82.7	9.54
Drilling	0.07		
Material Handling	2.30		
Aggregate Transfer	5.96		
Wind Erosion	3.94		
Haul Roads	14.28	111.0	11.11
Quarry	10.67		
Aggregate	1.99		
Raw Materials	0.37		
Asphalt	0.64		
Concrete	0.61		

Processing particulate emissions generated by the crushing and screening to produce 625 tons/hour of aggregate are estimated to be 8.23 pounds/hour  $PM_{10}$ , and are based upon the assumption that BACT is utilized. Control measures include the use of fabric filters and the use of water/surfactant sprays to create a higher dust control efficiency. The use and/or effectiveness of fabric filters would be:

Jaw Crusher:	90 percent with fabric filter on discharge.
Cone Crushers:	95 percent with fabric filter on discharge.
Screening:	99 percent with covered screen and surfactant.
Recrushing:	99 percent with insertable fabric filter on discharge.

The production of hot-mix asphalt would involve combining various sized aggregate, sand and asphaltic cement and would require a fabric filter (baghouse) system for control of the particulate emissions. Due to the New Source Performance Standards currently in effect, such a baghouse system would provide 60 percent cleaner exhaust than is achieved at existing asphalt plants in San

Diego County. Assuming an asphalt production rate of 350 tons/hour maximum, the  $PM_{10}$  emissions would be 4.4 pounds/hour.

Particulate emissions associated with the concrete batch plant would consist of cement dust and aggregate dust, from the conveyance and unloading of these materials. Control measures would include the enclosure of dumping and loading areas, pneumatic conveyance for transfer of cement, filters on storage bin vents and the use of water sprays. These techniques would provide overall dust control efficiencies of at least 90 percent and limit the  $PM_{10}$  emissions to 0.39 pounds/hour.

Fugitive emissions associated with operation of the rock plant have been identified in four areas: drilling in the quarry area, rock handling in the quarry area, stockpiling and loadout operations in the plant, and wind erosion of stockpiles. Average emissions associated with drilling are calculated to be 0.07 pounds/hour  $PM_{10}$ , based on 250 days of drilling. Material handling within the quarry would involve transferring the quarried material onto the grizzly feeding the jaw crusher. Assuming a handling rate of 625 tons/hour, an estimated 2.30 pounds/hr  $PM_{10}$  fugitive emissions would be generated. The transference of material to stockpiles, load-out bins, and into haul trucks would produce an estimated 5.96 pounds/hour  $PM_{10}$  emissions. This figure is based on the assumption that the material would be moist from water sprays located on each stockpiling conveyor. Wind erosion across the storage piles would generate a maximum 3.94 pounds/hour  $PM_{10}$  fugitive emissions.

In addition to fugitive dust generation from production, traffic within the project site could generate dust from the access road, and thereby increase the level of particulate in the air. It is anticipated that there would be approximately 1,500 round trips per month (68 round trips per working day) associated with off-site delivery of ready-mix concrete, and 3,100 round trips per month (141 round trips per working day) for aggregate or asphalt delivery. Employees and miscellaneous trips would add approximately 31 round trips per day, generating a total "worst case" estimate of 240 round trips per day. Due to SDAPCD's Regulations that require paved haul roads at the facility rather than the chemical stabilization of unpaved haul roads, fugitive emissions would be significantly reduced. Additionally, recent field investigations at similar mineral products industry facilities have shown an 80 percent efficiency in controlling particulate emissions when the road surface is wet swept routinely, coupled with watering the paved surface to further suppress airborne dust emissions.

Assuming that the haul roads are paved, aggregate haul trucks are expected to generate 1.99 pounds/hour  $PM_{10}$  emissions. The importation of asphaltic cement, portland cement, and sand, all of which would be brought on-site in 25 ton loads on paved haul surfaces, would generate 0.37 pounds/hour  $PM_{10}$  emissions, assuming a maximum of two trucks of each type of raw material arriving in any one hour. The hauling of hot-mix asphalt would generate 0.64 pounds/hour  $PM_{10}$  emissions and hauling of ready-mix concrete would generate 0.61 pounds/hour  $PM_{10}$  emissions. Equipment within the quarry is expected to generate 10.67 pounds/hour  $PM_{10}$  emissions while transporting quarried material, assuming the pit-area and adjacent traveled surfaces are watered two times a day (before commencing work in the morning and at lunch time).

SDAPCD's New Source Review Rules utilize three thresholds to determine the District's level of project review. If estimates of particulate emissions exceed 10 pounds/day utilizing standard dust control measures, then BACT is required to be implemented. In addition, a threshold of 100 pounds per day is established to evaluate whether process  $PM_{10}$  emissions once BACT is employed, could potentially cause significant off-site air quality impacts. If this threshold is exceeded, detailed air

quality modeling is required by APCD. As shown in Table 11, PM<sub>10</sub> daily emissions would exceed the 10 pounds/day threshold of Rule 20.2, and BACT would be required for the entire facility.

The maximum of 95.0 pounds/day of process PM<sub>10</sub> emissions, with BACT, would not exceed the 100 pounds/day threshold established by the SDAPCD Standards. These sources are not expected to cause a significant off-site air quality impact and detailed air quality modeling would not be required by the District. The maximum 10.1 tons/year of PM<sub>10</sub> emissions calculated for the facility would not exceed the SDAPCD's threshold of 15 tons/year, so that no emission offsets would be required. The Proposed Project would be in compliance with the SDAPCD Prohibitive Standards, New Source Performance Standards, New Source Review Rules, and Federal EPA Title V Permit Rules.

Fugitive PM<sub>10</sub> emissions would be generated by blasting. As noted above, the U.S. EPA has revised the list of emission factors for crushed stone operations to eliminate the factor for blasting emissions. The EPA cited the sparsity and unreliability of available test data, and specified that the use of previous estimation techniques was to be discontinued. Blasting would be an infrequent source of fugitive emissions at the facility, and emissions which occur on an irregular basis are not usually included in the SDAPCD's summation of hourly and daily emissions. To ensure that dust from blasting does not add to dust from routine operations, all blasting would be conducted on Saturdays.

**Gaseous Emissions**

The utilization of BACT methods were also assumed for predicting the gaseous emissions generated by the production of hot-mix asphalt (Table 12). These emissions are not expected to significantly increase the existing levels of these pollutants in the region. Although hot-mix asphalt production would result in the generation of nitrogen oxides which, when mixed with other pollutants in the presence of sunlight, results in ozone (the gaseous pollutant that already has levels exceeding the clean air standard), the project's off-site impact is very insignificant (Table 13).

**Table 12. Gaseous Emissions From Asphalt Plant**

Pollutant	Stack Gas Conc. (PPM)	Maximum Pounds/Hour	Maximum Pounds/Day
Carbon Monoxide	200	24.5	147.8
Nitrogen Oxides	65	13.2	78.9
Sulfur Oxides	40	11.3	67.6

Emissions of gaseous pollutants from haul trucks can be estimated by using the current California Air Resources Board (ARB) emission factors for heavy duty diesel trucks.

These emissions are:

- Carbon Monoxide = 10.14 grams per mile
- Nitrogen Oxides = 14.12 grams per mile
- Sulfur Oxides = 0.55 grams per mile

Table 13. Gaseous Emissions from Project Operations

Pollutant	Haul Trucks	Asphalt Plant	On-site Equipment	Total Project	All Sources County Wide
<b>Daily Emissions (Pounds)</b>					
CO	158.7	147.8	33.1	340.0	2,800,000
NO <sub>x</sub>	221.0	78.9	176.0	476.0	440,000
SO <sub>2</sub>	8.6	67.6	11.1	87.0	38,000
<b>Yearly Emissions (Tons)</b>					
CO	15.87	14.78	4.14	35.00	511,000
NO <sub>x</sub>	22.10	7.89	22.00	52.00	80,300
SO <sub>2</sub>	0.86	6.76	1.39	9.00	6,935

Total daily miles can be estimated from the daily haul truck trips (452) and mileage to the various destinations (17 miles to Escondido, 11 miles to Temecula, and 18 miles to Oceanside/Carlsbad) noted in the Traffic/Circulation Section of this FEIR. The maximum miles traveled are estimated to be 7,100 miles per day.

These assumptions would yield a total of 158.7 pounds per day of carbon monoxides, 221.0 pounds per day of nitrogen oxides, and 8.6 pounds per day of sulfur oxides.

The daily and annual emissions of gaseous pollutants associated with plant operation, including those from quarry equipment and the asphalt plant, are presented in Table 13, in comparison to county-wide pounds per day and tons per year emissions from all sources.

Under the Federal Clean Air Act of 1970, a comprehensive, basin-wide plan for attaining and maintaining air quality standards is required. The State Implementation Plan Revisions forecast the level of emissions anticipated in the future, including the planned growth of new sources. The San Diego Association of Governments population projections were used for such forecasts.

Since the Proposed Project does not, itself, create growth, but rather provides construction materials to support planned growth, it would not conflict with state or local air quality programs.

The impact of all project-related emissions is both local and regional in nature. The very fine particulate generated on the property, as well as the emissions generated by heavy-duty trucks traveling within the County, would be distributed throughout the San Diego Air Basin and add to the cumulative effects of pollution-generating activities within the region.

### 3. Summary of Impact Significance

Air quality impacts are significant but mitigable. All significant impacts would be mitigated to a level below significance with implementation of Best Available Control Technologies and specific project design features including enclosures, screens and filters.

#### 4. Mitigation Measures

The following operational requirements, which appear as notes on project plans and/or assumptions in the technical report as Best Available Control Technology, represent current SDAPCD standards and shall be followed in project operations. Monitoring and compliance with these operational techniques are included in the Mitigation Monitoring program for the project. Implementation of the following air pollution control measures, together with the SDAPCD permitting requirements would adequately mitigate potential air quality impacts.

- E-1. As a condition of operation, no blasting shall take place when wind velocity equals or exceeds 15 miles per hour. A licensed blasting contractor shall determine wind speed through the use of an anemometer located a minimum of 10 feet above ground level near the on-site project office.
- E-2. As a condition of operation, dust emissions from all crushing operations shall be controlled by venting to a fabric filter system.
- E-3. As a condition of operation, stockpiles of sand shall be kept moist or shall be watered before reaching transfer points.
- E-4. As a condition of operation, visible emissions from transfer points shall not exceed 20 percent opacity at any time.
- E-5. As a condition of operation, unpaved haul roads will be chemically stabilized to minimize dust emissions to below the requirements of APCD Rule 50 (20 percent opacity). In lieu of chemical stabilization, watering of haul roads at least every two hours will be required.
- E-6. Initial clearing of areas to be mined, including removal and stockpiling of topsoil, shall be accompanied by surface watering to control dust generation.
- E-7. As a condition of operation, the area traversed by the quarry equipment shall be watered two times a day (once prior to commencing work in the morning and once at mid-day).
- E-8. As a condition of operation, screens and secondary crushers would be fully enclosed except for the openings necessary to accommodate the conveyor belts.
- E-9. As a condition of operation, other dust control methods, as necessary, must be applied to any dust-producing condition which may develop at the borrow pit, which would result in a nuisance from this operation (APCD Rule 51).
- E-10. As a condition of operation, the transfer of cement shall be only by pneumatic conveying. There shall be no leaks of cement dust to the atmosphere anywhere within the transfer system.
- E-11. As a condition of operation, the hot-mix asphalt plant shall have a fabric filter (baghouse) system.

- E-12. As a condition of operation, covers for hot-oil storage tanks must be kept in place unless the tanks are being filled. The condenser system for fugitive blue-smoke emissions shall be fully operational.
- E-13. As a condition of operation, the temperature of batched hot-mix asphalt shall not exceed 330° F.
- E-14. As a condition of operation, loading bins shall be enclosed.
- E-15. As a condition of operation, water sprays shall be used during the loading/unloading operations for aggregate and stockpile materials, if visible emissions are present.
- E-16. As a condition of operation, quarry operations shall shut down when wind speed exceeds 20 miles per hour as determined by an on-site anemometer.
- E-17. As a condition of operation, only unleaded gasoline and diesel fuel containing less than 0.05% sulfur shall be used in the on-site equipment.
- E-18. As a condition of operation, the project shall comply with all APCD rules and regulations applicable to new quarry operations, including APCD Rule 20.2.

## 5. Summary of Impacts After Mitigation

Based on the use of these air pollution control techniques which would control emission below threshold levels considered significant by APCD (i.e., 100 pounds/day of process PM<sub>10</sub> emissions), no significant air quality impacts would result from the project as proposed.

## F. Hydrology/Erosion Control

The following discussion is based on information provided by Simons, Li & Associates, Inc., in December of 1988. Two reports were prepared, one covering the project impacts to hydrology, drainage and erosion and the other specifically focusing on the potential impacts of the proposed SR-76 realignment. The realignment studied in the latter of the two reports was to have four lanes in front of the project site. The currently proposed realignment proposes only three lanes in front of the project site. A letter addressing the one-lane difference in hydrologic impacts has been included in this report as Appendix L.

### 1. Existing Conditions

#### Topography

The 96.4 acre project site consists of a hill located at the southern end of Monserate Mountain which reaches to a height of 992 feet AMSL. Elevations drop to approximately 600 feet AMSL on the north side and to about 300 feet AMSL on the east, west and south. Existing slopes on the site range from approximately 57 percent on the east to approximately 33 percent on the south.

#### Soils and Vegetation

Analysis of surface materials, borings and other tests indicate that the project site is largely composed of solid rock. An intermittent layer of sandy loam and decomposed granite occurs in the flatter portions of the site. Those portions of the site with slopes in excess of 40 percent usually consist of bare rock as soil masses are unstable on such slopes. Vegetation consists of bermuda grass and sagebrush sparsely occurring on the west facing slope with a heavier concentration occurring on the east facing slope. Oaks, small to medium in size, occur in scattered locations on the site.

#### Rainfall and Drainage

Mean estimated rainfall at the site is approximately 13.7 inches per year. In general, the project site drains to the south into the San Luis Rey River. More specifically, the site can be divided into three drainage areas that will be referred to as Sections 1-3. Section 1 on the east slope, drains into a small canyon which passes through an 18-inch culvert under Highway 76 and then into the San Luis Rey River. Section 2 on the south slope, has channels at the foot of the slope which drain water parallel to Highway 76 and then pass it into the San Luis Rey River. Section 3 on the west slope drains into a large, relatively flat region located west of the site which, in turn, drains into a tributary channel approximately one-half mile west of the project. Table 14 indicates the runoff calculated for each of the three sections of the site.

#### Existing Soil Loss

Typically, slopes of 40 percent or greater have a minimal sediment yield since most of the soil has been previously eroded exposing the bedrock. Thus, with respect to the project site, most of the soil loss currently occurs along the southern and eastern slopes. To assess the erosion potential of the site, a soil loss equation was applied to those areas of the site subject to surface erosion. The total soil loss for the site is currently 211 tons per year. This value is the amount of soil that is removed

**Table 14. Runoff at Project Site (Existing Conditions)**

Section Number	Area (acres)	Average Runoff (cfs)	Peak Runoff (cfs)
1	80	12.2	84.6
2	36	5.5	45.5
3	68	10.4	61.1
<b>Total</b>	<b>184</b>	<b>28.1</b>	<b>191.2</b>

Source: Simons, Li & Associates, 1987

by rainfall and is not necessarily the amount that leaves the site, as some on-site deposition may occur. The value can be used, however, as a conservative estimate.

### Floodplain

According to the most recent Hydrological studies prepared for this project (Simons, Li & Associates 1988 and 1995), SR 76 forms the north boundary of the San Luis Rey floodplain along the entire length of the Proposed Project. The County floodplain map (1976), depicts the San Luis Rey floodplain just south of State Route 76 and the project site (Figure 77). Although this is the only official floodplain map available, it does not necessarily represent current conditions due to the recent sand mining operations that have been conducted within the riverbed south of the project site.

## 2. Environmental Impacts

### Drainage

Initial mining of the project site will occur on the east slope in Section 1. Approximately 42 acres of Section 1 would not be impacted by the Proposed Project; however, at the maximum mining configuration, 41 acres (hereafter referred to as Section 1a) would be within the rim of the pit and in the processing area. All runoff for Section 1a would pass through a sediment retention basin to be constructed on the east boundary of the site. This basin would allow for any increase in sedimentation resulting from the mining to be trapped on-site. As the mine cut crosses the drainage boundaries, the excavation will be designed to cut into Section 3 and alter the boundary of Section 2. As a result, the existing area of Section 3 would be decreased by one acre and the area of Section 2 by two acres. Table 6 of the Hydrology, Drainage and Erosion Control Study prepared by Simons, Li & Associates (1990) shows revised runoff estimates which would result from implementation of the Proposed Project. These are summarized here in Table 15.

### Soil Loss

The amount of soil loss which would occur as a result of project implementation would increase from 211 tons per year to 267 tons per year. However, since vegetation and soil are to be removed only in the area being mined, most of the site will be either in its natural vegetative condition, or be solid rock. To prevent the formation of gullies, culvert pipes would be constructed beneath the access road. The major new source of sediment runoff will be the processing plant and its slopes. Since the detention basin will intercept this runoff, there would be no net increase in sediment entering the San Luis Rey River.

Table 15. Runoff at Project Site (Proposed Project Conditions)

Section Number	Area (acres)	Average Runoff (cfs)	Peak Runoff (cfs)
1	42	6.4	44.4
1a	41	6.3	43.4
2	34	5.2	43.6
3	67	10.3	60.6
<b>Total</b>	<b>84</b>	<b>28.2</b>	<b>192.0</b>

Source: Simons, Li & Associates, 1988

Figure 78 shows the design of the proposed sediment basin. Runoff from the site would slow down as it enters the basin, thereby allowing sediment to drop out. Water would then leave the basin through a riser pipe and a perforated dewatering pipe. During periods of heavy rainfall, water from the sediment pond would be diverted into an emergency spillway, beneath SR-76 to the San Luis Rey River.

