

**BIOLOGICAL TECHNICAL REPORT
FOR
ALBERS MINOR SUBDIVISION
TPM 20843
Log Number: 04-14-022**

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TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 SUMMARY OF FINDINGS	1
2.0 INTRODUCTION	2
3.0 SURVEY METHODOLOGY	5
4.0 RESULTS	6
4.1 Vegetation	6
4.2 Wildlife	9
4.3 Sensitive Resources	9
4.3.1 Sensitive Habitats	11
4.3.2 Sensitive Plants	11
4.3.3 Sensitive Animals	12
5.0 REGULATORY REQUIREMENTS	15
6.0 ANTICIPATED PROJECT IMPACTS	18
6.1 Proposed Project Impacts	19
6.2 Significance Impacts	19
7.0 PROPOSED MITIGATION	20
8.0 LITERATURE CITED	23
9.0 CERTIFICATION	24

LIST OF FIGURES

Figure 1	Regional Location	3
Figure 2	Project Location	4
Figure 3	Biological Resources	7
Figure 4	Proposed Road Improvements	8

LIST OF TABLES

Table 1	Biological Surveys	5
Table 2	Habitat and Impact Acreage	19

LIST OF APPENDICES

Appendix A	Plant Species Observed
Appendix B	Wildlife Species Observed
Appendix C	Sensitive Plant Species with the Potential to Occur
Appendix D	Sensitive Animal Species with the Potential to Occur
Appendix E	Sensitivity Codes
Appendix F	Quino Survey Report

1.0 SUMMARY OF FINDINGS

The proposed project is a minor subdivision of a 23.64 gross acre parcel into four residential lots plus a remainder parcel. The proposed project also includes a 7.55 acre biological open space easement. The project is located in the Community of Alpine, in East San Diego County, south of Interstate 8. The proposed project is located within the USGS 7.5' Alpine Quadrangle, Township 15 south, Range 2 East. The proposed project is located within the Metro-Lakeside-Jamul portion of the Multiple Species Conservation Program (MSCP).

This report provides information regarding existing conditions, compliance with the Resource Protection Ordinance (RPO), compliance with the Biological Mitigation Ordinance (BMO) and performs an impact analysis based on the current site design. This report also identifies mitigation measures that conform with the Biological Mitigation Ordinance, and Resource Protection Ordinance, therefore reducing any impacts to below a level of significance.

General biological surveys, sensitive plant surveys, focused Quino Checkerspot surveys and focused California gnatcatcher surveys were performed on-site. The biological resources on-site include four habitat types: dense Engelmann oak woodland, southern mixed chaparral, non-native grassland, and developed. Biological resources that are afforded some level of protection under the Biological Mitigation Ordinance would include the dense Engelmann oak woodland, southern mixed chaparral, and non-native grassland. The site does not qualify as a Biological Core Resource Area (BRCA) in accordance with the BMO.

No state or federally listed plant or animal species were observed on-site. One sensitive plant species, the Engelmann Oak was observed on-site. This is County list D species. Two Engelmann oaks are proposed to be impacted as a result of the proposed project. One sensitive wildlife species was observed on-site; the red-shouldered hawk.

Impacts to approximately 8.77 acres of southern mixed chaparral and 6.42 acres of non-native grassland habitat may occur as a result of the proposed project.

Mitigation for impacts to 8.77 acres of southern mixed chaparral will be mitigated through the off-site acquisition of 8.77 acres of Tier III or habitat of a greater value. Impacts to 6.42 acres of non-native grassland will be mitigated by the off-site acquisition of 3.21 acres of Tier III or higher habitat within a Pre-Approved Mitigation Area. Potential impacts to sensitive animal species observed and with a high and moderate potential to occur on-site will be mitigated by the habitat-based mitigation in accordance with the BMO. Implementation of these mitigation measures will reduce impacts to below a level of significance.

2.0 INTRODUCTION

The proposed project is a minor subdivision of a 23.64 gross acre parcel into four residential lots plus a remainder parcel. The proposed project also includes a 7.55 acre biological open space easement.

The project is located in the Community of Alpine, in East San Diego County, south of Interstate 8 (Figure 1). The proposed project is located within the USGS 7.5' Alpine Quadrangle in Section 32, Township 15 South, Range 2 East (Figure 2). The proposed project is located within the Metro-Lakeside-Jamul portion of the Multiple Species Conservation Program (MSCP).

Topography, Soils, Land Use

The project is generally a west facing slope of a large ridge ranging from gentle to steep slopes. Elevations on-site range from approximately 1640 feet above mean sea level along the northwestern property line, increasing to approximately 1800 feet above mean sea level along the eastern side of the property.

The soils on the property include both the Fallbrook series and the Cieneba series (Bowman 1973). Fallbrook series soils consist of well-drained moderately deep to deep sandy loams that formed in material weathered in place from granodiorite. These soils are on uplands and have slopes ranging from 2 to 30 percent. Fallbrook sandy loam with 9 to 15 percent slopes is present in the southern edge of the property. Fallbrook rocky sandy loam dominates most of the project area covering the central portion. This soil is strongly sloping to moderately steep and is 20 to 30 inches deep over rock. Boulders cover 10 to 25 percent of the surface (Bowman 1973).

The Cieneba series consists of excessively drained, very shallow to shallow coarse sandy loams that formed in material weathered in place from granitic rock. These soils are on rolling to mountainous uplands and have slopes ranging from 5 to 75 percent. The slopes on the northern side of the project area are Cieneba-Fallbrook rocky sandy loams with 30 to 65 percent slopes. This complex is about 55 percent Cieneba coarse sand loam and 40 percent Fallbrook sandy loam. It has rock outcrops on about 10 percent of the surface and very large boulders on about 10 percent (Bowman 1973).

The site has some existing developed improvements that include a paved road and a landscaped building.

Regional Setting

The proposed project is located within the Metro-Lakeside-Jamul portion of the Multiple Species Conservation Program (MSCP). The site is located in area of rural residential and agricultural lands interspersed with undeveloped lands. The site is mapped as having disturbed, developed, low, and very high habitat value. The site is not located within a Pre-Approved Mitigation Area. The site does not qualify as a Biological Resource Core Area (BRCA) as defined within Article VI.A.1.a of the Biological Mitigation Ordinance.

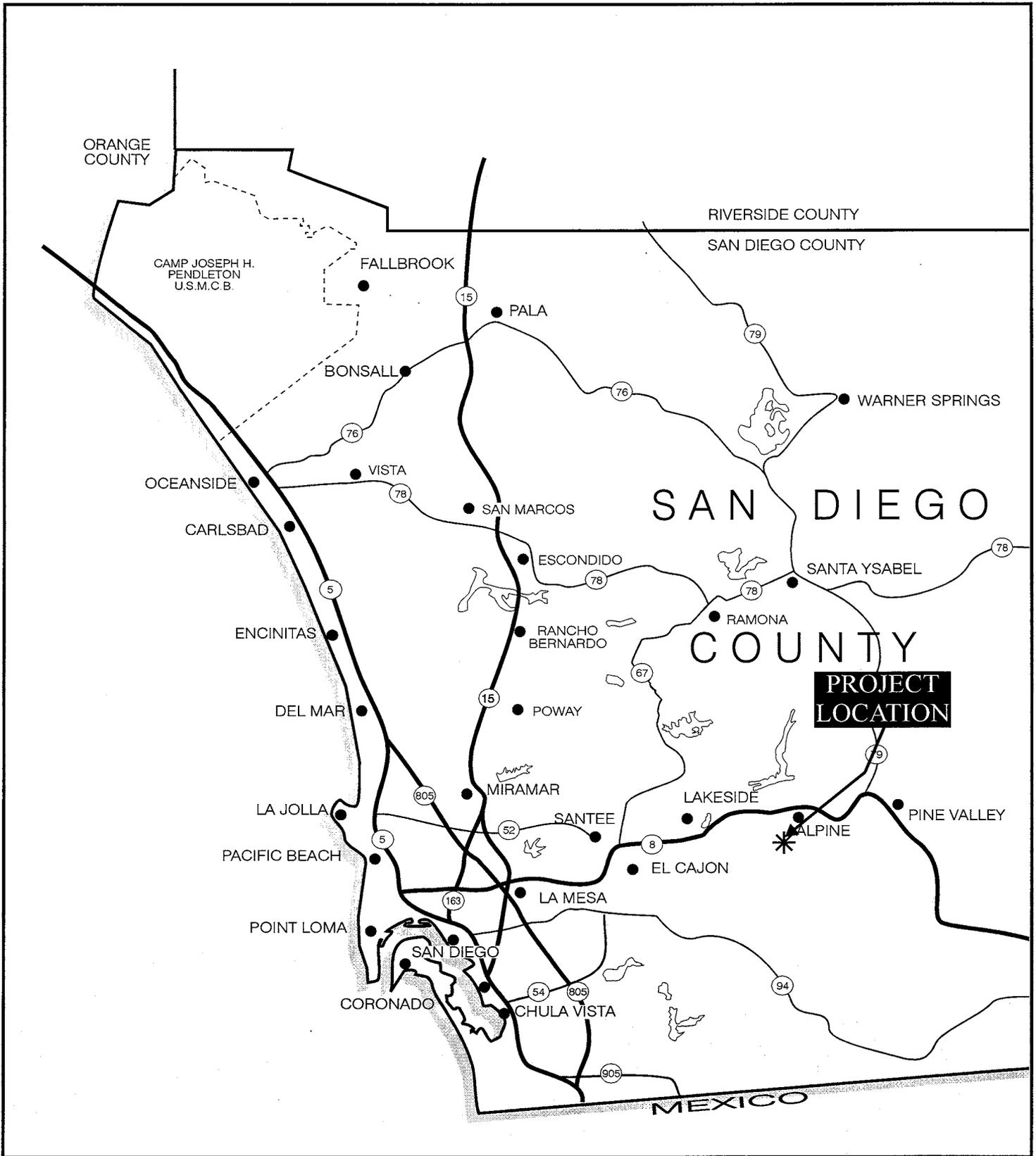
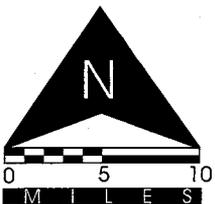
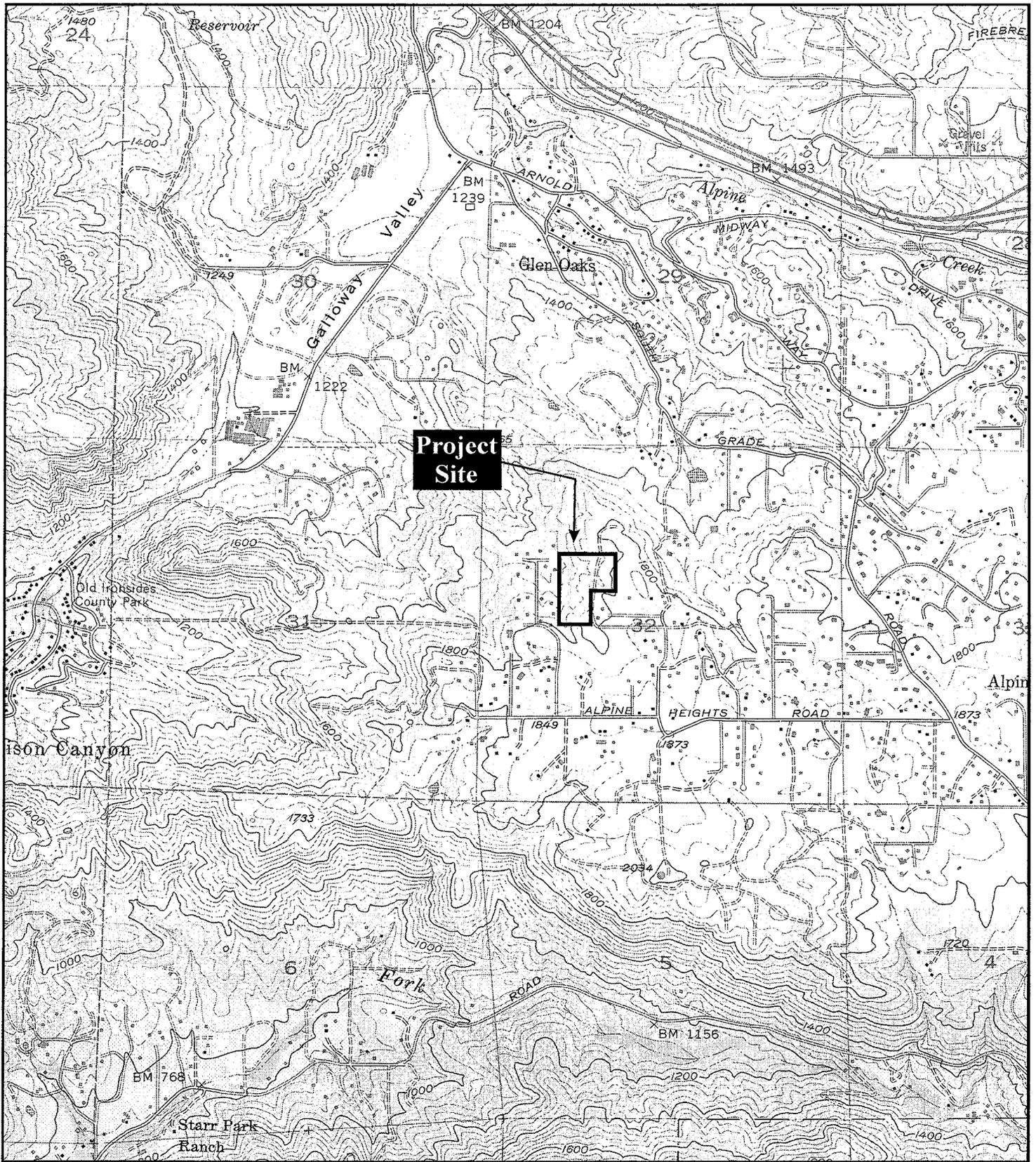


Figure 1
Regional Location Map





SOURCE: USGS 7.5' Alpine Quadrangle

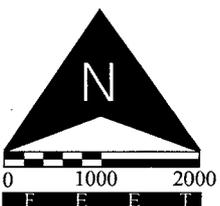


Figure 2
Project Location
Albers Property

3.0 SURVEY METHODOLOGY

The site was surveyed on foot and habitat mapped (Figure 3). Mapping was performed following the Biological Resources Mapping Requirements (County 2002). Wildlife species were identified directly by sight or by vocalizations, and indirectly by scat, tracks, or burrows. Field notes were maintained throughout the surveys and species of interest were mapped. Surveys focused on sensitive plant and wildlife species and all species observed were noted. The presence or absence of suitable habitat for sensitive species was also identified. The primary focus of the survey was to document and map the size, location, and general quality of all habitat types and the presence or potential presence of any sensitive resources (plant or wildlife) on-site. Focused protocol surveys for the Quino checkerspot by USFWS permitted biologist Andrew Pignolo (TE 053020-0) and presence absence surveys for the California gnatcatcher (*Polioptila californica californica*) by USFWS permitted biologist Robin Church (TE-812206-3) were also performed.

Date	Time	Survey	Temperature (°F)	Sky	Wind (mph)	Observers
5/30/03	10:00-12:30	Sensitive Plants	63°	Clear	0-5	AP
6/13/03	1:00-3:00	Sensitive Plants	65°	Clear	0-5	AP
3/12/04	2:30-4:30	Quino Sensitive Plants	74°-60°	Clear	0-4	AP
3/19/04	3:00-5:00	Quino Sensitive Plants	85°-89°	Clear	0-4	AP
3/27/04	10:30-12:30	Quino Sensitive Plants	65°-73°	Clear	0-4	AP
4/4/04	1:30-3:30	Quino Sensitive Plants	72°	Partly cloudy	0-4	AP
4/9/04	12:30-2:30	Quino Sensitive Plants	70°-80°	Clear	0-4	AP
4/16/04	11:30-1:30	Quino Sensitive Plants	76°-78°	Clear	0-4	AP
4/23/04	1:30-3:30	Quino Sensitive Plants	77°-84°	Clear	0-4	AP
12/16/04	10:30-11:30	California gnatcatcher	73°-73°	Clear	0-5	RC
12/23/05	9:50-11:00	California gnatcatcher	56°-60°	Cloudy	0-5	RC
1/16/05	10:10-11:00	California gnatcatcher	70°-73°	High clouds	0-2	RC

RC = Robin Church, AP = Andrew Pignolo

Nomenclature for this report conforms to Hickman (1993), Holland (1986), Oberbauer (1996), and California Native Plant Society Electronic Inventory (2003) for plant communities and habitat types, American Ornithological Union (AOU 2000) for birds, Jennings (1983) and Stebbins (2003) for reptiles and amphibians, Jones (1992) for mammals, and Powell (1979) for insects.

4.0 RESULTS

The following discussion summarizes the existing biological resources on-site including habitats, vegetation and wildlife. Habitats are depicted on Figure 3.

4.1 Vegetation

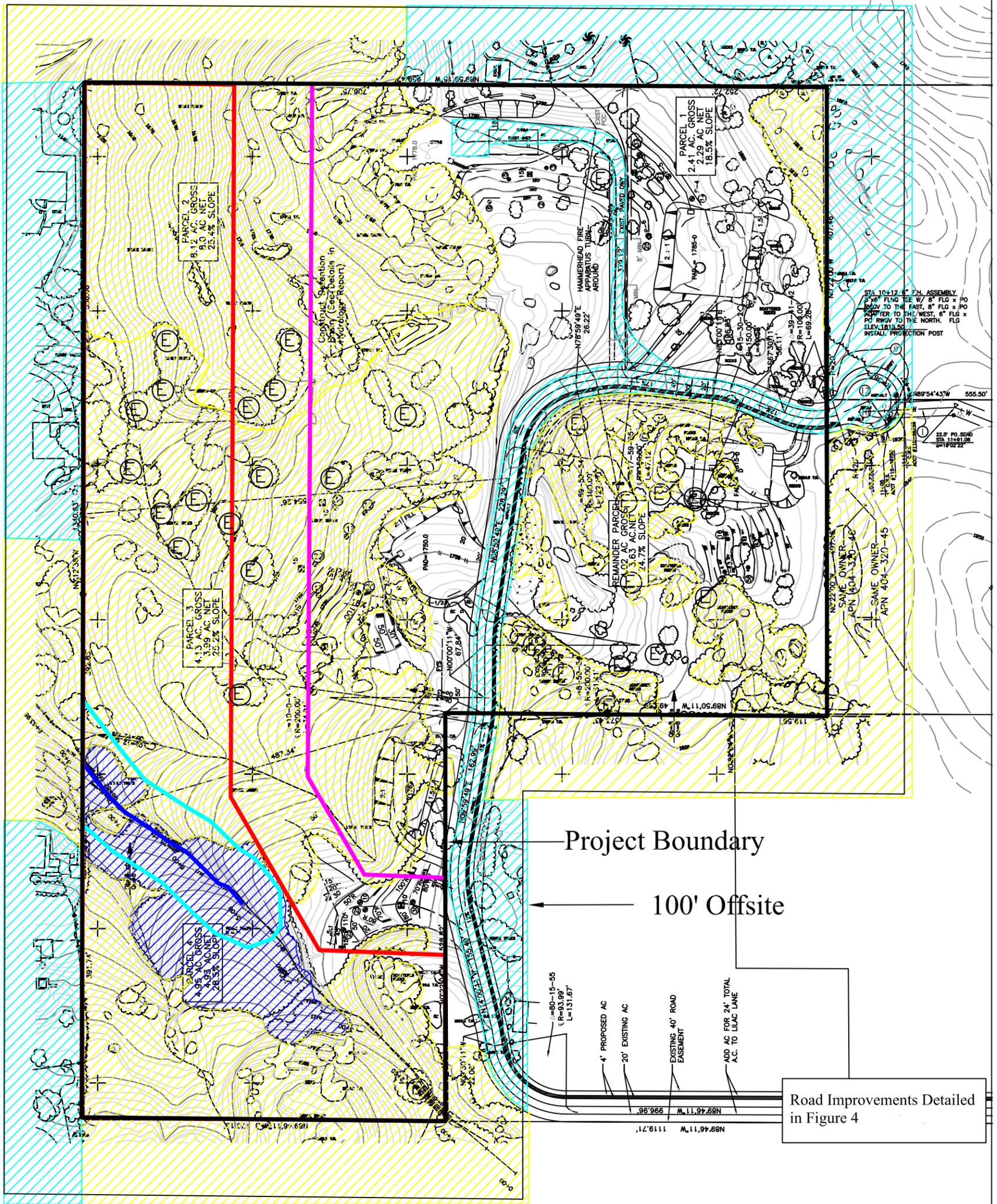
Habitat descriptions are based on the County of San Diego's Biological Mapping Requirements (County 2002) and Terrestrial Vegetation Communities in Sand Diego County based in Holland's Descriptions (Oberbauer 1996), however, it has been shown that habitats on the project sites in San Diego County are often not pristine and rarely fit into one description. Therefore the best-fit definition based on the County's current descriptions and dominant plant species has been applied. Four vegetation types occur within the project site: dense Engelmann oak woodland, southern mixed chaparral, non-native grassland, and developed. The habitats are depicted in Figure 3. A complete list of plant species observed on-site is included in Appendix A.

