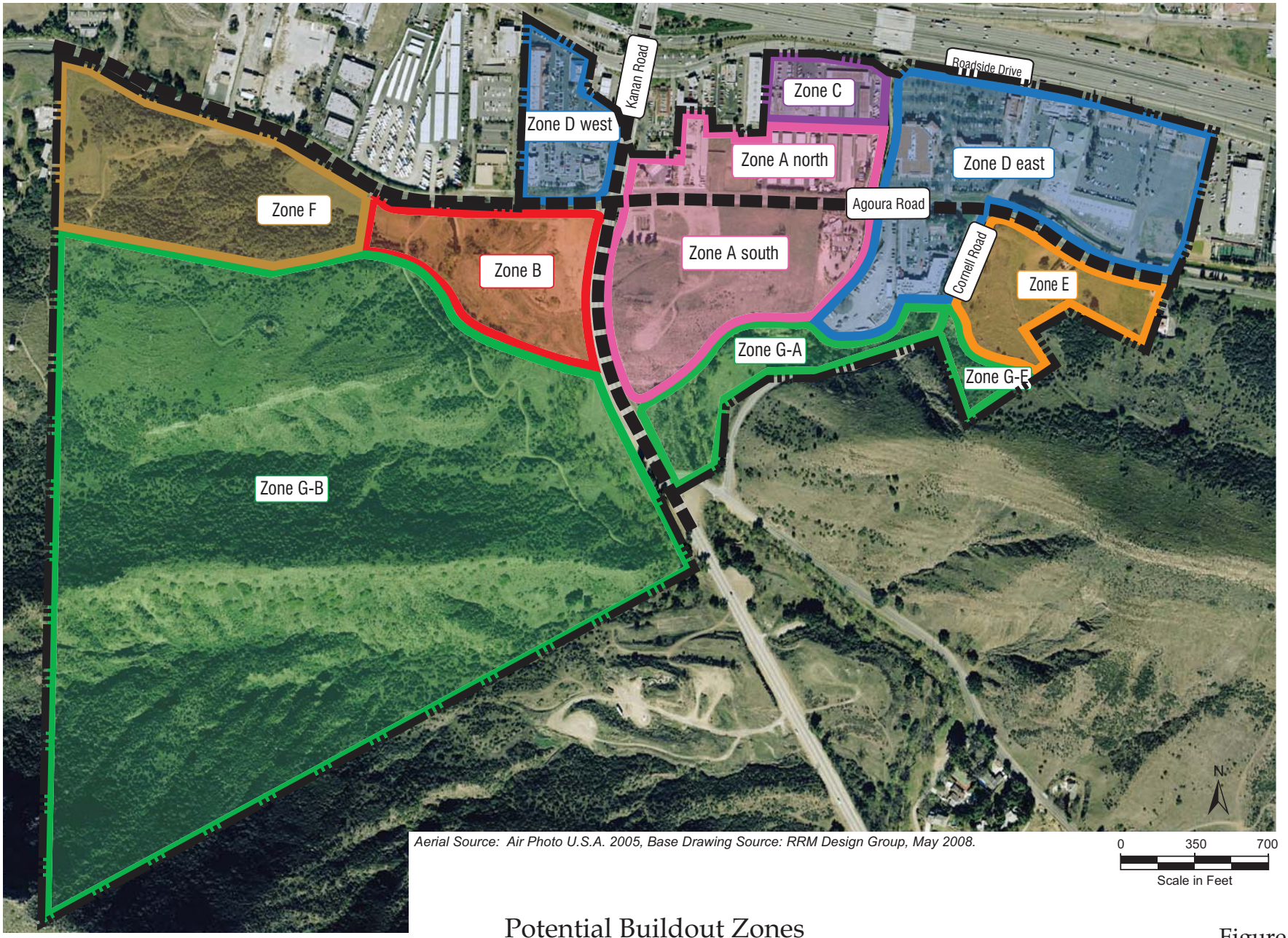
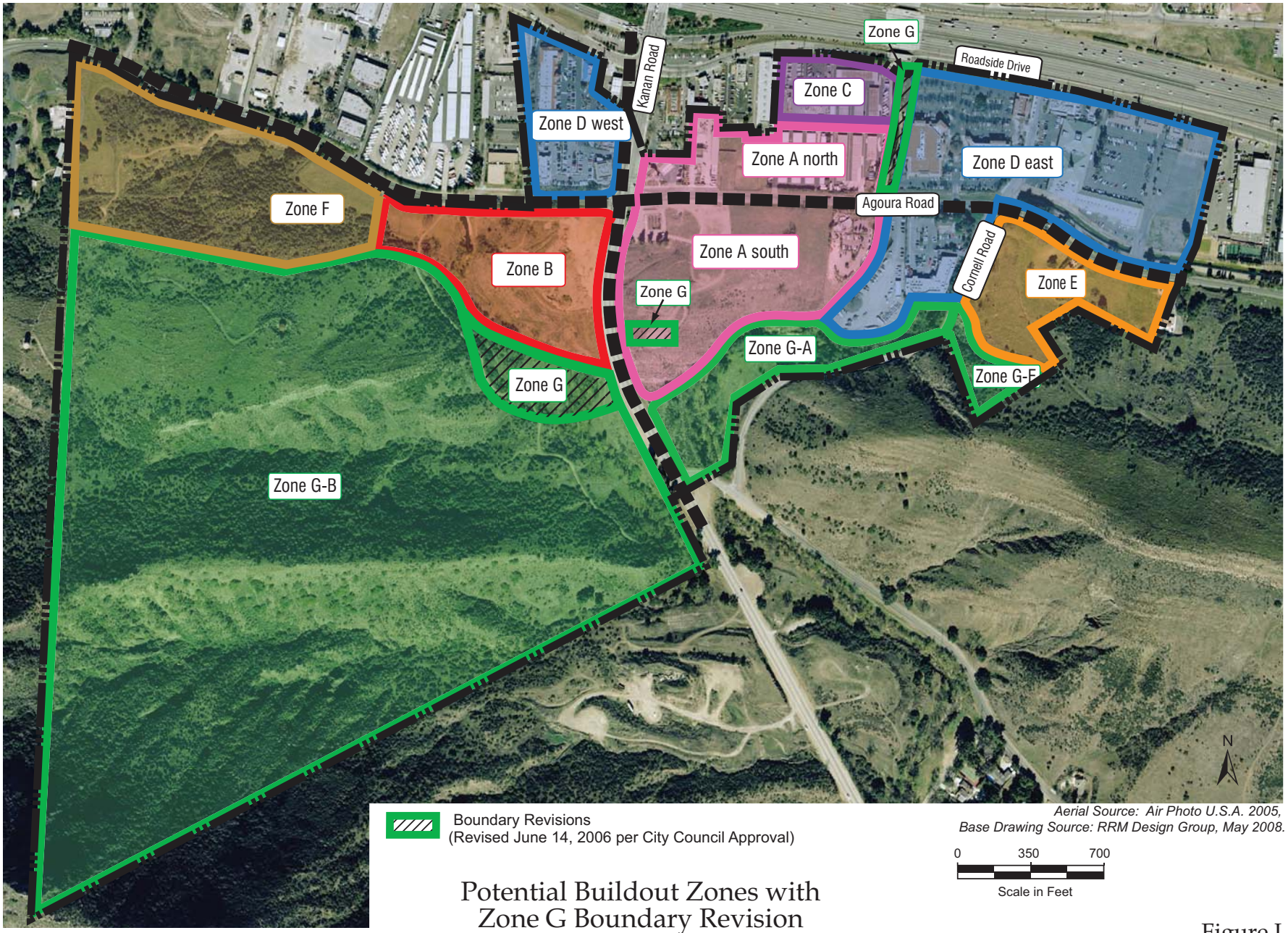


Potential Buildout Zones

Figure I-3



Potential Buildout Zones with Zone G Boundary Revision

Figure I-4

Section 1

Special-Status Plant Surveys

SECTION 1 – SPECIAL-STATUS PLANT SURVEYS

Purpose

Rincon Consultants conducted a focused rare plant survey in response to a Writ of Mandate issued by the Superior Court of California, County of Los Angeles in the case of Mary Altmann vs. City of Agoura Hills. The intent of this focused survey was to determine the presence or absence of the following special status species and plants of special interest:

- Plummer's mariposa lily (*Calochortus plummerae* - CNPS List 1B),
- Santa Susana tarplant (*Deinandra minthornii* - State rare and CNPS List 1B),
- Agoura Hills dudleya (*Dudleya cymosa ssp. agourensis* - Federally threatened and CNPS List 1B),
- Marcescent [Santa Monica Mountains] dudleya (*Dudleya cymosa ssp. marcescens* - Federally threatened, State rare, CNPS List 1B),
- Round-leaved filaree (*California* [*Erodium] macrophyllum* - CNPS List 1B),
- Lyon's pentachaeta (*Pentachaeta lyonii* - Federal and State endangered, CNPS List 1B),
- California juniper (*Juniperus californica* - non-listed or candidate, but of special interest to SMMNR), and
- Clustered broomrape (*Orobanche fasciculata* - non-listed or candidate, but of special interest to SMMNR).

These species were identified by the CNDDB (March, 2007) as special-status species having the potential to occur onsite or by the Santa Monica Mountains National Recreation Area (National Parks - SMMNR) as plants of special interest. In addition, though not listed as being in the immediate project vicinity by CNDDB, the following two plants were also considered during the site surveys: Braunton's milkvetch (*Astragalus brauntonii* – Federal endangered, CNPS List 1B) and rayless ragwort (*Senecio aphanactis* – CNPS List 2).

Methodology

The special-status species targeted in this series of focused rare plant surveys were identified as potentially occurring onsite in previous studies of the area (EIRs completed for the Ladyface Mountain Specific Plan, the Creekside Center EIR, the Agoura Village Specific Plan, and the City's General Plan EIR), review of the California Natural Diversity Database (CNDDB, 2007) (Refer to Figure 1-1), as well as from public input regarding the Agoura Village Specific Plan EIR (Rincon Consultants, 2006) and local expert opinion. For this study, special-status species assessed for the potential to occur onsite are those plants listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (ESA); those listed or proposed for listing as rare, threatened, or endangered by the CDFG under the California Endangered Species Act (CESA); those listed as rare by the CDFG under the Native Plant Protection Act, plants occurring on the CDFG's *Special Vascular Plants, Bryophytes, and Lichens List* (CDFG 2007; 2008); plants occurring on Lists 1 and 2 of the CNPS's *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2001) and CNPS Inventory On-line (2006) [note these plants are typically also on the CDFG Special Plants List]; and those plants of special interest noted by the SMMNRA.

Rincon biologists surveyed the site specifically for special-status plant species on May 9, 10, 11, 30, 31, and June 14 and 18 of 2007 and on May 21 and 22 of 2008. Surveys were performed throughout the undeveloped portions of the Specific Plan area (Zones A south, B, E, and F), focusing on zones proposed for development and adjacent areas within the proposed open space zones (Zone G) (Refer to *Introduction and Project Description* Figure I-3). The surveys were conducted by Rincon biologists John H. Davis IV, John Dreher, Julie Broughton, Jennifer Turner and Lacrissa Cook, and performed under the direction of Duane Vander Pluym, resumes of which are included in the BTA.

Rincon purchased recent (February 2006) one-foot resolution color aerial imagery of the Specific Plan area for use during the field surveys to assist in mapping the onsite habitat types and any observed special-status plants. In addition, a Trimble® GTX, with sub-meter accuracy was used to place polygons around special-status plant communities, determine specific locations of special-status species, and assist in delimiting the extent of the survey area. During the 2007 survey period the developable area (excluding 12 acres along the western boundary of Zone F) and the majority of the open space area (Zone G) was traversed on foot using meandering transects. In 2008 the furthermost 12 acres in Zone F were also surveyed to ensure thorough coverage of the site (see Figure I-3; survey area included Zone G up to mapped edge and partially further south). Those ridgelines along the southwestern corner of Specific Plan Zone G (not shown in most figures) were not traversed on foot due to the very steep terrain of Ladyface Mountain. A binocular survey was performed for this area to determine suitable habitat for special-status species. Accessible areas to the south and east of the Specific Plan were also briefly investigated to determine if any special-status plants occurred in those areas. Binocular surveys of the lands adjacent to and south of Zone G and Zone E were also conducted. At the time of the May 2007 and 2008 surveys, most of the annual and perennial plants present were in bloom.

Plant species observed onsite within the focused search areas and that were identifiable were recorded. Unknown taxa observed in the field were collected and brought to the laboratory for identification. Specifically, *Dudleya cymosa ssp. agourensis (*Agoura Hills dudleya) and *Pentachaeta lyonii* (Lyon's pentachaeta) were keyed out in the field (*The Jepson Manual*, 1993), with voucher specimens collected for confirmation by other sources (Burgess, per. comm., 2007). Field surveys followed accepted protocols developed by the Department of Fish and Game (CDFG) and California Native Plant Society (CNPS), and were spaced throughout the target species blooming periods to ensure a thorough inventory of the site. Particular attention was paid to rocky outcrops and areas of thin soil, which represent the most suitable habitat on the site for the rare plant species that were the target of this survey. Please note that because this effort was focused on finding rare plants, the field effort concentrated on determining presence/absence of such species and was not intended to be a complete floristic inventory of the entire Specific Plan area.

As was noted in the EIR two subspecies of *Dudleya cymosa* have previously been reported within the Specific Plan area. A 1990 CNDDB Sensitive Elements report listed an occurrence of *D.c. agourensis* (Agoura Hills Dudleya) near Cornell Road within the eastern portion of the Specific Plan area, and the 1996 Creekside EIR noted that *D.c. ovatifolia* (Santa Monica Mountains Dudleya) was observed within the western portion of the Specific Plan area.

Nomenclature for these two sub-species may be easily confused as the 1993 Jepson Manual treated *agourensis* as a synonym for *ovatifolia*, giving both the common name, Santa Monica Mountains Dudleya. Although Kei Nakai described *D.c. agourensis* in Madroño in 1987 it was not recognized as a separate subspecies by the scientific community until recently. Further, the January 29, 1997 Final Ruling from USFWS on the status of *D.c. ovatifolia* included *D.c. agourensis* as described by Nakai, thus affording Threatened status to both *ovatifolia* and *agourensis*. Subsequent to this ruling, the CNDDB recognized the split. The basic differences between these two plants, and two other dudleya within the area, are described below (Table 1).

Table 1-1 Distinguishing Characteristics of Dudleyas Within the Project Vicinity

Scientific Name	Caudex	Rosette leaves	Inflouresence	Habitat Requirements
Dudleya cymosa ssp. *agourensis*	>1 cm diameter caudex simple or few to, rarely, several branches	5-10 cm diam 6-10 elliptic to oblong glaucous leaves leaves grey or purple-grey petal keel waxy dead leaves dry, brittle to persistent, fairly tough	petals bright yellow, rarely orange or red-marked usually relatively upright with 2 branches that rarely rebranch, branching usu in one plane	Sunny habitats on low angle slopes of Conejo volcanics. North slope of the western portions of the Santa Monica Mtns
Dudleya cymosa ssp. *ovatifolia*	1–1.5 cm diameter caudex unbranched	2 to 5 cm (0.8 to 2 in.) long and 1.5 to 2.5 cm (0.6 to 1 in.) wide; ovate, green, often with a maroon suffusion on the underside leaves very broad, red below and on upper surface; peduncle red dead leaves persistent, fairly tough evergreen rather than withering in the summer	petals bright yellow, rarely orange or red-marked floral stems are 4 to 15 cm (1.6 to 6.0 in.) tall; corollas are pale yellow)	Shaded, rocky slopes, usually on conglomerate made up of cobbles on north facing slopes. Santa Monica and Santa Ana Mtns.
Dudleya cymosa ssp. *marcescens*	2–10 mm wide branches 0–few	1.5 to 4 cm (0.6 to 1.6 in.) long and 5 to 12 mm (2.0 to 4.7 in.) wide leaves withering in the summer	petals bright yellow, rarely orange or red-marked floral stems are 4 to 10 cm (1.6 to 4 in.) tall.	Shaded lower reaches of sheer volcanic rock surfaces and canyon walls adjacent to perennial streams. Often in microhabitat dominated by mosses and lichens
Dudleya lanceolata	1–3 cm wide branches 0 or few	5–30 cm, 1–4 cm wide, 1.5–6 mm thick, oblong-lanceolate, glaucous or not	petals yellow to generally red	Sunny soil or on broken sedimentary rock

Sources: Munz 1974; Nakai, 1987; CNDDB, 1994; McCabe, 2007.

Recently, per communications with Stephen McCabe (University of California Santa Cruz Herbarium), the California Department of Fish and Game, CNPS, Kei Nakai, Reid Moran, and Stephen McCabe agree that *D.c. agourensis* should be recognized independently of *D.c. ovatifolia* and is scheduled to be recognized as such in the upcoming *Flora of North America* and the 2008 version of the Jepson Manual. Based on Nakai's description and characteristics provided by Stephen McCabe, the occurrences of *Dudleya cymosa* within the Specific Plan area were identified as ssp. *agourensis*.

Results and Discussion

The Specific Plan area is composed primarily of developed (Zones A north, D east, D west, and C) and disturbed lands (Zones A south, B, E, and F). It is those areas located along the southern and south western boundaries of the AVSP area which are undeveloped and relatively natural (proposed open space Zone G). Plant communities within the southern portion of the Specific Plan, south of Agoura Road, were delineated. As documented in the EIR, the Specific Plan area can be divided into the following five broad plant communities: Coastal Sage Scrub with Non-Native Annual Grasslands; Mixed Chaparral; Oak/Willow Woodlands; Arroyo Willow Riparian Woodland, Coastal and Valley Freshwater Marsh; Grassland; and Ruderal/disturbed.

Classification of plant communities is based generally on Holland (1986) and Sawyer and Keeler-Wolf (1995) with modifications to better describe existing field conditions. These communities are grouped based on their general structure and dominant species. Delineation of the communities which comprise these general habitats is in the 2006 AVSP Final EIR (Refer to Figure 1-2). These habitats were reassessed during the May and June 2007 and 2008 rare plant surveys and reconfirmed with a few minor modifications (Refer to Figure 1-3).

The above plant communities are used to generally describe larger areas, those with a mapping unit of 1,000 square feet or more. Within these communities subtle variations in topography, soil depth, rock outcrops, moisture, cover, and canopy may create habitat for special-status species, such as the focus species of this report. The following summarizes the habitat requirements for those special-status species with the potential to occur onsite and the location of those species found within the Specific Plan area.

Special-Status Plant Species. Special-status species and plants of special interest either known to occur or which have the potential to occur within the Specific Plan boundaries were based on CNDDB records search, previous biological survey reports, previous studies within the area, and plants of interest identified by the Santa Monica Mountains National Recreation Area. Six special-status plant species and two plants of special interest have the potential to occur on site. Table 2 provides species account and briefly presents legal status, relevant ecological and range information, and where species occurrences were observed onsite during recent focused surveys.

Two special-status plant species, *D.c. agourensis* and *P. lyonii*, and two plants of special interest, *Orobanche fasciculata*, and *Juniperus californica* were observed on the subject property during the 2007 and 2008 surveys (Figure 1-4). Three occurrences of *P. lyonii* were found within a developable zone (Zone F) and the remaining occurrences were located in the proposed open space Zone G or adjacent buffer areas that are to be designated as open space under the Specific Plan. Each of these species and populations are described in detail below. No other special-status plant species were observed onsite during the 2007 and 2008 surveys.