The proposed location of the sediment retention basin is shown in Figure 78. The basin is sized according to the expected average discharge, which is about 6.3 cfs, and the settling velocity of the smallest particle to be trapped. The settling depth of the basin will be at least two feet to prevent scouring at the inlet and the basin would have an overall average depth of four feet. With a two foot storage depth, the basin would only need to be cleaned out once every two years. Thus a triangular basin approximately 230 feet long, 30 feet wide and four feet deep would be sufficient to trap mining sediment on-site. The inclusion of this basin as part of the project design eliminates significant adverse impacts to drainage and soil loss.

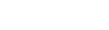
### Floodplain

The Proposed Project would impact the floodplain and floodway of the San Luis Rey River with the planned relocation of SR-76. The road will be constructed with a 2:1 slope adjacent to the SR-76, with riprap slope protection. Willow cuttings would be placed within the riprap as recommended in the Biology section of this report as well as appropriate shrubs and ground cover (see Figure 31).

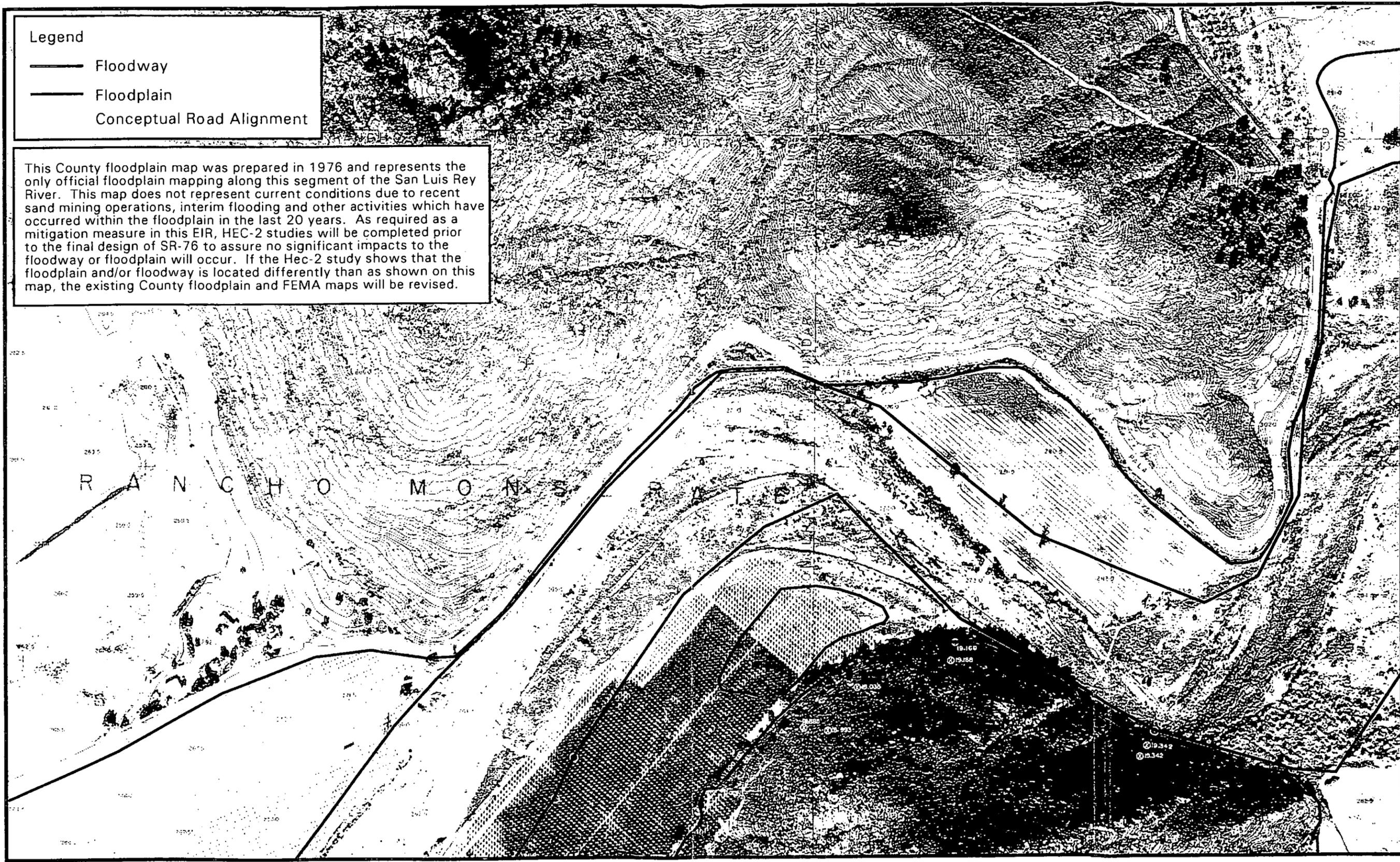
The proposed realignment of SR-76 affects Segment 1 along the southern project boundary and Segment 2, about 1,000 feet downstream from the project site. Construction of Segment 1 involves the placement of an additional highway lane adjacent to the existing SR-76 roadway and to the elimination of the short radius curve at the entrance to the processing area. Although the revised project proposes to add one lane to the existing SR-76 roadway, the hydrologic impact was evaluated with the addition of two lanes which represents the worst case requirement by Caltrans. The impact from this construction in the floodplain during a 100-year flood event would not change the water surface elevations upstream or downstream. In the vicinity of Segment 1 during a 100-year flood event, flow velocity would increase by approximately 2.66 feet per second and the surface level rise approximately 1.12 feet.

Within Segment 1, the river is confined by the southern side of Monserate Mountain and northern side of Lancaster Mountain. Therefore, with the exception of the portion of the floodplain into which the realigned SR-76 would encroach, the boundary of the floodplain would not be altered.

**Legend**

-  Floodway
-  Floodplain
-  Conceptual Road Alignment

This County floodplain map was prepared in 1976 and represents the only official floodplain mapping along this segment of the San Luis Rey River. This map does not represent current conditions due to recent sand mining operations, interim flooding and other activities which have occurred within the floodplain in the last 20 years. As required as a mitigation measure in this EIR, HEC-2 studies will be completed prior to the final design of SR-76 to assure no significant impacts to the floodway or floodplain will occur. If the Hec-2 study shows that the floodplain and/or floodway is located differently than as shown on this map, the existing County floodplain and FEMA maps will be revised.



**Brian F. Mooney Associates**



0 200' 400'

County of San Diego Floodplain Map

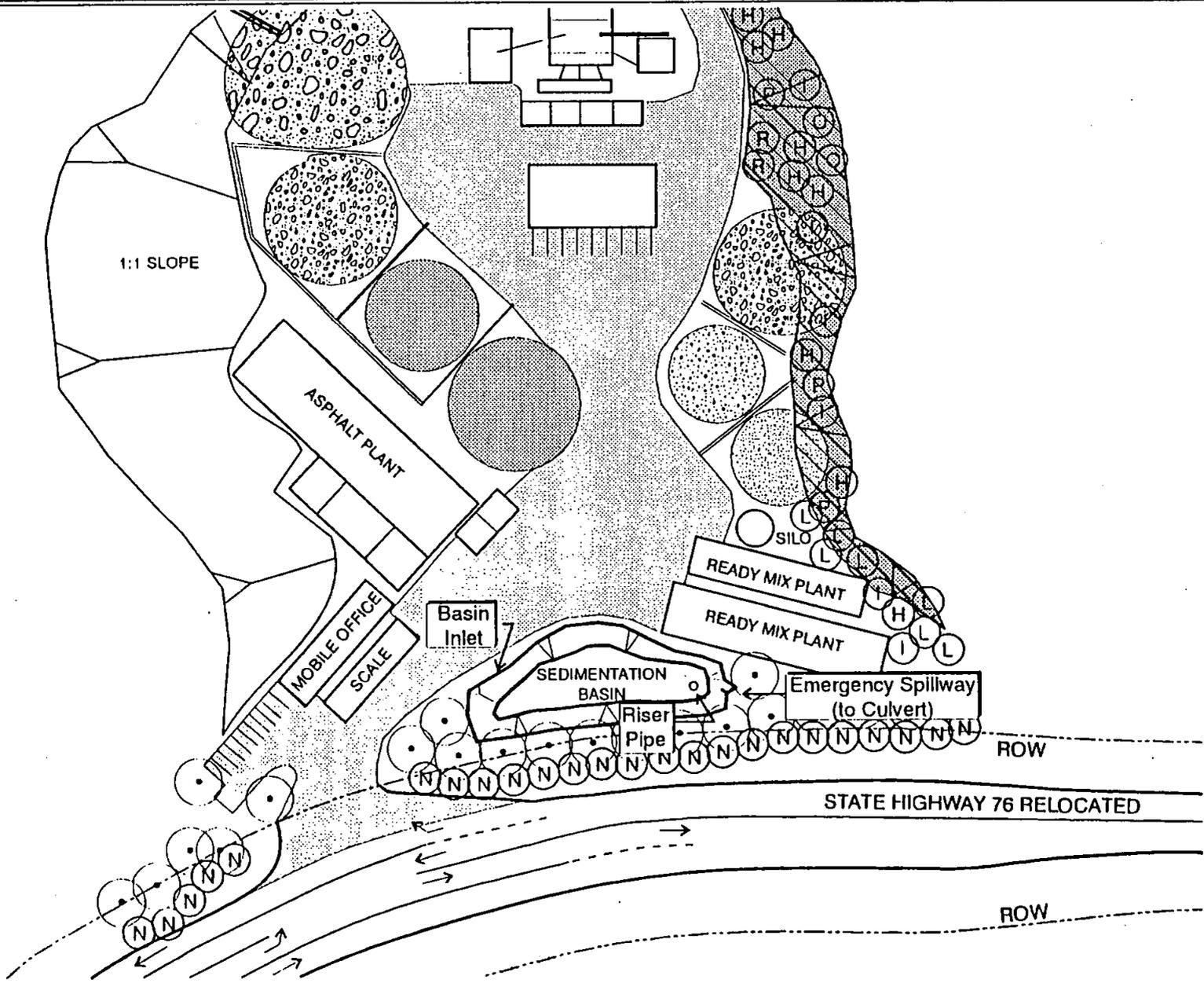
Figure 77

SOURCE: County of San Diego 1976

Palomar Aggregates Quarry EIR

00633C

006331



**Brian F. Mooney Associates**



0 50' 100'

**Preliminary Plan of Sedimentation Basin**

**Figure 78**

Segment 2 of the SR-76 realignment would not affect the flow in the San Luis Rey River. This segment would reroute the roadway through a cultivated area which is an ineffective flow zone in the floodplain.

As a result of the combined impacts of both segments, the sediment transport capacity of the river in the reach adjacent to the proposed realignments would increase from approximately 825 cfs to approximately 900 cfs under the 100-year flood peak discharge. This implies about a nine percent increase in channel bed degradation along the realignment of SR-76.

All calculations were made assuming that the originally proposed four lane road was to be built by the proponent. The new project which proposes a widening to three lanes would further reduce already acceptable impacts as calculated for the four lane proposal.

### 3. Summary of Impact Significance

Impacts to Hydrology/Erosion Control are considered not significant because the proposed project has been designed to include culvert pipes and a sedimentation basin to minimize erosion and soil loss impacts. Impacts to the San Luis Rey River floodplain would be significant and require mitigation as part of the sedimentation basin design.

### 4. Mitigation Measures

With the implementation of the following project design elements and mitigation measures, potential hydrological and erosion related impacts will not be significant.

- F-1. Upon relocation of SR-76, riprap bank protection shall be constructed along the south side of SR-76 to the satisfaction of the Department of Public Works and Caltrans consisting of a 30 inch blanket of rip-rap with a median size of 18 inches and a 12 inch layer of gravel filter along the alignment of SR-76.
- F-2. Prior to relocation SR-76, a HEC-2 computer analysis shall be prepared for review by the County Department of Public Works. Provide the basis for appropriate flood control measures regarding flood hydraulics, erosion and sedimentation (as related to the site and adjacent properties); fill bank stabilization and installation of new riparian vegetation on the fill bank for the road. If warranted by HEC-2 analysis, an 18-inch blanket layer of riprap and a 6-inch layer of gravel filter extending from the toe of the bank about 100 feet to the river shall be constructed. If the Hec-2 study shows that the floodplain and/or floodway is located differently than as shown on the County floodplain map (Figure 77), the County and FEMA floodplain maps will be revised.
- F-3. Prior to construction of the processing facilities, a sedimentation basin capable of handling a minimum of 6.3 cfs shall be designed and constructed to the satisfaction of the San Diego County Water Authority (SDCWA), the Department of Public Works and the Regional Water Quality Control Board (RWQCB) prior to commencement of quarry operations. It shall be at least two feet in depth with an overall depth of four feet, and be lined with vinyl or concrete. Design of the sedimentation basin shall include an emergency spillway to divert drainage during heavy rainfall beneath SR 76 to the San Luis Rey River.

- F-4. As a condition of operation, all runoff from the mined area shall pass through the proposed sedimentation basin.
- F-5. As a condition of operation, the sediment basin shall be maintained. Once a year it shall be cleaned out and the resulting sediment recycled into the concrete and asphalt production process.
- F-6. Prior to operation, a standard grease trap shall be installed at the sedimentation basin to the satisfaction of the Department of Health Services for contaminant removal.
- F-7. As a condition of operation, silt material shall be cleared from the project site following each storm event.
- F-8. Prior to operation, culvert pipes shall be designed and constructed underneath the access road to prevent gullies from forming.
- F-9. Prior to construction, all required RWQCB permits to operate and construct shall be obtained.

## 5. Summary of Impacts After Mitigation

Hydrologic and Erosion related impacts would be reduced to level below significance with the implementation of the above mitigation measures. The proposed sedimentation basin would prevent any increase in the total amount of sediment entering the San Luis Rey River and potential floodplain impacts shall be mitigated by the preparation, by a registered civil engineer, of a HEC-2 computer analysis for review by the County Department of Public Works. This analysis will provide the basis for appropriate flood control measures regarding flood hydraulics, erosion and sedimentation (as related to the site and adjacent properties); fill bank stabilization and installation of new riparian vegetation on the fill bank for the road.

## G. Groundwater

### 1. Existing Conditions

The project site is located within the San Luis Rey Hydrographic Unit of the San Diego Area (which includes a portion of southern Riverside County) Water Quality Management Planning Area. This hydrographic unit contains some 565 square miles drained by the San Luis Rey River. The Monserate Range is the divide between two groundwater basins: Pala Basin to the east and Bonsall Basin to the west, both of which drain through tributaries into the San Luis Rey River. The project site, however, sits in a "notch" in the Monserate Range of approximately 120 acres and drains directly into the San Luis Rey River, rather than into one of the above-mentioned basins (Figure 79).

The source of groundwater within the San Luis Rey Hydrographic Unit is the Pala Basin. Although there are no detailed studies on the amount of groundwater available within the basin, studies conducted by the San Diego County Water Authority have estimated 50,000 acre feet of storage capacity to be available (Buck 1991). Using a conservative estimate for groundwater recharge, the actual basin would contain between 10,000 and 12,500 acre feet.

Historically, the Pankey Ranch has utilized over 1,800 acre feet annually from this basin for agricultural purposes, peaking in the early 1960s. Specifically, according to William Pankey, the Pankey Ranch obtains most of its water from three wells equipped with diesel-powered turbine pumps. Two smaller wells also exist on the Ranch property. In the recent past, an average of 1,003 acre feet of water have been pumped from the three turbine wells to irrigate approximately 250 acres of citrus and avocado groves. Before selling land to the proposed Hewlett-Packard plant site, an additional 350 acres of row crops and alfalfa were also irrigated from on-site wells. Figure 79 shows the Pankey Ranch wells and other nearby well locations.

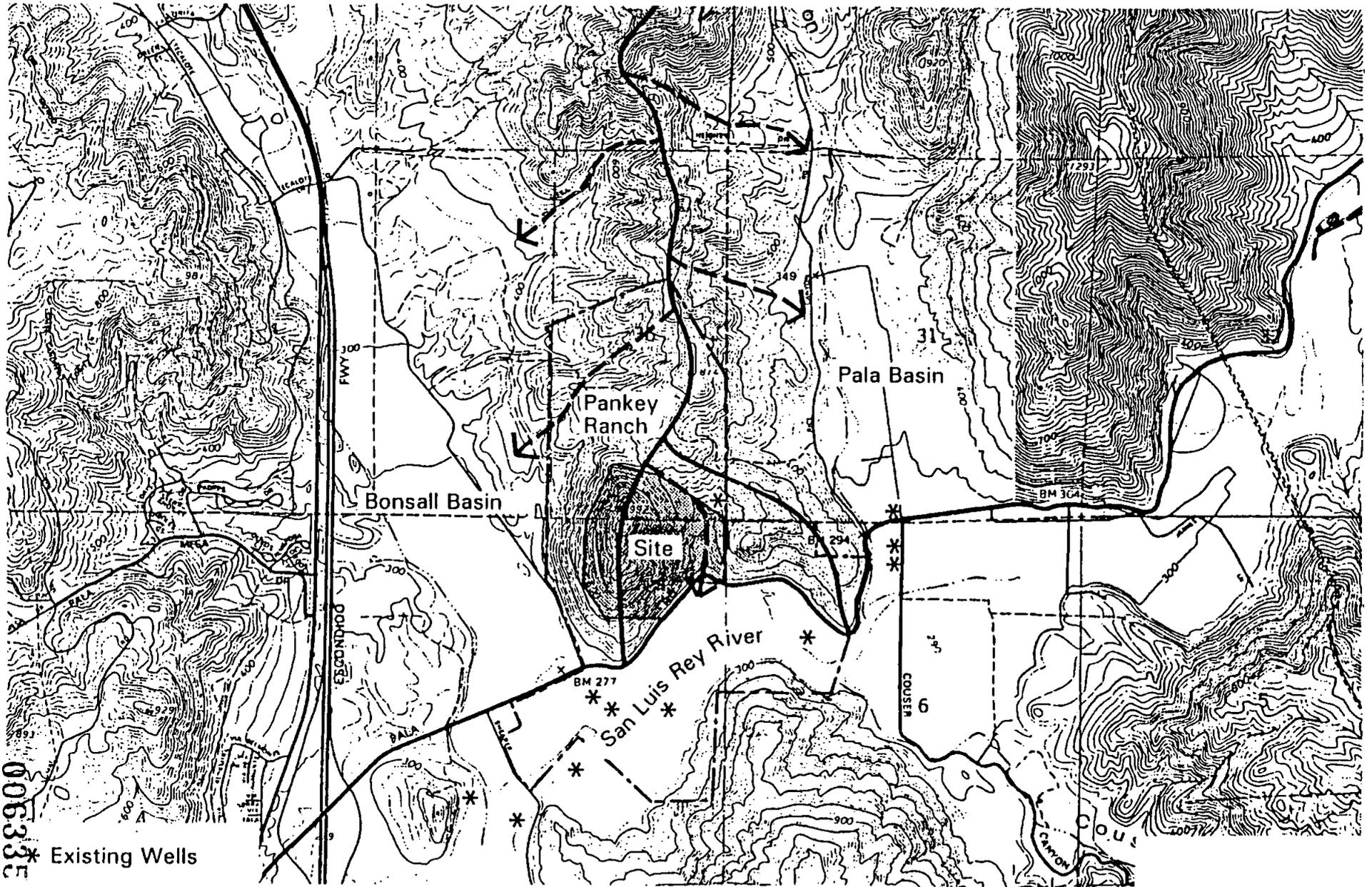
The project site is also located within the San Luis Rey Municipal Water District. All District water users typically pump water from wells in the San Luis Rey River basin. The San Diego Aqueduct crosses the San Luis Rey River approximately one and one-half miles to the east of the project. With regard to the aqueduct, the San Diego County Water Authority reports that they are conducting very preliminary studies on potential groundwater storage of imported water from the aqueduct, as an alternative to open storage in reservoirs. They have indicated that prevention of groundwater degradation in the river basin is important to the continued viability of this groundwater storage concept.