Dense Engelmann Oak Woodland (Habitat Code: 71182)

The dense Engelmann oak woodland on-site is composed of a nearly closed canopy of Engelmann oak (*Quercus engelmannii*) and mature coast live oaks (*Quercus agrifolia*). This habitat is focused on the banks of a narrow, steep sided drainage in the southwestern portion of the property. An ephemeral stream occurs within the bottom of the drainage and Desert grape (*Vitis girdiana*) is another important component of this community. The oaks are primarily located outside of the limits of the drainage forming a dense canopy that overhangs the stream. Approximately 1.24 acres of this habitat occurs on-site.

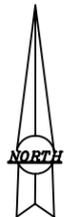
Southern Mixed Chaparral (Habitat Code: 37121)

Undisturbed southern mixed chaparral covers approximately 14.89 acres of the site and consists of moderate-statured stands (between 1.5 and 3 meters) of a variety chaparral species. Chamise (*Adenostoma fasciculatum*) and scrub oak (*Quercus berberidifolia*) are dominant but several other species are common: mission manzanita (*Xylococcus bicolor*), *betuloides*), woolly-leaved ceanothus (*Ceanothus tomentosus*), Yellow bush penstemon (*Keckiella antirrhinoides*), heart-leaved penstemon (*Kekiella chordifolia*), and honeysuckle (*Lonicera supspicata*). Additionally, a several scattered Engelmann oak (*Quercus engelmannii*) are present in this habitat.

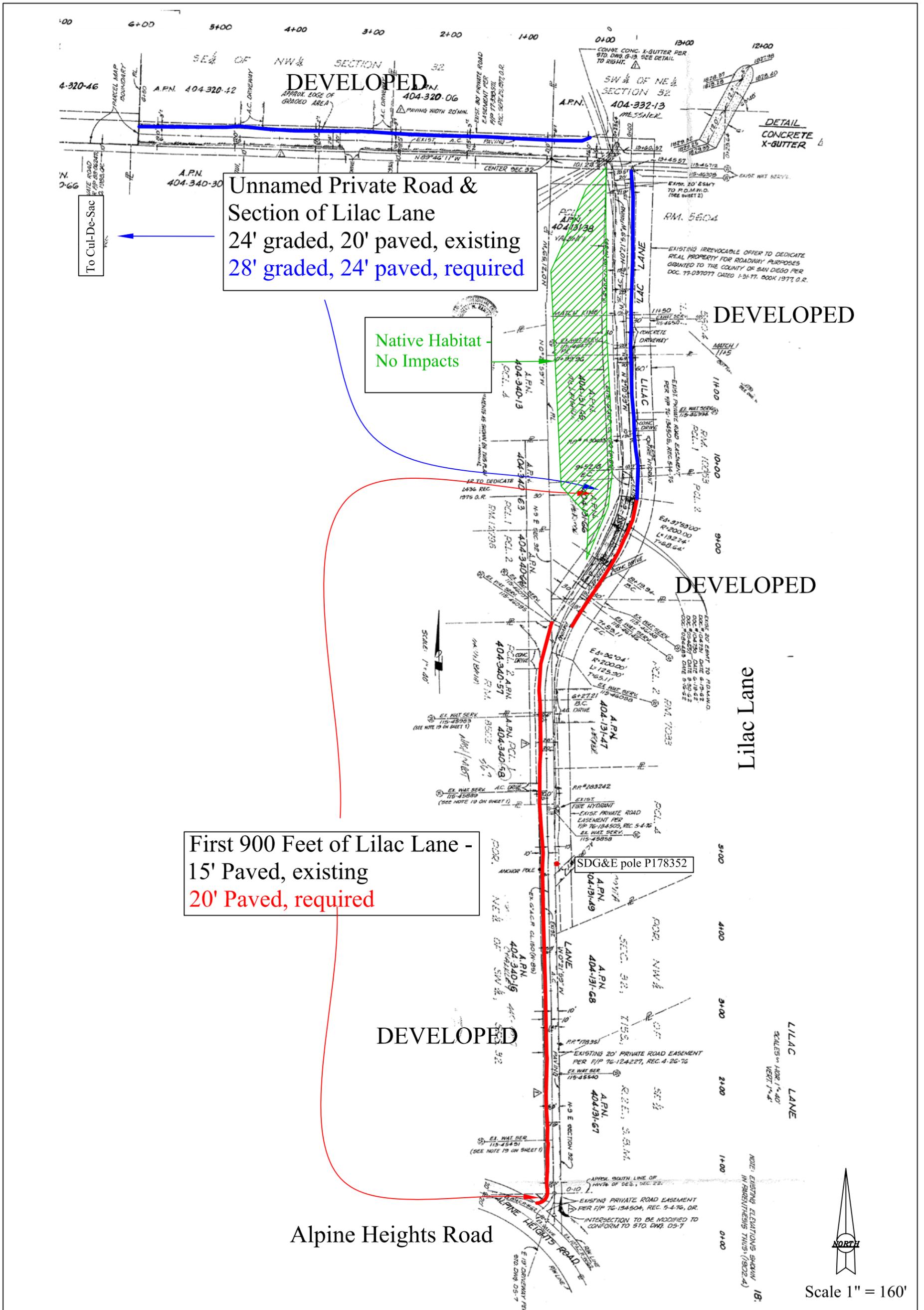


Legend:

- | | | | |
|---|--|--|--------------------------------|
|  | Developed (0.8 acres)
Habitat Code: 12000 |  | Individual Engelmann Oak |
|  | Non-Native Grassland (6.86 acres)
Habitat Code: 42200 |  | Limited Building Zone |
|  | Southern Mixed Chaparral (14.71 acres)
Habitat Code: 37121 |  | Open Space Limits (7.55 acres) |
|  | Dense Engelmann Oak Woodland (1.24 acres)
Habitat Code: 71182 |  | RPO |
| | |  | RPO Buffer |



Scale 1" = 140'



Unnamed Private Road &
 Section of Lilac Lane
 24' graded, 20' paved, existing
 28' graded, 24' paved, required

Native Habitat
 No Impacts

First 900 Feet of Lilac Lane -
 15' Paved, existing
 20' Paved, required

RC

Biological Consulting, Inc.

Albers Road Improvement Maps

October 2007

Figure 4

Non-Native Grassland (Habitat Code: 42200)

The upper portions of the project area have been disturbed by previous grading which is in a state of recovery. Many coastal sage scrub species have taken hold in this area. California buckwheat (*Eriogonum fasciculatum*) and California sagebrush (*Artemisia californica*) are common components along with non-native species dominated by Foxtail chess (*Bromus rubens*), Star-thistle (*Centaurea melitensis*), Italian thistle (*Carduus pycnocephalus*), and Milk thistle (*Silybum marianum*). One large area is dominated by Fascicled tarweed (*Hemizonia fasciculata*) and Fringed Turkish rugging (*Chorizanthe fimbriata*). A small area near the pump building has also been landscaped with non-natives. The non-native grassland habitat composes approximately 6.61 acres of the site.

Developed (Habitat Code: 12000)

Developed habitat on-site consists of two paved roads and a building. Approximately 0.90 acres of this habitat occurs on-site.

Rock Outcrops

Rock outcrops are considered a unique microhabitat by the County. Numerous rock outcrops occur on-site. Rock outcrops add diversity to the vegetation communities by providing a discrete ecological niche for species not found elsewhere in the surrounding habitat. Rock outcrops also provide cover and potential nesting cavities for several wildlife species. Some reptile species are attracted to the sun-warmed surfaces of the rocks, and birds use boulders as perches and vantage points.

4.2 Wildlife

A total of thirty-six wildlife species were identified on-site. These included twenty-two invertebrate species and fourteen bird species. No reptiles or mammals were observed on-site, although they would be expected to occur. A complete list of wildlife species observed on-site is included as Appendix B.

Birds that would typically occur in the habitats on-site were observed, including Bewick's wren (*Thryomanes bewickii*), California thrasher (*Toxostoma redivivum*), California towhee (*Pipilo crissalis*), house finch (*Carpodacus mexicanus*), rufous-sided towhee (*Pipilo erythrophthalmus*), lesser goldfinch (*Carduelis psaltria*), scrub jay (*Aphelocoma californica*), northern flicker (*Colaptes auratus*), and other species. One red-shouldered hawk (*Buteo lineatus*) was observed overhead.

4.3 Sensitive Resources

Sensitive or special interest plant and wildlife species and habitats are those which are considered rare, threatened, or endangered within the state or region by local, state, or federal resource conservation agencies. Sensitive habitats, as identified by these same groups, are those which generally support plant or wildlife species considered sensitive by these resource protection agencies or groups. Sensitive species and habitats are so

called because of their limited distribution, restricted habitat requirements, particular susceptibility to human disturbance, degradation due to development or invasion by non-native species, or a combination of all of these factors.

In addition to RPO and the MSCP the following were used in the determination of sensitive biological resources: U.S. Fish and Wildlife Service (USFWS) (USFWS 2001); California Department of Fish and Game (CDFG) (CDFG 1999, 2000 and 2001); and California Native Plant Society (CNPS 2003). An explanation of the sensitivity codes used in this report are included in Appendix E.

Applicable Resource Conservation Plans and Ordinances

In San Diego County, regulations have been adopted which define and provide protection to certain types of sensitive biological resources as follows:

Resource Protection Ordinance (RPO)

The purpose of the RPO is to protect sensitive resources and prevent their degradation and loss. The sensitive resources protected by the RPO include wetlands, wetland buffer areas, and sensitive habitat lands, which are defined as follows:

"Wetland" areas include lands which are transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or where the land is covered by water. All lands having one or more of the following attributes are "wetlands":

- a) At least periodically, the land supports predominantly hydrophytes (plants whose habitat is water or very wet places);
- b) The substratum is predominantly undrained hydric soil; or
- c) The substratum is nonsoil and is saturated with water or covered by water at some time during the growing season of each year.

"Wetland buffer" areas include lands which provide a buffer area of an appropriate size to protect the environmental and functional habitat values of the wetland, or which are integrally important in supporting the full range of the wetland and adjacent upland biological community.

"Sensitive habitat lands" include those which support unique vegetation communities, or the habitats of rare or endangered species or sub-species of animals or plants, including the area which is necessary to support a viable population of any of these species in perpetuity, or which is critical to the proper functioning of a balanced natural ecosystem or which serves as a functioning corridor.

Multiple Species Conservation Program (MSCP) and Biological Mitigation Ordinance (BMO)

In response to the continued loss of sensitive biological resources, especially coastal sage scrub, the County adopted the MSCP in 1997. The proposed project must conform to the MSCP Subarea Plan, and the project must demonstrate that it has incorporated avoidance measures to meet the preserve design requirements of the Plan. To implement the MSCP Subarea Plan, the County enacted the BMO. Habitats are classified in different "Tier" levels that require different levels of mitigation. Application of the BMO to individual projects is the method by which the County will achieve the conservation goals set forth in the MSCP. Mitigation requirements for different habitat types are based on the location of both the impact and the proposed mitigation. Impacts within core habitat areas or Pre-Approved Mitigation Areas require higher mitigation ratios. Conversely, more credit is allowed for preservation or mitigation within core habitat areas or Pre-Approved Mitigation Areas.

4.3.1 Sensitive Habitats

Dense Engelmann oak woodland, southern mixed chaparral, non-native grasslands, and RPO wetlands would be considered sensitive habitats. Each of these is discussed below.

Dense Engelmann Oak Woodland (Tier I)

Dense Engelmann oak woodland is considered a sensitive habitat within the BMO. All oak woodlands are classified as a Tier I habitat.

Southern Mixed Chaparral (Tier III)

Although still a relatively plentiful habitat, southern mixed chaparral is considered a sensitive habitat within the BMO. This habitat is classified as Tier III.

Non-Native Grassland (Tier III)

Non-native grassland is considered a sensitive habitat within the BMO. Non-native grassland is classified as Tier III.

RPO Wetlands

The Resource Protection Ordinance wetland associated with the drainage within the dense Engelmann oak woodland would be considered sensitive.

4.3.2 Sensitive Plants

Sensitive or special interest plant species are those which are considered rare, threatened, or endangered within the state or region by local, state, or federal resource conservation agencies. Sensitive plant species are so called because of their limited distribution, restricted habitat requirements, or particular susceptibility to human disturbance, or a

combination of these factors. Sources used for the determination of sensitive plant species include: CDFG (1999) and the California Native Plant Society Electronic Inventory (CNPS 2003).

Sensitive plant surveys were performed at the same time as the general biological surveys. Since both require walking intensive transects all plants observed during the surveys were noted. No rare, threatened, or endangered plant species were observed on-site. One sensitive plant species was observed on-site, the Engelmann Oak (*Quercus engelmannii*). This species is discussed below. Thirty-five sensitive plant species are known from the area. All of the species would have been observable during the surveys performed on-site except Tecate tarplant (*Hemizonia floribunda*) and California bedstraw (*Galium californicum californicum*) which both have a low potential to occur on-site due to lack of appropriate habitat. Sensitive plant species with the potential to occur on-site are discussed in Appendix C.

Quercus engelmannii (Engelmann oak)

Quercus engelmannii, a semi-deciduous oak with a distinctive twisted growth pattern and bluish-green leaves, is a County list D and CNPS List 4 species (limited distribution) with a R-E-D ranking of 1-2-2. This species can occur in chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland habitats; the center of its distribution is cismontane San Diego County. Engelmann oaks are sensitive to land management practices such as fire, and their small, disjunct woodlands are highly susceptible to extirpation. Individual trees typically live from 50 to 80 years; however, a few trees in every woodland may be over 150 years old (Figure 3).

Narrow Endemic Plant Species

No narrow endemic plant species were observed on-site. San Diego thorn-mint (*Acanthamintha ilicifolia*), Encinitas baccharis (*Baccharis vanessae*), Dunn's mariposa lily (*Calochortus dunnii*), Lakeside ceanothus (*Ceanothus cyaneus*), variegated dudleya (*Dudleya variegata*), and Dehesa nolina (*Nolina interrata*), all narrow endemics within the MSCP, were determined to have a low potential to occur on-site since they would have been observable during the surveys and were not detected on-site (Appendix C).

4.3.3 Sensitive Animals

Sensitive or special interest wildlife species and habitats are those which are considered rare, threatened, or endangered within the state or region by local, state, or federal resource conservation agencies. Sensitive species are so called because of their limited distribution, restricted habitat requirements, or particular susceptibility to human disturbance, or a combination of these factors. Sources used for the determination of sensitive biological resources include: USFWS (USFWS 2001), CDFG (CDFG 2000 and 2001). Additional species receive federal protection under the Bald Eagle Protection Act and the Migratory Bird Treaty Act and Convention for the Protection of Migratory Birds and Animals.

The CDFG also lists species as threatened or endangered, or candidates for listing as threatened or endangered. Lower sensitivity animals may be listed as “species of special concern” (CDFG 2000). The CDFG further classifies some species under the following categories: “fully protected”, “protected furbearer,” “harvest species,” “protected amphibian,” and “protected reptile.” The designation “protected” indicates that a species may to be taken or possessed except under special permit from the CDFG; “fully protected” indicates that a species can be taken only for scientific purposes. The designation “harvest species” indicates that take of the species is controlled by the state government.

No rare, threatened, or endangered animal species were observed on-site. One sensitive animal species was observed on-site, the red-shouldered hawk (*Buteo lineatus*). This species is discussed below.

Red-shouldered hawk (*Buteo lineatus*)

The red-shouldered hawk is a County sensitive species. It inhabits most of the county west of the desert (Unitt 1984). It occupies a variety of woodland habitats – riparian, live-oak, montane coniferous, urban and suburban groves. Eucalyptus and other stands of non-native trees may serve as breeding habitat, and the species has favored eucalyptus as nest sites since the early 1900’s (Sharp 1906 in Unitt 1984). Two red-shouldered hawks were observed flying over the project site.

Forty-six sensitive wildlife species with the potential to occur on-site are discussed in Appendix D. Of these forty-six sensitive species, on-site, twenty-five have a high potential to occur on-site and eight have a moderate potential to occur. The species with a high potential to occur on-site are: large-blotched salamander (*Ensatina eschscholtzi eschscholtzi*), western spadefoot toad (*Scaphiopus hammondi*), coastal rosy boa (*Charina trivirgata roseofusca*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), coast patch-nosed snake (*Salvadora hexalepis virgulata*), northern red diamond rattlesnake (*Crotalus ruber ruber*), orange-throated whiptail (*Cnemidophorus hyperythrus*), San Diego banded gecko (*Coleonyx variegatus abbotti*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*), San Diego ringneck snake (*Diadophis punctatus similis*), silvery legless lizard (*Anniela pulchra pulchra*), Dulzura California pocket mouse (*Chaetodipus californicus femoralis*), greater western mastiff bat (*Eumops perotis californicus*), mountain lion (*Felis concolor*), ringtail (*Bassariscus astutus*), San Diego desert woodrat (*Neotoma lepida*), southern grasshopper mouse (*Onychomys torridus ramona*), southern mule deer (*Odocoileus hemionus fuliginata*), Bell’s sage sparrow (*Amphispiza belli belli*), black-shouldered kite (*Elanus caeruleus*), Cooper’s hawk (*Accipiter cooperii*), golden eagle (*Aquila chrysaetos canadensis*), loggerhead shrike (*Lanius ludovicianus*), turkey vulture (*Cathartes aura*), and western bluebird (*Sialia mexicana*). The species with a moderate potential to occur on-site include Hermes copper butterfly (*Lycaena hermes*), big free-tailed bat (*Nyctinomops macrotis*), pallid bat (*Antrozous pallidus*), pocketed free-tail bat (*Nyctinomops femorosaccus*), small-footed myotis (*Myotis leibii*), Townsend’s western big-eared bat (*Corynorhinus townsendii*), Yuma myotis (*Myotis yumanensis*), and yellow-breasted chat (*Icteria virens*). All of these species except the San Diego ringneck snake, mountain lion, ringtail, southern mule deer,

and western bluebird are federal and/or state species of concern. All of these species are county sensitive; in addition, the mountain lion is protected by CDFG.

Four federal and/or state listed species have a low potential to occur on-site. These include the Quino checkerspot butterfly (*Ephydryas editha quino*), arroyo southwestern toad (*Bufo micrposcaphus californicus*), California red-legged frog (*Rana aurora draytonii*), and California gnatcatcher (*Polioptila californica californica*). Each of these species is discussed below.