Special-Status Species Observed During the 2007 and 2008 Focused Surveys

Dudleya cymosa ssp. agourensis (Federally Threatened, CDFG G5T1/S1.2, CNPS List 1B.2) occurs on volcanic rocks in chaparral and coast scrub habitats, which are found throughout the

Table 1-2 – Special-Status Plant Species and Plants of Special Interest Potentially Occurring Within the Agoura Village Specific Plan Area

Scientific Name	Common Name	Status *Fed/State/ CNPS*	Habitat Requirements	Project Site Suitability	Specific Plan Known Locations (Zone)
Astragalus brauntonii	Braunton's milkvetch	FE/None/1 B	Chaparral and coastal sage scrub communities characterized by periodic disturbances (such as recent burns or landslides). Calcium carbonate soils derived from marine sediment. Blooms February – July. Perennial herb/sub-shrub. Elevation range 10 –2100 feet.	Suitable habitat not present on-site. Suitable soils absent.	None
Calochortus plummerae	Plummer's mariposa lily	None/None /1B	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granite or alluvial material. Fire follower. Blooms May – July. Bulbiferous perennial herb. Elevation range 300 – 5280 feet.	Suitable habitat present.	None
Deinandra minthornii	Santa Susana tarplant	None/SR/ 1B	Chaparral, coastal sage scrub. Usually on sandstone outcrops and crevices, in shrubland. Blooms July – November. Shrub. Elevation range 920 – 2500 feet.	Suitable habitat present.	None
Dudleya cymosa ssp. agourensis *synonym of *D. cymosa* ssp. *ovatifolia* in The Jepson Manual	Agoura Hills dudleya (or Santa Monica Mountains dudleya)	FT/None/ 1B	Chaparral. Cismontane woodland. Rocky, volcanic breccia. Elevation range 600-1650 ft.	Suitable habitat present. Found 1990, 2007, and 2008.	G-B, G-A, G-E
Dudleya cymosa ssp. marcescens	Marcescent dudleya	FT/SR/ 1B	Chaparral. Sheer volcanic rock surfaces, canyon walls adjacent to or near perennial water. Blooms April – June. Perennial herb. Elevation range 490 – 1700 feet.	No suitable habitat based on specific microhabitat requirements.	None
Erodium macrophyllum * synonym of *California macrophyllum*	Round-leaved filaree	None/None /1B	Cismontane woodland, valley and foothill grassland. Clay soils. Blooms March – May. Annual herb. Elevation range 49 – 3900 feet.	Suitable habitat may be present.	None
Pentachaeta lyonii	Lyon's pentachaeta	FE/SE/1B	Chaparral, valley and foothill grassland. Edges of clearings in chaparral. Clay soils, exposed soils. Blooms March – August. Annual herb. Elevation range 100 – 2100 feet.	Suitable habitat present. Found onsite in 1996, 1997, 2007, and 2008.	F, G-B, G-E

Table 1-2 – Special-Status Plant Species and Plants of Special Interest Potentially Occurring Within the Agoura Village Specific Plan Area

Scientific Name	Common Name	Status *Fed/State/ CNPS*	Habitat Requirements	Project Site Suitability	Specific Plan Known Locations (Zone)
Juniperus californica	California juniper	None	Dry slopes, flats, pinyon/juniper woodlands; Elevation range 150 --5000 ft	Project site not in typical current range of species. Previously reported as a relict population or potential escapees from cultivation.	Originally described as "south of Cornell Corners until the fire of 1978 burned them." Also listed in occurrence reports for Agoura Hills dudleya - G-E
Orobanche fasciculata	Clustered broomrape	None	Dry, generally bare places, on shrubs (especially *Artemisia, Eriodictyon, Eriogonum*). Blooms April-July. Elevation range <11,000 ft	Suitable habitat present.	G-B
Senecio aphanactis	Rayless ragwort	None/None /2	Vernally moist clay soils coastal sage scrub, chaparral, and cismontane woodland. Blooms January – April, Elevation range 0-2600 ft	Limited clay soils present in Zone G	None

ST = State Threatened
FT = Federally Threatened
FP = Fully Protected
SR = State Rare
FC = Federal Candidate
CNPS List 1B = rare or endangered in California and elsewhere
CNPS List 2 = rare or endangered in California
None = no status

Specific Plan area, primarily in Zone G. The species was recorded in a CNDDB Sensitive Elements Report (Occurrence No. 8 [formerly *D.c. ovatifolia* occurrence No. 5] - original occurrence date of 2000 based on "old collections" and references from 1980 to August 2000) as occurring in the southeastern portion of the Specific Plan area. This population was confirmed by the 2007 and 2008 surveys. The succulent was searched for during its blooming period (March -June) and was found in the previously recorded location as well as in the south-central and southwestern portions of the Specific Plan area (Zone G). Each specific location is described in detail below.

Two occurrences of *D.c. agourensis* were found blooming within the Specific Plan boundaries during the 2007 and 2008 survey as shown in Figure 1-4. These were in Zone G, south of Zone B and E (hereafter referred to as Zones G-B and G-E). The eastern population of *D.c. agourensis* is centered on a drainage that straddles the southernmost boundary of Zone G-E. The roughly 400 foot drainage faces northwest towards Cornell Road, draining across the road towards Medea Creek. The steep side walls and rocky volcanic outcrops receive partial shade during the day and provide numerous rocky shelves with thin soils, suitable for dudleya. Roughly 12 individuals were also noted along the embankment north of Cornell Road, directly across the street from the drainage noted above. This cluster of *D.c. agourensis* is considered part of the larger population south of Cornell Road.

The population also extends outside the Specific Plan Area, with plants found parallel to and extending south from Cornell Road along a steep wall of volcanic rock and the lower slopes at the base of this local ridge. *D.c. agourensis* were concentrated above the shoulder of Cornell Road, on a rocky volcanic breccia exposure ranging in height from three to fifteen feet. At the top of this exposure, the hillside slopes more gently to the south and towards the ridge south of the Specific Plan. Surveys of this area found *D.c. agourensis* within the first few hundred feet south from Cornell Road, restricted to volcanic rock and those areas with shallow soils. *D.c. agourensis* were found in relative open areas and among isolated rock outcrops. This area is shown on Figure 1-4 as south of Zone G-A and west of Zone G-E, and adjacent to Cornell Road.

The western population found within Zone G-B consisted of scattered groups of multiple individuals (1-10) clustered on rocky outcrops or small areas of shallow soils. Individuals within a cluster (as indicated with a yellow star on Figure 1-4) were generally located within 10 to 20 feet of one another and were found on north and eastern facing slopes. One large group of roughly 50 plants was found along the access road that parallels Lindero Canyon Creek. Plants extended along a five to 12-foot high volcanic rock outcrop (indicated with a yellow line on Figure 1-4) directly adjacent to the dirt access road. This occurrence was previously mapped as Santa Monica Mountains Dudleya, *Dudleya cymosa ssp. ovatifolia*, in the 1996 Creekside EIR.

Pentachaeta lyonii, Lyon's pentachaeta (Federal and State endangered, CNPS List 1B), is an annual herb that blooms from March to August. The species was found in chaparral, valley grassland and foothill grassland. Suitable habitat for the species is found throughout the southern portion of the Specific Plan area in Zone G. Additionally, the USFWS initially proposed that the area directly south of the Specific Plan (known as the Triangle Ranch) be designated as critical habitat (Unit 6).

Previously, *P. lyonii* was identified within the Specific Plan area west of Kanan Road in April 1996 during focused surveys, and again in 1997 within the same general location. Each of these locations was confirmed during the 2007 surveys and new locations recorded. During the 2007 and 2008 surveys, five occurrences of *P. lyonii* were observed and mapped within the Specific Plan boundaries. The eastern most occurrence was located along the southern boundary of Zone G-E, near the drainage outlet to Cornell Road (as indicated with a red line on Figure 1-4). Several trails utilized by various mammals and possibly humans were noted at the base of the drainage. *P. lyonii* have colonized along these trails where soils are shallow and there is little competition from other plants. A second occurrence of *P. lyonii* was observed and mapped in Zone G-B near the dirt access road that traverses south of Lindero Canyon Creek.

A third occurrence of *P. lyonii* was identified along trails in the western portion of the Specific Plan in Zone F. This previously unrecorded locale was mapped during the 2007 May and June surveys among heavily disturbed trails within dense mixed chaparral generally dominated by chamise (*Adenostoma fasciculatum*) and scrub oak (*Quercus berberidifolia*). The scrub oak ranged between five to seven feet in height, overshadowing the majority of the trails, which were limited to roughly two to three feet in width. The trails were generally littered with garbage and human waste. More than 100 individuals were recorded along the trails.

A fourth occurrence was located near the north and western boundary of Zone F, roughly 200 feet from Agoura Road and adjacent to an unpaved dirt access road that extends from Agoura Road to the southern edge of Zone F. This occurrence is located within sparse or open areas within mixed chaparral dominated by scrub oak and mountain mahogany (*Cercocarpus betuloides*). *P.lyonii* observations were limited to those areas with hard and dry soils and minimal grasses, such as wild oats (*Avena fatua*), and were dominated by annuals, specifically slender tarweed (*Hemizonia fasciculate*). Both this occurrence and the fifth occurrence, described below, were seemingly associated with the slender tarweed and/or the soil conditions that both were found in.

The fifth occurrence of *P. lyonii* was located within several openings found among dense mixed chaparral generally dominated by chamise and scrub oak. These open areas appear to have formed during some level of human disturbance. An abandoned fence line that has been largely overgrown by chaparral was located adjacent to this occurrence. The fenceline trends west to east from the western boundary of Zone F, ending near a drainage that trends across Zone F from south to north. At this juncture the fenceline turns roughly 90° and extends northward downslope. The northern extent of this occurrence of *P.lyonii* begins at this fence corner. Areas cleared adjacent to the fenceline that have not been overgrown with chaparral appear suitable to *P. lyonii,* which is found along this abandoned structure. This occurrence also includes a small group of *P. lyonii* within an open grassland at the base of the above drainage, before it intersects with the dirt access road on the site. It is assumed that all five occurrences are part of the northern extent of the population identified as Unit 6 (Cornell Road Unit) in the critical habitat designation for the Lyon's pentachaeta, but not listed as critical habitat for economic reasons (see USFWS, November 14, 2006).

In the 2005 proposed ruling for Critical Habitat Designation, the USFWS described the basic requirements for growth for *Pentachaeta lyonii*. "Pentachaeta lyonii tends to occur on rocky clay soils of volcanic origin (Baier & Associates 1991; Impact Sciences 2003). It has been recorded in

areas with a large percentage of bare ground (>60%), a low proportion of vegetative cover (< 25%), and it does not compete well with dense annual grasses or shrubs (Keeley 1995, Fotheringham and Keeley 1998). *P. lyonii* will persist in stable populations without disturbance if site conditions such as exposed soils that exhibit a microbiotic crust (Belnap 1990) inhibit invasion by shrubs and annual grasses, or it may require periodic disturbances to remove plant competitors (Fotheringham and Keeley 1998)."

CDFG responded to the proposed ruling with corrections to the basic requirements, which were incorporated into the 2006 final ruling. CDFG noted that "*P. lyonii* is not always confined to flat slopes but is known to occur on slopes 20-30 percent or greater, and said it can occur on thin volcanic surface soils underlaid by near-surface volcanic rock, and in localized flat areas on steep slopes, dirt hiking trails, and old roadbeds." In response, the USFWS in the Final Designation (November 2006) determined that the Primary Constituent Elements (PCEs) for *Pentachaeta lyonii* are:

(1) Clay soils of volcanic origin;
(2) Exposed soils that exhibit a microbiotic crust which may inhibit invasion by other plant competitors; and
(3) A mosaic of bare ground (>10%) patches in an area with less than 60 percent cover.

The occurrence found within Zone F was thriving in an atypical habitat in that only clay soils are present. The other two PCEs that indicate long term survivorship for the population are lacking. In particular, the majority plants found in this area are along a 419 foot long dirt trail that appears to have been created by anthropogenic means. This trail appears to be wider in available 1994 USGS aerial photography, and unless disturbance is maintained along this trail, the chaparral is likely to eventually overgrow and shade out these plants. Similarly, many additional plants were found in 2008 along an old fenceline.

Orobanche fasciculata, clustered broomrape, is considered a "plant of special interest" by the Santa Monica Mountains National Recreation Area (National Parks). This parasitic species blooms between April and July and is generally found in dry, bare places, on the roots of shrubs (especially *Artemisia californica*, *Eriodictyon californicum*, and *Eriogonum fasciculatum*) at an elevation of 10,000 feet (3,300 meters) or less. As noted in the 2006 EIR, clustered broomrape was previously observed directly south of Cornell Road, adjacent to, and outside of the Specific Plan area, with a second occurrence in the Specific Plan, south and east of the intersection of Cornell and Agoura Road, in Zone G-E.

During the 2007 surveys two individuals of *Orobanche fasciculata* were found within the western portion of the Specific Plan area in Zone G-B, roughly 125 feet apart. The first individual was located at the base of a yucca plant on a knoll directly above the dirt access road that traverses south of Lindero Canyon Creek (as indicated with a blue star on Figure 1-4). The second individual was found along an opening at the bottom slope of a hillside of chaparral in more exposed soils, directly adjacent to a population of Lyon's pentacheata. No individuals were located within the eastern portion of the Specific Plan where previous observations noted their presence.

California juniper (*Juniperus californica*) is not a species included on the CDFG Special Plant List; however SMMNRA (National Parks) notes this species as a "plant of special interest" within the Specific Plan area. The species occurs within an elevation range of 50 to 1,500 feet along dry slopes and flats in pinyon/juniper woodlands in the high desert mountains, desert side of the coastal mountains, and along the arid foothills of the San Joaquin and Sacramento Valleys. A California juniper stand of unknown ancestry (potentially was planted) was described in McAuley (1996) as south of Cornell Corners, which is assumed to be south and east of the intersection of Cornell and Agoura Roads. This stand was present until the Kanan Fire of 1978 (McAuley, 1996). It is also described as being present in the occurrence report for the Agoura Hills dudleya in this location. Suitable habitat in the form of dry rocky slopes is present in Zone G-E, which would be preserved within the Specific Plan's area of designated Open Space. One live and one dead California juniper were observed within the drainage in Zone G-E during the 2007 surveys. Other plants seen in the Specific Plan area were cypresses (not identifiable to species, probably Tecate cypress per McAuley, 1996).

Special-Status Species Not Observed During the 2007 or 2008 Surveys

Five additional special-status plant species, *Astragulus brauntoni*, *Calochortus plummerae, Deinandra minthornii*, *Erodium macrophyllum,* and *Senecio aphanactis* were considered during the rare plant survey, but were not observed within the Specific Plan area or adjacent survey areas during the 2007 and 2008 surveys. The habitat requirements and the presence or absence of such habitat onsite is described below for each species.

Braunton's milk-vetch (*Astragalus brauntonii*) is a perennial herb in the pea family (Fabaceae) that is federally listed endangered and blooms from February through July. The 2006 Final EIR indicated that suitable calcareous soils for this species was lacking within the Specific Plan area, but it has been included herein because critical habitat for it has been designated approximately 5 miles north and south of the project site (USFWS, November 2006). Because it is a relatively large (4-6 feet tall) perennial herb/subshrub and is recognizable in most seasons, it would have been observed if present, but no Braunton's milk-vetch individuals were observed at the site and this species is considered to not be present within the Specific Plan area.

Plummer's mariposa lily (*Calochortus plummerae*), CNPS List 1B, is a bulbiferous perennial in the lily family (Liliaceae) that blooms May through July. This species is typically found in coastal scrub, chaparral, and valley and foothill grasslands and occurs on rocky and sandy sites, usually of granitic or alluvial material. The species can be very common after a fire. Although suitable habitat for this species is found throughout the southern and western extent of the Specific Plan (Zone G), as mentioned above, the special-status plant was not found within the survey area. Plummer's mariposa lily is known to occur approximately three miles north of the Specific Plan site (CNDDB, 2007), but has not been observed onsite.

Santa Susana tarplant *(Deinandra minthornii)* (State rare and CNPS List 1B) is a deciduous shrub in the sunflower family (Asteraceae) that blooms from July to November. This species is typically found in chaparral and coastal sage scrub usually on the massive sandstone bedrock outcrops in the Santa Susana Pass area, located about 12 miles northeast of the Specific Plan area (type locality). It is also found on sandstone outcrops along the crest of the Santa Monica Mountains about 3.5 miles south of the project site, with one occurrence on volcanic breccia.

Potentially suitable habitat is present among the rocky outcrops, mixed chaparral and coastal sage scrub within the western section of Zone G, south of Zone F and B (Zone G-B) and within the mixed chaparral along the eastern section of Zone G-E. This species would have been identifiable during the 2007 and 2008 site visits, but none were found. The nearest CNDDB record of this species is located approximately three miles southwest of the project area, south and west of Cornell Road and northwest of Latigo Canyon.

Round-leaved filaree (*Erodium macrophyllum*) is an annual herb that blooms between March and May. Round-leaved filaree is also known as *California macrophylla* and has a CNPS 1B listing. This species typically occurs on vernally moist clay slopes in valley and foothill grassland and also in cismontane woodland. The nearest CNDDB record of this species is located approximately four miles southeast of the project area in Malibu Creek State Park. This record occurrence does not provide the exact location, but notes that the individual was located in duff and in the shade of a *Quercus agrifolia*. Three other local sites include near the Ronald Reagan Library, along Olsen Road near California Lutheran University, and in the Cuyama Valley. All local populations failed during 2007 because of the lack of rainfall (R. Burgess, pers. comm., 2007).

Surficial deposits in the Specific Plan area as a whole consist of terrace deposits, older alluvium, colluvium, recent alluvium, topsoil and artificial fill. The site generally lacks the clay soils that support this species, and it would not be anticipated to occur within the developable areas of the Specific Plan due to the disturbed nature of the site and the otherwise predominance of rocky soils. However, small patches of potentially suitable clayey soils are present in the southeastern and western portions of the Specific Plan area (Zone G). These areas were checked for this plant, but it was not observed. Given the failure of the local populations in 2007, its potential presence cannot be ruled out in these small areas. It was not observed in Area F during the 2008 spring surveys.

Rayless ragwort (*Senecio aphanactis*) is an annual that occurs at elevations from about sea level to 2,600 feet in vernally moist clay soils of coastal sage scrub, chaparral, and cismontane woodland in the coastal area from San Francisco Bay to Baja California. It has been found primarily in association with drying alkaline flats in the Santa Monica Mountains, and is known from Decker Canyon (State Route 23). It blooms from January through April, but tends to be overlooked. None were observed within the survey area. The portions of the project site proposed for development lack the drying alkaline flats, vernally moist clay soils where this plant is found. Similar to the round-leaved filaree, a few areas within Zone G may contain potentially suitable habitat and its potential presence cannot be ruled out in these small areas.

Other Species.

The yellow mariposa lily (*Calochortus clavatus* ssp. *pallidus*) and butterfly mariposa lily (*Calochortus venustus*) were found within the site. Each of these lilies is a perennial, bulbiferous herb of the lily family (Liliaceae) that occur in a variety of habitat types throughout southern California including light sandy alkaline soils, rocky points, volcanic soils, and dry slopes all found within the Specific Plan area. Each generally blooms between May and June and is known to occur in the Santa Monica Mountains. Although the yellow and butterfly mariposa lilies are not special status species, they are mentioned here as their visibility indicates favorable

conditions for bulbiferous species such as the special-status Plummer's mariposa lily which would also have been expected to be blooming if present within the site.