The San Luis Rey Municipal Water District has indicated that sufficient water resources are available to service the requirements of the proposed quarry.

### 2. Environmental Impacts

#### Groundwater Use

The proposed mining project would rely almost entirely on groundwater resources for project operations. Initially, a well was proposed to be located at the plant site; however, based on the availability of water from existing Pankey Ranch wells, no new well is planned at this time. Bottled



006333E  
\* Existing Wells

**Brian F. Mooney  
Associates**



0 1000' 2000'

**Drainage Basins**

Figure 79

water would be used for employee drinking water and handwashing. The primary use of groundwater will be for dust control in the rock crushing and sorting process and to wet down working areas; and for concrete production.

Minor amounts of water would also be used for landscape irrigation, sanitation, and equipment maintenance. Estimated water use is described below and summarized in Table 16.

Table 16. Water Use Summary

1. Dust Control	31,400 g.p.d.
2. Concrete Production	24,888 g.p.d.
3. Landscaping, etc.	8,000 g.p.d.
<b>Total</b>	<b>64,288 g.p.d.</b>

1. Dust Control. Water is added at nearly all phases of mining, processing and hauling in order to reduce "fugitive" dust emissions. (See also the Air Quality section of this report.) At the quarry face, the initial blasting and crushing are dry processes; however, water is used twice per day to surface water the area where the front-end loader is working to load the jaw crusher. Also, a fine spray is used on material discharged from the crusher. In the plant area, each crusher and screen receives a continuous fine spray of water with a surfactant added to increase dust control efficiency. The maximum water flow at each spray will be 5 gallons per minute over a maximum daily time period of 7 hours. As shown on the rock crushing diagram (see Figure 12), there are 4 crushers and 5 screens which would receive water for dust control. Therefore, 5 gallons per minute x 60 minutes x 7 hours x 9 = 18,900 gallons per day.

Other water use for dust control will be for surface spraying of working plant site roads, and stockpiles of crushed rock being loaded into trucks or hoppers. This is normally the responsibility of a 6,000-8,000 gallon water truck operating up to 5 times per day. Assuming an 8,000 gallon (1,000+ cubic feet) capacity of a water truck, a 12-foot wide spray area, speed of 10 miles per hour (i.e., 880 linear feet/minute), total distance travelled within the plant area of one-half mile, and water depth of -inch, the water truck would deliver approximately 2,500 gallons in each wetting operation. Maximum expected water use by water truck operations is not expected to exceed 12,500 gallons per day. Current APCD rules would not require a "spray bar" for haul trucks leaving the site, based on the quantity of fugitive emissions calculated in the R & W Consultants Air Quality Study (1991).

It should also be noted that, while not necessarily required by APCD, all on-site haul roads are to be paved once the asphalt plant is in full operation, thus reducing haul road watering requirements. Also, full mechanization of the plant will reduce the need for front-end loaders to move material on-site. Based on the planned paving of on-site roads described on the plot plan, water truck operations are expected to be reduced by one-half within 5 years.

2. Concrete Production. Concrete requires approximately 30 gallons per yard, or 21.4 gallons per ton. For a 15 ton transit-mix truck, this equates to 321 gallons. With the expected output of 68 transit-mix truckloads per day, water use for concrete production will be 21,828 gallons per day. In addition, it is assumed that each concrete truck will make 4 to 5 runs per day, which will require 14 to 17 trucks, each of which has a water storage tank of 90 gallons used for "tempering" concrete at the job site. Typically, there would be a net use of 20 gallons per truckload, and 100 gallons for washdown. These water requirements would use an additional 3,060 gallons per day. Total water used by concrete batch plant operations will be 24,888 gallons per day.
3. Landscape Irrigation, Sanitation and Maintenance. These are relatively minor uses of on-site water which are estimated to require not more than the equivalent of one water truck, or 8,000 gallons per day.

Based on 260 maximum expected work days per year, at maximum production rates, approximately 16,714,880 gallons per year would be consumed by the Proposed Project, which is equivalent to 51.4 acre-feet per year. This amount of water usage combined with the existing agricultural consumption totalling 1054.4 acre feet, will fall within the historic parameters (1,000 to 1,800 acres foot) of the Pankey Ranch, and will not significantly impact ground water resources. The water use estimates do not include use of recycled water from the sediment pond at the plant site (see Figure 78). This pond would collect runoff both from watering operations at the plant, as well as from rainwater and grove runoff from the north. The plot plan notes that a pump is to be used to refill the water truck. By keeping the pond water level as low as possible, storage capacity for sediment-laden runoff, mosquito control, and pond clean-out is improved. Based on the historic usage, the existing on-site agriculture consumption, and the future use of reclaimed water, impacts to groundwater availability are not considered significant.

### Water Quality

Normal concerns with river pollution from aggregate washing (which requires Regional Water Quality Control Board approval) will not be a concern and the need for RWQCB approval is not anticipated (see also Hydrology/Erosion Control section). Aggregate mining often involves washing of sand or rock in order to clean the product prior to sizing. In the proposed operation, the rock has virtually no waste product, so that washing is not required (unlike rock crushing operations in Mission Valley where "cobble" is mined from the Friars Formation with up to 50 percent of the material being soil which must be washed from the rock). Additional concerns include the effects of surfactants, run-off due to washing of concrete trucks and petroleum products; however, no impact to groundwater is anticipated. The surfactant to be used in the dust control program is an inert, biodegradable chemical which is approved by EPA (Johnson-Marsh Compound MR, or equivalent). Run-off due to rinsing of the drum of each concrete truck would be minimal. According to Lou Erlabough, Vice President of Standard Ready Mix in Santa Ana, water or a combination of water and chemicals is used to prevent cement from drying in the drums. The water or water/chemical mixture is left in the trucks overnight and mixed with the next day's batch of concrete. It is not drained from the truck. Petroleum products would be used to produce asphalt at the proposed batching plant, but all drainage from the area would be properly contained in the proposed sediment

pond. A standard grease trap would be installed in the sediment basin riser pipe to ensure that no petroleum products are drained from the pond.

The San Diego County Water Authority has reviewed the Proposed Project plans and has requested that the sediment pond be lined with a vinyl liner or concrete to avoid potential impact to groundwater from truck fuels or other petroleum products which might wash into the pond. This requirement has been added to the plot plan. The plot plan and project description have also been sent to the Regional Water Quality Control Board for review. Although this agency has not responded to date, the project may require approval from this agency.

### **3. Summary of Impact Significance**

Impacts to Groundwater are considered less than significant since adequate groundwater is available from the existing well. Impacts to water quality would be considered significant but mitigable with implementation of the Hydrology/Erosion Control mitigation measure requiring the construction of a lined sediment pond and grease trap.

### **4. Mitigation Measures**

No mitigation measures are required for groundwater resources. Potential impact to water quality would be mitigated to a level below significance with construction of the lined sediment pond and grease trap described in the Hydrology/Erosion Control Section.

### **5. Summary of Impacts After Mitigation**

Water Quality impacts will be mitigated to a level below significance with construction of the lined sediment pond with grease trap described in the Hydrology/Erosion Control Section of this FEIR.

## 2. Environmental Impacts

Mining of the site as proposed would be done by drilling and blasting of the granitic bedrock which underlies the surface of the hill. An amphitheater-like configuration would be created with slopes reaching up to 80° on the faces of the 3-sided quarry. The selection of an 80° maximum excavation slope is in accordance with the Industry Safety Code (Article 12, Section 6.9 (e)) governing excavation of sand, gravel and similar material where the face of the excavation is composed of "firmly cemented or consolidated material". Other than the soil mantle, the rock found at the proposed site is firmly cemented or consolidated material. A step-by-step mining plan consisting of an initial benched cut was developed. Initially, benches would measure a maximum of 33 feet in height and a minimum of 66 feet in width. The height of the slope would be increased only if field conditions are suitable as determined by a qualified geotechnical engineer or geologist, and after the 33 foot section of final cut and sculpted face is draped with anchored wire mesh.

Flattened slopes, benches and/or rock anchors in the mine face, would be used where unfavorable joints of the rock structure would not permit an 80° excavation face. Current downhole geophysical test results suggest that the east facing slope, where the maximum cut is located, would enable an 80° excavation slope to be established once the weathered zone is removed. Current data also suggest that one or two tiers of benching may be required in the northwest portion of the pit (south-east facing slope).

As noted under Project Description, blasting would take place approximately once a week by a licensed blasting contractor. Approximately 140 blast holes would be drilled and then triggered sequentially. The actual detonation is very quick with about 100 blasts in a two-second period. Detonation will be scheduled for mid-morning or early evening hours to minimize disturbances to surrounding residents. Blasting-induced vibration and noise can be controlled by the blasting engineer by varying the fuse delay, stemming, and the drilling of satellite holes. Potentially significant public safety impacts associated with implementation of the proposed mining and blasting plan are analyzed below.

### Structural Damage

Vibrations from blasting would be noticeable only at the nearest structure to the site, the William Pankey residence. It is important to note that vibrations noticeable to humans are frequency dependent and the amplitude is generally several hundred times smaller than the threshold vibrations to cause damage to structures (Bing Yen and Associates 1990). Estimated particle velocity, derived from the empirical formula developed by the U.S. Bureau of Mines and other references, suggests that the vibrations would be noticeable but far less than that which would cause structural damage. As the impact would not cause structural damage, and would only be noticeable for a few seconds once a week, it is not considered significant.

The concrete-lined pond located near the northern portion of the project site may, however, be structurally damaged. This pond is owned by William Pankey and is surrounded by agricultural uses. The geotechnical engineer shall monitor the ground vibration as the mining progresses towards the pond. Draining of the pond may be required if it is determined that the vibration may impair the concrete lining. Public safety would not be at risk if this pond were to be damaged by blasting

since it is not contained by a dam or spillway which could be breached and therefore the impact is not considered significant.

### Rockfall/Small Wedge Failure

In hardrock mining, it is not the compressive strength of the rock that controls the factors of safety of a slope, but the wedge failure governed by the joints and fissures. Field observations and several tests were conducted to determine the feasibility of the proposed mining plan and to identify potential stability problems. Slope stability is of most concern in the weathered zone and in rock joints with unfavorable dip angles. Tests conducted included:

- Borings were taken to gain a better understanding on the depth of weathered zone and rock quality, as well as to check joint and fracture orientations (dips and strikes). The depth of the weathered zone varies but, for the most part, it is 10 to 30 feet deep. Two typical directions (strikes N-S and N45°E) at an effective dip of 26.5° (equivalent to 2 horizontal to 1 slope) were analyzed. It was found that 80° cuts with benches having an equivalent slope of 2 to 1 are highly unlikely to have gross stability problems according to the data available at this time. This is the conceptual base upon which the mining operation will be carried out initially: a 33-foot vertical cut with a 66-foot wide bench creating an interim slope of 2:1 (see Figure 5). The exposed cut and bench surfaces will enable the geotechnical engineer or geologist to observe and to evaluate the exposed rock conditions prior to permitting an (80°) slope greater than 33 feet in height.
- Triaxial tests were performed on rock cores to evaluate their shear strength test results were considered good.
- Joints and fractures were mapped at surface rock outcrops where the potential for rockfall and stability problems are highest.
- Brazilian tests on rock cores were used to estimate the tensile strengths.

Testing results as well as the aggregate quality tests suggest that the 80° mining face concept (see Figures 4 and 8) is viable; however, geotechnical hazards and constraints exist which require mitigation. These include potential small wedge failures and rockfalls which may be initiated by vibration during blasting or seismic activity.

The potential for rocks to fall, bounce or roll down the existing steep slopes along Highway 76 during seismically induced groundshaking is of particular concern. If properly executed by the blasting contractor, the rockfall potential can be minimized. It is recommended however, that boulders on the slopes fronting SR-76 be removed or tied-down (Bing Yen and Associates 1990). Unlike seismically induced vibrations, the amount of near surface wave transmissions induced by blasting can be controlled through variation of stemming and other means.

In regards to the wedge type failure which could be bounded by open joints or fractures, it can best be assessed in the field when the surface is exposed. No amount of work at this time can determine with certainty when or where the wedge failure will or will not occur. According to the geotechnical

engineering consultant, field mapping during operation of a hardrock quarry is common practice and adoption of the mining plan as presented appears feasible. It is also common practice to cure such problems by decreasing slope, benching and/or the use of rock anchors.

Under the proposed reclamation plan, the mining pit would be used as a reservoir, however, an alternative reclamation plan is to use the site for agricultural activities. If the site is reclaimed for agricultural activities, future employees may also be at risk from on-site rockfalls or small wedge failures.

### **Exposed Mining Face**

Upon completion of the 20-year mining process, the project site will have an amphitheater-like configuration. The peak of the mountain (from approximate elevation 915 AMSL upward to elevation 992 AMSL) and the westerly and southwesterly slopes will remain undisturbed. Viewed from the east, the pit would have cuts on the north, west, and south sides. These slopes would extend up to 715 feet in height along the west side of the quarry, and taper down to approximately 70 feet on the east side. Proposed reclamation plans call for the removal of all plant equipment and facilities and the development of a water storage reservoir. The concern has been raised that the exposed slope would create a public safety hazard due to the risk of unauthorized persons entering the site and falling from the top of the mining face.

To prevent unauthorized access, a six foot chain link fence, topped with one foot of barbed wire, would encompass the entire project site as shown on the plot plan (see Figure 4). The fence will be set back 50 feet from the edge of the mining face. Maintenance of the fence shall be the responsibility of the quarry operator during the life of the project. At the completion of mining activities, maintenance of the fence shall become the responsibility of the then current land user using a perpetual fund established by Palomar Aggregates. This fencing plan shall be included as a Condition of the Major Use Permit. Implementation of the fencing plan would reduce public safety impacts associated with the exposed mining face to a level below significance.

### **3. Summary of Impact Significance**

Impacts to Public Safety are considered significant but mitigable. The project design and the mitigation measures combined to reduce the potential impacts to below the level of significance.

### **4. Mitigation Measures**

With the implementation of the following mitigation measures, potential public safety impacts will be reduced to a less than significant level.

- I-1. As a condition of operation, the concrete-lined pond located near the northern portion of the project site shall be monitored after blasting each week for potential leakage and drained as the mining operation is advanced to within 400 feet of the pond, unless advised otherwise by the inspecting blasting engineer. Records and recommendations of such inspections shall be maintained at the mining site and a copy provided to County DPLU.

- I-2. As a condition of operation, mining shall be conducted from the top down and from south to north along the face being worked. The working face shall be a maximum of approximately 33 feet in height with a minimum 66-foot-wide flat bench above it. This will result in an interim benched slope configuration as mining proceeds downward at 33-foot intervals. A Registered Engineering Geologist (REG) or Geotechnical Engineer (GE) shall map the exposed rock surface on a weekly basis. Inspection and mapping of the mining face may be more frequent as needed, depending on the field conditions. Each 33-foot vertical by 66-foot horizontal bench may only be removed following on-site inspection and in accordance with written recommendations of the REG or GE. No finished slope greater than 2:1 (horizontal to vertical) shall be established except in compliance with the recommendation of the REG or GE. The engineer or geologist shall record all inspections on a form satisfactory to DPLU and send a copy to the Codes Enforcement Division within one week of any inspection. The review of the reports associated with this condition will be considered a cost chargeable to the annual inspection deposit.
- I-3. Prior to blasting of the next working bench and hanging of the wire mesh, the geotechnical engineer or engineering geologist shall decide if the final rock face is safe. If it is determined to be safe, the 33-foot freshly exposed face will be draped with anchored wire mesh prior to blasting of the next level as recommended by Cal/OSHA and Mining Safety and Health Administration. This method of preventing rockfalls has been a general practice for many years. Benching and/or rock anchors will be required where unfavorable stability conditions are encountered. The engineer or geologist shall record all inspections on a form satisfactory to DPLU and send a copy to the Code Enforcement Division within one week of any inspection. The wire mesh will be used and maintained as long as any mining activity is conducted at the base of the cut face. The applicant will be responsible for maintenance during the time the mining project is in existence. Any required subsequent maintenance would be the responsibility of the then current land user using a perpetual fund established by the applicant. If the area is used for a reservoir, as proposed, the mesh would no longer be required and could be removed as part of reclamation.
- I-4. Prior to blasting, the area to be blasted shall be cleared of all personnel at a distance to be determined by the on-site licensed blasting contractor. This requirement shall be included on the mining and blasting plan. A copy of the plan shall be kept at the mining site and a copy shall be provided to County DPLU.
- I-5. Prior to plant operation, all the loose rock ("floaters") facing the realigned portion of SR-76 shall be removed or tied down. Although the potential for blasting to induce rockfall along the highway is not anticipated provided blasting is properly executed, removal or tie-down of the floaters above SR-76 prior to blasting within 200 feet would further reduce the risk of rockfall from blasting.
- I-6. Prior to plant operation, standard roadside warning signs indicating potential rockfall area to the approaching motorist shall be installed. The project civil engineer for the Highway 76 realignment shall incorporate these public safety measures on a plan to be submitted for review and recommendation by the County Department of Public Works; and for approval by Caltrans.