Quino Checkerspot Butterfly (*Euphydryas editha quino*)

Status: Federally listed as Endangered.

A focused survey for the federally endangered Quino checkerspot butterfly (QCB) (adult form) was conducted on-site by USFWS permitted biologist Andrew Pignuolo (permit # TE-053020-0) between March 12 and April 23, 2004 (Appendix F). Survey methods followed those outlined in the Year 2002 Survey Protocol for the Quino checkerspot butterfly (USFWS 2002). The survey consisted of slowly walking roughly parallel transects within all of the non-excluded areas of the property, including disturbed habitat. All butterfly species observed were stopped and recorded. No QCB were observed on-site; twenty other butterfly species were observed (Appendix B). The primary larval host plant, dwarf plantain (*Plantago erecta*) was not observed on-site. One other plant species that may support larval QCB, dark-tip bird's beak (*Cordylanthus rigidus*) was observed on-site. It occurred in southern mixed chaparral, non-native grassland, and open Engelmann ok woodland habitats. No evidence of herbivory was detected during the survey. Based on this survey, the current site conditions, and observations of occupied QCB habitat, the probability of QCB occurring on the site is low.

Arroyo southwestern toad (*Bufo micrposcaphus californicus*)

Status: Federally listed as Endangered, State Species of Special Concern

The arroyo southwestern toad was listed as federally endangered in December 1994. This species is a small toad (2 to 3 inches), light greenish gray or tan with warty skin and dark spots. This species is restricted to rivers that have shallow, gravelly pools adjacent to sandy terraces. Breeding occurs on large streams with persistent water from March to mid-June. Eggs are deposited and larvae develop in shallow pools with minimal current and little or no emergent vegetation and with sand or pea gravel substrate overlain with flocculent silt. After metamorphosis (June or July), the juvenile toads remain on the bordering gravel bars until the pool no longer persists. Juvenile and adults forage for insects on sandy stream terraces that have nearly complete closure of cottonwoods, oaks, or willows and almost no grass and herbaceous cover at ground level. Adult toads excavate shallow burrows on the terraces where they shelter during the day when the surface is damp or during longer intervals during the dry season. (Federal Register 1994). The major drainage on-site is ephemeral, supports thick vegetation, and is steep, and as such does not provide suitable habitat for any of the life stages of the arroyo southwestern toad. There is a low potential for this species to occur on-site.

California red-legged frog (*Rana aurora draytonii*)

Status: Federally listed as Threatened, State Species of Concern

The California red-legged frog was listed as federally threatened in 1996. This species is the largest native frog in the western U.S., ranging from 1.5 to 5 inches in length. The abdomen and hind legs of the adults are largely red. The back has dark flecks and blotches, some with light centers, on a brown, gray, olive, or reddish background color. The habitat of the California red-legged frog contains both aquatic and riparian components. The adults require dense, shrubby, or emergent riparian vegetation closely associated with water that is deeper than 2 and 1/3 feet, slowly moving or still. The largest densities of California red-legged frogs are associated with deep-water pools with dense stands of overhanging willows and an intermixed fringe of cattails. Well-vegetated terrestrial areas within the riparian corridor may provide important sheltering habitat during the winter. They have been found up to 100 feet from water in adjacent dense riparian vegetation. There were no pools on or within 100 feet of the site. In addition, although the species is still present in Baja California, it is believed to be extirpated from the southern transverse and peninsular ranges of California. Therefore, it has a low potential to occur on-site.

California Gnatcatcher (*Polioptila californica*)

Status: Federally listed as Threatened, State Species of Concern

The California gnatcatcher (CAGN), a Federally Threatened species and California Species of Concern, is a small gray songbird that is a resident of scrub-dominated communities in southwestern California from the Los Angeles Basin through Baja California, Mexico. California gnatcatcher populations have declined due to extensive loss of Diegan coastal sage scrub habitat to urban and agricultural uses. A focused presence/absence survey for this species did not detect this species on-site.

5.0 REGULATORY REQUIREMENTS PERTAINING TO WETLANDS

The limits of jurisdiction for each agency is also discussed below.

Army Corps of Engineers (ACOE) – Clean Water Act

Pursuant to Section 404 of the Clean Water Act, any on-site wetlands and waters of the U.S., would be subject to permit provisions regulating activities within their boundaries. These provisions are enforced by the ACOE, as well as the EPA, with technical input from the USFWS. Three factors are considered in the designation of wetlands: the presence of hydrophytic vegetation, hydric soils, and site hydrology. According to the latest ACOE methodology, all three wetland indicators must be present to make a jurisdictional ruling (Environmental Laboratory 1987). Areas indicated as wetlands by all three factors during the rainy season may lack the indicators of hydrology and/or vegetation during the dry season, or the vegetation may have been altered or removed

through human disturbance. Such areas may still be regarded as wetlands by resource agencies.

In addition, the ACOE has jurisdiction over "waters of the United States". Waters of the United States are defined in 33 CFR part 328 (referred to as "waters"). The lateral limits of the jurisdiction of waters maybe divided into three categories, territorial seas, tidal waters and non-tidal waters. 33 CFR part 328.3 provides the definition of waters of the United States as follows:

(a) The term *waters of the United States* means

- (1) all waters which are currently used, or were used in the past, or maybe susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (2) All interstate waters including interstate wetlands;
- (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce, including any such waters:
 - (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - (iii) Which are or could be used for industrial purpose by industries in interstate commerce;
- (4) All impoundments of waters otherwise defined as waters of the United States under the definition;
- (5) Tributaries of waters identified in (a) (1) through (4) of this section;
- (6) The territorial seas
- (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1) through (6) of this section.

Waste treatment systems, including treatments of ponds or lagoons designed to meet the requirements if CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.

- (8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding the CWA remains with the Environmental Protection Agency (EPA).

(b) The term *wetlands* means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and

that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

- (c) The term *adjacent* means bordering, contiguous or neighboring. Wetlands separated from other waters of the United States by man made dikes or barriers, natural river berms, beach dunes and the like are “adjacent wetlands.”
- (d) The term *high tide line* means the line of intersection of the land with the water’s surface to the maximum height reached by a rising tide.....
- (e) The term *ordinary high water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
- (f) The term *tidal waters* means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun....

The limits of jurisdiction in non-tidal waters is defined in 30 CFR part 328.4 (c). When non-tidal waters occur in the absence of adjacent wetlands, the jurisdiction extends to ordinary high water mark. Based on the above definition of waters of the United States and limits of jurisdiction, Waters of the U.S. occur on-site and would be located at the same location as the RPO wetland line identified on Figure 3.

California Department of Fish and Game – Streambed Alteration Program

The CDFG regulates wetlands under Section 1601/1603 of the California Fish and Game Code through their Streambed Alteration Agreement Program. Any alteration of any stream course within the State of California requires a Streambed Alteration Agreement from the CDFG. Section 1601 pertains to public projects where section 1603 applies to private projects and specifically states: “It is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity...”

A stream is defined by the California Code of Regulations (14 CCR 1.72) as a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic wildlife. This includes watercourses having a surface or subsurface flow that supports or has supported riparian habitat.

The limits of CDFG jurisdiction are defined in the code (Section 1601/1603) as the bed, channel, or bank of any river, stream or lake designated by the department in which there is at any time existing fish or wildlife resource or from which these resources derive benefit

The CDFG jurisdiction would be larger than the RPO wetlands and ACOE wetlands on-site. The CDFG jurisdiction would extend to the limits of the dense Engelmann Oak Woodland associated with the drainage.

County of San Diego Resource Protection Ordinance

The County of San Diego Resource Protection Ordinance defines wetlands under Article II, item 16. as: "All lands which are transitional between terrestrial and aquatic where the water table is usually at or near the surface or where the land is covered by water. All lands having one or more of the following attributes are 'wetlands':"

- a. At least periodically, the land supports predominately hydrophytes;
- b. The substratum is predominantly undrained hydric soils; or
- c. The substratum is nonsoil and is saturated with water or covered by water at some time during the growing season each year.

The resource protection ordinance wetlands were mapped using the presence of any of one criteria listed above. The majority of the length of the drainage actually is devoid of hydric vegetation; therefore hydrology was used to identify RPO wetland limit. This portion lacked hydrophytic vegetation but had evidence of scour. The ordinary high water mark or assumed limits of the one year flood were used to delineate this portion. The ordinary high water mark was determined to be a bench or bank that occurred within the outer bank. The RPO limits are mapped on Figure 3.

6.0 ANTICIPATED PROJECT IMPACTS

Impacts on biological resources can be categorized as either direct, indirect, or cumulative. Direct impacts are a result of project implementation, and generally include: the loss of vegetation and sensitive habitats and populations; the introduction of non-native species which may out-compete and displace native vegetation; activity-related to mortalities of wildlife; loss of foraging, nesting or burrowing habitat; destruction of breeding habitats; and fragmentation of wildlife corridors. Indirect impacts occur as a result of the increase in human encroachment in the natural environment and include: off-road vehicle use which impacts sensitive plant or animal species; harassment and or collection of wildlife species; intrusion and wildlife mortality by domestic pets in open space areas following residential development; increased noise and lighting; and inadvertent increased wildlife mortalities along roads. Cumulative impacts occur as a result of on-going direct and indirect impacts for unrelated or fragmented projects overall. Cumulative impacts are assessed on a regional basis and determined the overall effect of numerous activities on a sensitive resource over a larger area.

Generally, there are three levels of adverse impacts associated with biological resources: significant, locally important, and not significant. The County of San Diego adopted the regional Multiple Species Conservation Program and Subarea Plan in 1997. To implement the Subarea Plan the County enacted the Biological Mitigation Ordinance. These documents identify biological resources and, indirectly, thresholds for significance. Habitats are classified in different tier levels which require different levels of mitigation.

Habitats within Tiers I to III, require mitigation under the Biological Mitigation Ordinance and therefore are considered significant.

These levels of impacts were applied to the project site and are used below in the discussion of specific potential impacts. Figure 3 details the proposed impact areas.

6.1 Proposed Project and Potential Impacts

The proposed project is a minor subdivision of a 23.64 gross acre parcel into four residential lots plus a remainder parcel. The proposed project also includes a 7.55 acre biological open space easement. In addition, off-site impacts are proposed to 0.26 acres of developed habitat as the result of road improvements to Lilac Lane and to the private road on-site. These impacts are detailed in Figure 5. The project is located within the Metro-Lakeside-Jamul portion of the MSCP. The site is not a BRCA. The mitigation ratios are based on the fact that the site is not a BRCA and the mitigation will occur on-site. Table 2 identifies the potential impacts as a result of the proposed project.

Habitat	Total Acres	Direct Impacts (acres)	Direct Impacts Off-Site	Impact Neutral Open Space (acres)	Mitigation Ratio	Off-Site Mitigation (acres)
Dense Engelmann Oak Woodland (Tier I)	1.24	0	0	1.24	2:1	0
Southern Mixed Chaparral (Granitic) (Tier III)	14.89	8.77	0	6.12	1:1	8.77
Non-native Grassland (Tier III)	6.61	6.42	0	0.19	0.5:1	3.21
Developed	0.90	0.90*	0.26	0	NA	NA
Total	23.64	16.09	0.26	7.55	NA	NA

*Does not include impacts to developed habitat off-site as the result of road improvements to Lilac Lane and the unnamed private road.

6.2 Significance Of Impacts

The following section discusses the significance of potential impacts to the resources on-site.

Southern Mixed Chaparral (Granitic) (Tier III)

Impacts to 8.77 acres of this habitat would be considered significant and would require mitigation at a ratio of 1:1 in accordance with the BMO.

Non-native Grassland (Tier III)

Impacts to 6.42 acres of this habitat would be considered significant and would require mitigation at a ratio of 0.5:1 in accordance with the BMO.

Developed Habitat (Tier IV)

Approximately 0.90 acres of this habitat occurs on-site and 0.26 acres off-site. Impacts to this habitat would not be considered significant and would not require mitigation.

RPO Wetland/Wetland Buffer

The RPO wetland and buffer constitute 0.55 acres of dense Engelmann oak woodland and 0.19 acres of southern mixed chaparral. No impacts are proposed to the RPO wetland or buffer.

Sensitive Plant Species

One sensitive plant, Engelmann oak was observed on-site. No Engelmann oaks are located within the limits of grading; however, two Engelmann oak individuals in the remainder parcel would be considered impacted as the result of their close proximity to the proposed leach field. The proposed open space contains nine Engelmann oak individuals. The remaining nineteen Engelmann oak individuals on-site would be considered impacted. Potential impacts to sensitive plant species observed and with a high and moderate potential to occur on-site would be considered significant.

Sensitive Wildlife Species

One sensitive wildlife species, the red-shouldered hawk, was observed on-site. Potential impacts to sensitive animal species observed and with a high and moderate potential to occur on-site would be considered significant.

7.0 PROPOSED MITIGATION

Under CEQA, mitigation is required for all significant biological impacts (i.e. impacts within highly constrained areas). In addition, the CDFG 1600 and the ACOE 404 permit process generally require mitigation for the loss of wetland resources. The following mitigation measures are recommendations to offset significant impacts. Recommendations are also given to offset locally important biological impacts. Although mitigation measures are not often required for locally important impacts, local jurisdictions often implement these measures to minimize cumulative impacts within the region.

According to Appendix G of the State CEQA guidelines, the proposed project would have a potentially significant impact to on-site biological resources if it would:

- Have a substantial adverse affect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Resource Protection Ordinance

Under the RPO (discussed above), development of wetlands, wetland buffer areas, and sensitive habitat lands is restricted, as follows:

Within *wetlands*, the RPO restricts uses to aquaculture, scientific research, educational or recreational uses, or wetland restoration, and imposes further limitations which include, in particular, that grading, filling and construction is not permitted.

Within *wetland buffer areas*, the RPO allows uses permitted in wetland areas, plus access paths and other improvements necessary to protect adjacent wetlands.

Biological Mitigation Ordinance

The BMO requires that mitigation be provided, in accordance with ratios which take into account factors such as: (1) What "Tier" the impacted habitat falls into; (2) whether the impacted resources are located within a Biological Resources Core Area (BRCA) and (3) whether the mitigation land would be located on-site or off-site. As discussed in Section 2.0, Regional Setting, the project site does not qualify as a BRCA.

Under CEQA, mitigation is required for all significant biological impacts. Mitigation, per resource, is discussed below with corresponding level of significance after mitigation.

Southern Mixed Chaparral (Tier III)

Mitigation for this impact will require the off-site acquisition of 8.77 acres of Tier III or higher habitat within a Pre-Approved Mitigation Area. The proposed mitigation will reduce the impacts to less than significant.

Non-native Grassland (Tier III)

Mitigation for this impact will require the off-site acquisition of 3.21 acres of Tier III or higher habitat within a Pre-Approved Mitigation Area. The proposed mitigation will reduce the impacts to less than significant.

Plant Species

One sensitive plant species, Engelmann oak, was observed on-site. Impacts to 21 Engelmann oak individuals will be mitigated by preserving nine Engelmann oak individuals and 1.24 acres of dense Engelmann oak woodland within the proposed open space.

Wildlife Species

One sensitive wildlife species, the red-shouldered hawk was observed on-site. Potential impacts to sensitive animal species observed and with a high and moderate potential to occur on-site will be mitigated by the habitat based mitigation in accordance with the BMO.

With implementation of the proposed mitigation measures, impacts to biological resources will be mitigated to below a level of significance.

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9.0 CERTIFICATION

This report has been prepared by Robin Church, County Certified Biologist.

APPENDIX A
PLANTS OBSERVED

APPENDIX A
PLANT SPECIES OBSERVED ON THE ALBERS MINOR SUBDIVISION TPM 20843

Family Name	Species Name ♦	Common Name	Habitat
AGAVACEAE	<i>Yucca whipplei</i>	Our Lord's candle	SMC, NNG
ANACARDIACEAE	<i>Malosma laurina</i>	Laurel sumac	NNG, DEOW
ANACARDIACEAE	<i>Rhus ovata</i>	Sugar bush	NNG
ANACARDIACEAE	<i>Schinus molle</i> ♦	Peru peppertree	NNG
ANACARDIACEAE	<i>Toxicodendron diversilobum</i>	Poison oak	NNG, SMC, DEOW
APIACEAE	<i>Apiastrum angustifolium</i>	Mock parsley	NNG, SMC,
APIACEAE	<i>Daucus pusillus</i>	Rattlesnake weed	NNG, SMC,
APIACEAE	<i>Sanicula arguta</i>	Sharp-tooth sanicle	DEOW
ASTERACEAE	<i>Artemisia californica</i>	California sagebrush	NNG, SMC, DEOW
ASTERACEAE	<i>Baccharis salicifolia</i>	Mulefat	DEOW, SMC, NNG
ASTERACEAE	<i>Baccharis sarothroides</i>	Broom baccharis	NNG
ASTERACEAE	<i>Carduus pycnocephalus</i> ♦	Italian thistle	NNG, DEOW
ASTERACEAE	<i>Centaurea melitensis</i> ♦	Star-thistle	NNG, DEOW
ASTERACEAE	<i>Chaenactis artemisiaefolia</i> ♦	White pincusion	SMC
ASTERACEAE	<i>Corethrogya filaginifolia</i>	Mountain cudweedaster	NNG
ASTERACEAE	<i>Eriophyllum confertiflorum</i>	Golden yarrow	NNG
ASTERACEAE	<i>Filago californica</i>	California filago	NNG
ASTERACEAE	<i>Filago gallica</i> ♦	Narrow-leaf filago	NNG
ASTERACEAE	<i>Gnaphalium californicum</i>	California everlasting	SMC
ASTERACEAE	<i>Gnaphalium canescens ssp. beneolens</i>	Fragrant everlasting	NNG
ASTERACEAE	<i>Gutierrezia sarothrae</i>	San Joaquin matchweed	SMC
ASTERACEAE	<i>Hazardia squarrosus</i>	Sawtooth goldenbush	NNG
ASTERACEAE	<i>Hedypnois cretica</i> ♦	Crete hedypnois	NNG
ASTERACEAE	<i>Helianthus gracilentus</i>	Slender sunflower	NNG
ASTERACEAE	<i>Hemizonia fasciculata</i>	Fascicled tarweed	SMC
ASTERACEAE	<i>Heterotheca grandiflora</i>	Telegraph weed	NNG
ASTERACEAE	<i>Lessingia filaginifolia var. filaginifolia</i>	California aster	NNG
ASTERACEAE	<i>Porophyllum gracile</i>	Odora	SMC
ASTERACEAE	<i>Silybum marianum</i> ♦	Milk thistle	NNG, DEOW
ASTERACEAE	<i>Sonchus asper</i> ♦	Prickly sow thistle	SMC
ASTERACEAE	<i>Sonchus oleraceus</i> ♦	Common sow-thistle	SMC, NNG
ASTERACEAE	<i>Stephanomeria virigata</i>	Twiggy wreath plant	NNG
ASTERACEAE	<i>Stylocline gnaphalioides</i>	Everlasting neststraw	NNG
BORAGINACEAE	<i>Amsinckia menziesii var. intermedia</i>	Common fiddleneck	NNG, DEOW
BORAGINACEAE	<i>Cryptantha intermedia</i>	Nievitans cryptantha	NNG
BORAGINACEAE	<i>Plagiobothrys sp.</i>	Popcornflower	NNG
BRASSICACEAE	<i>Brassica nigra</i> ♦	Black mustard	NNG
BRASSICACEAE	<i>Sisymbrium irio</i> ♦	London rocket	NNG
BRASSICACEAE	<i>Sisymbrium orientale</i> ♦	Hare's-ear cabbage	NNG
CAPRIFOLIACEAE	<i>Lonicera suspicata</i>	Chaparral honeysuckle	NNG, SMC,