Several live-forever species (*Dudleya* sp.) in the Santa Monica Mountains are special-status species and are known to occur on specific substrates, particularly those of volcanic origin. Although not a special-status species, it should be noted that lanceleaf liveforever (*Dudleya lanceolata*) was found throughout the rocky, volcanic, outcrops across the southern portion of the site, near many of the locations of *agourensis*. Chalk dudleya (*Dudleya pulverulenta*) was also found along the southern slopes of the knoll within Zone B. Additional species inventoried within the Specific Plan area, which are not special-status or listed species, are identified in Table 3. Please note that this is not a complete floristic inventory of the site.

Table 1-3 - Plant Inventory

Genus species	Common name
Adenostoma fasciculatum	Chamise
Artemisia californica	Coastal sagebrush
Artemisia douglasiana	California mugwort
Asclepias fascicularis	Narrow-leaved milkweed
Avena fatua	Wild oats
Baccharis pilularis ssp consanguinea	Coyote brush
Bloomeria crocea	Golden stars
Brassica nigra	Black mustard
Bromus diandrus	Red brome
Calachortus albus	White fairy lantern
Calochortus clavatus ssp pallidus	Yellow mariposa lily
Calochortus venustus	Butterfly mariposa lily
Centaurea melitensis	Star thistle
Cercocarpus betuloides	Mountain Mahogany
Chaenactis glabriscula	Yellow chaenactis
Chlorogalum pomeridianum	Soap plant
Chorizanthe staticoides	Turkish rugging
Cirsium occidentale	Western thistle
Clarkia affinis	Chaparral clarkia
Clarkia deflexa	Farewell-to-spring
Clarkia purpurea ssp. quadrivulnera	Four spot clarkia
Clarkia unguiculata	Elegant clarkia
Claytonia perfoliata	Miner's lettuce
Conium maculatum	Poison hemlock
Crassula connata	Pigmy weed
Cuscuta californica	California dodder
Datura meteloides	Jimson weed
Delphinium parryi ssp. parryi	Larkspur
Dudleya pulverulenta	Chalk live-forever
Dudleya cymosa ssp. agourensis	Agoura Hills dudleya (live-forever)
Dudleya lanceolata	Lance-leaved dudleya
Eleocharis sp.	Spike rush
Encelia californica	Bush sunflower
Erigonum fasciculatum	California buckwheat
Erodium cicutarium	Red-stem filaree

Table 1-3 - Plant Inventory

Genus species	Common name
Adenostoma fasciculatum	Chamise
Euphorbia sp.	Spurge
Foeniculum vulgare	Sweet fennel
Gnaphalium californicum	California cudweed
Heliotropium curassavicum var oculatum	Wild heliotrope
Hemizonia fasciculata	Slender tarweed
Leymus condensatus	Giant wild rye
Lomatium sp.	Peppergrass
Lotus scoparius	Deerweed
Marah macrocarpus	Wild cucumber
Marrubium vulgare	Horehound
Mimulus guttatus	Common monkey flower
Mirabilis laevis	Wishbone bush
Nassella pulchra	Purple needlegrass
Opuntia littoralis	Coastal prickly pear
Orobanche fasciculata	Clustered broomrape
Paeonia californica	Wild Peony
Pennisetum	Fountain grass
Penstemon centranthifolius	Scarlet bugler
Penstemon heterophyllus	Foothill penstemon
Pentachaeta lyonii	Lyon's pentachaeta
Phacelia cicutaria	Caterpillar phacelia
Pholistoma auritum	Fiesta flower
Plagiobothrys sp.	Popcorn flower
Plantago sp.	Plantain
Quercus agrifolia	Coast live oak
Quercus berberdifolia	Scrub oak
Quercus lobata	Valley oak
Robinia sp.	Locust
Rosa californica	Wild rose
Silene laciniata	Indian pink
Salix sp.	Willow
Salvia apiana	White sage
Salvia columbariae	Chia
Salvia mellifera	Black sage
Sambucus mexicana	Elderberry
Sanicula arguta	Sharptooth blacksnakeroot
Selaginella	Spike moss
Selaginella bigelovii	Bigelow's spike moss
Silybum marianum	Milk thistle
Sisyrinchium bellum	Blue eyed grass
Toxicodendron diversilobium	Poison oak
Typha sp.	Cattail
Urtica dioica	Stinging nettle
Verbascum blattaria	Moth mullein
Verbena lasiostachys	Vervain

Impacts and Recommendations

2006 Agoura Village Specific Plan EIR

The 2006 Final EIR for the Agoura Village Specific Plan listed 11 special-status plants and two plants of special interest (non-listed) as having the potential to occur within the Specific Plan area. Of the special-status species with the potential to occur in the area, previous studies and the CNDDB identified only three special-status species as having known occurrences within the Specific Plan area. Figure 1-5 illustrates the previously recorded known locations of those special-status species. These included Lyon's pentacheata, Agoura Hills dudleya, and Santa Monica Mountains dudleya. Impact BIO-1 of the EIR found that although a large portion of the Specific Plan area is highly disturbed, there is the potential for these and other special-status plant species to be found within the project area. Impacts to special-status species were found to be potentially significant, but mitigable.

Mitigation Measure BIO-1(a) required that the Specific Plan be revised to include a policy prohibiting development within that portion of Zone B, south of Lindero Canyon Creek, where populations of special-status dudleya and Lyon's pentachaeta were previously recorded. The measure also required surveys for special-status plant species be performed by a qualified plant ecologist prior to approval of individual development applications. If a species were found, avoidance would be required unless the applicant provided substantial documentation that avoidance would not be feasible or would compromise the objectives of the Specific Plan. If avoidance would not be feasible, on-site mitigation would be preferred if suitable habitat is present that can be isolated from human disturbance. In the event that avoidance would not be feasible the applicant would be required to prepare and implement a restoration plan with a minimum success of three years with growth of a population equal to or greater than that which would be lost due to the project. These success criteria must be met prior to removal of the impacted population. The EIR found that with the implementation of this measure impacts to rare, threatened, and endangered plants would be less than significant.

According to the National Park Service both of the plants of special interest, clustered broomrape and California juniper, had been previously recorded within those areas zoned for protection under the Specific Plan. As these plants do not have special status designations and would be preserved by the Open Space designation under the Specific Plan, no impacts are associated with these plants.

2007 and 2008 Findings

The following is a re-examination of the potential impacts to special-status plant species within the Specific Plan area utilizing data collected during the 2007 and 2008 focused rare plant surveys. As noted above, recent surveys confirmed one previously recorded population of *D.c. agourensis* (Zone G-E) and modified a previously recorded location of *Dudleya cymosa* ssp. *ovatifolia* (Zone G-B) as that of *D.c. agourensis*. All observations of *D.c. agourensis* within the Specific Plan area were within Zone G, which would be preserved as open space under the Specific Plan (Figure 1-4). Additional observations of *D.c. agourensis* were located outside of the Specific Plan boundaries. The site specific survey confirmed that no protected dudleya species were identified within those areas of the Specific Plan proposed for future development. Thus,

the known locations of *D.c. agourensis* throughout the Specific Plan would not be directly impacted by the project.

Recent surveys also confirmed one previously recorded population of *Pentachaeta lyonii,* south of Lindero Canyon Creek in Zone G-B. The majority of this population of near 1,000 plants occupies an area of approximately 0.60 acres. The approval of the AVSP and certification of the FEIR by the City Council on June 14, 2006 included a change to the zone area map, consistent with implementation of Mitigation Measure BIO-1(A) in the FEIR, that shifts the line of Zone G (now G-B) to the north side of Lindero Canyon Creek. Therefore, this area of Lyon's pentachaeta would be protected from development. This map change was reflected in the Final AVSP, which was revised per the City Council's June 14, 2006 hearing and is incorporated in this analysis, as shown in Figure I-4.

A second population of *P. lyonii* was also identified within the southeast most corner of the Specific Plan area within Zone G-E with a few *P. lyonii* (about 10) located along the base of a drainage near Cornell Road. No development is proposed for this location, and thus this population would be preserved as part of Zone G-E. However, the population is located about 100 feet from the edge of Zone E, which is developable. A third population of *P. lyonii* was identified within the northwest portion of the Specific Plan area. This previously unrecorded population of several hundred plants includes three groups of plants. The first group lies within developable Zone F as an approximate 2-3 foot wide swath along about 660 linear feet of trails within dense chaparral (approximately 0.05 acres). The second group occurs directly west of this trail on a similarly sized linear swath of old fenceline cut through dense chaparral. The third occurrence is located between Agoura Road and the previously described occurrence and is adjacent to an informal access road, approximately 200 feet from Agoura Road. Full buildout within Zone F would directly impact this population. Therefore, buildout of the Specific Plan in Zone F would have a potentially significant impact with respect to Lyon's pentachaeta.

The 2007 surveys identified two individuals of *Orobanche fasciculata* within the western portion of the Specific Plan area in Zone G-B. These two individuals would not be impacted by development, as this area is proposed to be preserved as open space. Additionally, clustered broomrape was previously identified in two other locations within and near the Specific Plan, south and east of the intersection of Cornell and Agoura Road. However, no individuals of this species were detected east of Kanan Road. As this species does not have a special status designation and was found within that portion of the Specific Plan proposed for open space, no direct impacts are associated with the Specific Plan for this species. No other special status plant species were observed or confirmed on the site during the 2007 or 2008 field visits conducted for this report.

Besides direct effects associated with the loss of habitat, the Agoura Hills dudleya and Lyon's pentachaeta could be subjected to indirect effects associated with the change of land use within the Specific Plan to a developed community. In the January 29, 1997 Final Ruling on the Endangered Status for Lyon's pentachaeta the Fish and Wildlife Service noted the need for a larger buffer area for the species. "Currently only a 15 m (50 ft) buffer for avoidance of rare plant populations is required by local permitting agencies (Ventura County, City of Thousand Oaks). A 15 m (50 ft) buffer zone falls within the 30 to 60 m (100 to 200 ft) fuels modification zone required in California and is usually maintained by disking and mowing. This practice

modifies or destroys the habitat characteristics essential to sustaining viable populations of *Pentachaeta lyonii*. Two projects, one with a reported 10,000 individuals, have been designed with *Pentachaeta lyonii* habitat designated as part of the fuels modification zone (P. Lindsey, biologist, Impact Sciences, in litt., 1994). Attempts to avoid or compensate for impacts have produced conditions that are not favorable for the long-term maintenance of the populations (FR Doc. 97–1699)." The Conservation Biology Institute (CBI) in its review of potential edge effects on the San Fernando Valley spineflower (SFVS), another endangered plant, identified risk factors that may adversely affect that species' occurrences within community open space once adjacent development has occurred (CBI, 2000). SFVS is a reasonable corollary plant to Lyon's pentachaeta since both plants occupy similar thin soil habitats with limited distributions. Risk factors at the urban-wildland boundary as identified by CBI that may affect rare plant persistence within the Specific Plan include:

- Non-native, invasive plant and animal species;
- Vegetation clearing for fuel management or creation of trails;
- Trampling;
- Increased water supply due to suburban irrigation and runoff;
- Chemicals (e.g., herbicides, pesticides, fertilizers); and
- Increased fire frequency.

Agoura Hills dudleya is less subject to some of these risk factors given its preferred habitat of steep rock outcrops; this locale makes it less prone to non-native plant and animal invasion and trampling. However, as noted in the 1997 Final Ruling for *Dudleya cymosa* ssp. *ovatifolia* (a corollary plant to Agoura Hills Dudley), "weed abatement operations along roadsides, which involve scraping with a skiploader, destroyed several hundred individuals of *D. cymosa* ssp. *ovatifolia* and have continued to modify its habitat (T. Thomas, biologist, pers. obs., 1991). With regard to the SFVS, CBI determined that the failure to protect a sufficient amount of habitat could result in the eventual decline of the target species. With respect to Lyon's pentachaeta, the USFWS has determined in its Final Rule for critical habitat areas that the area designated was in the quantity and spatial characteristics necessary for conservation (Final Rule, page 66376); the Specific Plan is not within designated critical habitat, and the proposal for designating the area south of the Specific Plan (233 acres of occupied suitable habitat) as critical habitat for Lyon's pentachaeta was eliminated under the Final Rule. The Final Rule designated 3,396 acres of critical habitat for the Lyon's pentachaeta, of which 1,923 acres (57%) is within public ownership. Therefore, sufficient habitat is already anticipated to be protected to sustain the target species. In addition, under the proposed Specific Plan, approximately 97 acres (mostly within Zone G) would be maintained as open space, a portion of which is occupied by Lyon's pentachaeta. Critical habitat has not been proposed for the Agoura Hills dudleya as it was deemed to not be prudent at the time of listing (USFWS, 1997, Federal Register 62(19), page 4181). The area in which Agoura Hills dudleya is found is more confined than that of Lyon's pentachaeta, being limited to the northern slopes of the Santa Monica Mountains between Westlake Village and Agoura; therefore it is more vulnerable in terms of the amount of conserved habitat. Preservation of the known population areas as open space under the proposed Specific Plan would be a beneficial effect provided that indirect effects are adequately controlled.

CBI also concluded that SFVS preserves would require 200-foot setbacks with minimal maintenance or management activities to minimize edge effects on the SFVS occurrences. CBI also stated that 80-100 foot setbacks with an active maintenance and management program would be sufficient to manage the SFVS occurrences protected within the community open space. Based on this finding, both the Lyon's pentachaeta and Agoura Hills dudleya populations are at some risk from indirect impacts, as the majority of the known populations are less than 200 feet from the edge of the proposed development area. However the degree to which these two plants are vulnerable to the edge effects described by CBI differs to that of the SFVS. The following further discusses these issues.

Non-native invasive species. Both plants within the Specific Plan area exist at the current fringe of urban development and so are already subject to invasive species. Both plants flourish in thin soils and rocky habitats where they have a competitive advantage as compared to more typical invasive species that would require deeper soils and more water; nonetheless, certain invasive species used in landscaping (such as pampas grass) can become established in these habitats to the detriment of these species. The 2006 Final EIR Mitigation Measure BIO-6(b) restricts the use of invasive plants within the fuel modification zones, thereby reducing this potential edge effect.

Vegetation clearing. Vegetation clearing for fuel management can result in the direct mechanical removal of these species, and in the case of the Lyon's pentachaeta, the destruction of the microbiotic crust that aids in maintaining its microhabitat. However, such clearing can also aid these rare plants in removing competing cover. As stated in the critical habitat designation (USFWS, November 2006): "*P. lyonii* will persist in stable populations without disturbance if site conditions such as exposed soils that exhibit a microbiotic crust (Belnap 1990) inhibit invasion by shrubs and annual grasses, or it may require periodic disturbances to remove plant competitors (Fotheringham and Keeley 1998)." Given that fuel management clearing is typically not selective, this edge effect is considered potentially significant.

Trampling. The Agoura Hills dudleya locations are generally on relatively steep slopes and trampling would not be likely in those locations. The Lyon's pentachaeta population in Zone F appears to be being maintained in part due to trampling effects that limit the growth of chaparral plants along the linear trail. Therefore, trampling in general is not considered a significant effect with respect to these two plants.

Increased water supply; use of chemicals. Overspray of both water and landscape maintenance chemicals can have detrimental effects for both plants. Both plants are adapted to low water areas of thin soils, and overspray of irrigation water would allow competing annual grasses and other plants to maintain populations in an area that they otherwise would be limited. Use of landscape irrigation in fuel management zones would limit the occupation of such areas by Lyon's pentachaeta. The use of fertilizers also aids in maintaining populations of invasive and exotic plants to the detriment of these rare native species. Herbicide overspray can directly harm individual plants. However, the extent of such effects are highly limited to the specific watering/application areas, and so are not expected to be significant over 50 feet from the edge of the maintained landscaping edge.

Increased fire frequency. The degree to which more frequent fires may occur within the Zone G area is dependent on the adequacy of the fuel management zone and the ability of local fire departments to extinguish fires before they spread. In the past 40 years, only two major wildfires have occurred in all of the Specific Plan area south of Agoura Road: the Kanan Fire of October 1978 (about 25,600 acres burned) and the Dayton Canyon Fire of October 1982 (over 43,000 acres burned). Fire frequency is strongly controlled in the area because of the potential for large, destructive wildfires, and it is not expected that the introduction of urban uses into the Specific Plan area would result in increased fire frequency. No significant edge effects from fire frequency would be expected.

An edge effect not discussed by CBI is the potential loss of native pollinators and the introduction/increase in non-native insects, particularly Argentine ant. Lyon's pentachaeta requires insect pollinators to produce viable seed. Although the specific pollinators and their habitat requirements are unknown, in general, insect pollinators require alternative, typically native plants to provide pollen and maintain their life cycles. Manufactured slopes, developed pads, and associated irrigation are detrimental to the maintenance of native pollinators and allow Argentine ants to expand into habitats (these ants are dependent on readily available water) to the detriment of native species. Loss of native pollinators results in the loss of the Lyon's pentachaeta. In the absence of active maintenance and limitation on exotic plant and animal species, this effect may increase the need for the buffer area to be 200 feet.

The 2006 EIR Mitigation Measure BIO-1(a) recommended that the Specific Plan be revised to prohibit development south of Lindero Canyon Creek within Zone B. Implementation of this measure, already incorporated into the Final AVSP and part of the project now, effectively reduces both direct and indirect impacts to *D. c. agourensis* and *Pentachaeta lyonii* south of Lindero Canyon Creek to a less than significant level as it moves that portion of the developable area more than 200 feet from these populations.

The population of Lyon's pentachaeta within Zones F and G-E would also be subject to the provisions of recommended Mitigation Measure BIO-1(a), which would require avoidance of known populations unless a successful replacement population could be established for a minimum of three years prior to any construction. Avoidance herein is based on the results of CBI's analysis of edge effects on SFVS, as described above. Given that these are corollary plants and the lack of an accepted industry standard regarding buffers for *L. pentachaeta*, avoidance is defined herein as a minimum 200 foot setback without implementation of an active maintenance plan. With implementation of an active maintenance and management program this buffer may be reduced to an 80-100 foot setback (or less at the jurisdictional agencies' discretion [USFWS, CDFG]), consistent with the CBI's "moderate" level for the two factors of concern for the Lyon's pentachaeta.

Implementation of this recommended mitigation measure would limit development within Zone F to mostly the pre-existing disturbance area unless a restoration plan for Lyon's pentachaeta in another area (presumably Zone G) is instituted prior to any project construction. Limited development within Zone F would avoid direct impacts to the mixed chaparral providing suitable habitat for *P. lyonii*; however, the anticipated control on human use of the trails within the easterly occurrence in Zone F subsequent to development would be anticipated to end the current disturbance regime (human foot traffic) that maintains the trails and habitat

for the *P. lyonii* in this area. As previously noted, the 419 foot long trail appears to have been created and maintained by anthropomorphic means, and Lyon's pentachaeta has advented in the clay soils of this location. Removal of human disturbance would be expected to result in over growth by the dominant chaparral species onto the trails and displacement of *P. lyonii*. Thus, avoidance of this area could lead to the indirect loss of a portion of this population. This appears to be an atypical situation in which trampling is actually an aid in maintaining Lyon's pentachaeta in this particular location.