- I-7. Prior to implementation of the water reservoir reclamation plan, a qualified geotechnical engineer shall determine the seepage effect and the stability of the earthen dam which may be required to retain the ponding in the south-eastern part of the mined area. Conclusions and recommendations shall be provided in a report to be submitted to the County of San Diego Department of Planning and Land Use.
- I-8. Prior to implementation of the alternative reclamation plan (i.e. agricultural use) the site shall be inspected by a qualified geologist/geotechnical engineer who shall determine the need for setbacks from the exposed mining face, the need for a soil berm or precast concrete barriers, and for permanent maintenance of the installed wire mesh to ensure the safety of structures and employees from seismically induced rockfall. Setbacks and berms/barriers shall be erected as per the geologist's or geotechnical engineer's recommendations prior to use of the agricultural facilities.
- I-9. Construction of a ten foot high fence with one foot of barbed wire around the MUP site as described in the mitigation section of Biological Resources will also serve as a Public Safety mitigation measure by restricting access into the mining area.
- I-10. Prior to plant operation, the applicant shall obtain a blasting permit and comply with all conditions contained within San Diego County Ordinance No.7821 relating to blasting operations as well as those of the California Uniform Fire Code.

## 5. Summary of Impacts After Mitigation

The above mitigation measures have been incorporated into the mining plan to mitigate potential for rockfalls and small wedge type slope failures as recommended by Cal/OSHA and the Mining Safety and Health Administration. The mining plan is designed to create an interim benched slope with a maximum height of 33 feet and a minimum width of 66 feet. This enables the geotechnical engineer or engineering geologist to make weekly inspections as the proposed final sculpted face is approached and to map the rock face which has just been scaled. Inspection and mapping of the mining face may be more frequent as needed, depending on the field conditions. Benches and/or rock bolts and modified slope would be required where unfavorable stability conditions are encountered to stabilize the final face. All final reclaimed faces would be capped with wire mesh for protection. The engineer or geologist shall record all inspections on a form satisfactory to the Department of Planning and Land Use and send a copy to the Code Enforcement Division within one week of any inspection.

To avoid potential injury of project employees during blasting, the area to be blasted would be cleared of all personnel prior to blasting at a distance to be determined by the licensed blasting contractor. Prior to reclamation of the site as a water-storage reservoir, a qualified geotechnical engineer shall submit a report to the County of San Diego Department of Planning and Land Use reporting on the effects of seepage and the stability of the earthen dam, if the dam is required.

Methods to reduce the potential hazard for seismically induced rockfall along SR-76 include tying-down or removing all the loose rock ("floaters") along the highway. Standard roadside warning signs indicating potential rockfall area to the approaching motorist shall be installed. The project civil engineer for the SR-76 realignment shall incorporate these public safety measures on a plan to

be submitted for review and recommendation by the County Department of Public Works; and for approval by Caltrans. Additional passive preventative measures including installation of barriers along the north side of the realigned SR-76 may be required by Caltrans for seismically induced rockfalls as a part of the highway realignment project. The above mitigation will reduce public safety impacts to a level below significance.

## J. Dark Skies

### 1. Existing Conditions

Astronomy is an observational science that employs telescopes to collect and analyze the faint light that reaches earth from other objects in the universe (i.e. stars, galaxies, quasars). In addition to collecting the desired light from the object under study, the telescope also picks up light from other sources that happen to lie along the same line of sight. This "background light" is considered a form of contamination as it is not related to the object being studied and as it takes a great deal of effort to separate it from the desired light. Most background light occurs naturally and is beyond human control. However, one source of background light is controllable and has been increasing over the years. This is the light from manmade outdoor lights that shine or reflect into the sky, thereby illuminating the dust and water vapor in the atmosphere and reflecting light back toward the ground. Within San Diego County, urban lighting and air pollution, particularly from the urbanized areas, increases light diffusion at higher altitudes. As the metropolitan areas expand, the affected area of increased diffusion also expands, both horizontally and vertically. The closer the light source or polluted atmosphere to an observatory, the greater the degradation of dark skies.

There are very few observatories that support astronomical research, therefore, each individual telescope constitutes a significant contribution. Astronomical dark skies is an important issue in San Diego County due to the presence of two major observatories located at Mt. Palomar and Mt. Laguna.

The Palomar Observatory, located on Mt. Palomar approximately 13 miles east of the project site, is operated by the California Institute of Technology (Caltech). The observatory supports the scientific research programs of Caltech's faculty and students as well as those of astronomers from other institutions. The principal instrument for this research is the 200-inch Hale telescope, which is currently the most productive telescope in the world (Brucato 1990). Other telescopes at Palomar include the 48-inch Oschin, 18-inch Schmidt telescope, and the 60-inch reflecting telescope. The 60-inch reflecting telescope is operated jointly by Caltech and the Carnegie Institution of Washington while the other telescopes are owned and operated by Caltech. The 48-inch Schmidt telescope is designed for wide-field viewing and is noted for its sky surveys. The specialty of the 200-inch Hale telescope is looking at very faint objects very deep into space. Therefore, it is extremely sensitive to background light.

The Mt. Laguna Observatory, located on Mt. Laguna approximately 48 miles southeast of the project site, is operated by San Diego State University (SDSU). This observatory has two 16-inch telescopes and a 21-, 24-, and 40-inch telescope. SDSU also plans to add a 100-inch telescope sometime in the near future (Montross 1990). One of the 16-inch telescopes is used by the public, under SDSU supervision, while the others are used for research by Master's students and faculty of SDSU and other State Colleges and Universities. Research time using the 40-inch is shared 50-50 with the University of Illinois who moved this telescope to Mt. Laguna due to its superior viewing conditions.

San Diego County is an excellent natural location for astronomical research due to the clear, cloud-free night skies and the elevation of the observatory sites. Within the 5,000 to 9,000 feet AMSL elevation range, light diffusion in the atmosphere is minimal. The cleansing effect of westerly winds and the stable air masses result in relatively dust-free and motionless atmospheric conditions at higher

elevations. However, night sky illumination in the San Diego area has reduced the efficiency of telescope viewing through this sky by fifty percent (Brucato 1987). Thus, Palomar Observatory has already been adversely impacted by light pollution, resulting in a reduction in the efficiency of the operation of the 200-inch telescope to that of a 140-inch instrument (Brucato 1987). The problem stems from the type of outdoor lighting being used within a 30-mile radius (Branigan 1987) around the telescope. The Palomar Aggregates Quarry site lies well within this designated area, being less than fourteen miles to the west.

The night sky illumination of greatest concern to astronomers is that which occurs in the ultraviolet range where most astronomical observations are made. Thus, the extent of light pollution is not directly related to the sky glow visible to the unaided eye. High pressure sodium (HPS) lamps emit a broad spectrum of wavelengths, while low pressure sodium (LPS) lamps emit light in a narrow band of wavelengths. Light escaping upward from either kind of lamp brightens the night sky, making deep-sky observations increasingly limited and reducing the efficiency of telescopes. However, wavelengths from LPS lamps are narrow enough to be easily filtered out by astronomers, permitting observations at other wavelengths (Mood 1985). The Director of the Palomar Observatory has indicated that low-pressure sodium lamps and cut-off fixtures should be used for street lighting in areas within a 30-mile radius of the observatory.

The Conservation Element of the General Plan addresses dark skies as an environmental resource to be considered in planning and development policies. Dark skies is also considered a locally significant resource under the provision of the State of California Guidelines for the provisions of the Conservation Element (Government Code Section 65302 (d)).

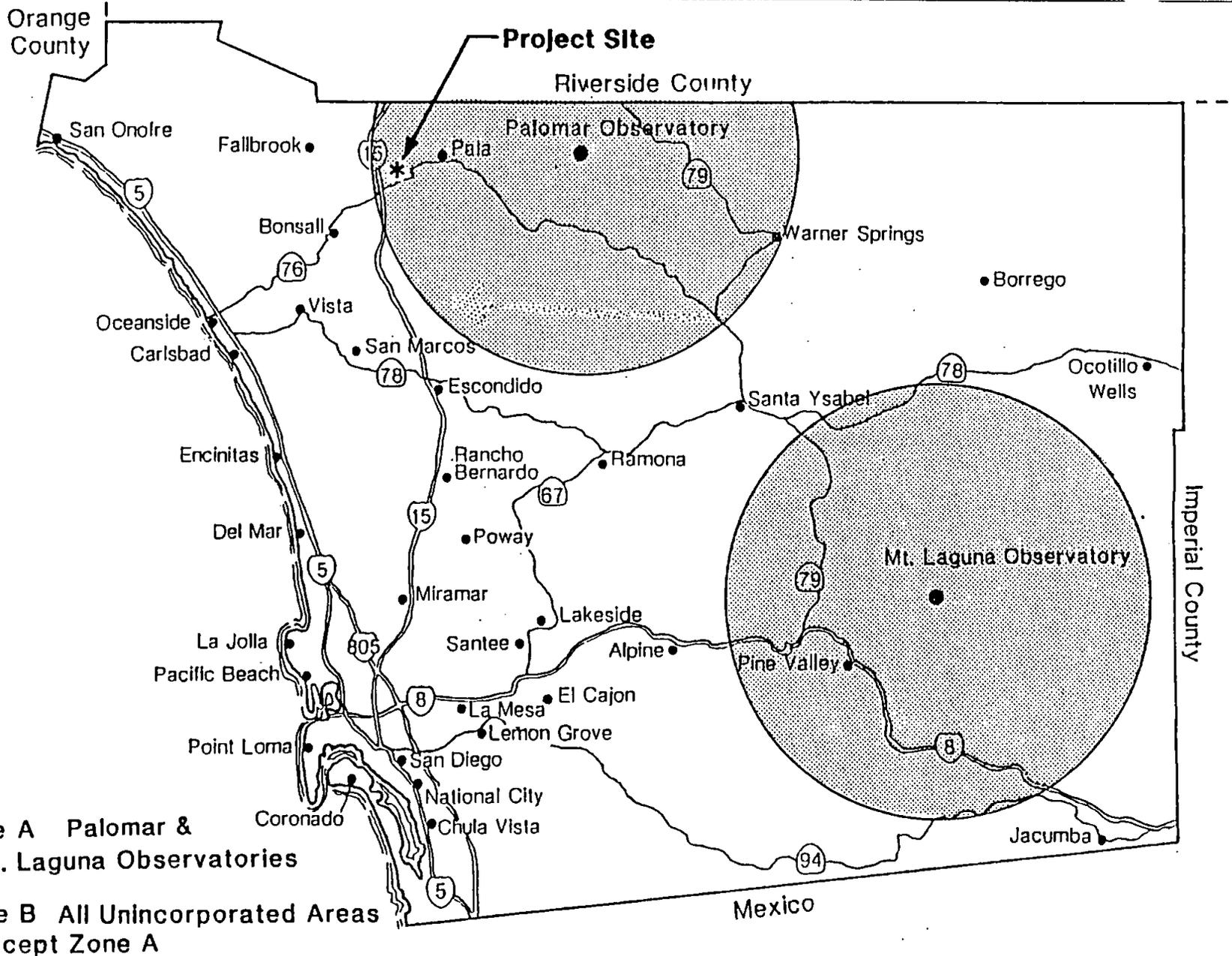
The County of San Diego's regulatory ordinance for light pollution is Title 5, Division 9, of the Code of Regulatory County Ordinances (amended July 17, 1986). The intent of the Light Pollution Code is to restrict the permitted use of outdoor light fixtures emitting undesirable light rays into the night sky which have a detrimental effect on astronomical research (Sec. 59.101). All artificial outdoor light fixtures must be installed in conformance with the provisions of this Code.

The County has designated two zones for the Light Pollution Code: Zone A consists of a circular area 15 miles in radius centered on Palomar Observatory and a circular area 15 miles in radius centered on Mt. Laguna Observatory (Figure 83); Zone B includes all areas within the territorial limits of the unincorporated portion of the County which are not included in Zone A. The Palomar Aggregates Quarry is located 13 miles west of the Palomar Observatory and is, therefore, within Zone A. Light source and shielding requirements are stricter in Zone A than in Zone B.

## 2. Environmental Impacts

As discussed above, the project site is located 13 miles west of the Palomar Observatory and 48 miles northwest of the Mt. Laguna Observatory. Zone A, as designated by the County's Light Pollution Code, consists of the two non-intersecting circular areas contained within a 15-mile radius of each of the Palomar and Mt. Laguna Observatories (Figure 83). Each circular area of Zone A represents the area where night sky illumination could significantly impact the efficiency of the

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**Brian F. Mooney Associates**



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**Light Regulation Zones and Site Location**

Figure 83

telescopes at the observatory around which the area is defined. Therefore, due to the proposed project's close proximity (13 miles) to Palomar Observatory, it would be located within Zone A and would incrementally increase night sky illumination, adding to the cumulative degradation of telescope efficiency at Palomar Observatory. However, outdoor lighting of the Proposed Project would not add to the cumulative degradation of telescope efficiency at Mt. Laguna Observatory as it is located 48 miles from Mt. Laguna Observatory and is, therefore, outside of Zone A established for this observatory.

Although air pollutants from vehicle emissions would contribute to the light scattering effect, project lighting would have the greater overall impact on the dark sky given the proximity of the site to the Palomar Observatory. The primary light sources within the Palomar Aggregates Quarry would be for vehicle and equipment maintenance and repair. Lighting for security would also be considered a primary light source. The project proposes only those outdoor light fixtures required by the County for safety purposes. All proposed lighting would consist of LPS lamps and would be shielded to prevent the direct emission of light rays above the horizontal plane passing through the lowest point on the fixture from which light is emitted.

### 3. Summary of Impact Significance

Impacts to Dark Sky are considered significant due to the proximity of the site to the Mt. Palomar Observatory but can be mitigated to a level of insignificance.

### 4. Mitigation Measures

- J-1. For the life of the project, all outdoor lighting will consist of LPS lamps and will be fully shielded (as defined by the County Light Pollution Code) to prevent any direct upward illumination.
- J-2. Prior to operation the applicant shall demonstrate that the intensity of the lights, as well as the number necessary for safety purposes, shall be kept to a minimum.
- J-3. As a condition of operation, outdoor lights other than those necessary for security will be turned off by 10:00 p.m.

### 5. Summary of Impacts After Mitigation

Impacts to Dark Skies would be reduced to a level below significance by lighting only where needed for safety purposes, lighting only those areas needed for security reasons after 10:00 p.m., and by only using LPS lamps with shields.

## IV. GROWTH INDUCEMENT

Growth inducement refers to accelerated economic or population growth which may take place as the result of a project being implemented. Within San Diego County, growth inducement has been directly related to the provision of public services such as water, sewers, and/or roads to an area which has been reserved for non-urban development until some time in the distant future. Approval of the Palomar Aggregates Quarry would not involve extension of any public services, although a private access road from SR-76 to the area of operations would be necessary. The provision of aggregate, concrete and asphalt products would take place at a rate based upon demand and would not stimulate growth. However, because of the project's close proximity to the Interstate 15 corridor, it may accommodate local growth which has been accelerating in that area by providing construction resources which would otherwise have to be transported from more distant sources. Reclamation of the mine site, to make it suitable for other uses, would not take place for a period of 20 to 30 years, and is not expected to stimulate growth at that time. Therefore, implementation of the Proposed Project is not considered growth inducing.

The project also proposes to widen SR-76 to four lanes between I-15 and the western boundary of the project site. Road widening of SR-76 (as illustrated in Figure 20) would be completed by Palomar Aggregates during the initial phase of the project and would be available for use prior to any export of material from the site. Widening of SR-76 is not considered growth inducing because it in conformance with the Circulation Element of the County of San Diego's General Plan. As noted under "Traffic" the County of San Diego has designated SR-76 as a prime arterial (6 lanes, divided) west of Interstate 15 and as a major road (four lanes, divided) east of Interstate 15. State Route 76 west of I-15 is included in the preliminary list of projects to be constructed using the "Proposition A" (referred to by Caltrans as "Measure A") funds. SANDAG, acting as the Regional Transportation Commission, is currently preparing a prioritized list of Proposition A projects; preliminary indications are that SR-76 will be scheduled for phased improvement between years 2002 and 2005. All design and improvements to SR-76 shall be accomplished to the satisfaction of Caltrans.

The Project would result in the direct creation of approximately 15 on-site jobs and provide indirect work for approximately 35 truck drivers and haulers. Additional jobs would result during construction of the project, installation of SR-76 improvements, and restoration of the riparian habitat. Although most employees would commute from the surrounding urban areas of Fallbrook, Escondido and Tecula, the new positions would result in some increase in the demand for housing.

The Project would contribute to reduced housing (and other facilities) construction costs. Transportation costs are a major factor in the cost of aggregate products. The project site is located extremely close to its markets of demand, thus reducing time, fuel, and truck maintenance and replacement costs.

The reclamation plan to be implemented at the completion of quarry operations would include either the creation of a water storage reservoir or an agricultural development area. Due to the vulnerability of water lines to seismic activity and the need for emergency water storage, the

proposed reservoir would be considered growth accommodating rather than growth inducing. The proposed agricultural development area alternative may include packing and processing facilities, and maintenance and storage areas for the existing Pankey Farms operations. Since the proposed agricultural development reclamation alternative would service existing agricultural operations, it would not be considered growth inducing.