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Family Name	Species Name♦	Common Name	Habitat
			SMC
CAPRIFOLIACEAE	<i>Sambucus mexicana</i>	Mexican elderberry	NNG, SMC, DEOW
CHENOPODIACEAE	<i>Salsola tragus</i> ♦	Russian thistle	NNG
CISTACEAE	<i>Helianthemum scoparium</i>	Peak rush rose	NNG, SMC
CONVOLVULACEAE	<i>Calystegia macrostegia</i>	Morning glory, bindweed	NNG
CONVOLVULACEAE	<i>Cuscuta ceanothi</i>	Canyon dodder	NNG
CRASSULACEAE	<i>Crassula connata</i>	Pygmy weed	SMC
CUCURBITACEAE	<i>Marah macrocarpus</i>	Wild cucumber	NNG, SMC, DEOW
ERICACEAE	<i>Xylococcus bicolor</i>	Mission manzanita	SMC
EUPHORBIACEAE	<i>Eremocarpus setigerus</i>	Dove weed	NNG
FABACEAE	<i>Lathyrus vestitus</i> var. <i>alefeldii</i>	San Diego sweet pea	SMC, NNG
FABACEAE	<i>Lotus purshianus</i>	Spanish clover	NNG
FABACEAE	<i>Lotus scoparius</i>	Deerweed	NNG
FABACEAE	<i>Lotus strigosus</i>	Bishop's lotus	NNG
FABACEAE	<i>Lupinus bicolor</i>	Dove lupine	NNG
FABACEAE	<i>Trifolium</i> sp.	Clover	NNG
FAGACEAE	<i>Quercus agrifolia</i>	Coast live oak	NNG, DEOW
FAGACEAE	<i>Quercus berberidifolia</i>	Scrub oak	SMC, DEOW
FAGACEAE	<i>Quercus engelmannii</i>	Engelman oak	NNG, SMC, DEOW
GENTIANACEAE	<i>Centaurium venustum</i>	Canchalagua	NNG
GERANIACEAE	<i>Erodium botrys</i> ♦	Long-beak filaree	NNG
GERANIACEAE	<i>Erodium cicutarium</i> ♦	Red-stem filaree	NNG
HYACINTHACEAE	<i>Cholorogalum parviflorum</i>	Small-flower soap-plant	NNG
HYDROPHYLLACEAE	<i>Eucrypta crysanthemifolia</i>	Common eucrypta	SMC
HYDROPHYLLACEAE	<i>Phacelia cicutaria</i>	Caterpillar phacelia	NNG
IRIDACEAE	<i>Sisyrinchium bellum</i>	California blue-eyed grass	NNG
LAMIACEAE	<i>Salvia apiana</i>	White sage	NNG
LAMIACEAE	<i>Salvia clevelandii</i>	Fragrant sage	NNG, SMC
LAMIACEAE	<i>Salvia columbariae</i>	Chia	NNG, SMC, OEOW
LILIACEAE	<i>Calochortus splendens</i>	Splendid mariposa	NNG
LILIACEAE	<i>Calochortus weedii</i>	Weeds mariposa	SMC
LINACEAE	<i>Hesperolinum micranthum</i>	Threadstem dwarf-flax	NNG
OLEACEAE	<i>Olea europa</i> ♦	Olive	NNG, SMC, DEOW
POACEAE	<i>Achnatherum coronatum</i>	Giant stipa	NNG
POACEAE	<i>Avena barbata</i> ♦	Slender oat	NNG
POACEAE	<i>Bromus diandrus</i> var. <i>gussonei</i> ♦	Common or Gusson ripgut grass	SMC, DEOW
POACEAE	<i>Bromus mollis</i> ♦	Soft chess	NNG, DEOW
POACEAE	<i>Bromus rubens</i> ♦	Foxtail chess	NNG
POACEAE	<i>Lamarckia aurea</i> ♦	Goldentop	SMC
POACEAE	<i>Melica imperfecta</i>	Coast range melic	NNG, SMC
POACEAE	<i>Nassella cernua</i>	Nodding needlegrass	NNG
POACEAE	<i>Nassella lepida</i>	Foothill needlegrass	SMC

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Family Name	Species Name ♦	Common Name	Habitat
POACEAE	<i>Pennisetum setaceum</i> ♦	African fountaingrass	SMC
POACEAE	<i>Vulpia myurnos</i> var. <i>hirsuta</i> ♦		NNG
POLEMONIACEAE	<i>Navarretia atractyloides</i>	Skunkweed	NNG
POLEMONIACEAE	<i>Navarretia hamata</i>	Short navarretia	SMC,
POLYGONACEAE	<i>Chorizanthe fimbriata</i>	Fringed Turkish rugging	NNG, SMC
POLYGONACEAE	<i>Chorizanthe staticoides</i>	Turkish rugging	SMC
POLYGONACEAE	<i>Eriogonum fasciculatum</i>	California buckwheat	NNG
POLYGONACEAE	<i>Pterostegia drymarioides</i>	California threadstem	SMC
POLYGONACEAE	<i>Rumex crispus</i> ♦	Curly dock	NNG, DEOW
PORTULACACEAE	<i>Claytonia perfoliata</i>	Miner's lettuce	SMC
PRIMULACEAE	<i>Anagallis arvensis</i> ♦	Scarlet pimpernel	NNG, SMC
RANUNCULACEAE	<i>Thalictrum fendleri</i>	Meadow rue	DEOW
RHAMNACEAE	<i>Ceanothus crassifolius</i>	Hoaryleaf ceanothus	SMC
RHAMNACEAE	<i>Ceanothus tomentosus</i>	California lilac	SMC
RHAMNACEAE	<i>Rhamnus crocea</i>	Spiny redberry	NNG, DEOW
ROSACEAE	<i>Adenostoma fasciculatum</i>	Chamise	SMC
ROSACEAE	<i>Cercocarpus betuloides</i>	Birchleaf mountain mahogany	SMC, DEOW
ROSACEAE	<i>Cercocarpus minutiflorus</i>	San Diego mountain mahogany	SMC, DEOW
ROSACEAE	<i>Heteromeles arbutifolia</i>	Toyon	NNG, SMC,, DEOW
RUBIACEAE	<i>Galium angustifolium</i>	Narrow-leaf bedstraw	NNG
RUBIACEAE	<i>Galium aparine</i> ♦	Common bedstraw	SMC, DEOW
RUBIACEAE	<i>Galium porrigens</i> var. <i>porrigens</i>	Climbing/oval-leaf bedstraw	SMC
RUTACEAE	<i>Cneoridium dumosum</i>	Coast spice bush, bush rue	SMC
SALICACEAE	<i>Salix lasiolepis</i>	Arroyo willow	DEOW
SCROPHULARIACEAE	<i>Antirrhinum nuttallianum</i>	Nuttall's snapdragon	SMC
SCROPHULARIACEAE	<i>Cordylanthus filifolius</i>	Thread-leaf birdsbeak	NNG, SMC
SCROPHULARIACEAE	<i>Cordylanthus rigidus</i> ssp. <i>setigerus</i>	Dark-tip birdsbeak	NNG, SMC
SCROPHULARIACEAE	<i>Diplacus aurantiacus australis</i>	San Diego monkey flower	NNG, SMC
SCROPHULARIACEAE	<i>Keckiella antirrhinoides</i>	Yellow bushpenstemon	SMC
SCROPHULARIACEAE	<i>Keckiella cordifolia</i>	Heartleaf bushpenstemon	SMC, DEOW
SCROPHULARIACEAE	<i>Scrophularia californica</i>	California bee plant	NNG
SOLANACEAE	<i>Nicotiana glauca</i> ♦	Tree tobacco	NNG
SOLANACEAE	<i>Solanum americanum</i> ♦	White nightshade	NNG
SOLANACEAE	<i>Solanum parishii</i>	Parish's nightshade	NNG, SMC
THEMADACEAE	<i>Dichellostemma capitatum</i> ssp. <i>pauciflorum</i>	Blue dicks	NNG
VITACEAE	<i>Vitis girdiana</i>	Desert grape	DEOW

♦ = Non-native Plant Species, SMC, OEOW= Southern Mixed Chaparral, NNG= Non-native Grassland, DEOW= Dense Engelmann Oak Woodland

APPENDIX B
WILDLIFE SPECIES OBSERVED

APPENDIX B

WILDLIFE SPECIES OBSERVED ON THE ALBERS MINOR SUBDIVISION TPM 20843

Common Name	Scientific Name	Habitat Observed *	# Observed (estimate)
Invertebrates			
Acmon blue	<i>Icaricia acmon</i>	NNG, SMC	2
Behr's metalmark	<i>Apodemia mormo virgulti</i>	NNG, SMC	22
Buckeye	<i>Junonia coenia</i>	NNG, SMC	6
Cabbage white	<i>Artogeia rapae</i>	NNG, SMC	3
California dogface	<i>Zerene eurydice</i>	NNG, SMC	1
California sister	<i>Adelpha bredowii californica</i>	NNG, SMC	1
Common white	<i>Pontia protodice</i>	NNG, SMC	12
Echo blue	<i>Celastrina ladon echo</i>	NNG, SMC	1
Fly	Order Diptera	NNG, SMC	Many
Funereal duskywing	<i>Erynnis funeralis</i>	NNG, SMC	Many
Gabb's checkerspot	<i>Charidryas gabbii</i>	NNG, SMC	8
Gray hairstreak	<i>Strymon melinus</i>	NNG, SMC	1
Honey bee	<i>Apis mellifera</i>	NNG, SMC	Many
Lady	<i>Vanessa sp.</i>	NNG, SMC	Many
Painted lady	<i>Vanessa cardui</i>	NNG, SMC	4
Perplexing hairstreak	<i>Callophrys perplexa</i>	NNG, SMC	5
Red admiral	<i>Vanessa atalanta</i>	NNG, SMC	1
Sara orangetip	<i>Anthocharis sara</i>	NNG, SMC	Many
Skipper	<i>Species uncertain</i>	NNG, SMC	1
Sleepy orange	<i>Eurema nicippe</i>	NNG, SMC	1
Southern blue	<i>Glaucopsyche lygdamus australis</i>	NNG, SMC	Many
West Coast lady	<i>Vanessa annabella</i>	NNG, SMC	5
Birds			
Bewick's wren	<i>Thryomanes bewickii</i>	SMC	2
California thrasher	<i>Toxostoma redivivum</i>	SMC	1
California towhee	<i>Pipilo crissalis</i>	SMC	4
Common raven	<i>Corvus corax</i>	OH	3
House finch	<i>Carpodacus mexicanus</i>	SMC	2
Lesser goldfinch	<i>Carduelis psaltria</i>	SMC	3
Mourning dove	<i>Zenaida macroura</i>	SMC	2
Northern flicker	<i>Colaptes auratus</i>	SMC	1
Northern mockingbird	<i>Mimus polyglottos</i>	SMC	2
Red-shouldered hawk	<i>Buteo lineatus*</i>	OH	2
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>	SMC	1
Scrub jay	<i>Aphelocoma californica</i>	SMC	3
Wrentit	<i>Chamaea fasciata</i>	SMC	2
Yellow-rumped warbler	<i>Dendroica coronata</i>	EOW	5

NNG= Non-native grassland, SMC= Southern Mixed Chaparral, EOW= Engelmann Oak Woodland

APPENDIX C

**SENSITIVE PLANT SPECIES
WITH THE POTENTIAL TO OCCUR**

APPENDIX C
SENSITIVE SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO
ALBERS PROPERTY (USGS ALPINE QUAD) TPM 20843

Species	Growth form/Bloom Period	CNPS	R-E-D	State	Federal	Potential to Occur Onsite
<i>ACANTHOMINTHA ILICIFOLIA</i> "San Diego thorn-mint"	Annual herb April - June	1B	2-3-2	CE	FT	Low. Would have been observable during the time of the surveys but was not detected.
<i>ARCTOSTAPHYLOS OTAYENSIS</i> "Otay manzanita"	Shrub (evergreen) January - March	1B	3-2-3	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>ASTRAGALUS DEANEI</i> "Dean's milk-vetch"	Perennial herb February - May	1B	3-3-3	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>ASTRAGALUS OOCARPUS</i> "San Diego milk-vetch"	Perennial herb May - August	1B	3-2-3	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>BACCHARIS VANESSAE</i> "Encinitas baccharis"	Shrub (deciduous) August - November	1B	2-3-3	CE	FT	Low. Would have been observable during the time of the surveys but was not detected.
<i>BRODIAEA ORCUTTII</i> "Orcutt's brodiaea"	Perennial herb (bulbiferous) May - July	1B	1-3-2	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>CALOCHORTUS DUNNII</i> "Dunn's mariposa lily"	Perennial herb (bulbiferous) April - June	1B	2-2-2	CR	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>CEANOETHUS CYANEUS</i> "Lakeside ceanothus"	Shrub (evergreen) April - June	1B	3-2-2	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>CHAMAEBATIA AUSTRALIS</i> "southern mountain misery"	Shrub (evergreen) November - May	4	1-2-1	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>CHORIZANTHE LEPTOTHECA</i> "Peninsular spineflower"	Annual herb May - August	4	1-2-2	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>CLARKIA DELICATA</i> "delicate clarkia"	Annual herb April - June	1B	2-2-2	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>COMAROSTAPHYLIS DIVERSIFOLIA</i> SSP. <i>DIVERSIFOLIA</i> "summer holly"	Shrub (evergreen) April - June	1B	2-2-2	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>CUPRESSUS FORBESII</i> "Tecate cypress"	Tree (evergreen)	1B	3-3-2	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>DUDLEYA VARIEGATA</i> "variegated dudleya"	Perennial herb May - June	1B	2-2-2	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>GALIUM CALIFORNICUM</i> SSP. <i>CALIFORNICUM</i> "California bedstraw"	Perennial [bloom period unk.]	Unk.	Unk.	Unk.	Unk.	Low. No clay soil onsite.
<i>GILIA CARUIFOLIA</i> "caraway-leaved gilia"	Annual herb May - August	4	1-1-1	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>GITHOPSIS DIFFUSA</i> SSP. <i>FILICAULIS</i> "Mission Canyon bluecup"	Annual herb April - June	3	?-3-3	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.

APPENDIX C
SENSITIVE SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO
ALBERS PROPERTY (USGS ALPINE QUAD) TPM 20843

Species	Growth form/Bloom Period	CNPS	R-E-D	State	Federal	Potential to Occur Onsite
<i>ACANTHOMINTHA ILICIFOLIA</i> "San Diego thorn-mint"	Annual herb April - June	1B	2-3-2	CE	FT	Low. Would have been observable during the time of the surveys but was not detected.
<i>ARCTOSTAPHYLOS OTAYENSIS</i> "Otay manzanita"	Shrub (evergreen) January - March	1B	3-2-3	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>ASTRAGALUS DEANEI</i> "Dean's milk-vetch"	Perennial herb February - May	1B	3-3-3	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>ASTRAGALUS OOCARPUS</i> "San Diego milk-vetch"	Perennial herb May - August	1B	3-2-3	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>BACCHARIS VANESSAE</i> "Encinitas baccharis"	Shrub (deciduous) August - November	1B	2-3-3	CE	FT	Low. Would have been observable during the time of the surveys but was not detected.
<i>BRODIAEA ORCUTTII</i> "Orcutt's brodiaea"	Perennial herb (bulbiferous) May - July	1B	1-3-2	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>CALOCHORTUS DUNNII</i> "Dunn's mariposa lily"	Perennial herb (bulbiferous) April - June	1B	2-2-2	CR	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>CEANOTHUS CYANEUS</i> "Lakeside ceanothus"	Shrub (evergreen) April - June	1B	3-2-2	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>CHAMAEBATIA AUSTRALIS</i> "southern mountain misery"	Shrub (evergreen) November - May	4	1-2-1	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>CHORIZANTHE LEPTOTHECA</i> "Peninsular spineflower"	Annual herb May - August	4	1-2-2	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>CLARKIA DELICATA</i> "delicate clarkia"	Annual herb April - June	1B	2-2-2	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>COMAROSTAPHYLIS DIVERSIFOLIA</i> SSP. <i>DIVERSIFOLIA</i> "summer holly"	Shrub (evergreen) April - June	1B	2-2-2	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>CUPRESSUS FORBESII</i> "Tecate cypress"	Tree (evergreen)	1B	3-3-2	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>DUDLEYA VARIEGATA</i> "variegated dudleya"	Perennial herb May - June	1B	2-2-2	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>GALIUM CALIFORNICUM</i> SSP. <i>CALIFORNICUM</i> "California bedstraw"	Perennial [bloom period unk.]	Unk.	Unk.	Unk.	Unk.	Low. No clay soil onsite.
<i>GILIA CARUIFOLIA</i> "caraway-leaved gilia"	Annual herb May - August	4	1-1-1	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>GITHOPSIS DIFFUSA</i> SSP. <i>FILICAULIS</i> "Mission Canyon bluecup"	Annual herb April - June	3	?-3-3	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>HARPAGONELLA PALMERI</i> "Palmer's grapplehook"	Annual herb March - May	4	1-2-1	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>HEMIZONIA FLORIBUNDA</i> "Tecate tarplant"	Annual herb August - October	1B	2-2-2	None	SOC	Low. No suitable habitat.
<i>HORKELIA TRUNCATA</i> "Ramona horkelia"	Perennial herb May - June	1B	3-1-2	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>LOTUS CRASSIFOLIUS</i> VAR. <i>OTAYENSIS</i> "Otay Mountain lotus"	Perennial herb May - August	1B	3-3-2	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.

APPENDIX C
SENSITIVE SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO
ALBERS PROPERTY (USGS ALPINE QUAD) TPM 20843

Species	Growth form/Bloom Period	CNPS	R-E-D	State	Federal	Potential to Occur Onsite
<i>MACHAERANTHERA JUNCEA</i> "rush-like bristleweed"	Perennial herb June - January	4	1-1-1	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>MONARDELLA HYPOLEUCA</i> SSP. <i>LANATA</i> "felt-leaved monardella"	Perennial herb (rhizomatous) June - August	1B	2-2-2	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>MULLA CLEVELANDII</i> "San Diego goldenstar"	Perennial herb (bulbiferous) May	1B	2-3-2	None	SOC	Low. Would have been observed during sensitive plant survey.
<i>NOLINA INTERRATA</i> "Dehesa nolina"	Perennial herb June - July	1B	3-3-2	CE	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>PIPERIA COOPERI</i> "chaparral rein orchid"	Perennial herb March - June	4	1-2-2	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>PIPERIA LEPTOPETALA</i> "narrow-petaled rein orchid"	Perennial herb May - July	4	1-1-3	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>POLYGALA CORNUTA</i> VAR. <i>FISHIAE</i> "Fish's milkwort"	Shrub (deciduous) May - August	4	1-1-2	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>QUERCUS CEDROSENSIS</i> "Cedros Island oak"	Tree (evergreen) April - May	2	3-2-1	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>QUERCUS ENGELMANNII</i> "Engelmann oak"	Tree (deciduous) March - May	4	1-2-2	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>RIBES CANTHARIFORME</i> "Moreno currant"	Shrub (deciduous) February - April	1B	3-1-3	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>SATUREJA CHANDLERI</i> "San Miguel savory"	Perennial herb March - July	1B	2-2-2	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>SCUTELLARIA BOLANDERI</i> SSP. <i>AUSTROMONTANA</i> "southern skullcap"	Perennial herb (rhizomatous) June - August	1B	2-2-3	None	None	Moderate potential to occur within the dense Engelmann oak woodland, all of which is included in open space.
<i>SENECIO GANDERI</i> "Gander's ragwort"	Perennial herb April - May	1B	3-2-3	CR	SOC	Low. Would have been observable during the time of the surveys but was not detected.
<i>STEMODIA DURANTIFOLIA</i> "purple stemodia"	Perennial herb January - December	2	3-3-1	None	None	Low. Would have been observable during the time of the surveys but was not detected.
<i>TETRACOCCLUS DIOICUS</i> "Parry's tetracoccus"	Shrub (deciduous) April - May	1B	3-2-2	None	SOC	Low. Would have been observable during the time of the surveys but was not detected.