If the applicant chooses, a restoration plan that replaces the population in Zone F could be implemented per Mitigation Measure BIO-1(a). Suitable, apparently unoccupied habitat is present in the California annual grassland area immediately south of Zone F. However, the lack of Lyon's pentachaeta in this area during the 2007 surveys may be due to the very low amount of rainfall that season, and a population of pentachaeta may be present. However, a search for Lyon's pentachaeta in this area in 2008 also failed to find any plants. An alternative locale for restoration may be within the fuel management zone for Zone F. As previously noted, active maintenance and removal of shrub coverage may be beneficial for Lyon's pentachaeta provided that selective clearing methods are employed to avoid damaging the pentachaeta. Since the clay soils suitable for Lyon's pentachaeta are known to occur within Zone F and G-B, west of Lindero Canyon Creek, and the trampling effects along the man-made trail indicate the potential for restoration, Zone G would be a preferable location for restoration efforts. A challenge will be to determine the necessary insect pollinators for the Lyon's pentachaeta and the provision of adequate alternative food sources within the fuel management zone for those native pollinators. In addition, once established this fuel management zone could not be irrigated so as to prevent the establishment of Argentine ant colonies within it. To establish a Lyon's pentachaeta population, one would also need to acquire viable seed, which only occurs with adequate pollination and when the seeds are ready to fall from the plant. The following is the minimum recommended method:

- Cover seed heads with small bags or collect using sticky paper on the ground around each plant.
- Store in a dry, dark location prior to sowing.
- Check viability of collected seeds at a seed lab prior to sowing.

Given the difficulties associated with maintaining new Lyon's pentachaeta populations, the length of time for determining success should be increased from the three years previously identified in BIO-1(a) to five years. Note that in the event that an applicant is unable to establish a viable replacement population, no development would be allowed in Zone F within the applied buffer zone as long as the *P. lyonii* population was found onsite or unless consecutive surveys for more than five years resulted in null findings.

The USFWS noted in its January 12, 2006 comment letter on the Agoura Village Specific Plan Draft EIR that previous attempts in 2000 to relocate Lyon's pentachaeta plants, seeds and seedlings had failed. Therefore, the USFWS recommended avoidance rather than relocation as the appropriate conservation measure for this species. In response to this comment, the Final EIR Mitigation Measures BIO-1(a), BIO-2(b) and BIO-2(c) were amended to require the restoration plan and minimum performance criteria as described above, ensuring avoidance until, and unless, appropriate replacement was in place and successful. The Court raised the

question as to whether or not the re-establishment of endangered plants was feasible. The following discusses this issue.

In the USFWS Designation of Final Critical Habitat (USFWS, November 2006), Unit 6 located south of the Specific Plan area in the County of Los Angeles and acknowledged to contain more than 3 million plants on 233 acres was excluded from critical habitat designation for economic reasons. This area was in part excluded because consultation already in process regarding potential impacts of the proposed development of this area (the Triangle Ranch project) on *P. lyoni*i is intended to ensure the continued persistence of the species within Unit 6. As part of this consultation, the landowner has proposed to preserve the majority of the *P. lyonii* that occurs on the property in open space, in perpetuity, and implement a management plan to ensure the continued persistence of the species. Since this consultation process ongoing with the Triangle Ranch property would involve both "take" and a decrease in the amount of available habitat for the Lyon's pentachaeta, it is surmised that the much smaller effects of the proposed Specific Plan can similarly be adequately mitigated.

Other relocation efforts for Lyon's pentachaeta have occurred in the past. The attempt to re-establish a portion of the population at the Ronald Reagan Presidential Library in Simi Valley to an adjacent receptor site did not prove successful, though this population still persists within nearby conservation areas on private property. It is also noted that this attempt did not have an established revegetation plan, did not have established criteria, nor was it monitored for success. Wishner (2007) reported that a removed population adjacent to Potrero Road at Lake Sherwood was re-established and met the criteria required following the three year monitoring period. An experimental population was recently introduced at Paramount Ranch on National Park Service land per the Critical Habitat Final Rule (USFWS, November 2006), but the success of that effort is unknown.

Most of the attempts to re-establish Lyon's pentachaeta have failed (R. Burgess, pers. com. 2007), with the only known at least partially successful re-establishment being along Potrero Road. Keeley (1995) indicated that Lyon's pentachaeta was not dependent on fire, with seeds germinating readily without any fire-related or seasonal cues, but suggested that seedling survival was the critical life stage. Also, in a favorable year, an individual plant may produce on the order of 1,000 seeds and these seeds likely persist in the soil for several years during extended dry spells, (USFWS, November, 2006), which again indicates that availability of seed may not be a critical element in maintaining the species. Fotheringham and Keeley (April 1998) indicated that Lyon's pentachaeta is limited to locations where the dominant shrub coverage has been excluded, either through disturbance or microhabitat conditions (such as very thin soils) that limit shrub development. Lyon's pentachaeta appears to persist in the absence of disturbance at specialized microhabitat sites indefinitely where both shrubs and invasive annuals fare poorly. Conversely, it may also persist where active management removes shrubs and competing annuals, but success would only occur for as long as the management occurs. The linear population along the trail in Zone F appears to confirm the ability of the plant to survive in an active disturbance area. Based on the above, it appears that successful establishment of Lyon's pentachaeta at an unoccupied location would require the appropriate thin, clay volcanic soils (preferably with a microbiotic crust) and a mosaic of bare ground (>10%) patches in an area with less than 60% cover. Alternatively, a site with appropriate soils would need to be actively maintained in perpetuity to achieve the cover requirements. Per the

USFWS (November, 2006), the kinds of actions needed if development were to intrude within occupied habitat include conservation set-asides, management of competing nonnative species, restoration of degraded habitat, and regular monitoring.

Based on the successful re-establishment of Lyon's pentachaeta within suitable habitat, the determination made by the USFWS during the designation of critical habitat for the Lyon's pentachaeta that such designation included all areas needed to conserve the species (and did not include the Agoura Village Specific Plan area), and with implementation of recommended mitigation measures BIO-1(a), BIO-2(a) and BIO-6(b) (including a contingency measure that does not allow development if a population is not re-established), impacts to this endangered species would be reduced to a less than significant level.

Comparison of 2007 and 2008 Findings and 2006 EIR

The rare plant surveys in 2007 and 2008 confirmed the findings of the 2006 Final EIR regarding the presence of Lyon's pentachaeta and Agoura Hills dudleya and their habitat within the Specific Plan area. The population distribution of the Agoura Hills dudleya in the eastern population adjacent Cornell Road was more limited within the Specific Plan boundaries than had been considered in the Final EIR, and a few plants were located on the west side of Cornell Road, but within proposed open space. It was determined that the plant present within the Specific Plan area was the "Agoura" subspecies of *Dudleya cymosa* as compared to the Santa Monica Mountains dudleya (subspecies *ovatifolia*) under the updated nomenclature. No direct impacts to these known populations would be anticipated from the proposed Specific Plan, as all found occurrences are located within proposed open space. Additionally, indirect impacts would not be anticipated as occurrences within the eastern portion of the Specific Plan area were located within steep drainage features and generally inaccessible to human disturbance. Those Agoura Hills dudleya within Zone G-B were also within open space and on steep slopes. Although more accessible, these occurrences were still remote and would not be subject to indirect impacts such as trampling or erosion from recreational use of trails. Other indirect effects including fuel management, overspray of irrigation water and pesticides, and non-native species invasion are not anticipated to be substantial given the plants' location more than 90 feet from the edge of the development zones. Additional Lyon's pentachaeta were discovered in an atypical chaparral habitat area along man-made trails and an old fenceline in Zone F. Although the mitigation measures contained in the 2006 Final EIR were determined to be protective of that newly determined locale, the measure has been amended to more clearly define the level of avoidance necessary to protect this species.

Clustered broomrape (non-listed or candidate, but of special interest to SMMNRA) was confirmed to be present within Zone G on the west side of the Specific Plan area, but was not confirmed to be present on the east side, where previously reported. While this plant is of special interest to the SMMNRA, it is not a listed rare plant, and given its location in proposed open space, no significant effects to this plant are anticipated. Additionally, California juniper (also a non-listed or candidate, but of special interest to SMMNRA) was confirmed within the eastern portion of the Specific Plan, in Zone G-E. Similar to the clustered broomrape, this plant is not a listed rare plant, and given its location in proposed open space on a steep hillside, no significant effects to this plant are anticipated associated with Specific Plan development. It is

noted that the plant appears to be in declining health, while the other juniper found nearby is already deceased.

Several other sensitive plants were also considered by the 2006 Final EIR to potentially be present within the Specific Plan area for which recommended mitigation measures would be applicable. The rare plant survey confirmed that Santa Susana tarplant, a perennial shrub, was not present within the project area; nor was the federal endangered Braunton's milkvetch. round-leaved filaree, Plummer's mariposa lily, and rayless ragwort were not observed in suitable habitat and are probably not present within the portion of the Specific Plan proposed for development, though there is a slight possibility for presence in the Zone G area. Given the poor rainfall in 2007, future proposed development would nonetheless still need to consider these species per recommended Mitigation Measure BIO-1(a) Sensitive Plant Survey and Protection Plan.

Endangered Species Regulations. The Lyon's pentachaeta is listed endangered by the state and federal government. The two different Endangered Species Acts have their own specific requirements regarding jurisdictional control for listed plant species. The California ESA take restrictions are encoded at Section 2080, while Section 2081 details the requirements regarding incidental take. The following criteria regarding "incidental take" are relevant per Section 2081 and the CDFG Code of Regulations (Section 783.4):

- The take will be incidental to an otherwise lawful activity.
- The applicant will minimize and fully mitigate the impacts of the authorized take. Measures to meet this obligation are to be roughly proportional to the extent of authorized take. Where various measures are available, measures shall maintain the applicant's objectives to the greatest extent possible. All required measures shall be capable of successful implementation.
- The applicant is to ensure adequate funding to implement the measures and to monitor compliance and effectiveness of the measures.
- No incidental take permit shall be issued if such issuance would jeopardize the continued existence of the species.

Mitigation Measure BIO-1 provides for the development of conservation and restoration measures that would result in full mitigation for any loss of this endangered plant. It is at the CDFG's discretion as to whether or not the actions that an applicant may propose meet the criteria listed above such that a finding of "no jeopardy" regarding the Lyon's pentachaeta can be made.

Section 9(a)(2) of the federal Endangered Species Act contains the prohibitions against take of listed plant species, while Section 9(a)(1) contains the restrictions regarding fish and wildlife. Because of differences in these two code sections, federal control over change in habitat land use for plants under the federal ESA is limited. While animals are protected no matter where they are located, protection for plants extends only to those areas in federal jurisdiction, or where listed plants are removed in knowing violation of state law.

Section 10(a) of the federal ESA provides a mechanism for the incidental take of listed plants, animals, and fish where such taking is not the purpose of the otherwise legal activity. This

portion of the law provides for the development of Habitat Conservation Plans (HCP), which are required to contain:

- the impact likely to occur due to the action;
- steps taken to minimize and mitigate impacts and the funding that will be available to implement those steps;
- alternative actions considered and the reasons why such alternatives are not utilized; and
- any measures or conditions required by the federal government as being necessary or appropriate.

Mitigation actions under HCPs usually take one of the following forms: (1) avoiding the impact (to the extent practicable); (2) minimizing the impact; (3) rectifying the impact; (4) reducing or eliminating the impact over time; or (5) compensating for the impact. It is also noted that the effectiveness of any habitat conservation or resource management plan in the context of rare and endangered organisms is determined by whether or not the plan minimizes the incidental take of the organism, mitigates the expected take, and effectively monitors the actions to determine if the mitigation is successful and the take is limited to the amount expected. The effectiveness of the mitigation strategy is central to the success of the plan: if the impacts are not effectively offset, the plan will result in more harm than expected. As previously discussed, the USFWS has been in negotiations with the landowner south of the Specific Plan (Triangle Ranch) in Los Angeles County jurisdiction with respect to the larger portion of the suitable habitat for Lyon's pentachaeta in this area. Based on the discussion contained in the Final Designation (USFWS, November 2006), it is reasonable to conclude that the mitigation measures in the 2006 Final EIR, along with the currently proposed revisions to the mitigation measures, are feasible and that conservation acts can occur that would preserve Lyon's pentachaeta in the area while at the same time allow limited mitigated take of a portion of the population.

Conclusion

In light of the new information presented above, the 2006 EIR impacts regarding sensitive plant species, Impacts BIO-1 and BIO-2, would still be considered *significant but mitigable*. Although new locations of sensitive plant species were identified during the 2007 and 2008 surveys, the mitigation measures in the Final 2006 EIR would guide the planning and development review process to reduce impacts to these occurrences to a less than significant level. However, through the process of reviewing the above data and in light of the revised project description (shift of Zone B boundary to north of Lindero Canyon Creek) several points of clarification and refinement were suggested to further strengthen the language of mitigation measures BIO-1(a) and BIO-2(a). The following illustrates the ameliorations proposed under each mitigation measure for finalization of the Agoura Village Specific Plan EIR. Deletions are shown with strikethrough and additions are shown in bold.

BIO-1(a) Sensitive Plant Survey and Protection Plan. ~~Due to the sensitivity and known presence of Santa Monica Mountains dudleya and Lyon's pentachaeta within the western portion of the Specific Plan area, the Specific Plan shall be revised to include a policy prohibiting development within that portion of Zone B south of Lindero Canyon Creek. This would reduce impacts to~~

~~known populations of Santa Monica Mountains dudleya and Lyon's pentachaeta.~~

~~In addition, p~~Prior to approval of individual development applications within the residual natural areas of Zones A south, B, E, and F, surveys for sensitive plant species, ~~Santa Monica Mountains dudleya,~~ including but not limited to Agoura Hills dudleya and Lyon's pentachaeta, should be performed by a qualified plant ecologist. These surveys shall be performed during the blooming period (April - June). If a sensitive species is found, avoidance shall be required unless the applicant provides substantial documentation that avoidance would not be feasible or would compromise the objectives of the Specific Plan. **For Lyon's pentachaeta and Agoura Hills dudleya, avoidance is defined as a minimum 200 foot setback unless an active maintenance plan is implemented for the known occurrence. With implementation of an active maintenance and management program, the buffer width may be reduced further based on review and approval by the jurisdictional agencies (USFWS and/or CDFG). For other sensitive species avoidance shall be determined based on the specific plant pursuant with the recommendations of a qualified plant ecologist, and with the coordination of USFWS and/or CDFG for state or federally listed plants. The maintenance and management plan must be approved by the appropriate jurisdictional agencies prior to issuance of a grading permit.**

If avoidance is not feasible, on-site mitigation is preferred if suitable, **unoccupied,** habitat is present that can be isolated from human disturbance. **Otherwise, an offsite location would be considered;** the Ladyface Mountain Specific Plan area may contain appropriate habitat and may be a preferred location. **A mitigation** restoration plan shall be prepared by a qualified plant ecologist that identifies the number of plants to be replanted and the methods that will be used to preserve this species in **the on- or off-site mitigation** location. The plan shall also include a monitoring program so that the success of the effort can be measured. Restoration efforts shall be coordinated with applicable federal, state, and local agencies. The required level of success for ~~Santa Monica Mountains dudleya~~, Agoura Hills dudleya and Lyon's pentachaeta shall be defined at a minimum as a demonstration of **five** consecutive years of growth of a population equal to or greater than that which would be lost due to the project. This level of success shall be achieved prior to removal of the impacted population. **Success criteria for other sensitive species will be determined on an individual basis pursuant with the recommendations of a qualified plant ecologist, and with the coordination of USFWS and/or CDFG for state or federally listed plants. When applicable, the mitigation restoration plan shall be submitted to the appropriate regulatory agencies for review and approval, with the approved plan then submitted to the City of Agoura Hills prior to issuance of a grading permit for the area of concern.**

BIO-2(a) **Buffer Zones. Except in cases of Lyon's pentachaeta and/or Agoura Hills Dudleya, which are addressed in MM BIO-1(a), a minimum** buffer zone of

50-100 feet of native vegetation shall be maintained between urban development and adjacent sensitive native habitats. **This includes those areas located along the unchannelized portions of Medea and Lindero Canyon Creeks within the Specific Plan boundaries.** Such vegetation should be sensitive to, and similar in nature to, the natural environment surrounding the sensitive native habitats. **A minimum buffer of 50 feet (or greater if required by the CDFG) from the top of bank and/or edge of riparian cover (whichever is greater) shall be established for the protection of southwestern pond turtle where preferred nesting habitat (exposed, southerly-facing slopes vegetated with open scrub or sparse grassland vegetation, dense soils with a high silt and clay fraction, and less than 25% slope) is present. No heavy equipment or ground disturbance shall enter the buffer zone during the nesting period of SWPT (April-August).** Further, equestrian trails shall be located no less than 10 to 20 (preferred) feet from the edge of the exterior riparian canopy.

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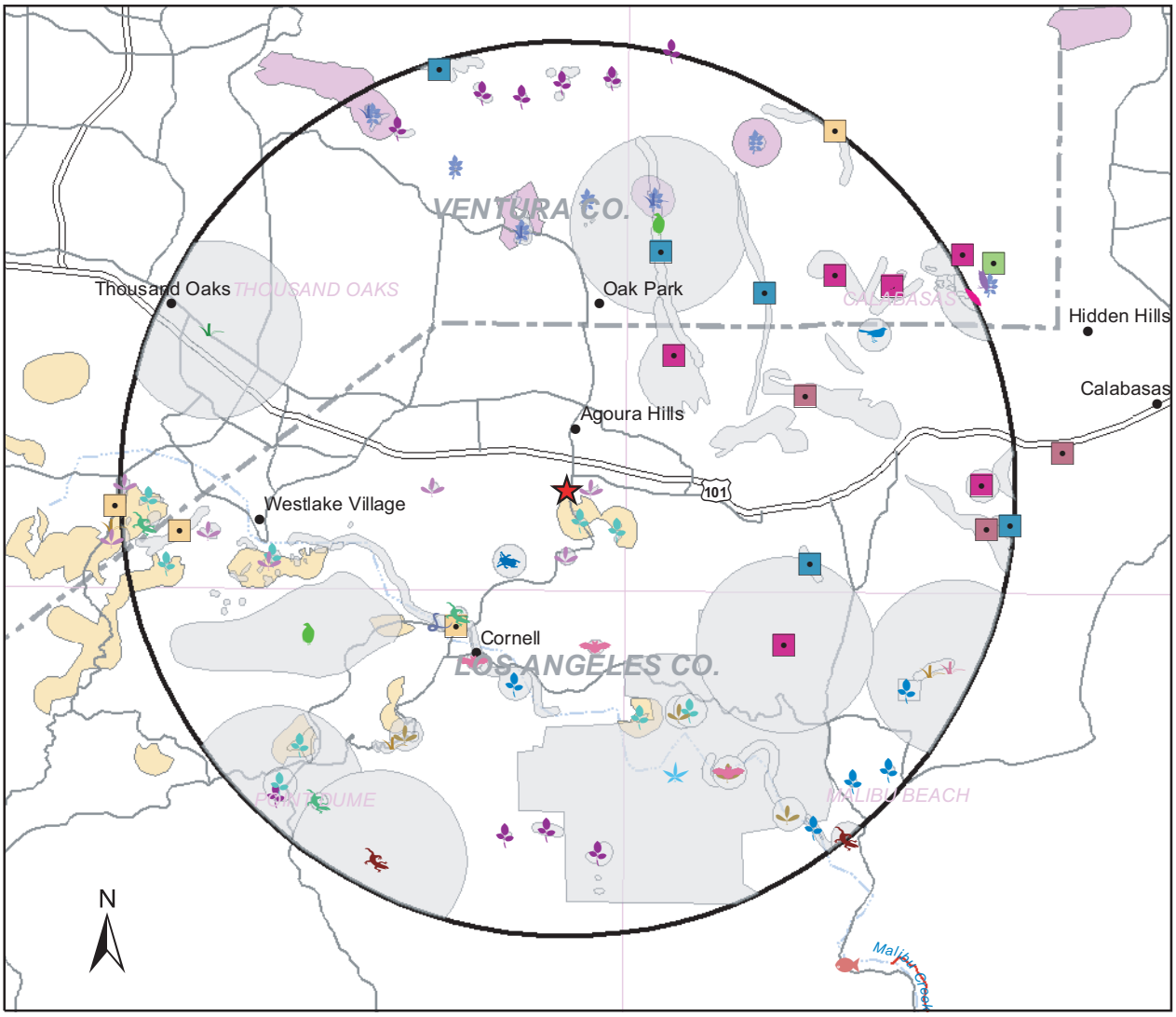
Attachment: *Figure 1-1 2007CNDDB*
Figure 1-2 2006 AVSP EIR Vegetation Map
Figure 1-3 2007 Vegetation Map
Figure 1-4 Special-Status Plant Species Map
Figure 1-5 AVSP EIR 2006 Sensitive Plant Map



Sources: California Natural Diversity Database, March 2007; U.S. Fish and Wildlife Service, February 2007; Rincon Consultants, 2007; U.S. Bureau of the Census TIGER 2000 data; and ESRI, 2002.
Note: Markers represent approximate locations where species may be found.
Critical habitat shown is that most recently available from U.S. FWS.
Check with U.S. FWS or Federal Register to confirm.