## V. CUMULATIVE IMPACTS

### A. Scope of Cumulative Impacts

Pursuant to the *California Environmental Quality Act*, this cumulative impact discussion includes consideration of existing, proposed, and reasonably foreseeable future projects that are in the general vicinity of the proposed project and could result in potential cumulative impacts or compound and increase other environmental impacts. The cumulative projects addressed in this FEIR include the following:

**I-15/Highway 76 Master Specific Plan Area (MSPA).** The MSPA contains approximately 1,178 acres of land. Because of its location at the intersection of an Interstate Highway and a major State Highway, it is anticipated that this area will become a logical node of future development. The majority of the MSPA lies east of I-15 where potential cumulative impacts are of greatest concern. This area includes the 469-acre Lake Rancho Viejo which is currently under construction pursuant to TM4249. Proposed future phases of Rancho Viejo could increase the number of residential units to 750. West of I-15, the MSPA would permit a 3.3-acre commercial area and a 77-acre recreational vehicle park. The Hewlett Packard Property located west of the project site is currently zoned as a Holding Area (Special Purpose S-90 Designation). Holding Area Use Regulations are intended to prevent isolated or premature land uses from occurring on lands for which adequate public services and facilities are unavailable or for which the determination of the appropriate zoning regulations is precluded by contemplated or adopted planning proposals or by a lack of economic, geographic or other data.

The I-15/SR-76 Master Specific Plan (MSPA) precludes development of several of the specific plan areas within the MSPA prior to the completion of the following: River Plan, Traffic Study, Phasing Plan, Market Analysis, Dark Sky Policy, Design Guidelines, Park/Open Space and Trails Plan.

**North County Class III Landfill.** San Diego County voters approved rezoning Gregory Canyon as a landfill site in November, 1994. This approval is currently the subject of litigation. If Proposition C is implemented, a private developer/operator or the County of San Diego could construct and operate a lined Class III sanitary landfill in Gregory Canyon, located south of SR-76 approximately 2.5 miles east of the proposed Palomar Aggregates site. The construction of the landfill would be subject to CEQA and preparation of an Environmental Impact Report under the guidance of the Local Enforcement Agency (LEA). A landfill constructed at this site would encompass an estimated 238 acres of land. Refuse would cover an estimated 148 acres, with a proposed maximum fill height of 910 feet above mean sea level (AMSL). The proposed site has an estimated service life of 14 years.

**Pala Indian Gaming Facility.** The Pala Band of Mission Indians are proposing to construct a 65,000 square foot gaming facility adjacent to SR-76 approximately 5 miles east of the project site.

**Sand Mining per P74-88 (Fenton/Pala).** This project included sand mining from the San Luis River which resulted in the creation of a pond approximately 60 feet deep. The Fenton/Pala operation is active and has a major use permit valid until 2005. Screening, processing, and concrete batching also occur on-site.

**Calmat-Pala Aggregate Mining.** This project is located on the Pala Indian Reservation and includes mining, processing, and batching of sand, decomposed granite, and rock. Because it is located on an Indian Reservation and is not subject to local land use or environmental regulations, no mining plan or estimate of long-term production is available.

**J&W Sand Mining.** The J&W Sand Mine is located just south of the proposed quarry site. Although J&W has an active permit through the year 2001, operations are currently halted due to conflictive County and Federal requirements.

**Gas Station.** A gas station is proposed in the southwest quadrant of the I-15/SR-76 interchange.

Based on the identification of cumulative projects, the following elements of the human environment would potentially be subject to cumulative impacts: Traffic/Circulation, Biological Resources, Noise, Air quality, Hydrology/Erosion Control and Dark Skies.

## **B. Resource-Specific Cumulative Impacts**

### **1. Traffic/Circulation**

The MSPA and existing sand mining projects are included in Caltrans traffic counts, therefore, they are not discussed specifically in the cumulative traffic impact analysis. Proposed projects analyzed include the Palomar Aggregates Quarry, North County Class II Landfill, Pala Indian Gaming Facility and a gas station.

**Proposed Project.** The Proposed Project would typically generate 514 ADTs, of which 452 would be trucks. Project trip distribution is expected to be a 10/90 percent split east/west from the project access onto SR-76 (Willdan 1990). In addition, all project truck trips will be prohibited from traveling east for six months of the year during the Bell's vireo and willow flycatcher breeding seasons, thus further reducing traffic impacts east of the project site.

**North County Class II Landfill.** If approved, the landfill would generate 1,140 ADT of which 1,056 would be trucks (San Diego County DPW 1990) by the year 2010. Access to the landfill site would be provided via SR-76. By the year 2010, this project would generate 1,140 trips a day, in a worst case situation (without 30% recycling). Several improvements to SR-76 would be required to accommodate the projected volume of truck trips associated with the landfill including widening of SR-76 to four lanes.

**Pala Indian Gaming Facility.** Based on a traffic study prepared for the proposed Pala Casino (Linscott, Law & Greenspan 1995) the proposed Pala Indian gaming facility is expected to generate approximately 4,202 average daily trips for anticipated patronage, employees, and service/vendor trips.

**Gas Station.** The proposed gas station is expected to generate 900 ADTs. Traffic data for this project is based on SANDAG generation rates as referenced from the traffic impact analysis prepared for the Pala Casino (Linscott, Law & Greenspan 1995).

Project plus cumulative projects are calculated to have no significant impacts in terms of the capacity of SR-76 east of I-15. Calculations show that LOS D or better is calculated during the PM peak hour on SR-76 east of I-15 with the addition of the proposed project plus cumulative project traffic (Linscott, Law & Greenspan 1995). However, signal warrants are met and the combined traffic impacts generated by the projects listed above would significantly impact the I-15/SR-76 interchange should the ramp intersections remain unsignalized. The calculations assumed SR-76 in its current configuration as a two lane roadway with no passing allowed between I-15 and the proposed project.

There are two sharp curves on SR-76 between I-15 and the project site. Caltrans accident statistics report that several accidents have occurred at these locations and that it would be desirable to realign these curves. It is not possible to quantitatively assess the impacts of adding traffic to horizontal curves. However, the impacts of the additional project and cumulative projects traffic is considered to be potentially significant in terms of safety at the sharp curves.

## Mitigation Measures

Cumulative impacts to traffic and circulation west of the project site will be fully mitigated with implementation of the proposed road improvements from I-15 to the project entrance. Since the project's contribution to cumulative impacts along SR-76 east of the project site are not significant, the project is not mitigating for cumulative traffic impacts east of the site. Impacts east of the site can be mitigated for on a project-by-project basis including widening and improvement of SR-76 to Caltrans standards.

## 2. Biology

In addition to the proposed project, the North County Class III Landfill has potential to significantly impact biological resources. Although the two existing mining operations (Fenton/Pala and Calmat-Pala) located within the San Luis Rey 100 year floodplain may also contribute to cumulative impacts to biological resources, no specific data is available. The Pala Indian Gaming Facility and the proposed gas station sites have been cleared for some time and therefore, do not add to cumulative biological impacts. Although the I-15/SR-76 Master Specific Plan Area is expected to have cumulative impacts to Biological Resources, estimation of potential impacts would be speculative because no development plans are available for much of the MSPA at this time.

## Sage Scrub

From a regional perspective, any loss of coastal sage scrub is a significant impact. The Multiple Habitat Conservation Program (MHCP) and the Habitat Loss Permit are programs currently underway to require mitigation on a case-by-case basis. The proposed project and the proposed North County Class III Landfill impact sage scrub. The sand mining projects do not significantly impact sage scrub.

**Proposed Project.** The proposed project site is located in the MHCP area. Since it is anticipated that the USF&WS will allow the taking of five percent (approximately 5,500 acres) of existing sage scrub habitat within the MHCP (approximately 110,000 acres), the proposed project, with 27.3 acres of low quality, relatively isolated habitat will not represent significant and unmitigable cumulative impacts.

**North County Class III Landfill.** The proposed North County Landfill site is located approximately two miles east of the project site. According to preliminary biological impact analyses, the landfill site currently has 875.2 acres of coastal sage scrub and 71.5 acres of coastal sage scrub chaparral. Development of the landfill would impact approximately 87.4 acres of coastal sage scrub and 51.5 acres of coastal sage scrub chaparral (Stesanec Means 1996). No gnatcatchers were observed during a biological study conducted of the site (Sward 1990, 1993), although a directed gnatcatcher search would be required as part of the additional environmental review prior to project approval. Development of the Gregory Canyon Landfill would also require formal consultation with the USF&WS for, minimally, the taking of sage scrub. The loss of the sage scrub requires mitigation and, cumulatively these impacts together with those of the proposed project would be a significant impact and off-site mitigation would be required.

## Chaparral

The County of San Diego does not consider chaparral vegetation as a sensitive vegetation type, but does take into consideration the presence of sensitive reptile species such as the San Diego horned lizard (*Phrynosoma coronatum blainvilli*) and the orange-throated whiptail (*Cnemidophorus hyperythrus*) when they occur in association with chaparral. While the County permits removal of chaparral for development projects, they also require preservation of chaparral in open space easements when these species are detected. This policy avoids cumulative impacts to chaparral vegetation where sensitive species are known to occur.

**Proposed Project.** The loss of 8.9 acres of chaparral would be considered a significant cumulative impact due to the sensitive reptile species that are expected to occur in this habitat type.

**North County Class III Landfill.** According to preliminary studies (Stesanec Means 1996), the landfill site has a total of 284.4 acres of non-sensitive upland chaparral. Development of the landfill would impact 25 acres of chaparral. It is not known at this time if any sensitive species occur within the on-site chaparral.

## Southern Willow Scrub

Plant communities are considered sensitive if they provide habitat for a diversity of wildlife species; provide habitat for rare, endangered or threatened plant and animal species; and/or are diminishing due to increased developmental pressures. The on-site southern willow scrub plant community is considered sensitive due to its ability to support a diversity of wildlife species, its proximity to water, the interface it provides between a variety of habitat types, and the vertical stratification of foliage. All of these factors contribute to the richness and productivity of wetlands.

**Proposed Project.** Impacts to 3.2 acres of vireo ~~critical habitat and willow flycatcher proposed critical~~ habitat would occur with implementation of the project. Although the areas are currently disturbed, the impacts would be considered significant but mitigable. The proposed Palomar Aggregates will add approximately 440 daily trips (approximately 2%) to the street system over what was forecast by the County. Project generated traffic will increase the peak hour noise along SR-76 between the project and I-15 by 3 dB(A). Thus, the project would add incrementally to the overall traffic volumes and traffic generated noise by further extending the 60 dB(A) noise contour into potential vireo ~~and flycatcher~~ habitat. This incremental loss of potential habitat would be regarded as a cumulative impact. Traffic along this segment of SR-76 has been projected to increase to 20,000 average daily trips (ADTs) at buildout of the Valley Center and Pala/Pauma community plans (Willdan Associates 1990).

**North County Class III Landfill.** There is one acre of willow scrub on the landfill site (Stesanec Means 1996). This acre would be impacted and mitigated for off-site. It is more likely that the landfill would impact willow scrub habitat for the vireo ~~and flycatcher~~ by generating a substantial amount of traffic noise. By the year 2010, this project would generate 1,140 trips a day, in a worst case situation (without 30% recycling). The addition of 1,140 landfill-generated trips to existing traffic conditions would increase existing traffic noise levels by 0.2 dB(A) along I-15 just south of SR-76, and 1.7 dB(A) along SR-76 east of I-15 to the site. The increase in noise from traffic associated with this project ~~will increase the amount of potential vireo habitat (and other sensitive songbirds)~~ ~~would increase the potential for vireos, flycatchers and other observed sensitive songbirds~~ to be adversely affected by noise between the project site and I-15.

## Coast Live Oak

Oak woodlands constitute a very small percentage of San Diego County's native vegetation. This community has always been a relatively scarce vegetation type, but recent impacts from rural and urban development have further reduced its distribution. However, wherever this community occurs, it provides habitat for a diversity of bird species.

**Proposed Project.** Coast live oak woodland replaces the mixed chaparral on the northern slope of Rosemary's Mountain and is dominated by over 60 coast live oaks of varying age. A small area of oak woodland also occurs along SR-76, within the proposed road realignment. This woodland is comprised of one large coast live oak and two Fremont cottonwoods. The coast live oak woodland (oak woodland) covers approximately 3.0 acres of the site. The loss of 1.3 acres of live oak woodland from the quarry site would be regarded as a significant.

**North County Class III Landfill.** There are presently 59.8 acres of coast live oak woodland on the landfill site. If implemented the landfill project would impact 26.2 acres of this woodland.

### **Mitigation Measures**

Fifty-four on and off-site acres of coastal sage scrub will be preserved as mitigation for the loss of 27.3 acres of coastal sage scrub. The cumulative impact to sensitive reptiles will be mitigated by achieving 50 percent preservation of their habitat (chaparral and sage scrub) in and adjacent to the MUP site, and preserving sage scrub on the south side of the river. Revegetation of southern willow scrub shall be completed in accordance with the Palomar Aggregates Revegetation Plan to include preservation of existing habitat and revegetation of habitat at two sites. The Proposed Project would mitigate oak woodland at a ratio of 5.7:1, by dedicating 7.4 acres of a hillside that supports oak woodland, located just south of the San Luis Rey River. The Proposed Project is mitigating for all biological impacts, and therefore, would not contribute to cumulative biological impacts.

### **3. Noise**

All of existing and proposed projects in the project vicinity have the potential to add to cumulative noise impacts. However if they are designed to reduce noise impacts and best available control technologies are incorporated, cumulative impacts to noise can be mitigated.

With the implementation of proposed mitigation measures, project operations would be in compliance with the County of San Diego Noise Ordinance. Traffic generated by the Proposed Project would increase noise levels along the area's highways. Between the project site and I-15, the peak hour (7:00 a.m. to 8:00 a.m.) noise levels would increase by 3 dB and from 8:00 a.m. to 3:00 p.m. by approximately 2 to 3 dB. East of the project site, the peak hour noise levels would increase by approximately 0.5 dB(A) and the existing daytime noise levels would increase by less than 0.5 dB(A) total noise level as a result of the project's traffic.

### **Mitigation Measures**

Mitigation measures have been identified which would reduce noise levels to an acceptable level including a berm at the project's southern boundary, sound buffers on processing equipment and trip generation control. As other projects are developed, increases in traffic noise, especially along the Highway 76 and I-15 corridors, could be mitigated to levels below significance with the construction of setbacks, noise walls, and berms, in accordance with County and State standards.

### **4. Air Quality**

The Proposed Project, the MSPA, the North County Class III Landfill, the Pala Indian Gaming Facility, the existing sand mining operations, and the proposed gas station would all cumulatively impact air quality without the implementation of best control technologies.

Particulate (fugitive dust) and gaseous emissions associated with mining operations and vehicular traffic generation from the Proposed Project would cumulatively add to the incremental degradation of regional air quality in the San Diego Air Basin. In addition to the 16.78 pounds per hour of

particulate emissions from the proposed quarry, the Pala area may be subject to 90 pounds per hour generated at the proposed landfill by site grading and liner construction of the proposed landfill (San Diego County DPW 1990). Additional particulate matter would be created by landfill generated truck traffic. Therefore, the particulates generated by the proposed project and the proposed landfill would exceed 106 pounds per hour, although particulate emissions would not be expected to reach this concentration at any one location as an unknown amount of particulates would settle out prior to reaching the other site.

### **Mitigation Measures**

Cumulative impacts can be reduced to a level of insignificance with the utilization of planned air pollution control techniques (e.g. Best Available Control Technology) and compliance with San Diego APCD permitting and monitoring procedures. Additional mitigation of cumulative impacts could be achieved through implementation of Federal, State, and local programs currently underway. These include the Clean Air Act, State Implementation Plan, SDAPCD Reasonable Further Progress (RFP) Reports, prohibitive emission standards, and New Source Performance Standards (NSPS).

## **5. Hydrology/Erosion Control**

The Proposed Project proposes to install erosion control methods, such as riprap bank protection and a sedimentation basin, which would adequately prevent any increase in the total amount of sediment entering the San Luis Rey River as a result of the Proposed Project. Therefore, the Proposed Project would not contribute cumulatively to sedimentation/erosion impacts resulting from other mineral extraction operations in the vicinity. The proposed realignment of Highway 76, however, would have a significant cumulative impacts on the San Luis Rey River floodplain. There are several existing and proposed sand mining operations along the San Luis Rey River which have the potential to increase sedimentation levels and pose additional erosion control problems in the affected floodplain, if not properly mitigated. The proposed landfill however, will not generate increases in sediment load (San Diego County DPW 1990). Although, no hydrologic studies have been completed for the Pala Indian Gaming Facility or the proposed gas station, they are not expected to generate significant hydrologic impacts.

### **Mitigation Measures**

Potential floodplain impacts shall be clarified with the preparation of a HEC-2 computer analysis by a registered civil engineer for review by the County Department of Public Works. This analysis will provide the basis for appropriate flood control measures regarding flood hydraulics, erosion and sedimentation (as related to the site and adjacent properties); fill bank stabilization; and installation of new riparian vegetation on the fill bank for the road. This analysis should also be used to modify County and FEMA floodplain maps as a condition of MUP approval.

With regional implementation of adequate mitigation measures on a project-by-project basis and conformity with San Diego Basin Water Quality Control Plan Policies (California Regional Water Quality Control Board 1994) and the County of San Diego Flood Control Management Guidelines, the cumulative hydrologic impact to the San Luis Rey floodplain will be reduced to a level below significance.

## 6. Dark Skies

The Proposed Project is located within the prime impact zone for Palomar Observatory (Zone A). This project and other residential, commercial, and public projects located within Zone A would cumulatively add to the degradation of telescope efficiency at Palomar Observatory.

### Mitigation Measures

The cumulative effects of the project on dark skies are not significant because of the projects' conformance with Light Pollution Code which effectively assures that cumulative effects will be mitigated.

## C. Summary of Impacts

Without mitigation the proposed project would contribute significantly to cumulative impacts affecting the following elements: Traffic/Circulation, Biological Resources, Noise, Air quality, Hydrology/Erosion Control and Dark Skies.