Sensitivity codes are explained in APPENDIX E

APPENDIX D

**SENSITIVE WILDLIFE SPECIES
WITH THE POTENTIAL TO OCCUR**

APPENDIX D

SENSITIVE ANIMAL SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO THE ALBERS MINOR SUBDIVISION TPM 20843

Common Name	Scientific name	Federal/ State Status	Habitat	Potential Onsite
INSECTS				
Hermes copper	<i>Lycaena hermes</i>	SOC/CSC	Coastal sage scrub, mixed chaparral and chamise chaparral. 0-3000 ft. Host plant <i>Rhamnus crocea</i> , in proximity to <i>Eriogonum fasciculatum</i> .	Moderate. <i>Rhamnus crocea</i> and <i>Eriogonum fasciculatum</i> exist on-site.
Quino Checkerspot	<i>Euphydryas editha quino</i>	FE/SOC	Open shrub habitats; primary host plant is <i>Plantago erecta</i> .	Low. Species and host plant were not detected on-site in focused survey.
AMPHIBIANS				
Arroyo southwestern toad	<i>Bufo microscaphus californicus</i>	FE/CSC	Semi-arid regions near washes or intermittent streams. Habitats used include valley-foothill and desert riparian as well as a variety of more arid habitats including desert wash, palm oasis, and Joshua tree, mixed chaparral and sagebrush. 500-3000 ft. Nocturnal.	Low. Drainages on-site and adjacent are too steep and heavily vegetated.
California red-legged frog	<i>Rana aurora draytonii</i>	FT/CSC	Inhabits quiet pools of streams, marshes, and occasionally ponds. 500-3000 ft.	Low. Species has been extirpated from San Diego County. No pools occur on site.
Large-blotched salamander	<i>Ensatina eschscholtzi klauberi</i>	SOC/CSC	Inhabits forests, shaded canyons, oak woodland and chaparral. Found under rotting logs, bark and rocks. 500-3000 ft.	High. Appropriate habitat exists on-site.
Western spadefoot toad	<i>Scaphiopus hammondii</i>	SOC/CSC	Grassland situations; can occasionally occur in valley-foothill hardwood woodlands. Populations may persist a few years in orchard-vineyard habitats. 0-3000 ft.	High. Appropriate habitat exists on-site.
REPTILES				
Coastal rosy boa	<i>Charina trivirgata roseofusca</i>	SOC/CSC	Coastal sage scrub, mixed chaparral, oak woodlands and chamise chaparral. Often found in association with rock-outcrops. 0-6800 ft.	High. Appropriate habitat exists onsite.
Coastal western whiptail	<i>Cnemidophorus tigris multiscutatus</i>	SOC/CSC	Mixed chaparral, riparian, oak woodlands and chamise chaparral. Prefers rocky firm soils but avoids dense grasslands and wet areas. 0-3000 ft.	High. Appropriate habitat exists onsite.
Coast patch-nosed snake	<i>Salvadora hexalepis virgulata</i>	SOC/CSC	Grass, chaparral, woodland, desert and coastal sage scrub. Found near rock outcrops with adjacent seasonal drainages. 0-3000 ft.	High. Appropriate habitat exists on-site.

APPENDIX D

SENSITIVE ANIMAL SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO THE ALBERS MINOR SUBDIVISION TPM 20843

Common Name	Scientific name	Federal/ State Status	Habitat	Potential Onsite
Northern red diamond rattlesnake	<i>Crotalus ruber ruber</i>	SOC/CSC	Coastal sage scrub, mixed chaparral, open grassy areas and agricultural areas, chamise chaparral, pinyon juniper and desert scrub. 0-3000 ft.	High. Appropriate habitat exists on-site.
Orange-throated whiptail	<i>Cnemidophorus hyperythrus</i>	SOC/CSC Protected	Can be found in coastal sage scrub, mixed chaparral, grassland, riparian, and chamise chaparral habitats. Open hillsides with brush and rock, well drained soils. 0-1000 ft.	High. Appropriate habitat exists onsite.
San Diego banded gecko	<i>Coleonyx variegatus abbotti</i>	SOC/--	This species is uncommon in coastal scrub and chaparral mostly occurring in granite or rocky out crops in this habitat (Zeiner <i>et. al.</i> 1988).	High. Appropriate habitat exists on-site.
San Diego horned lizard	<i>Phrynosoma coronatum blainvillei</i>	SOC/CSC	Occurs in valley-foothill hardwood, conifer and riparian habitats, as well as in pine-cypress, juniper and annual grass habitats; needs open areas for basking, ants and other insect prey. 0-8000 ft.	High. Potential habitat exists on-site.
San Diego ringneck snake	<i>Diadophis punctatus similis</i>	County Sensitive	Coastal sage scrub, mixed chaparral, riparian, oak woodlands, chamise chaparral, mixed conifer, closed cone forest in moist micro-habitats. Can be found on surface during winter after rainfalls or during spring. 0 -7200 ft.	High. Appropriate habitat exists on-site.
Silvery legless lizard	<i>Anniella pulchra pulchra</i>	SOC/CSC	Coastal sage scrub, grassland, riparian and coastal desert dunes. Found in sandy loam and areas of accumulated leaf litter beneath shrubs and trees in moist micro-habitats. 0 to 5000 ft.	High. Appropriate habitat exists on-site.
MAMMALS				
American badger	<i>Taxidea taxus</i>	--/CSC	This species is most abundant in drier open stages of most shrub, forest, and herbaceous habitats. 0 to over 3000 ft.	Low. No burrows or sign were found on-site.
Big free-tailed bat	<i>Nyctinomops macrotis</i>	--/CSC	This species is found in a variety of plant associations including desert scrub, various woodlands and coniferous forests. It is a colonial roosting species that is typically found in crevices of rugged cliffs and high, rocky outcrops. 0-3000 ft.	Moderate. Foraging habitat exists on-site, but no roosting habitat. Species was detected in Sweetwater and San Diego watersheds (USGS 2004).

APPENDIX D

SENSITIVE ANIMAL SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO THE ALBERS MINOR SUBDIVISION TPM 20843

Common Name	Scientific name	Federal/ State Status	Habitat	Potential Onsite
Dulzura California pocket mouse	<i>Chaetodipus californicus femoralis</i>	SOC/CSC	Occupies coastal sage scrub, mixed chaparral, oak woodland, chamise chaparral, and mixed conifer habitats. 0 to over 3000 ft.	High. Appropriate habitat exists on-site.
Fringed Myotis	<i>Myotis thysanodes</i>	SOC/CSC	This species may be found in a variety of plant communities including desert scrub, oak woodlands, and pinyon-juniper forests. It is a colonial species that prefers caves, mines and abandoned buildings for roost sites. 0-9300 ft., optimal 4000-7000 ft.	Low. Elevation of site is on low range for species and it was not detected in San Diego County bat survey (USGS 2004).
Greater western mastiff bat	<i>Eumops perotis californicus</i>	SOC/CSC	Open semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Crevices in cliff faces, high buildings, trees, and tunnels are required for roosting. 500-3000 ft.	High. Appropriate habitat exists on-site. Species was detected in San Diego and Sweetwater watersheds (USGS 2004).
Long-eared myotis	<i>Myotis evotis</i>	SOC/--	They are found in most brush, woodland, and forest habitats from sea level to 9000 feet, but more typically occurs in coniferous forests at elevations above 7000 feet. Roosts in buildings, crevices, bark, and snags.	Low. Elevation of site is on low range for species and it was not detected in San Diego and Sweetwater watersheds (USGS 2004).
Long-legged myotis	<i>Myotis volans</i>	SOC/--	Most common in woodland and forests above 4000 ft. Also in chaparral, coastal scrub, Great Basin shrub, and early successional stages of woodlands. Uncommon in desert and arid grassland. Roosts in rock crevices, buildings, bark, snags, mines, and caves. Feeds over water and open habitat. 0-11400 ft.	Low. Elevation range of site is on low range for species and it was not detected in San Diego County bat survey (USGS 2004).
Los Angeles little pocket mouse	<i>Perognathus longimembris brevinasus</i>	SOC/CSC	Species is restricted to lower elevation grasslands and coastal sage associations in the Los Angeles Basin. 0-1000 ft.	Low. Site is not in the Los Angeles basin and the elevation is too high for species.
Mountain Lion	<i>Felis concolor</i>	County Sensitive	Species found in a variety of habitats from desert to coast range forest. 0-10,000 ft.	High. Appropriate habitat exists on-site, and it is known to occur in the Alpine area.

APPENDIX D

SENSITIVE ANIMAL SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO THE ALBERS MINOR SUBDIVISION TPM 20843

Common Name	Scientific name	Federal/ State Status	Habitat	Potential Onsite
Pallid bat	<i>Antrozous pallidus</i>	--/CSC	Coastal sage scrub, mixed chaparral, oak woodlands, chamise chaparral, desert wash and desert scrub. Prefers snags (especially oak), rocky outcrops, cliffs and crevices with access to open habitats for foraging. 0-6000 ft.	Moderate. Appropriate habitat exists on-site. Species was not detected in San Diego or Sweetwater watersheds in San Diego County bat survey (USGS 2004).
Pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>	--/CSC	This species is found in a variety of plant associations including desert scrub, coastal scrub and pine oak woodlands. Is a colonial roosting species that is typically found in crevices of rugged cliffs and high, rocky outcrops. 0 to 3000 ft.	Moderate. Foraging habitat exists on-site, but no roosting habitat. Species was detected in Sweetwater and San Diego watersheds (USGS 2004).
Ringtail	<i>Bassariscus astutus</i>	County Sensitive	Nocturnal; found in mixed and chamise chaparral. Nests in rock recesses, hollow trees, logs, snags, abandoned burrows, or woodrat nests. 500 to over 3000 ft.	High. Rock outcrops and down logs exist on-site.
San Diego black-tailed jackrabbit	<i>Lepus californicus bennetti</i>	SOC/CSC	Coastal sage scrub, mixed chaparral, oak woodlands, chamise chaparral, mixed conifer, and closed cone forest and open areas. Common in irrigated pastures and row crops. 0 to over 3000 ft.	Low. Species, if present, is easily observable, but it was not detected on-site.
San Diego desert woodrat	<i>Neotoma lepida intermedia</i>	SOC/CSC	Nocturnal in coastal sage scrub, desert, oak woodlands, chamise chaparral and rocks in moderate to dense vegetation. Most abundant in rocky areas -- prefers rock outcrops and crevices for nest sites, but also builds nests in low branches of trees. 500-3000 ft.	High. Appropriate habitat exists on-site.
Small-footed myotis	<i>Myotis ciliolabrum</i>	SOC/--	Occurs in arid uplands -- woody and brushy habitats near water. Roosts in caves, buildings, mines, crevices, bridges, and bark. 0 - 8000 ft.	Moderate. Appropriate vegetation, but no open water or roosting habitat on-site. Species was detected in San Diego and Sweetwater watersheds (USGS 2004).
Southern grasshopper mouse	<i>Onychomys torridus ramona</i>	SOC/CSC	Nocturnal in coastal sage scrub, mixed chaparral, grassland, and chamise chaparral. Low to moderate shrub cover is preferred. 500-3000 ft.	High. Appropriate habitat exists on-site.

APPENDIX D

SENSITIVE ANIMAL SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO THE ALBERS MINOR SUBDIVISION TPM 20843

Common Name	Scientific name	Federal/ State Status	Habitat	Potential Onsite
Southern mule deer	<i>Odocoileus hemionus</i>	County Sensitive	The mule deer is extremely adaptable occupying all but two or three of the major vegetation types in the western United States.	High. Appropriate habitat exists on-site and species is known to exist in Alpine area.
Spotted bat	<i>Euderma maculatum</i>	SOC/CSC	Found in foothills, mountains, and desert regions of southern California. Feeds over water and near ground. Roosts in rock crevices, cliffs, caves, and buildings. Moth specialist. To 10,600 ft.	Low. Species was not detected in San Diego County bat survey and no roost habitat exists on-site or adjacent.
Townsend's western big-eared bat	<i>Corynorhinus townsendii</i>	SOC/CSC	Found in all but subalpine and alpine habitats. Requires caves, mines, tunnels, buildings, or other human-made structures for night, day, hibernation or maternity roosts. 500-10,000 ft.	Moderate. Foraging habitat exists on-site, but no roosting habitat. Species was detected in Sweetwater and San Diego watersheds (USGS 2004).
Yuma myotis	<i>Myotis yumanensis</i>	SOC/CSC	Mixed chaparral, riparian, oak woodland and pinion juniper. Optimal habitats are open forests and woodlands with sources of water over which to feed; roosts in buildings, mines, caves, bridges, crevices, and abandoned swallow nests. Sea level to 11,000 feet, but uncommon above 8000 feet.	Moderate. Foraging habitat exists on-site, but no roosting habitat. Species was detected in Sweetwater and San Diego watersheds (USGS 2004).
BIRDS				
Bell's sage sparrow	<i>Amphispiza belli belli</i>	SOC/CSC	Coastal sage scrub, mixed and chamise chaparral. Nests well hidden in sagebrush or other scrub. 0-3000 ft.	High. Appropriate habitat exists on-site.
Black-shouldered kite	<i>Elanus caeruleus</i>	--/--	Year-long coastal & valley lowlands, usually near ag. areas. Forage: open grasslands, meadows, farmlands, wetlands, freeway divides. Nests in tops of tall trees near open areas.	High. Appropriate habitat exists on-site.
California gnatcatcher	<i>Poliopitila californica californica</i>	FT/CSC	Most numerous in low, dense coastal sage scrub habitat of coastal hills.	Low. Coastal sage scrub habitat does not exist on-site.
Cooper's hawk	<i>Accipiter cooperii</i>	--/CSC	Dense stands of live oak, riparian deciduous, or other forest habitats near water used most frequently.	High. Potential habitat exists onsite.
Golden eagle	<i>Aquila chrysaetos canadensis</i>	--/CSC Fully protected	Mountains, foothills, and adjacent grassland, open areas and canyons. 0-11,500 ft. (nesting/wintering)	High. Potential habitat exists onsite.

APPENDIX D
SENSITIVE ANIMAL SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO THE
ALBERS MINOR SUBDIVISION TPM 20843

Common Name	Scientific name	Federal/ State Status	Habitat	Potential Onsite
Loggerhead shrike	<i>Lanius ludovicianus</i>	SOC/CSC	Roadside vegetation, thickets, savanna, coastal sage scrub, grasslands, riparian, oak woodlands and desert scrub and wash or any open country with high perches as lookouts. 0-3000 ft.	High. Potential habitat exists on-site.
Rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	SOC/CSC	Favors steep and rocky coastal sage scrub.	Low. Coastal sage scrub does not exist on-site.
Tricolored blackbird	<i>Agelaius tricolor</i>	SOC/CSC	Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs.	Low. Emergent wetland does not exist on-site.
Turkey vulture	<i>Cathartes aura</i>	County Sensitive	Spring and fall migrant, uncommon to locally common winter visitor and rare to uncommon summer resident of San Diego County (Unitt 1984).	High. Potential habitat exists on-site.
Western bluebird	<i>Sialia mexicana</i>	County Sensitive	Occupy open habitats with scattered trees and the edges of open coniferous and deciduous forests.	High. Potential habitat exists on-site.
Yellow-breasted chat	<i>Icteria virens</i>	--/CSC	Found in dense thickets and brushy areas in riparian habitats. 0-3000 ft.	Moderate. Dense vegetation in drainages, but no riparian habitat.

* = Appendix E – Sensitivity Codes

APPENDIX E
SENSITIVITY CODES

APPENDIX E SENSITIVITY CODES

FEDERAL SPECIES DESIGNATIONS (USFWS 2001)

Category

FE	Federal Endangered species
FT	Federal Threatened species
FPE	Taxa proposed to be listed as Endangered.
FPT	Taxa proposed to be listed as Threatened.
SOC	Species of Concern (former Candidate Species)

STATE SPECIES DESIGNATIONS (CDFG 2000)

Category

SE	State listed as Endangered.
ST	State listed as Threatened.
SR	State-listed Rare
SCE	State candidate for listing as Endangered.
SCT	State candidate for listing as Threatened.
CSC	CDFG "Species of Special Concern".

CALIFORNIA NATIVE PLANT SOCIETY DESIGNATIONS (CNPS 2003)

The CNPS Lists

- List 1 Plants of highest priority.
 - 1A Plants presumed extinct in California.
 - 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)
- List 4 Plants of limited distribution (A Watch List).

The R-E-D Code

R (Rarity)

- 1 Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
- 2 Distributed in a limited number of occurrences, occasionally more if each occurrence is small.
- 3 Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported.

E (Endangerment)

- 1 Not endangered.
- 2 Endangered in a portion of its range.
- 3 Endangered throughout its range.

D (Distribution)

- 1 More or less widespread outside California.
- 2 Rare outside California.
- 3 Endemic to California.

APPENDIX F
QUINO SURVEY REPORT

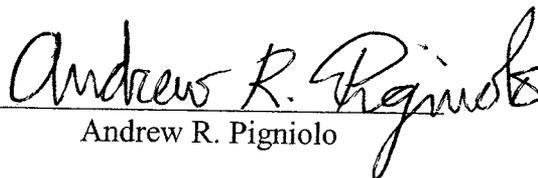
**FOCUSED SURVEY REPORT
FOR THE
QUINO CHECKERSPOT BUTTERFLY
ON THE ALBERS PARCEL, ALPINE,
SAN DIEGO COUNTY, CALIFORNIA**

Prepared for:

Robin Church Biological Consulting
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Prepared by:

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San Diego, CA 92109


Andrew R. Pignolo

May 2004

Introduction

Laguna Mountain Environmental, Inc. (Laguna Mountain) performed adult surveys for the Quino checkerspot butterfly (*Euphydryas editha quino*) on a 23.61 -acre parcel in the community of Alpine, San Diego County, California (Figure 1). The project is located in the Community of Alpine, in East San Diego County, south of Interstate 8 (Figure 1). The proposed project is located within the northwest 1/4 of Section 32, Township 15 south, Range 2 East. The project area is shown on the USGS 7.5' Alpine Quadrangle (Figure 2). The proposed project is a minor subdivision of the parcel into four residential lots plus a remainder parcel.

As part of the current study, a habitat assessment was conducted on the property on March 11, 2004. The habitat assessment determined that non-excluded areas, as defined by the U. S. Fish and Wildlife Service (USFWS 2002), occur on the property. Excluded areas, not recommended for Quino surveys, are defined as:

- Orchards, developed areas or in-fill parcels largely dominated by non-native vegetation;
- Active/in-use agricultural fields without natural or remnant inclusions of native vegetation;
- Closed-canopy forest or riparian area, dense chaparral and small openings completely enclosed with a closed-canopy or dense chaparral area.

An region meeting the criteria for an excluded area is present in the western portion of the project on a slope and along a small drainage. This area consists of a closed-canopy southern mixed chaparral with areas of open Englemann oak woodland overstory and dense Engelmann oak woodland. Non-excluded areas dominate the project area and include open non-native grassland and developed areas with small amounts of southern mixed chaparral. Bird's beak (*Cordylanthus rigidus*), a potential host plant, was noted in various locations throughout the property during the habitat assessment (Figure 3). This report documents the results of focused surveys conducted throughout the approximately 12-acres of non-excluded habitat on the project site.

Methods

The surveys for adult Quino checkerspot were conducted by Andrew R. Pigniolo (Permit No. TE-053020-0) between March 12 and April 23, 2004. The surveys were conducted on a weekly basis when acceptable weather conditions defined in the U. S. Fish and Wildlife Service protocol were present. The surveys involved slowly walking roughly parallel transects throughout the non-excluded areas of the property including disturbed area. The survey was conducted at an average rate of approximately 6 acres per hour. The surveyor stopped periodically to scan adjacent areas for moving butterflies. All butterfly species observed were identified and recorded.