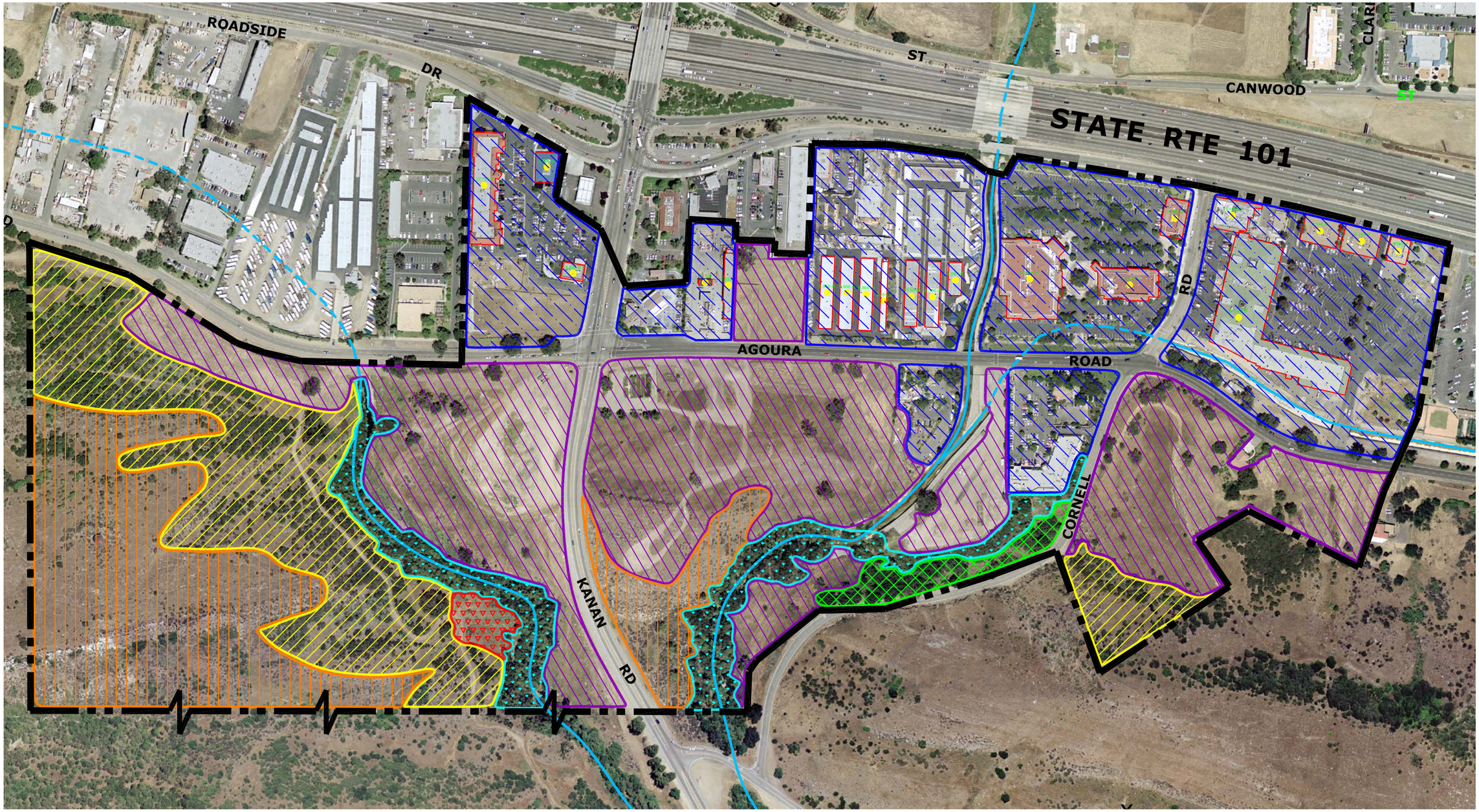
0 1.25 2.5 3.75 5 Miles

Legend

- Project Location
- 5-Mile Radius
- AAABH01022, California red-legged frog
- ABNKC22010, golden eagle
- ABNSB10010, burrowing owl
- ABPBJ08081, coastal California gnatcatcher
- AFCJB13120, arroyo chub
- AMACC07010, spotted bat
- AMACD02011, western mastiff bat
- ARACF12021, Coast (San Diego) horned lizard
- ARACJ02143, coastal western whiptail
- ARADB36160, two-striped garter snake
- CTT42110CA, Valley Needlegrass Grassland
- CTT61310CA, Southern Coast Live Oak Riparian Forest
- CTT62400CA, Southern Sycamore Alder Riparian Woodland
- CTT71130CA, Valley Oak Woodland
- CTT71210CA, California Walnut Woodland
- IIORT36300, Santa Monica grasshopper
- PDAST0W0W0, Malibu baccharis
- PDAST4R0J0, Santa Susana tarplant
- PDAST6X060, Lyon's pentachaeta
- PDCRA040A3, marcescent dudleya
- PDCRA040A7, Agoura Hills dudleya
- PDFAB0F1G0, Braunton's milk-vetch
- PDGER01070, round-leaved filaree
- PDPGN040J1, San Fernando Valley spineflower
- PMAGA080E0, chaparral nolina
- PMLIL0D096, slender mariposa lily
- PMLIL0D150, Plummer's mariposa lily
- PMPOA4G010, California Orcutt grass
- S Calif Steelhead FCH
- Braunton's Milk Vetch FCH
- Lyon's Pentachaeta FCH

Sensitive Elements Reported by the California Natural Diversity Database

Figure 1-1

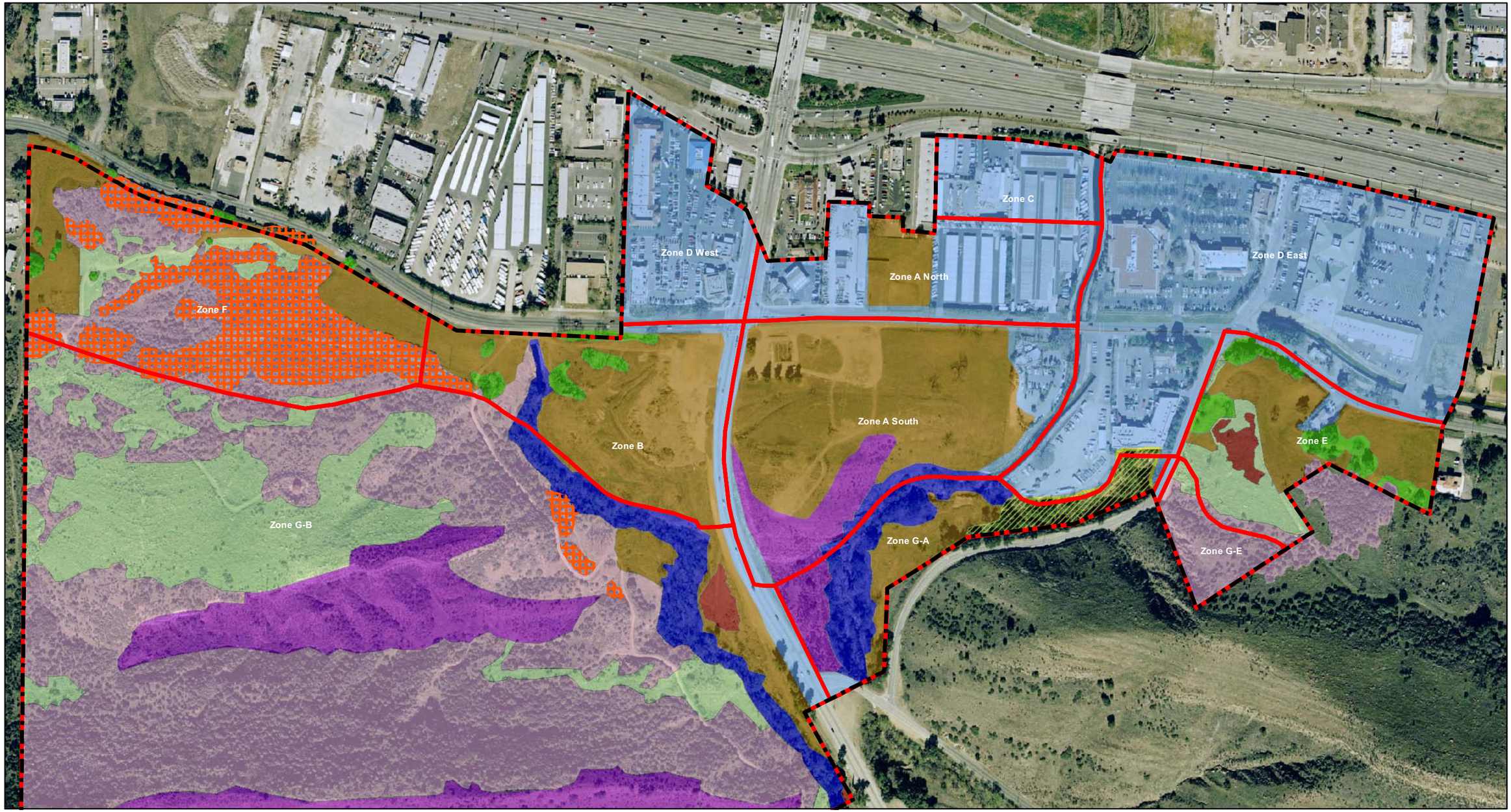


Aerial Source: City of Agoura Hills, 2002

2006 AVSP EIR Vegetation Map

Figure 1-2

City of Agoura Hills



Legend

Plan Area Boundary
Zones

Vegetation Types

Coastal Sage Scrub
Developed/Ornamental
California Annual Grassland
Scrub Oak Chaparral
Mixed Chaparral
Oak Stand
Coastal Live Oak Woodland
Southern Willow Scrub/Southern Arroyo Willow Riparian
Ruderal/Disturbed
Valley Needlegrass Grassland

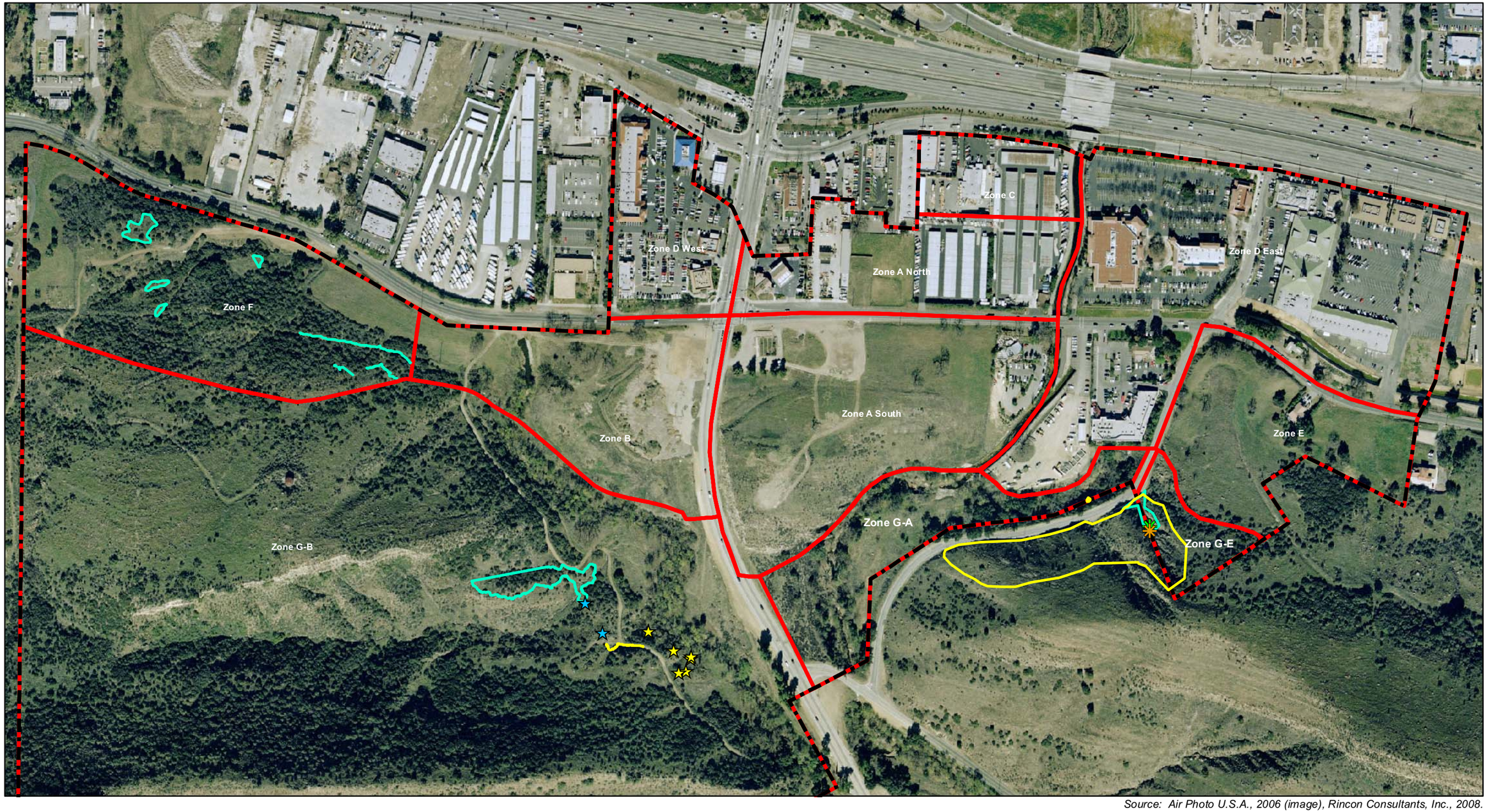
N

0 250 500 1,000 Feet

Source: Air Photo U.S.A., 2006 (image), Rincon Consultants, Inc., 2008.

Vegetation Map

Figure 1-3



Source: Air Photo U.S.A., 2006 (image), Rincon Consultants, Inc., 2008.

Legend

- Plan Area Boundary
- Zones
- California juniper (live)
- California juniper (dead)
- Clustered broomrape (Orobanche fasciculata)
- Agoura Hills Dudleya (Dudleya cymosa agourensis
- Agoura Hills Dudleya (Dudleya cymosa agourensis)
- Lyon's Pentachaeta (Pentachaeta lyonii)

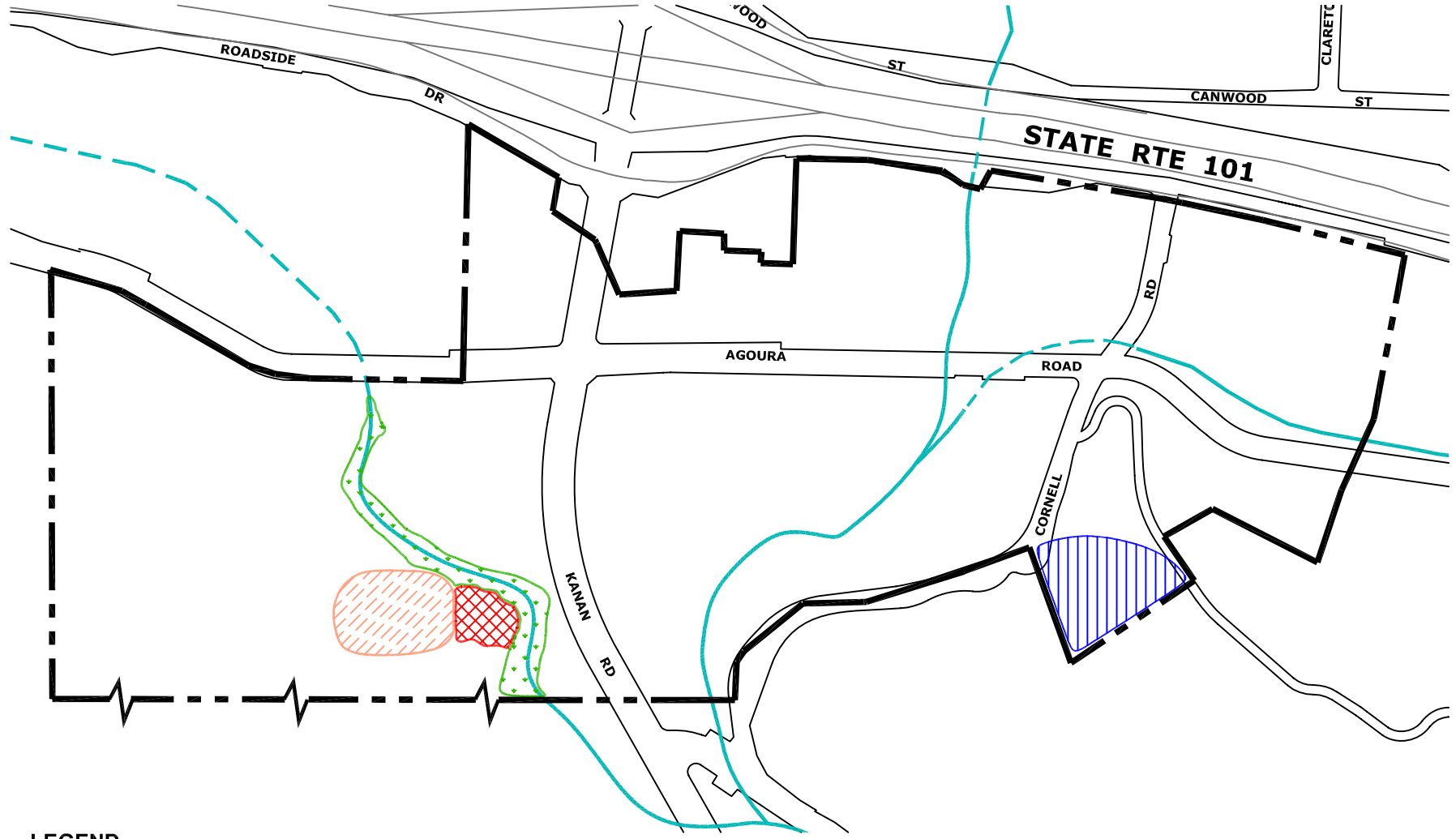
N

0 250 500 Feet

Special-Status Plants

Figure 1-4

City of Agoura Hills



Aerial Source: City of Agoura Hills, 2002

AVSP EIR 2006 Sensitive Botanical Resources Map

Figure 1-5

Section 2

Special-Status Community Surveys

SECTION 2 – SPECIAL STATUS COMMUNITY SURVEYS

Purpose

Rincon Consultants conducted surveys for special-status communities in response to a Writ of Mandate issued by the Superior Court of California, County of Los Angeles in the case of Mary Altmann vs. City of Agoura Hills. The intent of this survey was to determine the presence or absence of the following special-status plant communities and communities of interest identified in public comments on the 2006 EIR, or any additional special-status communities:

- California Walnut Woodland (G2/S2.1)
- Valley Oak Woodland (G3/S2.1)
- Southern Arroyo Willow Riparian Forest (G2/S2.1)
- Valley Needlegrass Grassland (G1/S3.1)
- Valley Oak Savannah (Non-listed, community of interest)

These communities were identified by the CNDDB (March, 2007), previous studies performed within the area, including the 2006 AVSP EIR, and in public comments on the 2006 AVSP EIR. Each community was identified as either known within a five-mile radius, known within the Specific Plan, or as having the potential to occur onsite.