## D. Summary of Impacts After Mitigation

Cumulative impacts to Traffic/Circulation, Biological Resources, Noise, Air quality, Hydrology/Erosion Control and Dark Skies shall be mitigated to levels below significance. Cumulative traffic impacts would be mitigated to a level below significance with the widening and straightening of SR-76 from I-15 to the project entrance. Cumulative impacts to Biological Resources would be mitigated to a level below significance with on- and off-site habitat preservation. Cumulative noise impacts would be mitigated below significance with implementation of Best Available Technologies including setbacks, a 30 foot berm, equipment enclosures and pads and compliance with County and State standards. Air quality cumulative impacts would be mitigated to a level below significance with utilization of planned air pollution control techniques (e.g. Best Available Control Technology) and compliance with San Diego APCD permitting and monitoring procedures. Additional mitigation of cumulative impacts would be achieved through implementation of Federal, State, and local programs currently underway. These include the Clean Air Act, State Implementation Plan, SDAPCD Reasonable Further Progress (RFP) Reports, prohibitive emission standards, and New Source Performance Standards (NSPS). Potential cumulative floodplain impacts shall be clarified with the preparation of a HEC-2 computer analysis by a registered civil engineer for review by the County Department of Public Works. The cumulative effects of the project on dark skies would be insignificant with the projects' conformance with Light Pollution Code which effectively assures that cumulative effects will be mitigated.

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## VI. EFFECTS FOUND NOT TO BE SIGNIFICANT

Based on the County of San Diego's initial review of the project, this FEIR has focused on the following issues: Traffic/Circulation, Biology, Visual/Aesthetics, Cultural Resources, Noise, Air Quality, Hydrology/Erosion Control, Groundwater, Land Use/Community Character, Public Safety, Dark Skies, and Growth Inducement. All these issues were addressed in the preparation of this FEIR. Cultural Resources, ~~Air Quality~~, Groundwater and ~~Dark Skies~~ would not be significantly impacted by the proposed project. A Cultural Resource Survey was completed for this project and no significant impacts to resources were found. ~~A Hydrology Survey also concluded that there would not be significant impacts to groundwater.~~ Potentially significant impacts were identified for Traffic/Circulation, ~~Biological Resources~~, Visual/Aesthetics, Noise, ~~Air Quality~~, ~~Hydrology~~, Land Use, Public Safety and ~~Dark Skies~~. Implementation of mitigation measures and changes to the project description described herein would reduce these identified impacts to levels below significance.

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## VII. ANY SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

The extraction of aggregate materials within the proposed mining area located on Rosemary's Mountain and the permanent alteration of the mountain face, would result in irreversible changes to the environment. After the mining project is complete, these aggregate resources would be unavailable for removal or reuse. In addition, the proposed widening and improvements to SR-76 would result in secondary irreversible changes by providing improved access to the Pala/Pauma area. As discussed in Visual section of this DIER (Section III-C), the proposed mining configuration reduces long term visual impacts by preserving the western face of the Rosemary's Mountain. The eastern face would be incrementally removed over a period of 20 years and would begin at approximately 915 AMSL. The upper part of the mountain, approximately 77 feet, would remain undisturbed. Mining would result in an amphitheater-like bowl with the final blasting of the rockface being worked to create a natural looking rockface with "ledges, nooks and crannies". The final mining face would have a maximum height of 715 feet which would not exceed a varying slope of 80°. The newly cut areas would be stained to match the surrounding natural surfaces. The ledges, nooks and crannies would have soil placed in them and hydroseed consisting of native species would be applied to the soil. Although visual impacts would be mitigated to a level below significance, the project would still result in a significant irreversible change to the environment.

Although the extraction of the aggregate resources located in the proposed mining area would result in an irreversible change to the environment, this change is not considered to be adverse and is perceived to be "necessary" as discussed below.

Since the early 1970's, the California Department of Conservation's Division of Mines and Geology has become increasingly concerned about the loss to urbanization of valuable deposits of construction quality aggregate resources. Because of competition for land use priorities, land is often urbanized without first considering whether mineral resources are present. In an effort to give more adequate consideration to the State's mineral resource needs, the California Legislature enacted the Surface Mining and Reclamation Act of 1975 (SMARA), stating in Section 2711 (a): "The legislature hereby finds and declares that the extraction of minerals is essential to the continued economic well-being of the state and to the needs of the society, and that the reclamation of mined lands is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety."

In July of 1989 the California Division of Mines and Geology (CDMG) and the Policy Committee of the State Mining and Geology Board recommended a new policy for prioritization of SMARA mineral lands within each California county. This new policy evaluated six categories including projected population growth, private land available, Federal land claimable, mineral production, number of active mines, and number of mineral occurrences reported. San Diego County received one of the highest rankings along with the Riverside County, Los Angeles County and San Bernardino County. On September 11, 1989, Rosemary's Mountain was given a SMARA land classification of MRZ-2. This classification is applied to "areas where adequate information indicates

that significant mineral deposits are present or where it is judged that there is a high likelihood for their presence" (California Department of Conservation 1989).

## VIII. ALTERNATIVES TO THE PROPOSED PROJECT

Section 15126(d) of the CEQA Guidelines requires that a range of reasonable alternatives, capable of meeting the project objectives, be described, and their comparative merits be evaluated. The primary objective of this analysis is to identify alternatives to the proposed project which may better mitigate the significant environmental impacts associated with project implementation. The alternatives chosen are the result of input from the County of San Diego, the project proponent, and an analysis of methods which would reduce the environmental impacts. The Alternative Site Alternative has been reviewed previously by the project proponent as a potential site for the quarry. The area's mineral resources and rural setting make for an appropriate alternative to the proposed site. In addition, two reduced alternative ways to mine the proposed site and one expanded project are identified and addressed. The reduced project alternatives are required by County CEQA Guidelines and the Bench Cut Alternative was proposed to reduce potentially public safety impacts associated with rockfall. The Expanded Project Alternative is included because it substantially reduces long term visual impacts. The following section provides a brief summary of each of the alternatives considered and whether or not they meet the project objectives listed below. Impacts and mitigation of each alternative are then analyzed issue by issue. The No Project Alternative as defined by CEQA is also summarized and conclusions of the environmental impacts are provided.

### Project Objectives:

1. Construct, own and operate a profitable mining operation in the vicinity of the I-15/SR 76 interchange capable of providing affordable construction quality aggregate to users in the area;
2. Locate the proposed quarry in a location where potential environmental effects could be minimized without rendering the project economically infeasible.
3. Provide aggregate products sufficient for North County needs at a rate of approximately 1.2 million tons per year over a period of 20 years, and avoid the high cost of aggregate imported from the Corona area, as several North San Diego County operations close due to material exhaustion and permit expiration.

### A. Alternative Site - "Sycamore Ridge"

An alternative site for the Proposed Project has been reviewed by the County, for the Sycamore Ridge Project. This project is very similar to the proposed Palomar Aggregates project. A review of the preliminary studies for the Sycamore Ridge Major Use Permit reveals that this location is a feasible alternative as it provides high quality rock, has potential access to the freeway, and its long-term compatibility is potentially consistent with future land use plans with extensive mitigation programs.

The alternative location, hereafter referred to as Sycamore Ridge, lies in the unincorporated area of north-central San Diego County. Atop the Merriam Mountains and northeast of the City of San Marcos, this site is within the North County Metropolitan Subregion. Lawrence Welk Village Resort

lies approximately 800 feet to the northeast of the eastern project boundary on the opposite side of Interstate 15 (Figure 85).

Physically, Sycamore Ridge consists is located on mountainous terrain with steep slopes dominating the area. Rocky outcrops of the underlying granitic rock protrude into the landscape. Elevations range from 655 feet to over 1,500 feet. Three drainage systems disperse the areas intermittent runoff. A special area overlay of the Regional Land Use Element, designated the site and the local vicinity as the Merriam Mountain Resource Conservation Area (RCA).

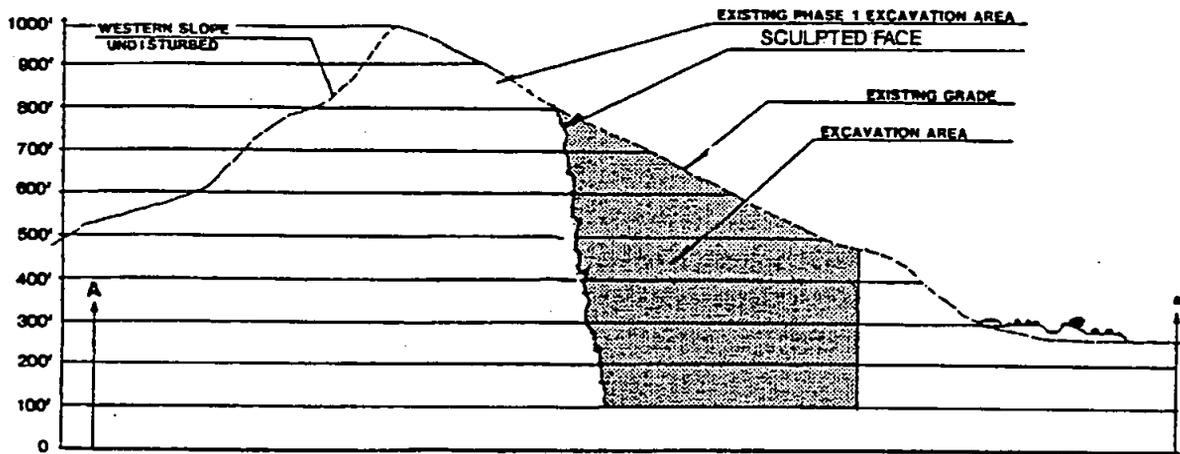
Local land use reflects the area's rugged topography, and consequently is mostly undeveloped. According to the County's General Plan, the area is designated as Multiple Rural Use. Existing local developments include, the Lawrence Welk Specific Plan Area to the east, Twin Oaks Valley to the west, and scattered residential, agricultural and resort areas to the south. A quarry would be allowed on this property under the existing zoning with the issuance of a Major Use Permit.

A mining operation at this location would be highly visible to several residential areas. This alternative site is located within the Merriam Mountain Resource Conservation Area and impacts to biological resources and drainage patterns would be significant. This alternative location would not meet the project objective of being located where environmental impacts could be minimized at a reasonable cost. Also, this project alternative, unlike the Proposed Project, would not realign the sharp radius curves along SR-76 without public funding and realignment may be deferred for some time.

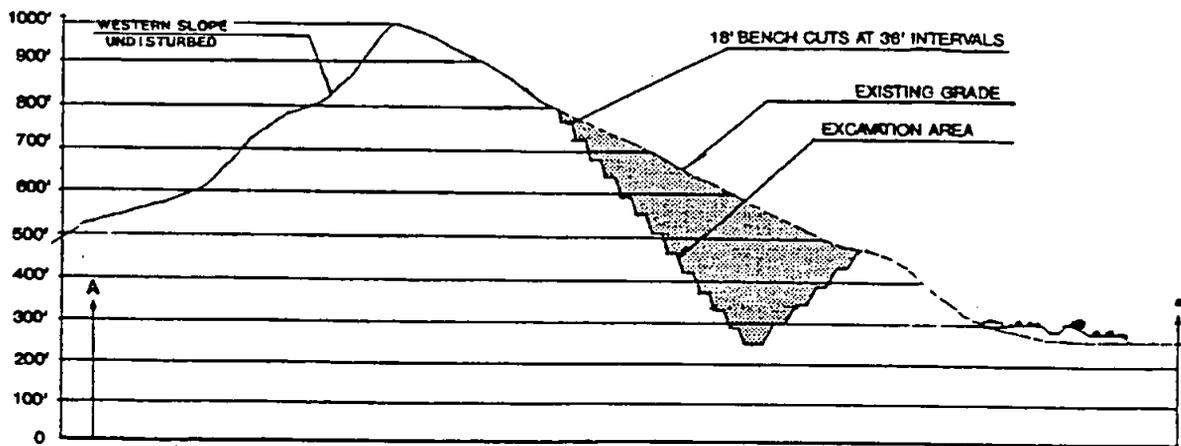
## **B. Alternative Project - "Reduced Mining Face Project"**

This alternative would result in a final mined face similar to the Proposed Project but not reaching the same height. Cross sections of the Reduced mining Face alternative is shown in Figure 84. The maximum cut height would be approximately 700 feet. Under this reduced alternative, mining would begin at an upper elevation of approximately 800 feet AMSL rather than at elevation 915 feet AMSL, as currently proposed. The reclaimed face would be sculpted, stained and revegetated as described in the proposed project. Benching may also be required in areas as determined by the inspecting engineering geologist or geotechnical engineer. This alternative was primarily designed to reduce visual impacts by preserving more of the mountain peak and southern slopes; the mining configuration for this alternative is shown in Figure 86. Rock sculpting, staining and revegetation and improvements to SR-76, as described for the Proposed Project would be included under the "Reduced Mining Face Project".

To compensate for the material lost in the peak, excavation would continue to a depth of 100-feet AMSL, which would be 100 feet deeper than the Proposed Project. Therefore, the maximum vertical cut would remain at approximately 700 feet. The configuration for the mine "face" under this alternative is illustrated in cross-section in Figure 84. As with the Proposed Project, the face of this alternative would retain an overall 80° (.18:1) slope. This configuration would yield approximately 19.6 million tons of aggregate material, or roughly 89% of the amount currently proposed for mining. At an estimated average rate of 100,000 tons per month, mining would be completed in roughly 18 years.

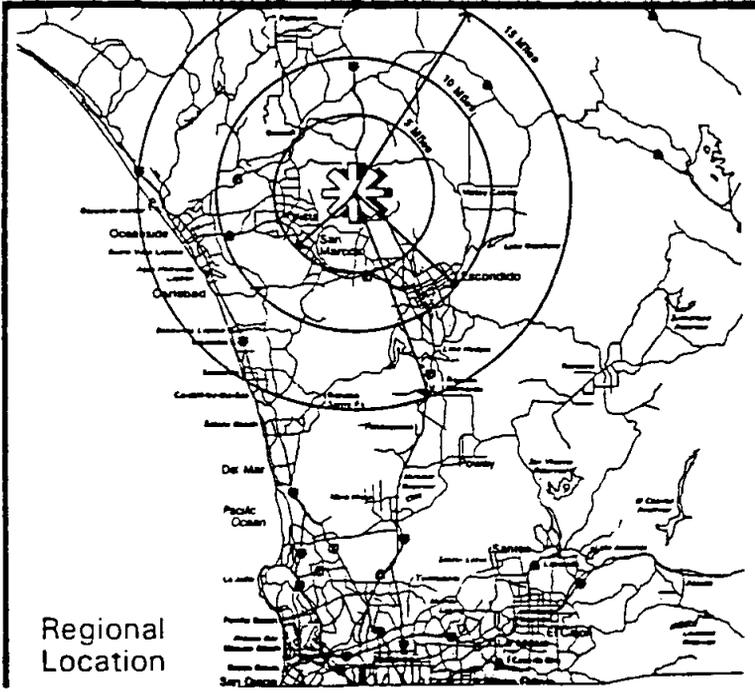
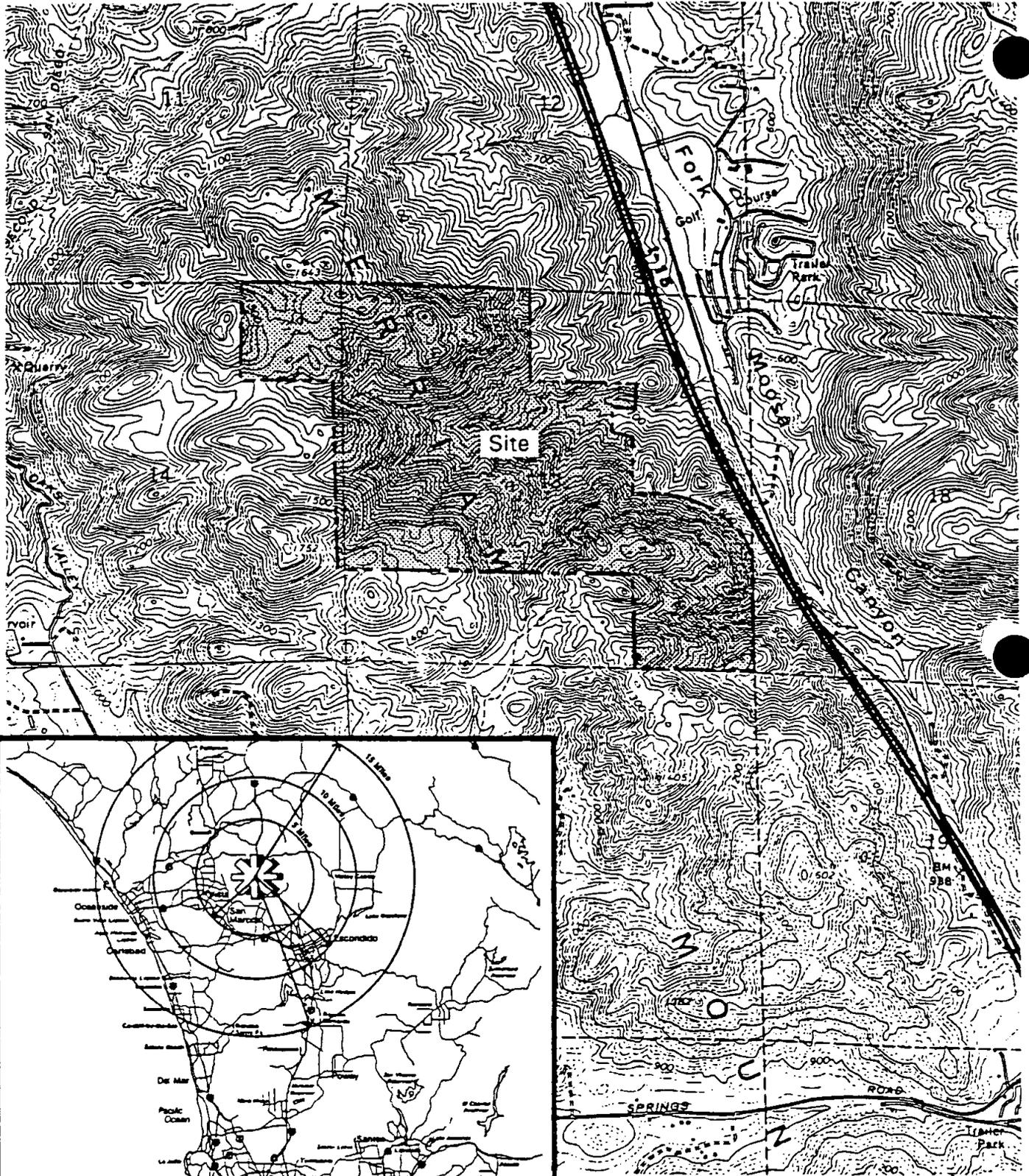