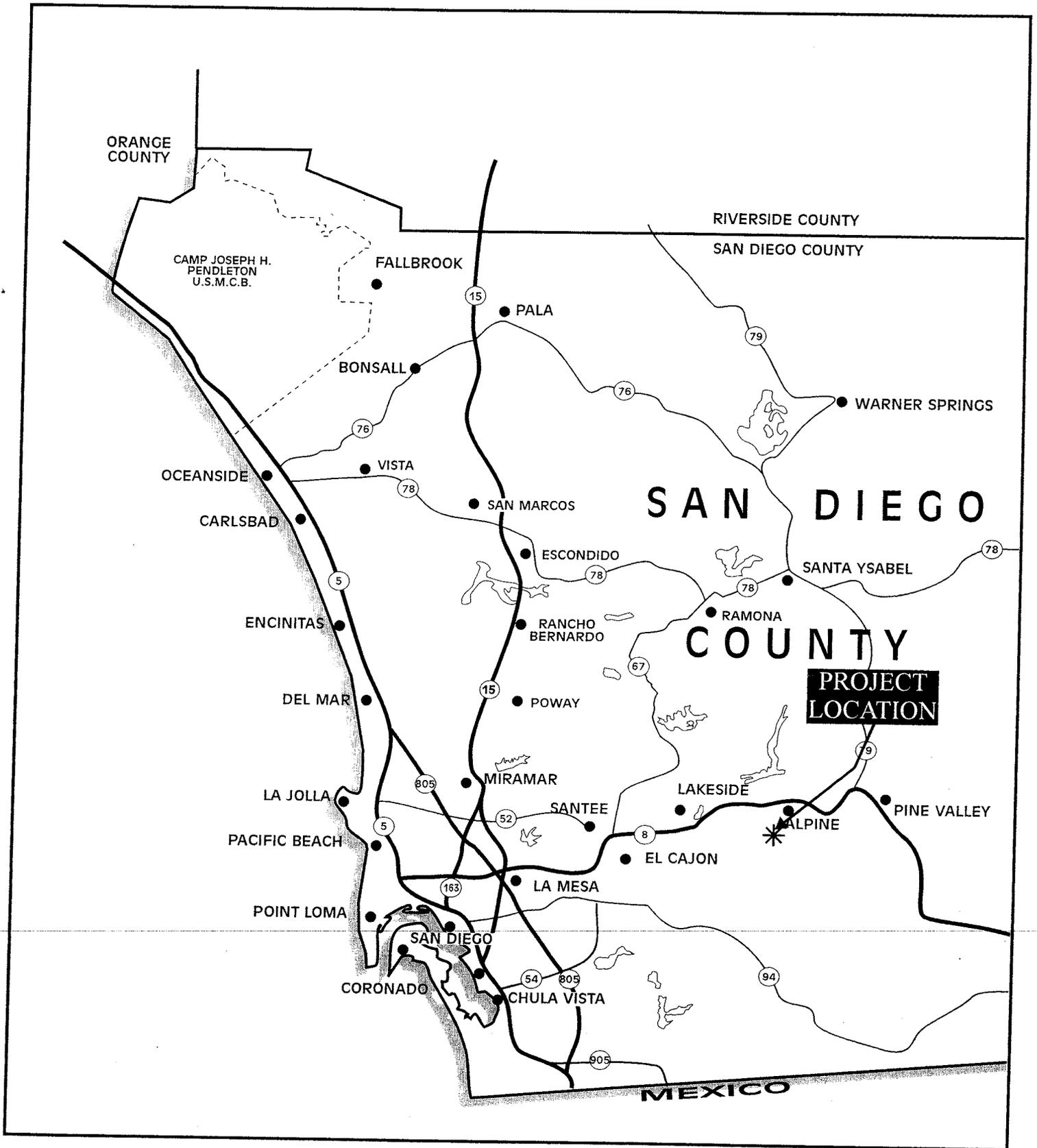
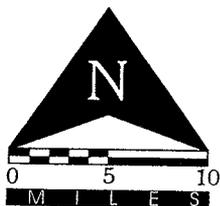
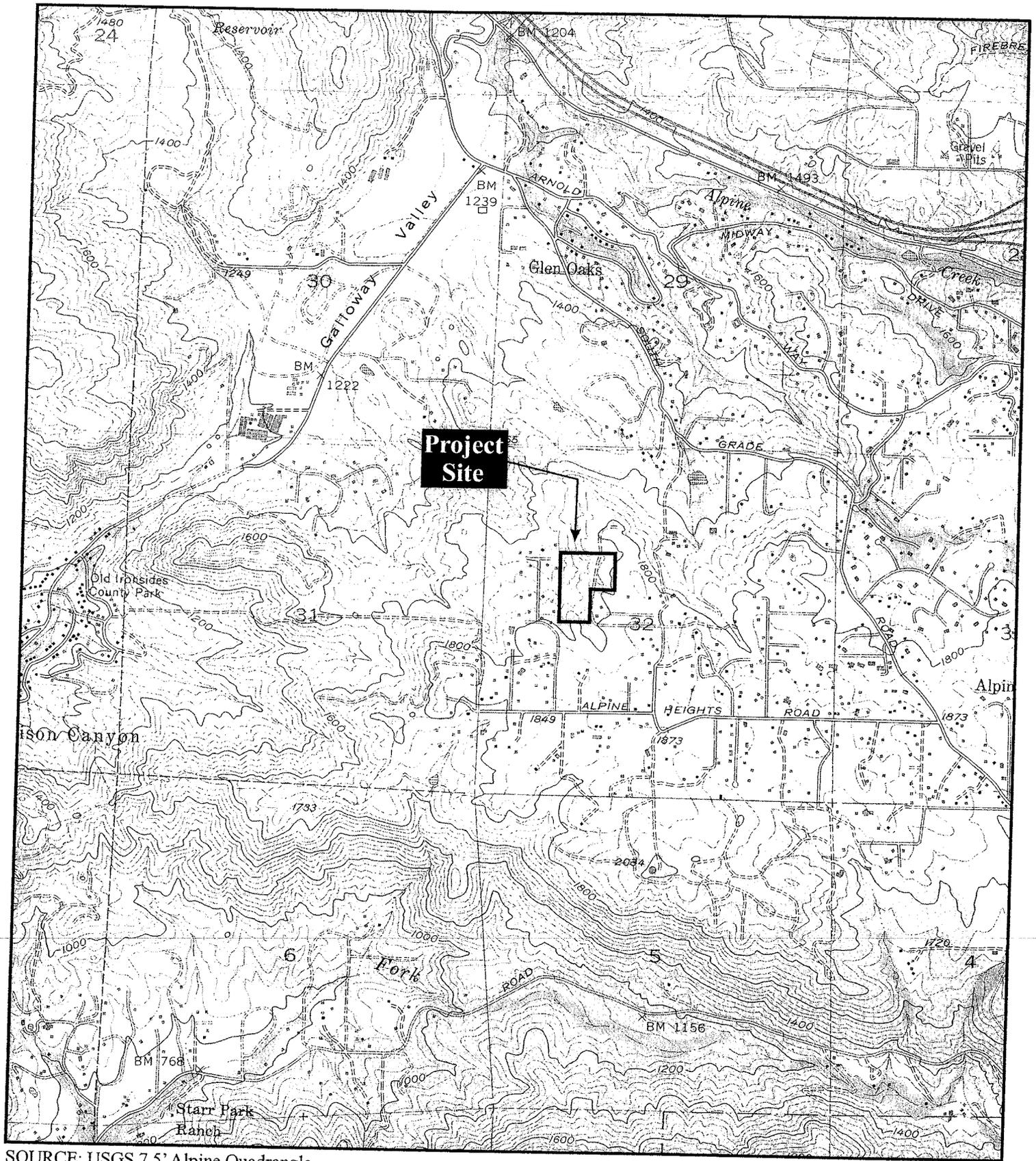


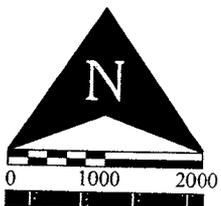
Figure 1
Regional Location Map

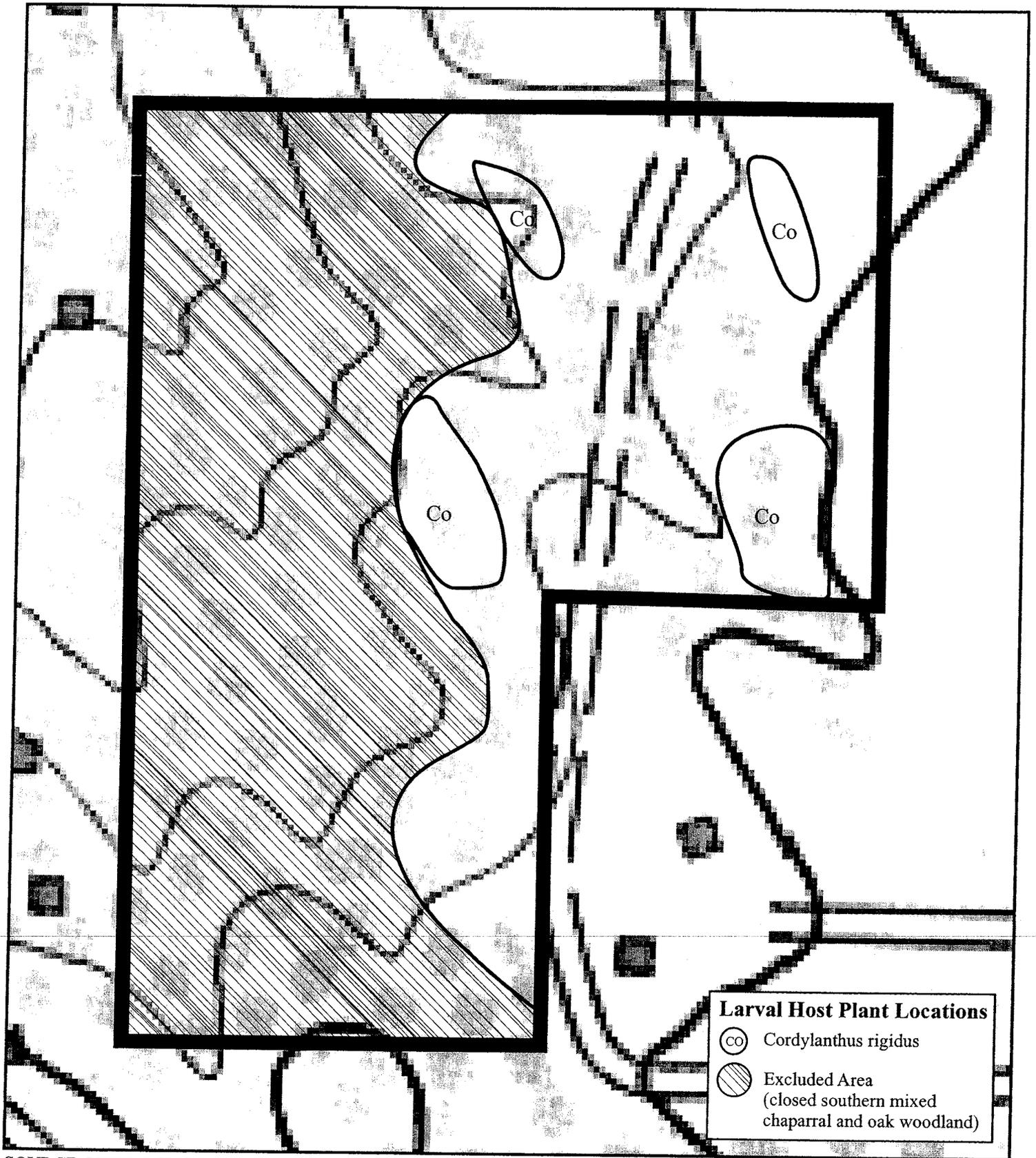




SOURCE: USGS 7.5' Alpine Quadrangle

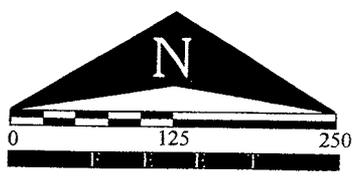
Figure 2
Project Location





SOURCE: USGS 7.5' Alpine Quadrangle

Figure 3
Habitat Assessment



Survey times and weather conditions are presented in the field notes provided in Appendix A and summarized in Table 1.

Table 1. Quino Checkerspot Adult Survey Dates and Weather Conditions

Date	Time		Weather Conditions
March 12, 2004	start: 1430	end: 1630	start: sunny & clear, air temp: 74° F, wind between 0 and 4 mph end: sunny & clear, air temp: 60° F, wind between 0 and 4 mph
March 19, 2004	start: 1500	end: 1700	start: sunny & clear, air temp: 85° F, wind between 0 and 4 mph end: sunny & clear, air temp: 79° F, wind between 0 and 4 mph
March 27, 2004	start: 1030	end: 1230	start: sunny & clear, air temp: 65° F, wind between 0 and 4 mph end: sunny & clear, air temp: 73° F, wind between 0 and 4 mph
April 4, 2004	start: 1330	end: 1530	start: partly cloudy with mixed sun, air temp: 72° F, wind between 0 and 4 mph end: partly cloudy, air temp: 72° F, wind between 0 and 4 mph
April 9, 2004	start: 1230	end: 1430	start: sunny & clear, air temp: 70° F, wind between 0 and 2 mph end: sunny & clear, air temp: 80° F, wind between 0 and 4 mph
April 16, 2004	start: 1130	end: 1330	start: sunny and clear, air temp: 76° F, wind between 0 and 4 mph end: sunny with an occasional cloud, air temp: 78° F, wind between 0 and 4 mph
April 23, 2004	start: 1330	end: 1530	start: sunny & clear, air temp: 77° F, wind between 0 and 4 mph end: sunny & clear, air temp: 84° F, wind between 0 and 4 mph

Physical Setting

The Albers Parcel project area consists of approximately 23.6 acres in the Alpine area. The site is currently undeveloped. A paved road passes through the center portion of the parcel. Portions of the eastern and northeastern areas of the parcel have been graded in the past. The eastern portion of the parcel had lower shrub height with more open areas. This area also contained more annual wild flowers than the remainder of the parcel.

The project is generally a west facing slope of a large ridge ranging from gentle to steep slopes. Elevations onsite range from approximately 1640 feet above mean sea level along the northwestern property line, increasing to approximately 1800 feet above mean sea level along the eastern side of the property.

The soils on the property include both the Fallbrook series and the Cieneba series (USDA 1973). Fallbrook series soils consist of well-drained moderately deep to deep sandy loams that formed in material weathered in place from granodiorite. These soils are on uplands and have slopes ranging from 2 to 30 percent. Fallbrook sandy loam with 9 to 15 percent slopes is present in the southern edge of the property. Fallbrook rocky sandy loam dominates most of the project area covering the central portion. This soil is strongly sloping to moderately steep and is 20 to 30 inches deep over rock. Boulders cover 10 to 25 percent of the surface (USDA 1973).

The Cieneba series consists of excessively drained, very shallow to shallow coarse sandy loams that formed in material weathered in place from granitic rock. These soils are on rolling to mountainous uplands and have slopes ranging from 5 to 75 percent. The slopes on the northern side of the project area are Cieneba-Fallbrook rocky sandy loams with 30 to 65 percent slopes. This complex is about 55 percent Cieneba coarse sand loam and 40 percent Fallbrook sandy loam. It has rock outcrops on about 10 percent of the surface and very large boulders on about 10 percent (USDA 1973).

The site has some existing developed improvements that include a paved road and a landscaped pump building. Additional brushing has occurred in the past over large portions of the east and upper areas of the project.

Vegetation

Four vegetation types occur within the project site, dense Engelmann oak woodland, open Engelmann oak woodland, southern mixed chaparral, and non-native grassland. A complete list of plant species observed on-site is included in Appendix B.

The dense Engelmann oak woodland onsite is composed of a nearly closed canopy of Englemann oak (*Quercus englemanni*) and mature coast live oaks (*Quercus agrifolia*). This habitat is focused on the banks of a narrow, steep sided drainage in the southwestern portion of the property. An ephemeral stream occurs within the bottom of the drainage and Desert grape (*Vitis girdiana*) was another important component of this community. The oaks are primarily located outside of the limits of the drainage forming a dense canopy that overhangs the stream.

Open Engelmann oak woodland makes up a large portion of the project area. This community consists of an open canopy of scattered Engelmann oaks. Most are moderate in age with multiple trunks. It is primarily focused on a west facing slope in the west central portion of the project area. This community grades into isolated oaks in the drier eastern portion of the projects. A small portion of this area has an open understory, while the majority of this community has a southern mixed chaparral understory.

Undisturbed southern mixed chaparral covers approximately 8.13 acres of the site and consists of moderate-statured stands (between 1.5 and 3 meters) of a variety of chaparral species. Chamise (*Adenostoma fasciculatum*) and scrub oak (*Quercus berberidifolia*) are dominant but several other species are common: mission manzanita (*Xylococcus bicolor*), holly-leaf cherry (*Prunus ilicifolia*), San Diego Mountain-mahogany (*Cercocarpus minutiflorus*), woolly-leaved ceanothus (*Ceanothus tomentosus*), Yellow bushpenstemon (*Keckiella antirrhinoides*), heart-leaved penstemon (*Keckiella cordifolia*), and honeysuckle (*Lonicera subspicata*).

The upper portions of the project area have been disturbed by previous grading which is in a state of recovery. Many coastal sage scrub species have taken hold in this area. California buckwheat (*Eriogonum fasciculatum*) and California sagebrush (*Artemisia californica*) are common components along with non-native species dominated by Foxtail chess (*Bromus rubens*), Star-thistle (*Centaurea melitensis*), Italian thistle (*Carduus pycnocephalus*), and Milk thistle (*Silybum marianum*). One large area is dominated by Fascicled tarweed (*Hemizonia fasciculata*) and Fringed Turkish rugging (*Chorizanthe fimbriata*). A small area near the pump building has also been landscaped with non-natives.

Larval Hostplants

One of the potential Quino checkerspot larval hostplants was observed during the habitat assessment and focused surveys of the project site. The locations of these plants are depicted in Figure 3. Bird's beak (*Cordylanthus rigidus*) was observed in many openings and disturbed areas within the southern mixed chaparral vegetation. Plantago, the preferred host plant, was not observed. The bird's beak plants were still immature and not yet in flower by the end of the survey. No evidence of herbivory was detected during the focused surveys. The bird's beak population included more than 300 plants scattered in large areas.

Results

No adult or larval Quino checkerspot were detected during the surveys of the project area. Butterfly species observed are summarized in Table 2.

Conclusion

The results of the focused surveys indicate that the Quino checkerspot does not occur in the project area. Areas of open ground, and host plants that would potentially serve as Quino habitat were searched repeatedly during each weekly survey, with negative results. Neither Quino larvae or adults were observed during the survey period.

Table 2. Butterfly Species Observed.