Additionally, the following are recognized natural communities within California with the potential to occur within the Specific Plan. These communities have lower global and state rankings (see discussion in Methodology below) and are therefore not considered special-status; however, they are considered as part of this analysis and were searched for within the Specific Plan.

- Southern Sycamore Alder Riparian Woodland (G4/S4)
- Southern Coast Live Oak Riparian Forest (G4/S4)
- Southern Coast Live Oak Woodland (G4/S4)

Methodology

Special-status communities targeted in this series of surveys were identified as potentially occurring onsite by the California Natural Diversity Database (CNDDB, 2007), CDFG Biogeographic Information and Observation System (BIOS), previous biological surveys (prepared for the Ladyface Mountain Specific Plan, the Creekside Center EIR, the AVSP EIR, the City's General Plan EIR, and the E.F. Moore & Company development proposal), as well as from public input regarding the Agoura Village Specific Plan EIR (Rincon Consultants, 2006), and general knowledge of the area. For this study, special-status communities are those either known or believed to be of high priority in *The Vegetation Classification and Mapping Program List of California Terrestrial Natural Communities* (CDFG, 2003). The list is based on the classification put forth in *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995 and upcoming new edition). However, it is structured to be compatible with previous CNDDB lists (e.g., Holland 1986).

Those communities listed as high priorities were ranked by the CDFG and given global and state ranks. For the purposes of this study, special-status communities are those with State Rankings of S3 or lower or Global Rankings of G3 or lower. As noted below, rankings of three or less are considered threatened, while communities with rankings of four or five are considered generally secure. The following is a description of the global and state rankings as provided in the *Special Vascular Plants, Bryophytes, and Lichens List* (CDFG, 2007).

The *global rank* (G-rank) is a reflection of the overall condition of an element throughout its global range.

G1 = Less than 6 viable element occurrences (Eos) OR less than 1,000 individuals OR less than 2,000 acres.
G2 = 6-20 Eos OR 1,000-3,000 individuals OR 2,000-10,000 acres.
G3 = 21-80 Eos OR 3,000-10,000 individuals OR 10,000-50,000 acres.
G4 = Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat.
G5 = Population or stand demonstrably secure to ineradicable due to being commonly found in the world.

The *state rank* (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank.

S1 = Less than 6 Eos OR less than 1,000 individuals OR less than 2,000 acres
(S1.1 = very threatened, S1.2 = threatened, S1.3 = no current threats known)
S2 = 6-20 Eos OR 1,000-3,000 individuals OR 2,000-10,000 acres
(S2.1 = very threatened, S2.2 = threatened, S2.3 = no current threats known)
S3 = 21-80 Eos or 3,000-10,000 individuals OR 10,000-50,000 acres
(S3.1 = very threatened, S3.2 = threatened, S3.3 = no current threats known)
S4 = Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat.
S5 = Demonstrably secure to ineradicable in California.

Although Valley Oak Savannah is not recognized as a community in *A Manual of California Vegetation*, in Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California,* or in the CNDDB, it was considered as a natural community of interest with the potential to occur onsite as its presence within the Specific Plan was questioned in a comment letter from Los Angeles County on the 2006 EIR.

Rincon biologists surveyed the site for special-status plant communities on May 9, 10, 11, 30, 31 and July 11, 2007 and on May 21 and 22, 2008. Surveys were performed throughout the undeveloped portions of the Specific Plan area (Zones A south, B, E, and F), focusing on zones proposed for development and adjacent areas within the proposed open space zone (Zone G). The surveys were conducted by Rincon biologists John H. Davis IV, John Dreher, Julie Broughton, Jennifer Turner and Lacrissa Cook under the direction of Dr. Duane Vander Pluym, resumes and qualifications for each of these professionals is included at the end of this Biological Technical Appendix.

Rincon purchased recent (February 2006) one-foot resolution color aerial imagery of the Specific Plan area. This was used during the field surveys to assist in mapping observed special-status plant communities. In addition, a Trimble® GTX, with sub-meter accuracy was used to place polygons around special-status plant communities and assist in determining the extent of the survey area. During the 2007 survey period the developable area (excluding 12 acres along the western boundary of Zone F) and the majority of the open space area (Zone G) was traversed on foot using meandering transects. In 2008 the furthermost 12 acres in Zone F were also surveyed to ensure thorough coverage of the site (see Figure I-3; survey area included Zone G up to mapped edge and partially further south to the top of the first ridgeline). The ridges and canyons along the southwestern corner of Specific Plan Zone G (not shown in most figures) were not traversed on foot due to the very steep terrain associated with Ladyface Mountain.

Plant Community Terminology

The term "savanna" originally referred to open grassland areas, but now refers to land with grass and either scattered trees, or an open canopy of trees. Savannas have been defined differently by various authors, based on often subjective criteria (http://www.savannas.net/savdef.htm). Savannas form a continuum between tropical forests and grasslands and have often been classified as either one or the other in the past. The distinction between what is forest, grassland and different structural savanna types can only be set with arbitrary limits and descriptions.[1] The concept of "savanna" is also one that generally involves landscape level relationships that are on the scale of mountains and valleys.

The California Wildlife Habitat Relationship (CWHR; Mayer and Laudenslayer, October 1988) divides wildlife habitats into those that are tree, shrub, and herbaceous dominated groups, with the division between tree-dominated and the other two groups established at 10% tree canopy coverage, with no definition for "savanna." Canopy cover classes for trees is provided by CWHR as sparse = 10-24%, open = 25%-39%, moderate = 40%-59%, and dense = 60-100%. The definition for shrub vegetation is for canopy coverage by shrubs greater than 10% with less than 10% tree cover, while herbaceous habitats are those with less than 10% cover by trees or shrubs. No specific definition for "forests" is provided.

Sawyer and Keeler-Wolf (1995) does not provide any description of a series termed "savanna." Holland (1986) has defined Valley Oak Woodland as including a savanna (=grass) understory:

> "Similar to Northern Oak Woodland and Blue Oak Woodland, but typically more open, forming a grassy-understoried savanna rather than a closed woodland. *Quercus lobata* is usually the only tree present. This winter-deciduous species is California's largest broad-leaved tree, with mature individuals reaching 15-35 m. Most stands consist of open-canopy growth form trees and seldom exceed 30-40% absolute cover."

[1] For example, Scholes and Hall (1996) defined the following:

- **Forests**: Complete tree canopy cover and three or more overlapping vegetation strata
- **Woodlands**: 50-100% tree canopy cover, and a graminaceous (grass) layer
- **Savannas**: 10-50% cover by woody plants and well-developed grass layer
- **Grasslands**: less than 10% tree cover

In the description of coastal oak woodland (CWHR staff, April 2005; http://www.dfg.ca.gov/bdb/cwhr/pdfs/COW.pdf), savanna is a term used to describe widely-spaced trees within the "woodland" terminology. The CWHR description of valley oak woodland (http://www.dfg.ca.gov/bdb/cwhr/pdfs/VOW.pdf) states that "This habitat varies from savanna-like to forest-like stands with partially closed canopies, comprised mostly of winter-deciduous, broad-leaved species." No formal distinction between savanna, woodland, or forest is provided.

Holland and Keil (1995, p. 85) state that: "Savanna communities are similar to woodlands except that the trees are more widely spaced and the understory is almost entirely dominated by various species of grasses and forbs. The areas of influence of adjacent trees are usually well separated and seldom overlap. Most plants of the herb layer in a savanna are intolerant of deep shade. A good example of a savanna in California are some of the valley oak woodlands." And also: "No sharp boundary exists between savannas and woodlands; an open stand of trees may vary from savanna to woodland depending on tree density." This discussion illustrates the difficulty in separating the two concepts of "woodland" and "savanna," with the primary difference one of separation between trees and the presence of a grass understory.

Under current practice in California, herbaceous dominated groups, including grasslands, can be considered to exhibit 10% or less relative tree or shrub cover. Woodlands would contain between 10% and 100% relative tree canopy cover. For the purpose of this report and using the CWHR criteria for canopy closure, the "sparse" and "open" criteria (10-24%, 25-39% respectively) of oak woodlands are considered synonymous with "oak savanna" provided that understory shrubs are relatively lacking (less than 10% cover) and the understory is composed of grass species. Where the tree canopy exceeds 40% closure, or where shrub canopy cover is greater than 10% and tree canopy coverage is greater than 10%, such habitats would be considered "woodland." Also, as indicated by Holland and Keil (1995), where the plants are clustered together (consistent with the canopy closure), such an area would be defined as woodland as compared to savanna. However, where canopy cover is dense (CWHR >60%) and there is three or more stratum layers present, such areas can be defined as "forests."

While the above serves to define the habitat or vegetation classification system, as discussed in Sawyer and Keeler-Wolf (1995), there is a difference between classification and vegetation mapping units. A classification scheme can order a group of vegetation into smaller and smaller units, while vegetation mapping is necessarily limited by scale. CWHR (October 1988) notes that 40 acres is the minimum (smallest) mapping unit for scales of 1:24,000 (one inch = 2,000 feet) or more. As the scale becomes smaller, more detailed vegetation mapping can occur, but at a practical level, a mapping unit can become meaningless at too fine of a scale. A single large valley oak can have a canopy spread of 70 feet from the trunk, and so have a 100% canopy cover over 15,000 square feet (0.35 acre), but it would not be meaningful to describe this as an oak woodland per the above classification definitions. When trees are few and scattered, it is difficult to determine where an open woodland exists adjacent to grasslands, or an oak savanna exists. As such, oak savanna at a small scale tends to be difficult to characterize since the limit between it and adjacent grasslands is not defined except as a qualitative opinion by individual biologists. A few isolated oaks would not be sufficient in the authors' biological opinion to justify incorporating a much larger area of adjacent grassland as "oak savanna;" such oaks must be part of a continuous whole with other oaks in the landscape. A meaningful discussion of the

separation of woodland as compared to savanna is more on the scale of several hundreds of acres. This landscape level of scale generally exceeds the size of the Specific Plan area (total of 233 acres). Nonetheless, for the purpose of this analysis, the smallest mapping unit used herein is on the order of 0.25-0.5 acres.

Pertinent to the discussion of communities is also the description of a "stand." Per CDFG, et al (January 2006), a "stand" can be defined as "the basic physical unit of vegetation in a landscape. It has no set size. Some vegetation stands are very small such as wetland seeps, and some may be several square kilometers in size such as desert or forest types. A stand is defined by two main unifying characteristics:

a. It has *compositional* integrity. Throughout the site, the combination of species is similar. The stand is differentiated from adjacent stands by a discernable boundary that may be abrupt or gradual.
b. It has *structural* integrity. It has a similar history or environmental setting, affording relatively similar horizontal and vertical spacing of plant species. For example, a hillside forest formerly dominated by the same species but has burned on the upper part of the slope and not the lower is divided into two stands. Likewise, a sparse woodland occupying a slope with shallow rocky soils is considered a different stand from an adjacent slope of a denser woodland/forest with deep, more moist soil and the same species."

Savanna, woodland, and/or forest habitats within the Specific Plan were surveyed using two methods: 1) inventory, mapping, and spatial analysis of oak species and 2) a relevé survey (California Natural Community Field Survey) and aerial interpretation were performed for the riparian habitats surrounding Lindero Canyon and Medea Creeks.

The oak species inventory generally collected data for individuals greater than 2 inches at approximately 3.5 to 4.5 feet above natural grade for the entire Specific Plan. Whether or not "valley oak savanna" was present was raised in a comment letter on the 2006 AVSP EIR from the Los Angeles County Department of Regional Planning. Therefore, the oak species data was used along with the results of grassland surveys in Zone E and the above definitions to characterize whether or not "valley oak savanna" is present within the Specific Plan area. Using ArcGIS Spatial Analyst, the average distance between each tree and its nearest neighbor was calculated and used to determine the pattern of dispersal within Zone E. Further, canopy coverage for oaks throughout Zone E was calculated using an average observed canopy area per tree of 1,256 sf (or 40 ft diameter canopy). Using a 40-ft radius buffer from the trunk (inferred influence zone of the oak canopy), a single layer was extracted which represented the approximate area of influence of coast live and valley oaks for Zone E. Where coverage overlapped, the area of overlap was merged, with a cluster composed of a minimum of three oaks. This was then considered the area that was potentially oak woodland or savanna depending on canopy coverage, shrub cover, and the presence of grasses (native or non-native). Where the influence area of an individual tree did not overlap with another, this was considered an isolated oak. In addition, those areas that would otherwise be within the influence zone of the oaks but that historic aerial photography indicated have been continuously disked were mapped as disked field. As much of Zone E has been heavily disturbed and oaks are clustered and isolated, a second percent coverage was calculated for

individual clusters. The percent cover for each of these isolates was calculated by examining the density of oaks within a relative cluster.

The CDFG recommends a relevé survey[2] and provides a natural community field survey form to assist with determinations of natural communities. The recommended survey form was used to assess dominants and percent cover of species along Lindero Canyon and Medea Creek within the Specific Plan. A botanist surveyed three 20 by 20 meter (4,300 sf; 0.10 acre) sample plots along Lindero Canyon Creek and two sample plots along Medea Creek. Each plot was surveyed for percent cover per species. These were categorized by trees, shrubs, and herbs/graminoids.

A native grassland is defined as an area where native grassland species comprise at least 10% or more of the total relative cover. Thus, for example, where a high density of small patches occur in an area of one acre, the whole acre would be delineated if native grassland species comprise 10% or more of the total relative cover, rather than merely delineating the patches that would sum to less than an acre. This is based on practice and opinion of CDFG (Santa Barbara County, 2003). Santa Barbara County's Environmental Thresholds and Guidelines states that the Natural Heritage Division uses the 10% relative cover figure in determining acreages of remaining native grasslands (Keeler-Wolf, 1992). The County further provides a one-quarter (0.25) acre minimum significance threshold for disturbance of clearly isolated grasslands (namely, disturbance of one-quarter acre or more of isolated native grassland habitat or an integral component of a larger ecosystem would be considered significant). Thus, the 0.25 acre standard may be used as the minimum mapping unit for defining a native grassland where greater than 10% cover of native grasses is present. This threshold was utilized in determining grassland habitat for the purposes of this study.

The quadrat method was used to sample three grassland areas within Zones E and G-B, and to determine their percent cover. A one-square meter quadrat was tossed 4 times within a southernmost grassland area (VN#1) in Zone E, 13 times in a northernmost grassland area within Zone E (VN#2), and 5 times within the grassland located in Zone G-B (VN#3). A combination of stratified and random sampling was used. For VN#1 and #2 biologists began sampling at the upslope edge of the grassland and with each toss moved downslope. Each toss was randomly thrown, with eyes closed from above the shoulder level in any direction. The percent cover, or the percentage of the quadrat beneath the canopy, of Valley Needlegrass grassland was visually estimated for each sample plot and recorded. For VN#3 biologists used random sampling throughout the grassland. This effort resulted in the mapping of the native grassland extent for each area as 0.02 acres inVN#1, 0.45 acres in VN#2, and 0.46 acres in VN#3. As VN#1 is not meaningful in terms of size (is less than 0.25 acre), it is not included on the figures and is not considered as a native grassland community.

Field surveys followed accepted protocols developed by the Department of Fish and Game (CDFG) and California Native Plant Society (CNPS), and were spaced throughout the appropriate blooming period to ensure a thorough inventory of the site and visibility of targeted species (grasses).

[2] A sample of a stand of vegetation in which characteristics such as species found cover, density, etc

Results and Discussion

The portion of the Specific Plan area proposed for future development is composed primarily of already developed (Zones A north, D east, D west, and C) and partially disturbed lands (Zones A south, B, E, and F). It is those areas located along the southern and southwestern boundaries of the AVSP area that are undeveloped and relatively natural (proposed open space Zone G). For the purposes of this survey, efforts were focused on the southern portion of the Specific Plan south of Agoura Road where the Specific Plan allows for future development.

Special-Status Plant Communities. As noted above, special-status communities targeted in this series of surveys were identified as potentially occurring onsite by the California Natural Diversity Database (CNDDB, 2007), CDFG Biogeographic Information and Observation System (BIOS), previous biological surveys (prepared for the Ladyface Mountain Specific Plan, the Creekside Center EIR, the AVSP EIR, the City's General Plan EIR, and E.F. Moore & Company development proposal), as well as from public input regarding the Agoura Village Specific Plan EIR (Rincon Consultants, 2006), and general knowledge of the area. Seven special-status plant communities and one non-listed community of interest have the potential to occur on site. Table 2-1 provides community descriptions and briefly presents legal status, relevant ecological and range information for communities with the potential to occur within the Specific Plan area.

Of the special-status communities with the potential to occur within the Specific Plan only one was found, Valley Needlegrass grassland. Previous studies identified the riparian corridor along Lindero Canyon Creek as Southern Arroyo Willow Riparian Forest. Recent studies revised this description and identified this area as the special-status community Southern Willow Scrub instead. No additional special-status plant communities were observed onsite during the 2007 or 2008 surveys. The following describes the plant composition and percent coverage of sample plots surveyed within the riparian and grassland areas in the Specific Plan, and the resulting habitat classifications are shown in Figure 2-1.

Special-Status Plant Communities Observed During the 2007 and 2008 Surveys

Relevé surveys were performed at random intervals along Lindero Canyon Creek and Medea Creek to determine habitat type. On Lindero Canyon Creek, sample plots yielded an uppermost canopy primarily of arroyo willow (*Salix lasiolepis*) with a range of 60-85% coverage with secondary canopy coverage comprised of 5-10% valley oak (*Quercus lobata*). The intermediary canopy including shrubs, saplings and large herbaceous plants, was dominated by emergent arroyo willow and valley oak saplings with a small percentage of palm trees and fennel. The majority of the intermediary canopy was of open space ranging from 55-70% open space. The herbaceous/graminoid ground layer was mature and diverse including smilo grass (*Piptatherum miliaceum*), spike-rush (*Eleocharis* sp.), mugwort (*Artemisia douglasiana*), salt grass (*Distichlis spicata*) and water cress (*Nasturtium officinale* = *Rorippa nasturtium-aquaticum*). Other plants were noted although only those inhabiting over 10% coverage were included in the survey.