Reduced Mining Face Alternative



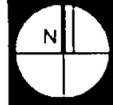
Bench Cut Alternative

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Regional Location

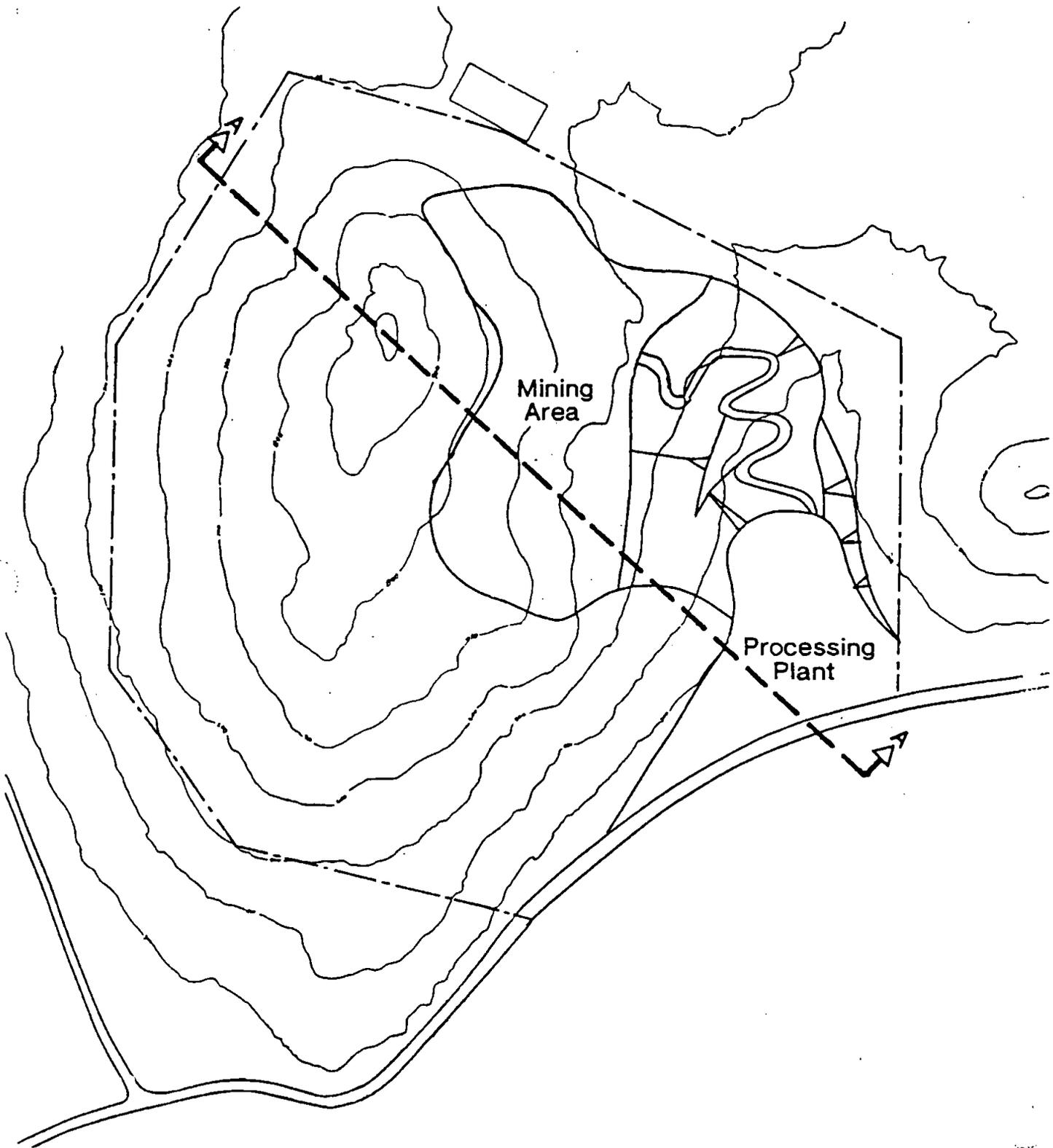
**Brian F. Mooney Associates**



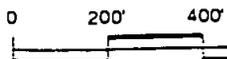
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Project Site Alternative - Sycamore Ridge

Figure 85



Refer to Figure 79 for Cross-Section



Alternative Mining Process Plot Plan -  
Reduced Project

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Figure 86

This alternative proposes mining below 200-foot AMSL. If implemented, there would be a possibility that groundwater would be encountered. Groundwater would permeate the rock, inhibit mining activities, and preclude successful reclamation of the site. Neither the Reservoir nor Agricultural reclamation plans would not be implementable if the groundwater table was breached. The proposed reservoir would no longer be impermeable and would potentially leak into the groundwater system until a hydrologic equilibrium was reached. The site would not be an effective reservoir and groundwater table saturation would have unknown effects on surrounding agricultural, and residential land uses. It is likely that the San Luis Rey river and the natural vegetation surrounding the river would also be effected by a change in the ground water table. With regard to reservoir size, this alternative would decrease the size of the quarry area upon completion of mining from 36 to 25.4 acres, and the finished pit would have a water storage capacity of 1,280 acre-feet without a dam.

Implementation of this alternative would result in some reduction of visual impacts as viewed from the Couser and Rice Canyons viewpoints, over that which is currently proposed. This is a result of lowering the uppermost cut line approximately 100 feet. Significant but mitigable visual impacts would still occur within the Couser Canyon viewpoints as well as to other areas east of the project site and along portions of a designated scenic highway (SR-76). Traffic/Circulation impacts are expected to be equivalent to those impacts identified for the Proposed Project. These impacts would be mitigated to a level of insignificance through improvements to SR-76 and the project objective to realignment of SR-76 would be achieved. Other impacts to biology, noise, air quality, hydrology/erosion control, and land use/community character would be reduced given the smaller area of impact and shortened period for mining operations. Due to the lesser amount of aggregate to be mined, this project would not achieve the project objective to provide approximately 1.2 million tons per year over 20 years.

### C. Alternative Project - "Bench Cut Reduced Project"

The "Bench Cut Reduced Project", like the "Reduced Mining Face Project Alternative," was primarily designed to reduce visual impacts by preserving more of the mountain peak and southern slopes. Rock sculpting, staining and revegetation and improvements to SR-76, as described for the Proposed Project, would also be included under this alternative project. The alternative mining configuration that reflects the "Bench Cut Reduced Project" is shown in Figure 86.

Under this reduced alternative, mining would begin at an upper elevation of approximately 800 feet AMSL rather than at elevation 915 feet AMSL, as currently proposed. Unlike the near 80° reclaimed slopes that would be created by the Proposed Project and the "Reduced Mining Face Project Alternative", this alternative project would result in an overall slope of 0.75:1. The major differences in configuration between this reduced project and the Proposed Project (and the "Reduced Mining Face Project Alternative") are that first, this alternative would provide an 18-foot bench cut at every 36-foot "vertical" cut, and second, each 36-foot vertical cut would extend out 9 feet from top to bottom. A given 36-foot "vertical cut" would actually have a slope of 0.25:1. The configuration for the mine "face" under the "Bench Cut Reduced Project Alternative" is illustrated in cross-section in Figure 84.

With an overall slope of 0.75:1, this configuration would yield approximately 15.2 million tons of aggregate material, or roughly 63% of the amount currently proposed for mining. At an estimated average rate of 100,000 tons per month, mining would be completed in roughly 13 years. The project proponent does not consider this alternative to be economically feasible.

Significant visual impacts would occur within the Couser Canyon viewpoints as well as to other areas east of the project site and along portions of a designated scenic highway (SR-76). The consistent benches that would remain at the completion of mining activities would appear less natural than the final sculpted face of the proposed project. As a result of lowering the uppermost cut line approximately 100 feet, this alternative would have less visual impact on a few homes in the Rice and Couser Canyon areas. Traffic/Circulation impacts are expected to be equivalent to those impacts identified for the Proposed Project. Traffic impacts would be mitigated to a level of insignificance through improvements to SR-76. Other impacts to biology, noise, air quality, hydrology/erosion control, and land use/community character would be reduced given the smaller area of impact and shortened period for mining operations. Due to the lesser amount of aggregate to be mined, this project would not achieve the project objective to provide approximately 1.2 million tons of aggregate material per year over 20 years.

With regard to site reclamation, this alternative would decrease the size of the quarry area upon completion of mining such that the finished pit would have a water storage capacity of less than 100 acre-feet without a dam.

#### **D. Alternative Mining Process - "Expanded Project"**

The expanded project would involve removal of Rosemary's mountain. Figure 87 illustrates how the mountain could be removed and the remaining cut slope recontoured to resemble a natural hillside. Under this scenario, the northern hillside would be mined first and progressively back-filled and revegetated from overburden and fine material as the west- and south-facing slopes are removed. Mining could even be continued onto the smaller hill to the east where Caltrans has acquired right-of-way for the eventual realignment of SR-76. Because of the scope and long-term nature of such an expanded project, a Specific Plan would be recommended in order to pursue this alternative.

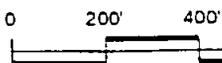
Obviously, most impacts would be increased under this alternative, and a more extensive program of mitigation and operational restrictions would be needed. Specifically, biology impacts would be more extensive, involving removal of additional oaks. If the easterly hill were also mined, a large number of oaks near the intersection of SR-76/Rice Canyon Road would be impacted. Significant cultural resources which would be impacted include a village site, a pictograph and two milling stations. Land Use/Community Character would be affected for a much longer period of time, and the expanded project would accelerate the eastward extension of urban land uses. The easterly hill and the sharp curve in SR-76 act as visual and physical barriers to more intensive development of the Pala area.

Although this alternative project would achieve the project objective to construct, own and operate a profitable mining operation in the vicinity of the I-15/SR 76 interchange, and would provide adequate aggregate material, it would result in many more significant environmental impacts than any of the other project alternatives.



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**Brian F. Mooney  
Associates**



**Alternative Mining Process Plot Plan -  
Expanded Project**

Figure 87

## E. Full Highway 76 Widening and Wetland Avoidance Alternative

The "Full Highway 76 Widening and Wetland Avoidance Alternative" would realign and widen SR-76 to four lanes between I-15 and past the eastern boundary of the project site, and avoid impacts to the potentially reclaimable least Bell's vireo and willow flycatcher habitat south of the existing SR-76 alignment. Under this project alternative, proposed road improvements would not impact the San Luis Rey River floodplain and, indeed, this alignment would be north of the existing alignment (Figure 88). The project would be modified under this alternative to shift the processing area north.

Although this alternative would achieve project objectives of profitability, and would avoid wetland impacts to the San Luis Rey River floodplain, it would involve cut and fill slopes ranging up to 300 feet in height resulting in significant and unmitigable visual impacts. These impacts would be so severe that this project is not considered feasible from an environmental perspective and after a preliminary review of this alternative, it was rejected and no additional analysis is warranted.

## F. "No Project" Alternative

Due to steep slopes and hard rock, the project site would be suitable for limited agricultural activities. Any other development of the site would be unlikely. If developed for agricultural the following resources would be significantly impacted: biology, visual, noise, air, hydrology, and groundwater. Measures to reduce existing hazards along SR-76 (e.g. potential rockfalls due to seismically induced groundshaking and sharp-radius curves) would not be implemented by the project proponent. Nor would project proponent fund improvements to or widening of State Route 76. A water reservoir capable of storing up to 5,800 acre-feet of water would not be constructed.

By not mining the project site, other sources of crushed rock would need to be developed. There is presently a shortage of aggregate reserves in the Fallbrook and Pala/Pauma areas. Whether this is an environmentally superior alternative, depends on whether alternative sites containing comparable mineral resources are available to be mined, or whether the County's need for these resources might be reduced.

The California Division of Mines and Geology *Special Report 153*, concludes that the western San Diego County aggregate needs, including the project vicinity, are 760 million tons through the year 2030. The project site is within Current reserves (resources located on existing permitted mining sites, most of which are located within the southeastern portion of the County) total 430 million tons. As noted in the Project Description of this report, most existing mining sites are located in urbanized areas and are near depletion. In addition, there has been a recent history of strong community opposition to new or expanded mining operations.

Other factors to be considered in siting new mining operations are proximity to the market area and major transportation corridors, and a nearby source of sand and water resources. Also, not all potential sites can be mined with equal efficiency. Crushed conglomerate often results in 50 percent waste product, and requires washing to separate rock from soil overburden. The quality of rock at the Palomar Aggregates site is such that the amount of waste fines would be insignificant and no washing would be required.

An issue by issue analysis of the potentially adverse environmental impacts of the "Sycamore Ridge", "Reduced Mining Face Project", "Bench Cut Reduced Project", "Expanded Project", "Full Highway 76 Widening and Wetland Avoidance" alternatives follows.

## 1. Traffic/Circulation

### Sycamore Ridge

**Environmental Impacts.** Based on a report prepared by Urban Systems Associates, Inc., in April, 1987 and a review of the project site, approval of a mining operation at this site and its long term operation would generate 300-500 average daily trips (ADTs) of heavy trucks and employee autos. This would impose a significant adverse impact upon the area's existing circulation and require the construction of an additional access route. A freeway interchange at Lawrence Welk Drive or a frontage road to Deer Springs Road are two possible alternatives.

**Mitigation Measures.** The addition of either the freeway interchange or the frontage road would serve to mitigate the significant circulation system impacts resulting from implementation of the Proposed Project.

### Reduced Mining Face Project

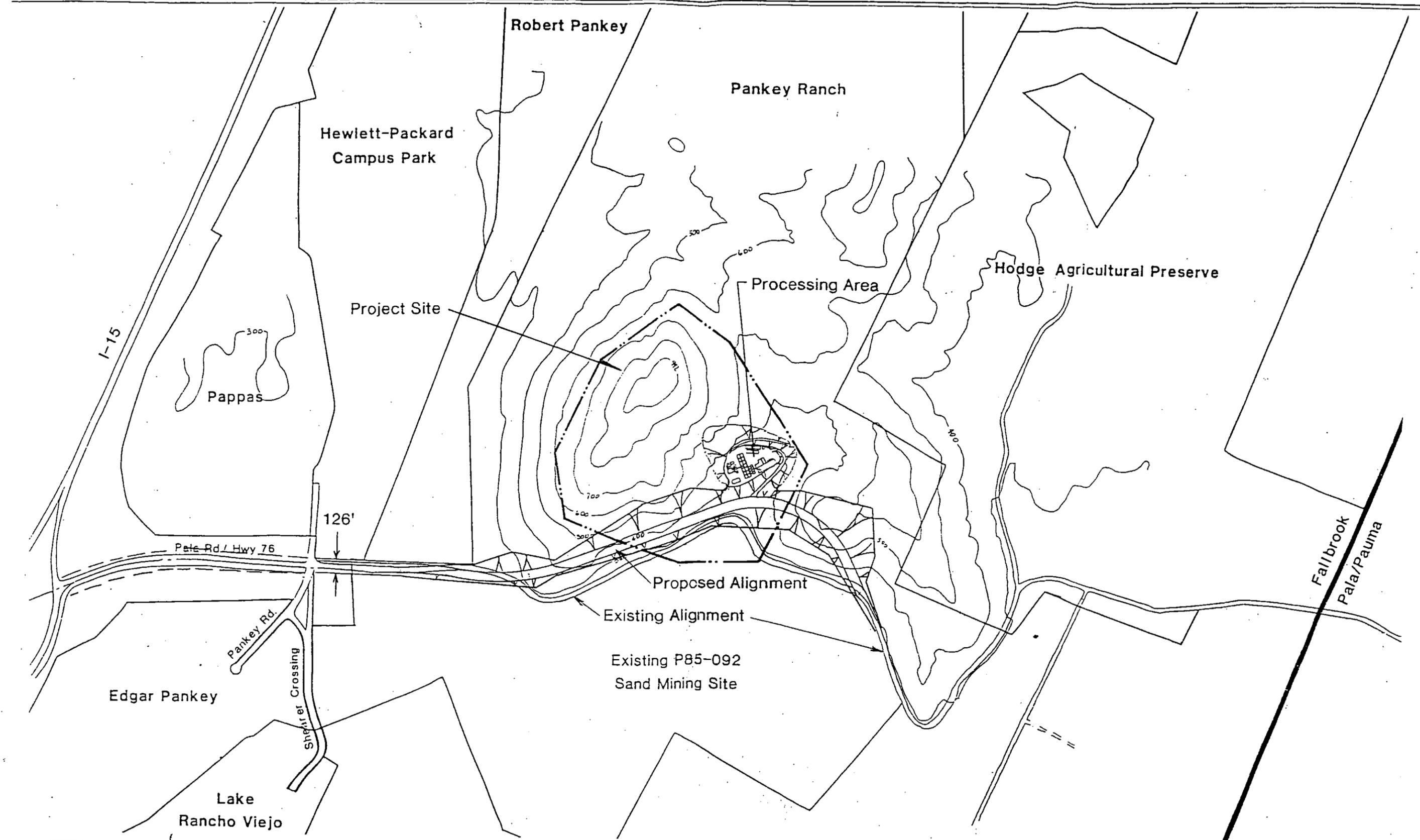
**Environmental Impacts.** Due to a substantially reduced area of cut and shorter period of operation, traffic generated by this alternative would be less over the long term, but the same on a daily basis, as the Proposed Project.

**Mitigation Measures.** The realignment of a section of SR-76, fronting the project site, would serve to mitigate potential traffic safety impacts and would ultimately increase traffic safety along SR-76 as future build-out of planned developments in the area occurs. Reduced traffic volumes from this alternative would have less of a cumulative traffic impact on local circulation over the long term, than the Proposed Project.