Survey Dates	3/13/04	3/21/04	3/27/04	4/4/04	4/9/04	4/16/04	4/22/03
Species							
Acmon blue (<i>Icaricia acmon</i>)	0	0	0	1	0	0	1
Behr's metalmark (<i>Apodemia mormo virgulti</i>)	1	3	1	4	8	3	2
Buckeye (<i>Junonia coenia</i>)	0	0	0	0	2	3	1
Cabbage White (<i>Artogeia rapae</i>)	0	0	0	0	0	2	1
California sister (<i>Adelpha bredowii californica</i>)	0	0	0	0	0	0	1
Common White (<i>Pontia protodice</i>)	0	0	1	0	5	1	5
Echo blue (<i>Celastrina ladon echo</i>)	0	0	0	0	1	0	0
Funereal duskywing (<i>Erynnis funeralis</i>)	2	13	21	12	17	11	8
Gabb's checkerspot (<i>Charidryas gabbii</i>)	0	0	0	0	3	5	0
Grey hairstreak (<i>Strymon melinus</i>)	0	1	0	0	0	0	0
Painted lady (<i>Vanessa cardui</i>)	0	0	0	2	2	0	0
Perplexing hairstreak (<i>Callophrys perplexa</i>)	1	3	0	0	0	1	0
Lady (<i>species uncertain</i>)	0	3	7	2	15	8	41
Red admiral (<i>Vanessa atalanta</i>)	0	0	0	0	0	1	0
Sara orangetip (<i>Anthocharis sara</i>)	0	17	8	2	1	2	6
Skipper (<i>species uncertain</i>)	0	0	1	0	0	0	0
Sleepy prange (<i>Eurema nicippe</i>)	0	0	0	0	1	0	0
Southern blue (<i>Glaucopsyche lygdamus australis</i>)	0	17	33	30	24	8	2
West Coast lady (<i>Vanessa annabella</i>)	0	1	0	0	2	2	0

APPENDIX A. Copies of Original Field Notes

QUINO SURVEY FIELD FORM

PROJECT/LOCATION (attach figure if necessary)

Albers Project

Habitat Assessment

DATE: 3/11/04 DAY OF WEEK: Thursday START TIME: 9:30 END TIME: 6:00

START CONDITIONS - WIND: 0-4mph TEMPERATURE: 70° SKY: Clear & Sunny

END CONDITIONS - WIND: 0-2mph TEMPERATURE: 57° SKY: Clear & Sunny

OBSERVATIONS:

Habitat Conditions: Habitat fair. Open areas may have nectaring plants in the future but only ceanothus currently blooming. Annual seedlings healthy.

Host Plant Conditions: No plantago observed. Dead Erodianthus stalks scattered throughout open areas. No seedlings observed.

SPECIES OBSERVED:

TOTAL

Acmon blue (*Icaricia acmon*)Alfalfa butterfly (*Colias eurytheme*)Anise swallowtail (*Papilio zelicaon*)Behr's metalmark (*Apodemia mormo virgulti*)Brown elfin (*Incisalia augustinus*)Buckeye (*Junonia coenia*)Cabbage white (*Artogeia rapae*)California dogface (*Zerene eurydice*)California ringlet (*Coenonympha californica californica*)California sister (*Adelpha bredowii californica*)California tortoiseshell (*Nymphalis californica*)Chalcedon checkerspot (*Euphydryas chalcedona chalcedona*)Common white (*Pontia protodice*)Echo blue (*Celastrina ladon echo*)Edward's blue (*Hemiargus ceraunus gyas*)Felder's orangetip (*Anthocharis cethura*)Funereal duskywing (*Erynnis funeralis*)Gabb's checkerspot (*Charidryas gabbii*)Gray hairstreak (*Strymon melinus*)Great purple hairstreak (*Atlides halesus*)

DATE: 5/11/04

SPECIES OBSERVED (Continued):

TOTAL

Harford's sulfur (<i>Colias harfordi</i>)	
Henne's checkerspot (<i>Duphydryas chalcedona hennei</i>)	
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)	
Lorquin's admiral (<i>Basilarchia lorquini</i>)	
Marine blue (<i>Leptotes marina</i>)	
Monarch (<i>Danaus plexippus</i>)	
Mourning cloak (<i>Nymphalis antiopa</i>)	
Mylitta crescent (<i>Phyciodes mylitta</i>)	
Painted lady (<i>Vanessa cardui</i>)	
Pale swallowtail (<i>Papilio eurymedon</i>)	
Perplexing hairstreak (<i>Callophrys perplexa</i>)	
Pigmy blue (<i>Brephidium exilis</i>)	
Queen butterfly (<i>Danaus gilippus</i>)	
Quino checkerspot (<i>Euphydryas editha quino</i>)	
Red admiral (<i>Vanessa atalanta</i>)	
Sara orangetip (<i>Anthocharis sara</i>)	
Satyr anglewing (<i>Polygonia satyrus</i>)	
Sleepy orange (<i>Eurema nicippe</i>)	
Sonoran blue (<i>Philotes sonorensis</i>)	
Southern blue (<i>Glaucopsyche lygdamus australis</i>)	
Virginia lady (<i>Vanessa virginiensis</i>)	
West Coast lady (<i>Vanessa annabella</i>)	
Western tailed blue (<i>Everes amyntula</i>)	
Western tiger swallowtail (<i>Papilio rutulus</i>)	
Wright's metalmark (<i>Calephelis wrightii</i>)	
Lady II	
Day Moth I	2
	1
Total	3
Surveyor: Andrew Pignolo	

QUINO SURVEY FIELD FORM

PROJECT/LOCATION (attach figure if necessary)

Albers Project

DATE: 3/12/04 DAY OF WEEK: Friday START TIME: 2:30 END TIME: 4:30

START CONDITIONS - WIND: 0-4mph TEMPERATURE: 74° SKY: Sunny & Clear

END CONDITIONS - WIND: 0-4mph TEMPERATURE: 60° SKY: Sunny & Clear

OBSERVATIONS:

Habitat Conditions: few annuals in bloom and only *Keanothus* blooming of the shrubs. No hill tapping observed at either potential location. Great day but almost no butterflies out.

Host Plant Conditions: *Cordylanthus* seedlings not observed.

SPECIES OBSERVED:

TOTAL

Acmon blue (<i>Icaricia acmon</i>)	
Alfalfa butterfly (<i>Colias eurytheme</i>)	
Anise swallowtail (<i>Papilio zelicaon</i>)	
Behr's metalmark (<i>Apodemia mormo virgulti</i>)	1
Brown elfin (<i>Incisalia augustinus</i>)	
Buckeye (<i>Junonia coenia</i>)	
Cabbage white (<i>Artogeia rapae</i>)	
California dogface (<i>Zerene eurydice</i>)	
California ringlet (<i>Coenonympha californica californica</i>)	
California sister (<i>Adelpha bredowii californica</i>)	
California tortoiseshell (<i>Nymphalis californica</i>)	
Chalcedon checkerspot (<i>Euphydryas chalcedona chalcedona</i>)	
Common white (<i>Pontia protodice</i>)	
Echo blue (<i>Celastrina ladon echo</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)	
Felder's orangetip (<i>Anthocharis cethura</i>)	
Funereal duskywing (<i>Erynnis funeralis</i>)	11
Gabb's checkerspot (<i>Charidryas gabbii</i>)	
Gray hairstreak (<i>Strymon melinus</i>)	
Great purple hairstreak (<i>Atalides halesus</i>)	
	2

DATE: 3/12/04

SPECIES OBSERVED (Continued):

TOTAL

Harford's sulfer (*Colias harfordi*)

Henne's checkerspot (*Duphydryas chalcedona hennei*)

Leanira checkerspot (*Thessalia leanira wrighti*)

Lorquin's admiral (*Basilarchia lorquini*)

Marine blue (*Leptotes marina*)

Monarch (*Danaus plexippus*)

Mourning cloak (*Nymphalis antiopa*)

Mylitta crescent (*Phyciodes mylitta*)

Painted lady (*Vanessa cardui*)

Pale swallowtail (*Papilio eurymedon*)

Perplexing hairstreak (*Callophrys perplexa*) |

1

Pigmy blue (*Brephidium exilis*)

Queen butterfly (*Danaus gilippus*)

Quino checkerspot (*Euphydryas editha quino*)

Red admiral (*Vanessa atalanta*)

Sara orangetip (*Anthocharis sara*)

Satyr anglewing (*Polygonia satyrus*)

Sleepy orange (*Eurema nicippe*)

Sonoran blue (*Philotes sonorensis*)

Southern blue (*Glaucopsyche lygdamus australis*)

Virginia lady (*Vanessa virginiensis*)

West Coast lady (*Vanessa annabella*)

Western tailed blue (*Everes amyntula*)

Western tiger swallowtail (*Papilio rutulus*)

Wright's metalmark (*Calephelis wrightii*)

Day Moth 1

1

Total

5

Surveyor: Andrew Pignolo

QUINO SURVEY FIELD FORM

PROJECT/LOCATION (attach figure if necessary)

Albers Project

DATE: 3/19/04 DAY OF WEEK: Friday START TIME: 1300 END TIME: 1500

START CONDITIONS - WIND: 0-4mph TEMPERATURE: 85° SKY: Sunny & Clear

END CONDITIONS - WIND: 0-4mph TEMPERATURE: 79° SKY: Sunny & Clear

OBSERVATIONS:

Habitat Conditions: *Rhus ovata* and *Ceanothus* blooming. Some *amsonia*, few annuals. *Lotus scoparius* just beginning to bloom. A lot more activity than the last visit.

Host Plant Conditions: *Cordylanthus* still limited to short, sparse seedlings. *Keckelia* healthy. No herbivory noted.

SPECIES OBSERVED:

TOTAL

Acmon blue (<i>Icaricia acmon</i>)	
Alfalfa butterfly (<i>Colias eurytheme</i>)	
Anise swallowtail (<i>Papilio zelicaon</i>)	
Behr's metalmark (<i>Apodemia mormo virgulti</i>)	2
Brown elfin (<i>Incisalia augustinus</i>)	
Buckeye (<i>Junonia coenia</i>)	
Cabbage white (<i>Artogeia rapae</i>)	
California dogface (<i>Zerene eurydice</i>)	
California ringlet (<i>Coenonympha californica californica</i>)	
California sister (<i>Adelpha bredowii californica</i>)	
California tortoiseshell (<i>Nymphalis californica</i>)	
Chalcedon checkerspot (<i>Euphydryas chalcedona chalcedona</i>)	
Common white (<i>Pontia protodice</i>)	
Echo blue (<i>Celastrina ladon echo</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)	
Felder's orangetip (<i>Anthocharis cethura</i>)	
Funereal duskywing (<i>Erynnis funeralis</i>)	13
Gabb's checkerspot (<i>Charidryas gabbii</i>)	
Gray hairstreak (<i>Strymon melinus</i>)	1
Great purple hairstreak (<i>Atalides halesus</i>)	

17

DATE: 3/19/04

SPECIES OBSERVED (Continued):

TOTAL

Harford's sulfur (*Colias harfordi*)

Henne's checkerspot (*Duphydryas chalcedona hennei*)

Leanira checkerspot (*Thessalia leanira wrighti*)

Lorquin's admiral (*Basilarchia lorquini*)

Marine blue (*Leptotes marina*)

Monarch (*Danaus plexippus*)

Mourning cloak (*Nymphalis antiopa*)

Mylitta crescent (*Phyciodes mylitta*)

Painted lady (*Vanessa cardui*)

Pale swallowtail (*Papilio eurymedon*)

Perplexing hairstreak (*Callophrys perplexa*) |||

3

Pigmy blue (*Brephidium exilis*)

Queen butterfly (*Danaus gilippus*)

Quino checkerspot (*Euphydryas editha quino*)

Red admiral (*Vanessa atalanta*)

Sara orangetip (*Anthocharis sara*) ~~||||~~ ||

17

Satyr anglewing (*Polygonia satyrus*)

Sleepy orange (*Eurema nicippe*)

Sonoran blue (*Philotes sonorensis*)

Southern blue (*Glaucopsyche lygdamus australis*) ~~||||~~ ||

17

Virginia lady (*Vanessa virginiensis*)

West Coast lady (*Vanessa annabella*) |

1

Western tailed blue (*Everes amyntula*)

Western tiger swallowtail (*Papilio rutulus*)

Wright's metalmark (*Calephelis wrightii*)

Moth |

1

Lady |||

3

total

59

Surveyor: Andrew Pignolo

QUINO SURVEY FIELD FORM

PROJECT/LOCATION (attach figure if necessary)

Albers Parcel

DATE: 3/27/04 DAY OF WEEK: Saturday START TIME: 10:30 END TIME: 12:30

START CONDITIONS - WIND: 0-4 mph TEMPERATURE: 65° SKY: Sunny & Clear

END CONDITIONS - WIND: 0-4 mph TEMPERATURE: 73° SKY: Sunny & Clear

OBSERVATIONS:

Habitat Conditions: Lotus scoparius more in bloom along with a few annuals, still few flowers out overall. Still not much hilltopping. Lots more butterflies, particularly southern blues.

Host Plant Conditions: Cordylanthus seedlings healthy. No herbivory noted. Lactuca healthy no herbivory noted.

SPECIES OBSERVED:

TOTAL

Acmon blue (<i>Icaricia acmon</i>)	
Alfalfa butterfly (<i>Colias eurytheme</i>)	
Anise swallowtail (<i>Papilio zelicaon</i>)	
Behr's metalmark (<i>Apodemia mormo virgulti</i>)	1
Brown elfin (<i>Incisalia augustinus</i>)	
Buckeye (<i>Junonia coenia</i>)	
Cabbage white (<i>Artogeia rapae</i>)	
California dogface (<i>Zerene eurydice</i>)	
California ringlet (<i>Coenonympha californica californica</i>)	
California sister (<i>Adelpha bredowii californica</i>)	
California tortoiseshell (<i>Nymphalis californica</i>)	
Chalcedon checkerspot (<i>Euphydryas chalcedona chalcedona</i>)	
Common white (<i>Pontia protodice</i>)	1
Echo blue (<i>Celastrina ladon echo</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)	
Felder's orangetip (<i>Anthocharis cethura</i>)	
Funereal duskywing (<i>Erynnis funeralis</i>)	21
Gabb's checkerspot (<i>Charidryas gabbii</i>)	
Gray hairstreak (<i>Strymon melinus</i>)	
Great purple hairstreak (<i>Atlides halesus</i>)	

24

DATE: 3/27/04

SPECIES OBSERVED (Continued):

TOTAL

Harford's sulfer (<i>Colias harfordi</i>)	
Henne's checkerspot (<i>Duphydryas chalcedona hennei</i>)	
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)	
Lorquin's admiral (<i>Basilarchia lorquini</i>)	
Marine blue (<i>Leptotes marina</i>)	
Monarch (<i>Danaus plexippus</i>)	
Mourning cloak (<i>Nymphalis antiopa</i>)	
Mylitta crescent (<i>Phyciodes mylitta</i>)	
Painted lady (<i>Vanessa cardui</i>)	
Pale swallowtail (<i>Papilio eurymedon</i>)	
Perplexing hairstreak (<i>Callophrys perplexa</i>)	
Pigmy blue (<i>Brephidium exilis</i>)	
Queen butterfly (<i>Danaus gilippus</i>)	
Quino checkerspot (<i>Euphydryas editha quino</i>)	
Red admiral (<i>Vanessa atalanta</i>)	
Sara orangetip (<i>Anthocharis sara</i>)	8
Satyr anglewing (<i>Polygonia satyrus</i>)	
Sleepy orange (<i>Eurema nicippe</i>)	
Sonoran blue (<i>Philotes sonorensis</i>)	
Southern blue (<i>Glaucopsyche lygdamus australis</i>)	33
Virginia lady (<i>Vanessa virginiensis</i>)	
West Coast lady (<i>Vanessa annabella</i>)	
Western tailed blue (<i>Everes amyntula</i>)	
Western tiger swallowtail (<i>Papilio rutulus</i>)	
Wright's metalmark (<i>Calephelis wrightii</i>)	
Lady	7
Sphinx Moth	1
Other skipper	1
Total	74

Surveyor: Andrew Pignicola

QUINO SURVEY FIELD FORM

PROJECT/LOCATION (attach figure if necessary)

Albers Project

DATE: 4/4/04 DAY OF WEEK: Sunday START TIME: 130 END TIME: 330

START CONDITIONS - WIND: 0-4 mph TEMPERATURE: 72° SKY: Partly cloudy with mixed sun

END CONDITIONS - WIND: 0-4 mph TEMPERATURE: 72° SKY: Partly cloudy

OBSERVATIONS:

Habitat Conditions: Lotus in good bloom along with Erythraea and other annuals.

Host Plant Conditions: Ledyella healthy. No herbivory noted. Keckella healthy and in bloom. No herbivory noted.

SPECIES OBSERVED:

	TOTAL
Acmon blue (<i>Icaricia acmon</i>)	1
Alfalfa butterfly (<i>Colias eurytheme</i>)	
Anise swallowtail (<i>Papilio zelicaon</i>)	
Behr's metalmark (<i>Apodemia mormo virgulti</i>)	4
Brown elfin (<i>Incisalia augustinus</i>)	
Buckeye (<i>Junonia coenia</i>)	
Cabbage white (<i>Artogeia rapae</i>)	
California dogface (<i>Zerene eurydice</i>)	
California ringlet (<i>Coenonympha californica californica</i>)	
California sister (<i>Adelpha bredowii californica</i>)	
California tortoiseshell (<i>Nymphalis californica</i>)	
Chalcedon checkerspot (<i>Euphydryas chalcedona chalcedona</i>)	
Common white (<i>Pontia protodice</i>)	
Echo blue (<i>Celastrina ladon echo</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)	
Felder's orangetip (<i>Anthocharis cethura</i>)	
Funereal duskywing (<i>Erynnis funeralis</i>)	12
Gabb's checkerspot (<i>Charidryas gabbii</i>)	
Gray hairstreak (<i>Strymon melinus</i>)	
Great purple hairstreak (<i>Atlides halesus</i>)	

DATE: 7/4/04

SPECIES OBSERVED (Continued):

TOTAL

Harford's sulfur (*Colias harfordi*)

Henne's checkerspot (*Duphydryas chalcedona hennei*)

Leanira checkerspot (*Thessalia leanira wrighti*)

Lorquin's admiral (*Basilarchia lorquini*)

Marine blue (*Leptotes marina*)

Monarch (*Danaus plexippus*)

Mourning cloak (*Nymphalis antiopa*)

Mylitta crescent (*Phyciodes mylitta*)

Painted lady (*Vanessa cardui*) ||

2

Pale swallowtail (*Papilio eurymedon*)

Perplexing hairstreak (*Callophrys perplexa*)

Pigmy blue (*Brephidium exilis*)

Queen butterfly (*Danaus gilippus*)

Quino checkerspot (*Euphydryas editha quino*)

Red admiral (*Vanessa atalanta*)

Sara orangetip (*Anthocharis sara*) ||

2

Satyr anglewing (*Polygonia satyrus*)

Sleepy orange (*Eurema nicippe*)

Sonoran blue (*Philotes sonorensis*)

Southern blue (*Glaucopsyche lygdamus australis*)

~~|||||~~

30

Virginia lady (*Vanessa virginiensis*)

West Coast lady (*Vanessa annabella*)

Western tailed blue (*Everes amyntula*)

Western tiger swallowtail (*Papilio rutulus*)

Wright's metalmark (*Calephelis wrightii*)

Moth 1

1

Lady 11

2

Total

54

Surveyor: Andrew Pignio

QUINO SURVEY FIELD FORM

PROJECT/LOCATION (attach figure if necessary)

Albers Project

DATE: 4/9/04 DAY OF WEEK: Friday START TIME: 1230 END TIME: 2:30

START CONDITIONS - WIND: 0-2mph TEMPERATURE: 70° SKY: Sunny & Clear ✓

END CONDITIONS - WIND: 0-4mph TEMPERATURE: 80° SKY: Sunny & Clear ✓

OBSERVATIONS:

Habitat Conditions: Lotus and annuals in fair bloom

Host Plant Conditions: Cordylanthus healthy and growing. No herbivory noted. Kekellou healthy and blooming. No herbivory noted.