Table 2-1 – Special-status Plant Communities Potentially Occurring Within the Agoura Village Specific Plan Area

Community Name	CNDDB Element Code/ Holland Type	Global and State Sensitivity Rankings	Community Description (Holland)	Site Factors (Holland)	Characteristic Species	Project Site Suitability)
California Walnut Woodland	71210	G2/S2.1	Similar to and intergrading with Interior Live Oak Woodland (71150) or Coast Live Oak Woodland (71160, but with a more open tree canopy locally dominated by *Juglans californica*. The open tree canopy allows development of a grassy understory. In most sites this understory is comprised of introduced winter-active annuals that complete most of their growth cycle before the deciduous *Juglans* leafs out in spring.	On relatively moist, fine-textured soils of valley slopes and bottoms, as well as encircling rocky outcrops. Drier, rocky sites often support Venturan or Riversidian Sage Scrub.	*Juglans californica, Quercus agrifolia, Q. Engelmannii, Rhus ovata, R. trilobata, Bromus rubens, Marrubium vulgare*	Suitable habitat not present.
Southern Sycamore Alder Riparian Woodland	62400	G4/S4	A tall, open broadleafed, winter-deciduous streamside woodland dominated by *Platanus racemosa* (and often also *Alnus rhombifolia*). These stands seldom form closed canopy forests, and even may appear as trees scattered in a shrubby thicket of sclerophyllous and deciduous species.	Very rocky streambeds subject to seasonally high intensity flooding. *Alnus* increases in abundance on more perennial streams, while *Platanus* favors more intermittent hydrographs.	*Acer macrophyllum, Alnus rhombifolia, Artemisia douglasiana, Aralia californica, Eguisetum hyemale, Oryzopsis miliacea, Quercus agrifolia, Rubus ursinus, Sambucus mexicana, Toxicodendron diversilobum, Umbellularia californica, Urtica holsoericea.*	Suitable habitat not present
Valley Oak Woodland		G3/S2.1	Similar to Northern Oak Woodland and Blue Oak Woodland, but typically more open, forming a grassy-understoried savanna rather than a closed woodland. *Quercus lobata* is usually the only tree present. This winter-deciduous species is California's largest broad-leaved tree, with mature individuals reaching 50 -115 ft. Most stands consist of open-canopy growth form trees and seldom exceed 30-40% absolute cover.	On deep, well-drained alluvial soils, usually in valley bottoms, apparently with more moisture in summer than in Blue Oak Woodland. Also found on nonalluvial settings in the South Coast and Transverse Ranges.	*Quercus lobota*	Present as remnant oak woodland stands reduced to landscaping status

Table 2-1 – Special-status Plant Communities Potentially Occurring Within the Agoura Village Specific Plan Area

Community Name	CNDDB Element Code/ Holland Type	Global and State Sensitivity Rankings	Community Description (Holland)	Site Factors (Holland)	Characteristic Species	Project Site Suitability)
Southern Coast Live Oak Riparian Forest	61310	G4/S4	Open to locally dense evergreen sclerophyllous riparian woodlands dominated by *Quercus agrifolia*. This type appears to be richer in herbs and poorer in understory shrubs than other riparian communities. Similar to and questionably distinct from Central Coast Live Oak Riparian Forest	Bottomlands and outer floodplains along larger streams, on fine-grained, rich alluvium.	*Acer macrophyllum*, *Artemisia douglasiana*, *Cardamine californica*, *Eucrypta chrysanthemifolia*, *Heteromeles arbutifolia*, *Keckiella cordifolia*, *Lonicera hispidula*, *Marah macrocarpus*, *Pholistoma auritum*, *Quercus agrifolia*, *Rhus trilobata*, *Rosa californica*, *Rubus ursinus*, *Sambucus Mexicana*, *Symphoricarpos mollis*, *Toxicodendron diversilobum*, *Umbellularia californica*.	Not present
Southern Arroyo Willow Riparian Forest (listed, but not described in Holland, following describes Central Coast Arroyo Willow Riparian Forest)	61320	G2/S2.1	Dense, low, closed-canopy broad-leafed winter-deciduous riparian forests dominated by *Salix lasiolepis*. This plant often grows as a large, tree-like shrub. Reproduction may be limited to plants that establish on fallen logs.	Moist to saturated sandy or gravelly soil, especially on bottomlands or around dune slack ponds within the coastal fog incursion zone.	*Alnus rhombifolia, Myrica californica, Salix lasiandra, S. lasiolepis, others?*	Now classified onsite as Southern Willow Scrub
Valley Needlegrass Grassland	42210	G1/S3.1	Midheight to 2-ft grassland dominated by perennial, tussock-forming *Stipa pulchra*. Native and introduced annuals occur between the perennials, often actually exceeding the bunchgrasses in cover. Valley Needlegrass Grasslands are usually found on fine-textured, often clay, soils. These are usually moist or even waterlogged during winter, but very dry in summer.		*Achillea borealis, Achyrachaena mollis, Agoseris heterophylla, Avena fatua, Bloomeria crocea, Brodiaea lutea, Bromus diandrus, B. mollis, B. rubens, Chlorogalum pommeridianum, Clarkia pupurea, Dodecatheon*	Los Angeles Basin; small residual patches found within Specific Plan

Table 2-1 – Special-status Plant Communities Potentially Occurring Within the Agoura Village Specific Plan Area

Community Name	CNDDB Element Code/ Holland Type	Global and State Sensitivity Rankings	Community Description (Holland)	Site Factors (Holland)	Characteristic Species	Project Site Suitability)
					jefferyi, Melica californica, M. imperfecta, Orthocarups attenuatus, Plantago hookeriana californica, Poa scabrella, Stipa cernua, S. pulchra.	
Valley Oak Savannah	Not Defined	---	Not defined; see valley oak woodland above.	See valley oak woodland above. Savanna is typically found on deep alluvial soils in open areas	*Quercus lobata*, understory of native and non-native grasses: *Avena fatua, Bromus diandrus, B. mollis, B. rubens, Melica californica, M. imperfecta, Stipa cernua, S. pulchra*	Specific Plan area historically (1930s) the eastern terminus of a much more extensive grassland with valley oaks; none defined within Specific Plan area.

Along Medea Creek, sample plots yielded a mixed canopy primarily of arroyo willow, valley oak, coast live oak and black walnut ranging from 65-95% coverage of the uppermost canopy. Intermediary canopy plants were limited and sparse comprising primarily of arroyo willow and black walnut saplings. Other shrubs noted include coyote bush (*Baccharis pilularis*), poison oak (*Toxicodendron diversiloba*), gooseberry (*Ribes speciosum*) and California wild rose (*Rosa californica*). The herbaceous/graminoid ground layer lacked diversity and was dominated by either bare ground or non-native cheat grass. Other herbaceous plants noted, although comprising less than 5% coverage individually, included mugwort, azolla (*Azolla filiculoides*), Pacific rush (*Juncus effuses*), green bristlegrass (*Setaria viridis*) and smilo grass. Also noted on the creek banks was a large quantity of debris from previous year's flood events. Existence of channelized upstream management may be the cause of the excessive creek bank debris and lack of understory herbaceous/graminoid plants.

Based on the evaluation of these relevé surveys, habitats found along both Lindero Canyon Creek and Medea Creek can be classified as southern willow scrub as defined by Holland (1986) and/or arroyo willow series, specifically southern arroyo willow riparian as defined by Sawyer and Keeler-Wolf (1995). Within *The Vegetation Classification and Mapping Program; list of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* (CDFG, 2003) both the southern willow scrub (61.208.00) and the southern arroyo willow riparian (61.201.02) are listed as "a series or association considered rare and worthy of consideration by CNDDB (California Natural Diversity Database)." Both southern willow scrub and southern arroyo willow have a Global ranking of G3 and a State ranking of S2.1. With respect to the CWHR classification, these are considered tree-dominated habitats termed "Valley Foothill Riparian," which is inclusive of both riparian scrub and riparian forest.

Lindero Canyon Creek within the project site trends south-southeast from the northern boundary at Agoura Road west of Kanan Road to the southern end of the site. The southern willow scrub/southern arroyo willow riparian habitat is present along the full reach of Lindero Canyon Creek that transects the project site except for an approximate 150 ft section of paved channel south of Agoura Road. Medea Creek trends south-southwest within the project site from the northern boundary at Agoura Road east of Kanan Road to the intersection of Cornell Road and Cornell Way along the southern boundary. Medea Creek south of Agoura Road is restricted to a concrete drainage channel for approximately 600 feet. Southern willow scrub/southern arroyo willow riparian habitat is present from the end of the drainage channel to the southern boundary of Medea Creek within the Specific Plan area.

Valley needlegrass grasslands were delineated in three locations within the Specific Plan area. The first location (VN#1) was located south and east of the intersection of Agoura and Cornell Road. Quadrat samples of this small strip with *Nassella pulchra, Avena fatua*, and *Clarkia purpurea* indicated a mean percent coverage 19% Valley Needlegrass. This small strip of identifiable native grass dominance was only 719 square feet (sf), less than 0.02 acres in area, and is not mapped or considered further herein as it does not meet the minimum criteria size (0.25 acres) to qualify as a grassland.

The second location of Valley needlegrass grassland (VN#2) in Zone E was located directly north and downslope of VN#1, but substantially separated by non-native annual grassland. The surrounding areas within Zone E have previously been disturbed and invaded by non-

native oat, A*vena fatua.* VN#2 comprised 19,544 sf or 0.45 acres in area and was likely separated from VN#1 during clearance of the access road and fuel management areas within Zone E. The two grasslands are separated by roughly 140 feet of non-native annual grassland. Quadrat samples within VN#2 resulted in a mean 25% cover of Valley Needlegrass.

The third Valley Needlegrass grassland identified within the Specific Plan (VN#3) is located west of Kanan Road, south of the southern boundary of Zone B and the eastern edge of Zone G-B. It is important to note that the approval of the AVSP and certification of the FEIR by the City Council on June 14, 2006 included a change to the zone area map, consistent with implementation of Mitigation Measure BIO-1(A) in the FEIR, which shifts the line of Zone G (now G-B) to the north side of Lindero Canyon Creek. Therefore, the third Valley Needlegrass grassland would be protected from development. This map change was reflected in the Final AVSP, which was revised per the City Council's June 14, 2006 hearing and is incorporated in this analysis, as shown in Figure I-4. The grassland is located within Zone G-B, south of Zone B, between Lindero Canyon Creek and Kanan Road. The area of VN#3 was delineated as roughly 20,005 sf or 0.46 acres with a mean 32 % cover of Valley Needlegrass. Other species identified within the grassland included *Brassica nigra, Avena fatua, Marrubium vulgare,* and *Bromus diandrus.*

Valley Needlegrass Grassland is defined by Holland (1986) as a mid-height to two-foot tall grassland dominated by perennial, tussock-forming *Stipa pulchra (*synonym for *Nasella pulchra)*. Native and introduced annuals occur between the perennials, often actually exceeding the bunchgrasses in cover. Valley Needlegrass Grasslands are usually found on fine-textured, often clay, soils. These are usually moist or even waterlogged during winter, but very dry in summer. Characteristic species in this habitat throughout the state include: *Achillea borealis, Achyrachaena mollis, Agoseris heterophylla, Avena fatua, Bloomeria crocea, Brodiaea lutea, Bromus diandrus, B. mollis, B. rubens, Chlorogalum pommeridianum, Clarkia pupurea, Dodecatheon jefferyi, Melica californica, M. imperfecta, Orthocarups attenuatus, Plantago hookeriana californica, Poa scabrella, Stipa cernua, S. pulchra (Nasella pulchra).* The distribution for Valley Needlegrass grasslands is throughout the Los Angeles Basin.

Using CDFG's definition of a Native Grassland as having 10% or more relative cover of native grassland species and covering a minimum area of 0.25 acre, the grasslands delineated and sampled above would qualify as Native Grasslands. Given the dominance of *Nasella pulchra* and presence of other characteristic species *Avena fatua, Clarkia pupurea,* and *Plantago sp.*, two of the three grasslands noted above would be classified as Valley Needlegrass grassland.

Special-Status Plant Communities Not Observed During the 2007 and 2008 Surveys

A review of the spatial location of oaks within the Specific Plan area indicated that those located in Zone E and Zone B could fall within the classification definition of "savanna." It is noted that from a landscape perspective, the intermountain valley that comprises the center of the City of Agoura Hills and contains the drainages from Lindero, Medea, and Cheseboro Creeks probably historically consisted of riparian woodlands along the creeks with the deeper soils of the valley floor containing an oak woodland/savanna with open grasslands that gave way to mixed chaparral and coastal sage scrub on the thin soiled mountain slopes. The Wieslander Vegetation Type Map for Triunfo Pass (originally compiled in the 1930's; University of

California, 2005, http://vtm.berkeley.edu/about/) indicates that the area west of Medea Creek was grassland (Gr) with valley oaks (V) on the valley floor, while this grassland east of Medea Creek also contained coast live oak (A) and scrub oak (Qd) (Zone D and E area). While relatively narrow in the vicinity of the Specific Plan, this oak punctuated grassland extended westward and expanded substantially through the Russell Valley (now the City of Westlake Village). At the east end of the Specific Plan, this grassland terminated adjacent to cultivated land (Cu). The hillsides on the southeast side of the Specific Plan were dominated by chamise (Af), white sage (Sa), and buckwheat (Ef), while the hillsides southwest of Lindero Creek had chamise, scrub oak, grassland, and purple sage (Sl). The east facing hillside in the south end of the Specific Plan was dominated by chamise and buckbrush (Cc). Based on this historic mapping, the south portion of the Specific Plan (Zones A south, B, D, E, and F) was the southeastern terminus of a much larger oak savanna/woodland.

The understory throughout Zone E generally consisted of mildly to heavily disturbed native or non-native grasses and disked soils. These areas of disturbed soils were mapped using current and historical aerials of Zone E and recent disturbance extents. Their relative areas were calculated using ArcGIS Spatial Analyst. Two main areas of disturbance were calculated to total 3.42 acres, or 47% of the total area of Zone E (7.3 acres).

Results of an oak species inventory within Zone E identified 35 valley oaks and 16 coast live oaks. To determine their spatial grouping pattern, the average nearest neighbor distance was calculated using ArcGIS Spatial Analyst, and determined to be 17.4 feet. The analysis also determined that the trees in Zone E were grouped in a clustered manner, with less than 1% likelihood that the clustered pattern could be the result of random chance. Review of the mapped locations and based on the influence zone discussed above, four groups of oak trees were identified in Zone E, most of them along roadways and the Zone E boundary (Figure 2-2). Interspersed among these groupings of trees were occasional individuals and young recruits. Clusters or oak stands (more than three trees) were generally based on areas where tree canopy and understory were continuous. Where discing, disturbed soils, or discontinuous canopy separated trees, they were defined as isolates or as new stands consistent with the definition above because of changes in structural and compositional integrity. The following is a description of the oak tree density within each stand of trees and how these individual stands compare to the definitions of oak woodland or savanna.

Oak stand 1 is located at the intersection of Cornell and Agoura Roads and includes 11 valley oaks and two coast live oaks. The mapped area, including the influence zone of the oaks, is 0.35 acre. Several young valley oaks were noted in this area, along with an understory of native and non-native grasses and a mixed shrub cover (30-40% canopy cover) of scrub oaks, mountain mahogany, sagebrush, and poison oak. Disturbance within this cluster includes barren dirt adjacent to the roads and various amounts of litter amongst the shrubs. Based on the density of oaks and canopy cover, this group better fits the definition of "oak woodland" as compared to "savanna." However, as noted in the response to comments on the AVSP EIR, field reconnaissance suspected that these oaks have been exposed to extensive fire hazard clearance activities for several decades, including disking on at least an annual basis, which has removed much of the native understory in this vicinity and replaced it by weedy annuals. Immediately south of this stand is a large (1.9 acre) area of recently disked land that is continually subjected to fuel management. As such, it was determined that it would be inappropriate to characterize

these oaks as "oak woodland" since they have been largely reduced to landscaping status, especially those near the roadways. In addition, the open areas near the trees in this area was dominated by non-native weeds and given the constant disturbance regime, it was judged that this area was best characterized as "ruderal/disturbed" or "disked field" rather than grassland, which would be necessary to characterize an open oak woodland mixture with an understory of grasses as "savanna."

The second oak stand is located along the western boundary of Zone E, adjacent to and elevated above Cornell Road. The stand is 0.32 acres in area and includes seven valley oaks and two coast live oaks. The understory can generally be described as disturbed and includes mostly non-native grasses and disked land; however, the southeast portion of the cluster extends over an area with native grasses exceeding 10% cover. This small cluster is structurally different from the prior stand because of the lack of shrubs and generally meets the definition of "savanna" given the lack of shrubs and primary understory element of grassland, but because of the close density, it exceeds the 40% canopy cover criteria and so could therefore be defined as "Valley Oak Woodland." Similar to the first stand, this area has been subjected to long term disturbance, with most of the understory containing ruderal weeds, non-native grasses and a partially barren dirt access road. Again, these trees have been largely reduced to landscaping status and under existing conditions, do not have an ecological relationship as a "community."

The third stand is located just south of the existing residence along Agoura Road and is 0.58 acres. The cluster includes a large valley oak tree near the rear of the residential property with four additional coast live oaks nearby and five scrub oaks. Based on the canopy influence distance discussed in the methodology above, these are associated on the east with an additional valley oak, two live oaks and four scrub oaks. The understory has been partially cleared, particularly near the eastern valley oak, though some shrubs are present. Given the canopy coverage present in this cluster (53%) and presence of scrub oaks and other shrubs, it would be considered mixed oak woodland, not savanna, at this small scale. Ecologically, it is connected to the dense scrub oak chaparral community to the south outside of the Specific Plan area. It is also structurally and compositionally different from the other two stands.

The fourth stand is located at the eastern boundary of Zone E and includes two valley, one coast live oak, and a scrub oak in an area of 0.22 acres, though an additional two small valley oaks and a live oak are nearby, but generally associated with the adjacent scrub oak chaparral. This cluster is more open (about 45% canopy cover) with an understory of predominately annual grasses. This cluster of oaks is also adjacent to a residence, with the area immediately to the north recently disked for fuel management. This stand is compositionally similar to the third stand, but is structurally separated by the annual discing done for fuel management.

Several other, scattered valley oaks are also present in Zone E, including a cluster of four medium-sized trees (average DBH of 8 inches), but with a combined canopy spread of only 50 feet in diameter. These were not mapped as individual oak stands because of their small extent (less than 0.25 acres).

Although a native grassland is present within the central portion of Zone E, the grassland is disjunct from all but one of the oak stands. The native grassland extends under the canopy of only one valley oak tree. An examination of Zone E as a whole using ArcGIS Spatial Analysis

found that the oaks are clustered as compared to "widely spaced" (as contained in one of the definitions for savanna); and given the definitions provided above, the oak stands in this area are more similar to oak "woodlands" than "savanna." Nonetheless, if the isolated oaks and the oak stands are lumped together with the ruderal, non-native grasslands, and valley needlegrass grassland, the canopy coverage would be sufficiently reduced to meet the definition of "oak savanna," most specifically for those trees along the southeast boundary of the site (stands 3 and 4). However, even when these two stands are lumped together, the total amount of habitat is little more than one acre, which is not a viable size for long term ecological functioning as a "community." When Zone E is considered as a whole with the continuous and highly disturbed nature of the area, the distance between tree stands, and the disjunct understory of those trees within Zone E, the area fails to meet the definition of valley oak savanna or woodland. Rather, in our biological opinion, the habitats within this area are more readily defined as mostly isolated residual oak stands in the matrix of urban use, ruderal/disturbed lands, and grassland. In particular, those stands adjacent to the roadways and the residential uses have essentially been reduced to landscaping status because of the ongoing fuel management activities.

Valley oaks within Zone B located directly east and west of the ponded portion of Lindero Canyon Creek, just south of Agoura Road, were similarly assessed using the criteria described above. Those oaks located east of Lindero Canyon Creek are relatively clustered with a non-native, highly disturbed understory. This area has been subjected to weed control and random disposal of rock and fill dirt, structurally separating the individual oak stands. The southernmost stand located in Zone B (and closest to Lindero Canyon Creek) consists of four large trees and is roughly 0.25 acres in size. The second stand, directly to the north, is roughly 0.14 acres in size and is also comprised of four large trees. A third stand is located adjacent to Agoura Road with more than half of its canopy covering the road, making it also compositionally different from the other two stands. The distance between stands, the disturbed nature of their understory and the surrounding area has reduced these trees to landscaping status, insufficient in size to meet the definition of valley oak savanna or woodland. Rather, these groups of oaks are considered isolated residual oak stands, similar to those in Zone E. It is noted that similar to Zone E, if these three stands along with the disturbed understory were lumped together, they could be considered an oak "savanna," but would total only about 1 acre. As previously stated, this is not a viable size for long term ecological functioning as a "community," especially given its location adjacent to Agoura Road, the existing commercial development on the north side of Agoura Road and the disturbed nature of the surrounding area of Zone B.