### Bench Cut Reduced Project

**Environmental Impacts.** Due to a substantially reduced area of cut and shorter period of operation, traffic generated by this alternative would be less over the long term, but the same on a daily basis, as the Proposed Project and the "Reduced Mining Face Project".

**Mitigation Measures.** The realignment of a section of SR-76, fronting the project site, would serve to mitigate potential traffic safety impacts and would ultimately increase traffic safety along SR-76 as future build-out of planned developments in the area occurs. Reduced traffic volumes from this alternative would have less of a cumulative traffic impact on local circulation over the long term, than the Proposed Project or the "Reduced Mining Face Project".



**Brian F. Mooney Associates**



0 400' 800'

Caltrans Highway 76 Wetland Avoidance Alternative

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Figure 88

Palomar Aggregates Quarry EIR

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## Expanded Project

**Environmental Impacts.** Impacts to traffic and circulation under this alternative would be similar to those of the Proposed Project. Impacts would also continue over a longer period of time.

**Mitigation Measures.** Same as Proposed Project.

## 2. Biology

### Sycamore Ridge

**Environmental Impacts.** As previously noted, this area is part of the Merriam Mountain Resource Conservation Area (RCA). This designation was given due to the area's potential for sensitive species, steep terrain, mixed chaparral habitat, and visual aesthetics. Preliminary studies for the Sycamore Ridge MUP (RBR & Assoc.), noted that projected disturbance to the vegetative cover included direct impacts to 54 acres and indirect impacts to 118 acres, leaving 314 acres in undisturbed open space. The majority of this disturbance would occur in the areas of mixed chaparral; oak and riparian species would not be directly affected by mining operations. However, since the area is a part of the Merriam Mountain RCA, the loss of mixed chaparral habitat and possible alteration of the drainage is considered a significant, adverse impact.

**Mitigation Measures.** Reclamation of disturbed areas and enhancement of potentially disturbed areas are possible mitigation measures for cumulative impacts to the area's biology. The effects of mining on drainage would need to be monitored and appropriate measures taken if adverse impacts are identified.

### Reduced Mining Face Project

**Environmental Impacts.** This alternative would result in substantially less impacts to biological resources than the currently Proposed Project due to a reduced area of cut. Although adding to cumulative loss of biological habitat in the area, this alternative would have less of an impact on these resources than the Proposed Project.

**Mitigation Measures.** Same as Proposed Project.

### Bench Cut Reduced Project

**Environmental Impacts.** Same as the "Reduced Mining Face Cut Project Alternative".

**Mitigation Measures.** Same as Proposed Project.

## Expanded Project

**Environmental Impacts.** An expanded project would result in the removal of diffuse oak woodland and additional cumulative biological impacts.

**Mitigation Measures.** Mitigation measures would include enhancement of existing vegetation and revegetation of disturbed areas. Impacts to riparian woodland would be considered significant and not mitigable due to the limited acreage available for revegetation.

### 3. Visual/Aesthetics

#### Sycamore Ridge

**Environmental Impacts.** An analysis for the visual impacts associated with the Sycamore Ridge Project was conducted by Gillespie-Dellorenzo, ASLA. Similar results would be anticipated if the Palomar Aggregate Project were to be implemented here. Potential impacts upon the area's viewshed include the mining operations themselves and project-related access roads and reclaimed slopes. Visibility from the I-15 Corridor is limited by a central knoll, and could be further limited through the use of a landform berm.

Residential and resort areas of Lawrence Welk Village would have a view of the mining site or its related features, although differences in elevation, vegetative barriers and I-15 provide effective obstructions. Some of the mobile homes in Champagne Village do not have any obstructions in their viewshed. Operation areas, some grading, and reclaimed slopes may also be visible from this area. Residences on the East Ridge can see into the site. Viewsheds of future development already planned along the East Ridge and Merriam Ridge would be disrupted. Visual impacts are considered a major deterrent to this site.

**Mitigation Measures.** Although the significant adverse impacts may not be mitigable, the severity of the visual impacts may be lessened through sensitive design, coloration, and landscaping. This is in addition to the previously noted reclamation plans and preservation of undisturbed open space areas.

#### Reduced Mining Face Project

**Environmental Impacts.** This alternative would consist of a lower vertical cut height than the Proposed Project. The final configuration would consist of an irregular, sculpted face with ledges, nooks and crannies with a maximum 700-foot vertical height. This approach would lessen visual impacts to areas south of the project by retaining more of the natural mountain appearance at completion. However, Couser and Rice Canyon viewsheds would still be significantly impacted. Therefore, visual/aesthetic impacts for this alternative would remain significant.

**Mitigation Measures.** Same as Proposed Project.

## Bench Cut Reduced Project

**Environmental Impacts.** Same as "Reduced Mining Face Project Alternative".

**Mitigation Measures.** Same as Proposed Project.

## Expanded Project

**Environmental Impacts.** Although this alternative would result in more initial disturbance to the site by removing the entire hill, the final configuration would best resemble a natural landscape and allow for the fullest reclamation. Visual impacts would be significantly reduced on a long-term basis. The completed reclamation would be the most suited for future land uses in this area.

**Mitigation Measures.** Revegetation and progressive back-filling would take place throughout the project. A reclamation plan would be implemented as required upon completion of the project.

## 4. Cultural Resources

### Sycamore Ridge

**Environmental Impacts.** Only two archaeological resources have been identified in the area to be disturbed, a prehistoric camp (SDi-9253) and a historic homestead (SDi-10747H). According to RBR & Associates, SDi-10747H is too recent to be considered a significant archaeological resource, but the SDi-9253 may be considered a sensitive site to the Native American community.

**Mitigation Measures.** ~~Additional environmental review would be required, including a resurvey for cultural resources, if this alternative was adopted. Mitigation measures for the disruption of SDi-10747H are not considered necessary due to the sites insignificance.~~ The Native American Community should be involved with the pursuance of mitigation measures for potential impacts for SDi-9253.

### Reduced Mining Face Project

**Environmental Impacts.** Same as Proposed Project.

**Mitigation Measures.** Same as Proposed Project.

### Bench Cut Reduced Project

**Environmental Impacts.** Same as Proposed Project.

**Mitigation Measures.** Same as Proposed Project.

## Expanded Project

**Environmental Impacts.** In addition to potential impacts to SDi-314 and SDi-682, mining under this alternative may impact a village site, a pictograph and two milling stations.

**Mitigation Measures.** ~~Additional environmental review would be required if this alternative is implemented.~~ Mitigation would include protection of SDi-314 and SDi-682 and sub-surface testing to determine the significance of appropriate mitigation for the village site and the milling situations. If feasible, the pictograph should be preserved; ~~at a minimum it must be photographed and illustrated by a qualified archaeologist.~~

## 5. Noise

### Sycamore Ridge

**Environmental Impacts.** Off site noise levels are not expected to be significant. On-site noise would increase as a result of various mining activities, including blasting.

**Mitigation Measures.** If noise is considered a nuisance by the residents of nearby developments, mitigation measures such as improvement of mufflers on the equipment and/or the use of enclosures and/or smaller equipment may be necessary. Performance conditions, such as limiting the hours of operation or allowing operations as long as specified noise levels are not exceeded, could also be imposed. Proper placement and charge of explosives by a licensed professional will aide in reducing noise levels during blasting.

### Reduced Mining Face Project

**Environmental Impacts.** Both on-site and traffic-related noise would be expected to decrease significantly given the shortened operation period of the plant (18 years as opposed to a projected 20 years of mining operations for the Proposed Project). This represents a reduction in predicted noise levels over the long term. However, daily noise levels would not differ substantially from the Proposed Project.

**Mitigation Measures.** Same as Proposed Project.

### Bench Cut Reduced Project

**Environmental Impacts.** Both on-site and traffic-related noise would be expected to decrease significantly given the shortened operation period of the plant (13 years as opposed to a projected 20 years of mining operations for the Proposed Project). This represents a reduction in predicted noise levels over the long term. However, daily noise levels would not differ substantially from the Proposed Project.

**Mitigation Measures.** Same as Proposed Project.

## **Expanded Project**

**Environmental Impacts.** Traffic generated noise is not expected to increase. Initially, on-site noise would remain similar to the Proposed Project, but as the project expands and natural barriers are removed, noise levels would increase.

**Mitigation Measures.** In addition to the mitigation measures noted for the Proposed Project, construction of noise barriers or landform berms may be necessary as the project expands and noise increases.

## **6. Air Quality**

### **Sycamore Ridge**

**Environmental Impacts.** Changes in air quality impacts imposed by the Palomar Aggregate Project would not be expected to change should this alternative site be chosen. Gaseous emissions would add to the regions air quality problem and fugitive dust may appear as a nuisance to local residents.

**Mitigation Measures.** Mitigation of these adverse impacts at this location would be equivalent to those listed for the proposed site.

### **Reduced Mining Face Project**

**Environmental Impacts.** Air quality impacts would decrease substantially due to a reduced period of operation of 18 years, as compared to 20 years for the Proposed Project. This would result in considerably less quantities of gaseous and fugitive dust emissions. Nevertheless, this relatively lesser amount of impact would still add to cumulative regional air quality degradation.

**Mitigation Measures.** Same as Proposed Project.

### **Bench Cut Reduced Project**

**Environmental Impacts.** Air quality impacts would decrease substantially due to a reduced period of operation of only 13 years, as compared to 20 years for the Proposed Project. This would result in considerably less quantities of gaseous and fugitive dust emissions. Nevertheless, this relatively lesser amount of impact would still add to cumulative regional air quality degradation.

**Mitigation Measures.** Same as Proposed Project.

### **Expanded Project**

**Environmental Impacts.** Air quality impacts could be expected to increase.

**Mitigation Measures.** Same as Proposed Project.

## 7. Hydrology/Erosion Control

### Sycamore Ridge

**Environmental Impacts.** The majority of the area would remain undisturbed. Alteration of drainage patterns and potential for increased erosion would be limited to those areas disrupted by mining operations and along transit routes. Sedimentation ponds would be used to allow sediment to settle out before any water from the site is dispersed into existing drainages. The potential for erosion on-site is moderate, but considered significant; off-site erosion is considered minimal.

**Mitigation Measures.** All runoff from the site would be channeled into detention ponds, thereby preventing adverse effects on the area's water quality. Revegetation of disturbed areas would minimize the cumulative impacts of erosion. On-site, significant adverse impacts would be mitigated through the use of appropriate engineering techniques.

### Reduced Mining Face Project

**Environmental Impacts.** As with the Proposed Project, this alternative would increase the amount of soil loss which would occur as a result of increased runoff from mining operations, though to a somewhat lesser extent. Specifically, the erosion potential for the site would be approximately 26 fewer tons per year than what is currently proposed.

**Mitigation Measures.** Same as Proposed Project.

### Bench Cut Reduced Project

**Environmental Impacts.** Same as "Reduced Mining Face Project Alternative".

**Mitigation Measures.** Same as Proposed Project.

### Expanded Project

**Environmental Impacts.** Erosion potential and impacts upon hydrology would be expected to increase while the project is operating.

**Mitigation Measures.** Same as Proposed Project.

## 8. Groundwater

### Sycamore Ridge

**Environmental Impacts.** Water for use on-site will be imported, resulting in no adverse impacts to the areas groundwater.

**Mitigation Measures.** No mitigation necessary.

### Reduced Mining Face Project

**Environmental Impacts.** Reduced project operations and area of cut would dramatically reduce the amount of groundwater supplies needed for dust control, concrete production, landscape irrigation, sanitation, and maintenance by the following:

	Proposed Project	Reduced Project
Dust Control	31,400 gpd	16,956 gpd
Concrete Production	24,888 gpd	12,253 gpd
Landscaping, etc.	8,000 gpd	4,480 gpd
<b>Total</b>	<b>64,288 gpd</b>	<b>33,689 gpd</b>

**Mitigation Measures.** Same as Proposed Project.

### Bench Cut Reduced Project

**Environmental Impacts.** The daily groundwater supplies needed for dust control, concrete production, landscape irrigation, sanitation, and maintenance under this reduced project would be the same as or less than those described under the "Reduced Mining Face Project Alternative".

**Mitigation Measures.** Same as Proposed Project.

### Expanded Project

**Environmental Impacts.** A slight increase in the quantity of groundwater used on a daily basis may be necessary for mining operations with an expanded project. Since this alternative project would continue for a longer period of time, total water use would increase substantially.

**Mitigation Measures.** Same as Proposed Project.

## 9. Land Use/Community Character

### Sycamore Ridge

**Environmental Impacts.** Implementation of a mining operation upon the site would commit the location and surrounding areas to long-term mining and mining effects. Due to the characteristic traits of any mining operation, the potential for significant impacts exists. Although zoning allows for mineral extraction in a rural residential area, mining would not be considered a compatible use

by local residents. This may effect future designation decisions to change from residential to non-residential uses.

In the case of Sycamore Ridge, the undisturbed landscape provides a rural backdrop for the surrounding communities and land uses. The large lot communities of Twin Oaks Valley, the senior citizen oriented resort of Lawrence Welk Village, and the existing agriculture in the area, enhance and benefit from the rural setting. The significant adverse impacts that a mining operation would have on the vicinity's character, could not be fully mitigated.

**Mitigation Measures.** The long-term reclamation plan provides partial mitigation for the adverse impacts upon the area's rural character.

### **Reduced Mining Face Project**

**Environmental Impacts.** Same as Proposed Project.

**Mitigation Measures.** Same as Proposed Project.

### **Bench Cut Reduced Project**

**Environmental Impacts.** Same as Proposed Project.

**Mitigation Measures.** Same as Proposed Project.

### **Expanded Project**

**Environmental Impacts.** Due to the extended period of mining, land use and community character would be effected for a longer period of time. It is anticipated that the Expanded Project Alternative would also accelerate the eastward extension of urban land uses by removing the easterly hill which provides a physical and visual barrier between the I-15 corridor and rural-agricultural land to the east. In contrast to the Proposed Project, however, the final configuration of this alternative would blend with surrounding landforms. The reclaimed area could be revegetated with native or agricultural vegetation (i.e. avocados). In this manner, the Expanded Project Alternative would reduce impacts to community character upon completion of the project.

**Mitigation Measures.** Phased reclamation would include back-filling and revegetation as the mining progressed. In other respects, mitigation would be similar to that of the Proposed Project.

## **10. Public Safety**

### **Sycamore Ridge**

**Environmental Impacts.** Although a mining and blasting plan has not been prepared for this site, it is anticipated that plans would call for an alternative to the currently proposed 80° slope. Under this assumption, the two potentially significant public safety impacts associated with implementation

of the Proposed Project (i.e. rockfall and the creation of a 715 foot mined face) would be avoided. Selection of this alternative may, however, create new potentially significant public safety impacts. For example, the blasting plan may create potential hazards to employees of the quarry.

**Mitigation Measures.** Potentially significant public safety impacts would be analyzed upon completion of the conceptual mining and blasting plan. All employees shall be cleared from the mining pit prior to blasting. Blasting shall be undertaken by a registered blasting engineer.

### **Reduced Mining Face Project**

**Environmental Impacts.** Same as Proposed Project.

**Mitigation Measures.** Same as Proposed Project.

### **Bench Cut Reduced Project**

**Environmental Impacts.** The overall slope of the Benched Cut Reduced Project alternative would be approximately 75° and an 18-foot bench would be cut at every 36-foot "vertical" cut. This benched configuration would allow the attainment of public safety without the use of wire mesh and rock anchors.

**Mitigation Measures.** Same as Proposed Project.

### **Expanded Project**

**Environmental Impacts.** The Expanded Project alternative would not create 80° slopes, therefore, potential impacts associated with steep slopes would be avoided. During realignment of SR-76, measures would be implemented to reduce the risk of rockfall from seismically induced groundshaking along the highway.

**Mitigation Measures.** No further mitigation would be required.

## **11. Dark Skies**

### **Sycamore Ridge**

**Environmental Impacts.** The Sycamore Ridge site is located outside Zone A, but within Zone B, of the Palomar Observatory as designated by the County of San Diego Light Pollution Code. Impacts to the Palomar Observatory would be created at this alternative site, but they would be reduced in comparison to those at the proposed site.

**Mitigation Measures.** Same as Proposed Project.

**Reduced Mining Face Project**

**Environmental Impacts.** Same as Proposed Project.

**Mitigation Measures.** Same as Proposed Project.

**Bench Cut Reduced Project**

**Environmental Impacts.** Same as Proposed Project.

**Mitigation Measures.** Same as Proposed Project.

**Expanded Project**

**Environmental Impacts.** Same as Proposed Project.

**Mitigation Measures.** Same as Proposed Project.

## IX. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Although not economically feasible due to the lesser volume of aggregate, the Bench Cut Reduced Project Alternative would be environmentally superior to any of the other alternatives listed in the Alternatives Section. This alternative would have fewer environmental impacts than any of the other alternatives in every area with the exception of Visual/Aesthetics and Dark Skies. The Reduced Mining Face Alternative would have less visual impact than the Bench Cut Reduced Project alternative. The Sycamore Ridge site is further from the Palomar Mountain Observatory, therefore, impacts to Dark Skies would be less than those that would be generated at the Bench Cut Reduced Project Site. Overall, the Bench Cut Reduced Project Alternative is environmentally superior to the other alternatives discussed in this FEIR.

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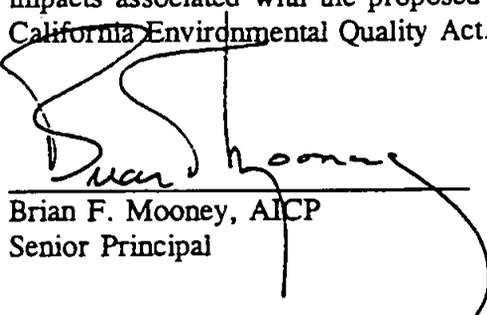
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## XII. CERTIFICATION

This report presents a full disclosure and independent analysis of all the identified resources and impacts associated with the proposed Major Use Permit and Reclamation Plan as required by the California Environmental Quality Act.



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