SPECIES OBSERVED:

TOTAL

Acmon blue (*Icaricia acmon*)Alfalfa butterfly (*Colias eurytheme*)Anise swallowtail (*Papilio zelicaon*)Behr's metalmark (*Apodemia mormo virgulti*) IIII 8Brown elfin (*Incisalia augustinus*)Buckeye (*Junonia coenia*) II 2Cabbage white (*Artogeia rapae*)California dogface (*Zerene eurydice*)California ringlet (*Coenonympha californica californica*)California sister (*Adelpha bredowii californica*)California tortoiseshell (*Nymphalis californica*)Chalcedon checkerspot (*Euphydryas chalcedona chalcedona*)Common white (*Pontia protodice*) IIII 5Echo blue (*Celastrina ladon echo*) I 1Edward's blue (*Hemiargus ceraunus gyas*)Felder's orangetip (*Anthocharis cethura*)Funereal duskywing (*Erynnis funeralis*) IIII IIII 17Gabb's checkerspot (*Charidryas gabbii*) III 3Gray hairstreak (*Strymon melinus*)Great purple hairstreak (*Atlides halesus*)

38

DATE: 4/9/04

SPECIES OBSERVED (Continued):

TOTAL

Harford's sulfur (*Colias harfordi*)

Henne's checkerspot (*Duphydryas chalcedona hennei*)

Leanira checkerspot (*Thessalia leanira wrighti*)

Lorquin's admiral (*Basilarchia lorquini*)

Marine blue (*Leptotes marina*)

Monarch (*Danaus plexippus*)

Mourning cloak (*Nymphalis antiopa*)

Mylitta crescent (*Phyciodes mylitta*)

Painted lady (*Vanessa cardui*) ||

2

Pale swallowtail (*Papilio eurymedon*)

Perplexing hairstreak (*Callophrys perplexa*)

Pigmy blue (*Brephidium exilis*)

Queen butterfly (*Danaus gilippus*)

Quino checkerspot (*Euphydryas editha quino*)

Red admiral (*Vanessa atalanta*)

Sara orangetip (*Anthocharis sara*) \

1

Satyr anglewing (*Polygonia satyrus*)

Sleepy orange (*Eurema nicippe*) |

1

Sonoran blue (*Philotes sonorensis*)

Southern blue (*Glaucopsyche lygdamus australis*) |||||

24

Virginia lady (*Vanessa virginiensis*)

West Coast lady (*Vanessa annabella*) ||

2

Western tailed blue (*Everes amyntula*)

Western tiger swallowtail (*Papilio rutulus*)

Wright's metalmark (*Calephelis wrightii*)

Lady |||||

15

Moth ||

5

Total

86

Surveyor: Andrew Pignolo

QUINO SURVEY FIELD FORM

PROJECT/LOCATION (attach figure if necessary)

Albers Project

DATE: 4/16/04 DAY OF WEEK: Friday START TIME: 11:30 END TIME: 1:30

START CONDITIONS - WIND: 0-4 mph TEMPERATURE: 76° SKY: Sunny & Clear

END CONDITIONS - WIND: 0-4 mph TEMPERATURE: 78° SKY: Sunny & Clear with occasional clouds

OBSERVATIONS:

Habitat Conditions: Lotus healthy and in good bloom. Annuals still blooming but passing peak.

Host Plant Conditions: Cordylanthus healthy and growing well. No herbivory noted. Keckella blooming

SPECIES OBSERVED:

TOTAL

Acmon blue (<i>Icaricia acmon</i>)	
Alfalfa butterfly (<i>Colias eurytheme</i>)	
Anise swallowtail (<i>Papilio zelicaon</i>)	
Behr's metalmark (<i>Apodemia mormo virgulti</i>)	3
Brown elfin (<i>Incisalia augustinus</i>)	
Buckeye (<i>Junonia coenia</i>)	3
Cabbage white (<i>Artogeia rapae</i>)	2
California dogface (<i>Zerene eurydice</i>)	
California ringlet (<i>Coenonympha californica californica</i>)	
California sister (<i>Adelpha bredowii californica</i>)	
California tortoiseshell (<i>Nymphalis californica</i>)	
Chalcedon checkerspot (<i>Euphydryas chalcedona chalcedona</i>)	
Common white (<i>Pontia protodice</i>)	1
Echo blue (<i>Celastrina ladon echo</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)	
Felder's orangetip (<i>Anthocharis cethura</i>)	
Funereal duskywing (<i>Erynnis funeralis</i>)	11
Gabb's checkerspot (<i>Charidryas gabbii</i>)	5
Gray hairstreak (<i>Strymon melinus</i>)	
Great purple hairstreak (<i>Atlides halesus</i>)	

DATE: 4/16/04

Page 2 of 2

SPECIES OBSERVED (Continued):	TOTAL
Harford's sulfur (<i>Colias harfordi</i>)	
Henne's checkerspot (<i>Duphydryas chalcedona hennei</i>)	
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)	
Lorquin's admiral (<i>Basilarchia lorquini</i>)	
Marine blue (<i>Leptotes marina</i>)	
Monarch (<i>Danaus plexippus</i>)	
Mourning cloak (<i>Nymphalis antiopa</i>)	
Mylitta crescent (<i>Phyciodes mylitta</i>)	
Painted lady (<i>Vanessa cardui</i>)	
Pale swallowtail (<i>Papilio eurymedon</i>)	
Perplexing hairstreak (<i>Callophrys perplexa</i>)	1
Pigmy blue (<i>Brephidium exilis</i>)	
Queen butterfly (<i>Danaus gilippus</i>)	
Quino checkerspot (<i>Euphydryas editha quino</i>)	
Red admiral (<i>Vanessa atalanta</i>)	1
Sara orangetip (<i>Anthocharis sara</i>)	11
Satyr anglewing (<i>Polygonia satyrus</i>)	
Sleepy orange (<i>Eurema nicippe</i>)	
Sonoran blue (<i>Philotes sonorensis</i>)	
Southern blue (<i>Glaucopsyche lygdamus australis</i>)	8
Virginia lady (<i>Vanessa virginiensis</i>)	
West Coast lady (<i>Vanessa annabella</i>)	2
Western tailed blue (<i>Everes amyntula</i>)	
Western tiger swallowtail (<i>Papilio rutulus</i>)	
Wright's metalmark (<i>Calephelis wrightii</i>)	
Lady	8
Moth	2
Total	49
Surveyor: Andrew Pignolo	

QUINO SURVEY FIELD FORM

PROJECT/LOCATION (attach figure if necessary)

Albers Project

DATE: 4/23/04 DAY OF WEEK: Friday START TIME: 1:30 END TIME: 3:30

START CONDITIONS - WIND: 0-4mph TEMPERATURE: 77° SKY: Sunny + Clear

END CONDITIONS - WIND: 0-4mph TEMPERATURE: 84° SKY: Sunny + Clear

OBSERVATIONS:

Habitat Conditions: Lotus s in full bloom along with other annuals
Some things starting to dry out. Lots of Ladies passing
through.

Host Plant Conditions: Cordylanthus healthy and growing well. No
herbivory noted.

SPECIES OBSERVED:

	TOTAL
Acmon blue (<i>Icaricia acmon</i>)	1
Alfalfa butterfly (<i>Colias eurytheme</i>)	
Anise swallowtail (<i>Papilio zelicaon</i>)	
Behr's metalmark (<i>Apodemia mormo virgulti</i>)	2
Brown elfin (<i>Incisalia augustinus</i>)	
Buckeye (<i>Junonia coenia</i>)	1
Cabbage white (<i>Artogeia rapae</i>)	1
California dogface (<i>Zerene eurydice</i>)	
California ringlet (<i>Coenonympha californica californica</i>)	
California sister (<i>Adelpha bredowii californica</i>)	1
California tortoiseshell (<i>Nymphalis californica</i>)	
Chalcedon checkerspot (<i>Euphydryas chalcedona chalcedona</i>)	
Common white (<i>Pontia protodice</i>)	5
Echo blue (<i>Celastrina ladon echo</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)	
Felder's orangetip (<i>Anthocharis cethura</i>)	
Funereal duskywing (<i>Erynnis funeralis</i>)	8
Gabb's checkerspot (<i>Charidryas gabbii</i>)	
Gray hairstreak (<i>Strymon melinus</i>)	
Great purple hairstreak (<i>Atlides halesus</i>)	

APPENDIX B. Plant Species Observed

APPENDIX B PLANT SPECIES OBSERVED ON THE ALBERS PARCEL			
Family Name	Species Name	Common Name	Habitat
ANGIOSPERMS: DICOTS			
Anacardiaceae	<i>Malosma laurina</i>	Laurel Sumac	NNG, OEOW, DEOW,
	<i>Rhus ovata</i>	Sugar Bush	NNG
	* <i>Schinus molle</i>	Peruvian Pepper Tree	NNG
	<i>Toxicodendron diversilobum</i>	Western Poison-Oak	NNG, SMC, OEOW, DEOW,
Apiaceae	<i>Apiastrum angustifolium</i>	Mock-parsley	NNG, SMC, OEOW
	<i>Daucus pusillus</i>	Rattlesnake Weed	NNG, SMC, OEOW
	<i>Sanicula arguta</i>	Sharp-tooth Sanicle	DEOW
Asteraceae	<i>Artemisia californica</i>	Coastal Sagebrush	NNG, SMC, OEOW, DEOW
	<i>Baccharis salicifolia</i>	Mule-fat, Seep-willow	DEOW, SMC, OEOW, NNG
	<i>Baccharis sarothroides</i>	Broom Baccharis	NNG
	* <i>Carduus pycnocephalus</i>	Italian Thistle	NNG, DEOW
	* <i>Centaurea melitensis</i>	Tocalote	NNG, DEOW
	<i>Chaenactis artemisiifolia</i>	Artemisia Pincushion	SMC, OEOW
	<i>Deinandra fasciculata</i>	Fascicled Tarweed	SMC, OEOW
	<i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i>	Long-stem Golden- yarrow	NNG
	<i>Filago californica</i>	California Filago	NNG
	* <i>Filago gallica</i>	Narrow-leaf Filago	NNG
	<i>Gnaphalium californicum</i>	California Everlasting	SMC, OEOW
	<i>Gnaphalium canescens</i> ssp. <i>beneolens</i>	Fragrant Everlasting	NNG
	<i>Gutierrezia sarothrae</i>	Broom Matchweed/snakeweed	SMC, OEOW
	<i>Hazardia squarrosa</i> var. <i>grindelioides</i>	Sawtooth Goldenbush	NNG
	* <i>Hedypnois cretica</i>	Crete Hedypnois	NNG
	<i>Helianthus gracilentus</i>	Slender Sunflower	NNG
	<i>Heterotheca grandiflora</i>	Telegraph Weed	NNG
	<i>Lessingia filaginifolia</i> var. <i>filaginifolia</i>	California-aster	NNG

	<i>Porophyllum gracile</i>	Odora	SMC
	* <i>Silybum marianum</i>	Milk Thistle	NNG, OEOW
	* <i>Sonchus asper</i> ssp. <i>asper</i>	Prickly Sow-thistle	SMC, OEOW
	* <i>Sonchus oleraceus</i>	Common Sow-thistle	SMC, OEOW, NNG
	<i>Stephanomeria virgata</i> ssp.	Virgate Wreath-plant	NNG
	<i>Stylocline gnaphaloides</i>	Everlasting Nest-straw	NNG
Boraginaceae	<i>Amsinckia menziesii</i> var. <i>intermedia</i>	Rancher's Fiddleneck	NNG, DEOW
	<i>Cryptantha intermedia</i>	Nievitans Cryptantha	NNG
	<i>Plagiobothrys</i> sp.	Popcornflower	NNG
Brassicaceae	* <i>Brassica nigra</i>	Black Mustard	NNG
	* <i>Sisymbrium irio</i>	London Rocket	NNG
	* <i>Sisymbrium orientale</i>	Hare's-ear Cabbage	NNG
Caprifoliaceae	<i>Lonicera subspicata</i> var. <i>denudata</i>	Southern Honeysuckle	NNG, SMC, OEOW
	<i>Sambucus mexicana</i>	Blue Elderberry	NNG, SMC, OEOW, DEOW
Chenopodiaceae	* <i>Salsola tragus</i>	Russian-thistle, Tumbleweed	NNG
Cistaceae	<i>Helianthemum scoparium</i>	Peak Rush-rose	NNG, SMC, OEOW
Convolvulaceae	<i>Calystegia macrostegia</i> ssp.	Morning-glory	NNG
Crassulaceae	<i>Crassula connata</i>	Pygmy Weed	SMC
Cucurbitaceae	<i>Marah macrocarpus</i> var. <i>macrocarpus</i>	Manroot, Wild-cucumber	NNG, SMC, OEOW, DEOW
Cuscutaceae	<i>Cuscuta subinclusa</i>	Dodder	NNG
Ericaceae	<i>Xylococcus bicolor</i>	Mission Manzanita	SMC, OEOW
Euphorbiaceae	<i>Eremocarpus setigerus</i>	Doveweed	NNG
Fabaceae	<i>Lathyrus vestitus</i> var. <i>alefeldii</i>	San Diego Sweet Pea	SMC, NNG
	<i>Lotus purshianus</i> var. <i>purshianus</i>	Spanish-clover	NNG
	<i>Lotus scoparius</i> var. <i>scoparius</i>	Coastal Deerweed	NNG
	<i>Lotus strigosus</i>		NNG
	<i>Lupinus bicolor</i>	Miniature Lupine	NNG
	<i>Trifolium</i> sp.	Valley Clover	SMC
Fagaceae	<i>Quercus agrifolia</i> var. <i>agrifolia</i>	Coast Live Oak, Encina	NNG, DEOW
	<i>Quercus berberidifolia</i>	Scrub Oak	SMC, OEOW, DEOW
	<i>Quercus engelmannii</i>	Engelmann's/mesa Blue Oak	NNG, SMC, OEOW, DEOW

Gentianaceae	<i>Centaurium venustum</i>	Canchalagua	NNG
Geraniaceae	* <i>Erodium botrys</i>	Long-beak Filaree/storksbill	NNG
	* <i>Erodium cicutarium</i>	Red-stem Filaree/storksbill	NNG
Hydrophyllaceae	<i>Eucrypta chrysanthemifolia</i> var. <i>chrysanthemifolia</i>		SMC, OEOW
	<i>Phacelia cicutaria</i> var. <i>hispida</i>	Caterpillar Phacelia	NNG
Lamiaceae	<i>Salvia apiana</i>	White Sage	NNG
	<i>Salvia clevelandii</i>	Fragrant Sage	NNG, SMC, OEOW
	<i>Salvia columbariae</i>	Chia	NNG, SMC, OEOW
Linaceae	<i>Hesperolinon micranthum</i>	Thread-stem Dwarf-flax	NNG
Oleaceae	* <i>Olea europaea</i>	Olive	NNG, SMC, OEOW, DEOW
Polemoniaceae	<i>Navarretia atractyloides</i>	Holly-leaf Skunkweed	NNG
	<i>Navarretia hamata</i> ssp. <i>hamata</i>	Hooked Skunkweed	SMC, OEOW
Polygonaceae	<i>Chorizanthe fimbriata</i> var. <i>fimbriata</i>	Fringed Spineflower	NNG, SMC, OEOW
	<i>Chorizanthe staticoides</i>	Turkish Rugging	SMC, OEOW
	<i>Eriogonum fasciculatum</i> var. <i>fasciculatum</i>	California Buckwheat	NNG
	<i>Pterostegia drymarioides</i>	Granny's Hairnet	SMC, OEOW
	* <i>Rumex crispus</i>	Curly Dock	NNG, DEOW
Portulacaceae	<i>Claytonia perfoliata</i> ssp. <i>perfoliata</i>	Miner's-lettuce	SMC, OEOW
Primulaceae	* <i>Anagallis arvensis</i>	Scarlet Pimpernel, Poor Man's Weatherglass	NNG, SMC, OEOW
Ranunculaceae	<i>Thalictrum fendleri</i> var. <i>fendleri</i>	Fendler's Meadow-rue	DEOW
Rhamnaceae	<i>Ceanothus crassifolius</i>	Thick-leaf/hoary-leaf- lilac	SMC, OEOW
	<i>Ceanothus tomentosus</i>	Ramona-lilac	SMC, OEOW
	<i>Rhamnus crocea</i>	Spiny Redberry	NNG, DEOW
Rosaceae	<i>Adenostoma fasciculatum</i>	Chamise	SMC, OEOW
	<i>Cercocarpus minutiflorus</i>	San Diego Mountain- mahogany	SMC, OEOW, DEOW
	<i>Heteromeles arbutifolia</i>	Toyon, Christmas Berry	NNG, SMC, OEOW, DEOW
Rubiaceae	<i>Galium angustifolium</i> ssp. <i>angustifolium</i>	Narrow-leaf Bedstraw	NNG

	<i>*Galium aparine</i>	Common Bedstraw, Goose Grass	SMC, OEOW, DEOW
	<i>Galium porrigens</i> var. <i>porrigens</i>	Climbing/oval-leaf Bedstraw	SMC
Rutaceae	<i>Cneoridium dumosum</i>	Coast Spice Bush, Bush- rue	SMC
Salicaceae	<i>Salix lasiolepis</i>	Arroyo Willow	DEOW
Scrophulariaceae	<i>Antirrhinum nuttallianum</i> ssp. <i>nuttallianum</i>	Nuttall's Snapdragon	SMC, OEOW
	<i>Cordylanthus rigidus</i> ssp. <i>setigerus</i>	Dark-tip Bird's Beak	NNG, SMC, OEOW
	<i>Keckiella antirrhinoides</i> var. <i>antirrhinoides</i>	Yellow Bush Penstemon	SMC, OEOW
	<i>Keckiella cordifolia</i>	Climbing Bush Penstemon	SMC, OEOW, DEOW
	<i>Mimulus aurantiacus</i>	Coast Monkey Flower	NNG, SMC, OEOW
	<i>Scrophularia californica</i> ssp. <i>floribunda</i>	California Bee Plant/figwort	NNG
Solanaceae	<i>*Nicotiana glauca</i>	Tree Tobacco	NNG
	<i>*Solanum americanum</i>	White Nightshade	NNG
	<i>Solanum</i> sp.	Nightshade	NNG, SMC, OEOW
Vitaceae	<i>Vitis girdiana</i>	Desert Wild Grape	DEOW
ANGIOSPERMS: MONOCOTS			
Agavaceae	<i>Yucca whipplei</i>	Our Lord's Candle	SMC, OEOW, NNG
Hyacinthaceae	<i>Chlorogalum parviflorum</i>	Soap-plant, Amole	NNG
Iridaceae	<i>Sisyrinchium bellum</i>	Blue-eyed-grass	NNG
Liliaceae	<i>Calochortus splendens</i>	Splendid Mariposa Lily	NNG
	<i>Calochortus weedii</i> var. <i>weedii</i>	Weed's Mariposa Lily	SMC, OEOW
Poaceae	<i>Achnatherum coronatum</i>	Giant Stipa	NNG
	<i>*Avena</i> sp.	Wild Oat	NNG
	<i>*Bromus diandrus</i>	Ripgut Grass	SMC, OEOW, DEOW
	<i>*Bromus hordeaceus</i>	Soft Chess	NNG, DEOW
	<i>*Bromus madritensis</i> ssp. <i>rubens</i>	Foxtail Chess	NNG
	<i>*Lamarckia aurea</i>	Golden-top	SMC, OEOW
	<i>Melica imperfecta</i>	Coast Range Melic	NNG, SMC, OEOW

	<i>Nassella lepida</i>	Foothill Needlegrass	SMC, OEOW
	* <i>Pennisetum setaceum</i>	African Fountain Grass	SMC, OEOW
	* <i>Vulpia myuros</i> var. <i>hirsuta</i>		SMC
Themidaceae	<i>Dichelostemma capitatum</i> ssp. <i>capitatum</i>	Blue Dicks	NNG
	* = Non-native Plant Species	SMC=Southern Mixed Chaparral, NNG=Non-native Grassland, DEOW= Dense Engelmann Oak Woodland, OEOW=Open Englemann Oak Woodland	