A fourth stand, located west of Lindero Canyon Creek, is approximately 0.25 acres in size and separated by nearly 150 feet from the nearest other stand. Although a small dirt road is graded through this cluster of oaks, this stand more closely meets the definition of valley oak woodland as it has an open canopy, a more diverse and more or less natural understory, and still provides habitat value through its connectivity with the adjacent scrub oak chaparral. In our biological opinion this stand would not be considered a sensitive community (Valley Oak Woodland) due to its small size, but it harbors greater habitat values than the other noted oak tree stands.

Several oak trees are also located in Zone F, however, most of the trees are either distant from each other, or where grouped as stands, the stands was either isolated due to discing, disturbed

soils, or are adjacent to Agoura Road. Thus, these are also considered isolated residual oak stands. Specifically, the understory and surrounding ground cover along the western boundary of Zone F is disced regularly to maintain fire clearance around each of the trees shown. As the stands examined in Zone E are larger, more contiguous and have some native understory, and yet do not meet the criteria to be a "savanna community," the stands in Zone F can be ruled out as they exhibit even fewer qualifying characteristics as those stands analyzed in Zone E.

Other Communities Observed During the 2007 and 2008 Surveys

Results of an oak species inventory within Zone G revealed nearly 100 coast live oaks and 10 valley oaks within Zone G, south of Zone A (hereafter referred to as Zone G-A). This portion of Zone G-A appears to have been previously associated with Chesebro Creek and was possibly isolated from the riparian zone after the creek was channelized and merged with Medea Creek to the north of these trees. In the past, this area may have been classifiable as "Coast Live Oak Riparian Forest" (a sensitive plant community), and was mapped in the 2006 FEIR as "oak/willow woodland." Coast live oak (*Quercus agrifolia*) dominates this portion of Zone G-A (see Figure 4-1), and current studies found a poorly developed shrub understory of *Toxicodendron diversilobum* (poison oak), *Sambucus mexicana* (Mexican elderberry), and young oaks. Thus, the habitat along the south and eastern section of Zone G-A has been classified as [Southern] Coast Live Oak Woodland, which has a global ranking of G4 and a state ranking of S4 and, thus, is not considered a special-status community or habitat. Zone G-A would be protected under the Specific Plan as open space, and no significant impacts are anticipated to this community. In addition, another area of southern coast live oak woodland is located along the lower reaches of Lindero Canyon Creek within Zone G of the Specific Plan (see Figure 4-1), but outside the area mapped on Figure 2-3.

Extensive stands of scrub oak (*Quercus berberidifolia*) are located in the west end of the Specific Plan Area in Zone F and G-B. These stands are associated and intergraded with adjacent mixed chaparral, and have been classified as scrub oak chaparral under the Holland classification system. Although individual scrub oaks meeting the > 2" diameter at 3.5 feet above natural grade threshold are protected by City Ordinance, this chaparral as a plant community is common and is not considered a sensitive habitat (pure stands are ranked as G5/S5).

It should be noted that oak tree species within the City of Agoura Hills are protected under the City's Oak Tree Preservation Guidelines. The purpose of these guidelines is "to protect and preserve oak trees in recognition of their historical, aesthetic and environmental value to the citizens of Agoura Hills, present and future, and to provide regulatory measures designed to accomplish this purpose." The guidelines further state that it is "the policy of the City of Agoura Hills to require the preservation of all oak trees unless compelling reasons justify the removal of such trees. This policy shall apply to the removal, pruning, cutting and/or the encroachment into the protected zone of oak trees." Thus, it should be noted that in addition to protection measures set forth under the Agoura Village Specific Plan EIR for special status communities, oak trees are afforded individual review and protection under the City's Oak Tree Preservation Guidelines.

Impacts and Recommendations

2006 Agoura Village Specific Plan EIR

The 2006 Final EIR for the Agoura Village Specific Plan described known occurrences of valley needlegrass grassland and arroyo willow riparian woodland within the Specific Plan area. Approximately 0.2 acres of valley needlegrass was recorded in the 1996 Creekside EIR, south of Lindero Canyon Creek (AVSP EIR Figure 4.3-1). This stand of valley needlegrass grasslands was reported along the boundary of the Specific Plan area, between Lindero Canyon Creek and the open space of Ladyface Mountain. The EIR noted that the boundaries of this grassland may have changed within the Specific Plan area; however, the community was anticipated to still be present. Approximately 1.1 acres of southern arroyo willow riparian forest was recorded in the 1996 Creekside EIR, along Lindero Canyon Creek and noted in the 2006 EIR. Impact BIO-2 noted that potential development under the Specific Plan could result in the direct loss, degradation, and isolation of individuals within these community classifications, or indirectly cause a decrease in the community through the introduction of invasive species. The EIR found these potential impacts to be significant, but mitigable.

Although the Specific Plan would implement several general natural resource protection standards, build out under the proposed Specific Plan could potentially generate adverse impacts on valley needlegrass grasslands and southern arroyo willow riparian forest (=southern willow scrub). Therefore, in addition to those development standards outlined in the Specific Plan, the following mitigation measures were recommended in the EIR to reduce impacts to a less than significant level.

Mitigation Measure BIO-2(a) required that a buffer zone of 50-100 feet of native vegetation be maintained between urban development and other adjacent sensitive native habitats. Such vegetation should be sensitive to, and similar in nature to, the natural environment surrounding the sensitive native habitats. Further, equestrian trails shall be located no less than 10 to 20 (preferred) feet from the edge of the exterior riparian canopy. Mitigation Measures BIO-2(b) and (c) provide for the avoidance of Valley Needlegrass grasslands and Southern Arroyo Willow Riparian Forest. Prior to approval of individual development applications within the southern portion of the Specific Plan area, surveys for native grasslands shall be performed by a qualified Biologist. Where native grasslands are found the extent of their habitat shall be avoided unless the applicant provides substantial documentation that avoidance would not be feasible or would compromise the objectives of the Specific Plan. Avoidance shall be planned and enforced with a **Native Grassland Protection Program**. The protection program shall be submitted for review and approval as part of the application process with the City Planning and Development Department and would include mapping by a qualified biologist, fencing and protection measures proposed, and prohibition measures. If the applicant demonstrates that avoidance would not be feasible or would compromise the objectives of the Specific Plan, mitigation would be required if suitable habitat is present and can be isolated from human disturbance. In this event, a **Native Grassland Restoration Plan** shall be prepared and implemented.

The restoration plan shall be prepared by a qualified plant ecologist that identifies the location and acreage to be replanted and the methods that will be used to preserve this community in

that location. It is preferable to provide on-site mitigation, although offsite locations may be acceptable. The plan shall also include a monitoring program so that the success of the effort can be measured. The required level of success, at a minimum, shall be defined as a demonstration of three consecutive years of at least 50% native grass dominance within the mitigation area. Performance criteria, monitoring efforts, planting standards and target areas are also provided for offsite mitigation. The re-establishment of native grasslands in terms of cover has had varying success, and is highly dependent on appropriate initial weed control when converting non-native grasslands to native grasslands. Therefore, it is generally preferable to avoid and minimize impacts where feasible rather than compensate through restoration or re-vegetation of native grassland in another location. It is noted that where patches of habitat are isolated, restoration or revegetation of compensatory habitat in a protected area within a large preserve may be considered to have greater value.

Similarly, Mitigation Measure BIO-2(c) requires avoidance and protection of known sensitive riparian habitats onsite. If avoidance is feasible, a **Riparian Habitat and Creek Protection Program** shall be implemented in order to reduce impacts to this sensitive community. If the applicant demonstrates that avoidance would not be feasible or would compromise the objectives of the Specific Plan, on-site mitigation is preferred and shall be implemented through a **Riparian Habitat Restoration Plan**. The Riparian Protection Program shall be prepared by a qualified biologist and shall include specific measures as dictated by CDFG. The program shall, to the extent feasible, avoid encroachment into any riparian areas. The program requires at a minimum that habitat and fencing be done under the direction of a qualified Biologist, that construction personnel are informed of the sensitivity and location of riparian habitat, and that disturbance within the riparian zone is avoided.

If avoidance is not feasible, a restoration plan shall be prepared by a qualified plant ecologist. The preferred area to perform mitigation for the loss of riparian forest exists within the southern reach of the channelized and concrete lined portion of Medea Creek, located directly south of Agoura Road and also in the vicinity of Lindero Canyon Creek. If development were to encroach upon this sensitive community, the appropriate permits would be necessary from the Army Corps of Engineers, the California Department of Fish and Game, and the Los Angeles Regional Water Quality Control Board. Individual applicants for projects located south of Agoura Road and that contains riparian habitat areas, shall submit a riparian habitat restoration plan for review and approval by Agoura Hills Planning and Community Development Department and, as necessary, a City approved biologist or qualified landscape specialist, as part of the initial project application.

Riparian habitat shall be replaced at a minimum ratio of 2.0 acres for every 1.0 acre of riparian habitat lost. However, additional mitigation may be required by the CDFG. The restoration plans shall include performance criteria, monitoring efforts, planting standards and contingency planning. The required level of success, at a minimum, shall be defined as a demonstration of three consecutive years of growth of a population double the size of that which would be lost due to the project. The Riparian Habitat Restoration Plan shall be submitted for review and approval as part of the application process with the City Planning and Development Department. Riparian habitat establishment is feasible and documented, though success is dependent on appropriate design and adequate hydrology.

2007 and 2008 Findings

The following is a re-examination of the potential impacts to special-status plant communities within the Specific Plan area utilizing data collected during the 2007 and 2008 focused surveys.

As noted above, recent surveys confirmed habitats found along Lindero Canyon Creek can be classified as southern willow scrub as defined by Holland (1986) and/or arroyo willow series, specifically southern arroyo willow riparian as defined by Sawyer and Keeler-Wolf (1995). Surveys along Medea Creek found the habitat within this portion of the Specific Plan would also be classified as southern willow scrub and/or arroyo willow series, specifically southern arroyo willow riparian. The surveys confirmed the previous description and mapping of southern willow scrub/southern arroyo willow riparian along Lindero Canyon Creek. This habitat lies predominantly within Zone G-B and adjacent to the boundary of Zone B; however, mitigation measure BIO-2(a) of the AVSP EIR requires a 50-100 foot buffer between native vegetation and adjacent sensitive native habitats. Further, AVSP mitigation measure BIO-2(c) requires development and implementation of a riparian protection program to prevent disturbance within the riparian habitat. Thus, mitigation measures BIO-2(b) and BIO-2(c) as provided in the 2006 EIR would reduce impacts to this special-status community along Lindero Canyon Creek to a less than significant level.

The second area of riparian habitat, along Medea Creek, occurs completely within Zone G and would be protected as open space under the Specific Plan. This is the same area identified in the 2006 EIR. Mitigation measure BIO-2(b) further protects this riparian habitat by requiring a 50-100 foot buffer of native vegetation to be maintained between urban development and this recognized sensitive resource. Although this area would be protected as open space under the Specific Plan, mitigation measure BIO-2(c) should be expanded to include Medea Creek, such that a protection program would be required of adjacent development within Zone A south. The mitigation measure as provided in the 2006 EIR mentioned only Lindero Canyon Creek; however, the applicability of this measure for Medea Creek should be clarified.

Valley needlegrass grasslands were delineated in three locations within the Specific Plan area; however, only two locations met the size threshold to qualify as a grassland and the third area in Zone E was too small to be mappable as a grassland. The two areas delineated as meeting the definition and size threshold for Valley needlegrass grassland are described below.

The first location is within Zone E, located south of the oak tree cluster adjacent to Cornell Road and west of the dirt access road within this parcel. It is about 0.45 acres in area and is surrounded by non-native grassland to the south and west, and disked areas (ruderal field) to the north and east. AVSP EIR Mitigation Measure BIO-2(b) requires surveys for native grasslands be performed prior to approval of individual development applications, which would continue to be applicable to this parcel. The measure also requires avoidance, or replacement and restoration where avoidance is not feasible. Due to the location of this grassland, it will likely not be avoidable under feasible development scenarios in Zone E. Thus, a Native Grassland Restoration Plan would be required. This would require replanting, restoration, and monitoring with a minimum success of three years with at least 50% native grass dominance. Successful implementation of Mitigation Measure BIO-2(b) would reduce impacts to native grasslands to a less than significant level.

The other valley needlegrass grassland identified within the Specific Plan area is located west of Kanan Road, in Zone G-B. It is situated between Kanan Road and Lindero Canyon Creek, and comprises 0.46 acres with a mean 32 % cover of valley needlegrass. This grassland is thought to be either a translocated or previously unmapped portion of the grassland originally mapped in the Creekside EIR (1996) and referenced in the AVSP EIR (2006). The grassland mapped in the 1996 Creekside EIR was recorded south of Lindero Canyon Creek and totaled 0.2 acres in area, but the current surveys determined that this area is disturbed non-native grassland with adjacent chaparral, riparian scrub, and several oaks. It is possible that the original grassland was erroneously mapped, or activity in this area has replaced the former native grassland with one dominated by non-natives. The grassland delineated in 2007 is twice the size of the previously recorded population and is located in Zone G-B, adjacent to special-status southern willow scrub habitat along Lindero Canyon Creek. Due to its location in Zone G-B the grassland would be protected as open space under the Specific Plan.

Conclusion

Based on the findings of the 2007 and 2008 surveys, mitigation measures BIO-2(a) – BIO-2(c) would reduce impacts associated with special-status communities within the Specific Plan to a less than significant level. No additional mitigation measures are necessary.

In light of the new information presented above, the 2006 EIR impacts regarding sensitive plant communities and oak trees, Impacts BIO-1 and BIO-4 and BIO-6, would still be considered *significant but mitigable*. Although new studies during 2007 and 2008 redefined the boundaries of several plant communities onsite and identified previously unrecorded locations of protected plant communities, the mitigation measures in the Final 2006 EIR would guide the planning and development review process to reduce impacts to these occurrences to a less than significant level. However, to more accurately reflect the on-ground conditions, as described in the results of this study, the following illustrates the ameliorations proposed under each mitigation measure for finalization of the Agoura Village Specific Plan EIR. Deletions are shown with strikethrough and additions are shown in bold. Please note that the first paragraph of Measure BIO-2(b), added as part of the Final 2006 EIR, is no longer applicable based on the revision to the Zone G boundary that was incorporated into the Specific Plan per the June 14, 2006 City Council hearing.

BIO-2(a) **Buffer Zones. Except in cases of Lyon's pentachaeta and/or Agoura Hills Dudleya, which are addressed in MM BIO-1(a), a minimum** buffer zone of 50-100 feet of native vegetation shall be maintained between urban development and adjacent sensitive native habitats. **This includes those areas located along the unchannelized portions of Medea and Lindero Canyon Creeks within the Specific Plan boundaries.** Such vegetation should be sensitive to, and similar in nature to, the natural environment surrounding the sensitive native habitats. **A minimum buffer of 50 feet (or greater if required by the CDFG) from the top of bank and/or edge of riparian cover (whichever is greater) shall be established for the protection of southwestern pond turtle where preferred nesting habitat (exposed, southerly-facing slopes vegetated with open scrub or sparse grassland**

vegetation, dense soils with a high silt and clay fraction, and less than 25% slope) is present. No heavy equipment or ground disturbance shall enter the buffer zone during the nesting period of SWPT (April-August). Further, equestrian trails shall be located no less than 10 to 20 (preferred) feet from the edge of the exterior riparian canopy.

BIO-2(b) ~~**Valley Needlegrass**~~ **Native Grassland Protection.** ~~As noted under Mitigation Measure BIO-1(a), due to the sensitivity of the western portion of the Specific Plan area, the Specific Plan shall be revised to include a policy prohibiting development within that portion of Zone B south of Lindero Canyon Creek. This would further avoid direct impacts to a known population of valley needlegrass grasslands.~~

~~However, in addition,~~ Prior to approval of individual development applications within the southern portion of the Specific Plan area, surveys for native grasslands shall be performed by a qualified biologist (with acceptance by the City Planning and Community Development Department Staff). If native grasslands are found, avoidance shall be required unless the applicant provides substantial documentation that avoidance would not be feasible or would compromise the objectives of the Specific Plan. Avoidance shall be planned and enforced with a **Native Grassland Protection Program**. If the applicant demonstrates that avoidance would not be feasible or would compromise the objectives of the Specific Plan, on-site mitigation would be required if suitable habitat is present and can be isolated from human disturbance. In this event, a **Native Grassland Restoration Plan** shall be prepared and implemented.

Native Grassland Protection Program. If native grasslands are found onsite and avoidance is feasible, a native grassland protection program shall be prepared by a qualified biologist. The protection program shall be submitted for review and approval as part of the application process with the City Planning and Development Department. In addition, final plans shall be subject to review and approval by the City Planning and Community Development Department prior to issuance of a grading permit. The protection program shall include, but not be limited to, the following components:

- A qualified biologist shall map the current extent of habitat; and
- The location of native grassland habitat outside of the construction footprint shall be fenced in the field. Fencing shall be depicted on final grading and building plans. The location of the habitat and fencing shall be done under the direction of a qualified biologist (with acceptance by the City Planning and Community Development Department Staff); and
- All ground disturbances, including grading for buildings, accessways, easements, subsurface grading, and utilities shall be prohibited within the fenced native grassland area.

Native Grassland Restoration Plan. If avoidance is not feasible, on-site mitigation is preferred if suitable habitat is present that can be isolated from human disturbance. In this event, a restoration plan shall be prepared by a qualified plant ecologist that identifies the location and acreage to be replanted and the methods that will be used to preserve this community in that location. The plan shall also include a monitoring program so that the success of the effort can be measured. The required level of success, at a minimum, shall be defined as a demonstration of three consecutive years of at least 50% native grass dominance within the mitigation area. If off-site mitigation is proposed, the Ladyface Mountain Specific Plan area may contain appropriate habitat and may be a preferred location. Restoration efforts shall be coordinated with applicable federal, state, and local agencies (including LA County Fire Department). The restoration plan shall be submitted for review as part of the application process with the City Planning and Development Department. In addition, final plans shall be subject to review and approval by the City Planning and Development Department prior to issuance of a Grading Permit. ~~The Grassland Restoration Plan shall include, but not be limited to, the following components:~~

~~Individual applicants of projects located south of Agoura Road shall submit a Native Grassland Restoration Plan for review and approval by the Agoura Hills Planning and Development Department staff, the Los Angeles County Fire Department, and as necessary, City approved biologist or qualified landscape specialist.~~ Native grassland habitat shall be replaced at a minimum ratio of three to one for native grassland lost and shall utilize native species from onsite habitats. Target sites for mitigation plots shall be sampled for soil type and habitat criteria sufficient for the establishment and growth of the native grassland lost. No species identified as invasive on the CNPS, Channel Islands Chapter Invasive Plants List (1997) shall be utilized in the landscape plans. The plan shall include, but not be limited to, the following components:

- Performance criteria (i.e., what is an acceptable success level of revegetation to mitigate past impacts);
- Monitoring effort (i.e., who is to check on the success of the revegetation plan, and how frequently);
- Contingency planning (i.e., if the effort fails to reach the performance criteria, what remediation steps need to be taken);
- Irrigation method/schedule (i.e., how much water is needed, where, and for how long);
- Plant species, seed mixes, weed suppression and planting methodology

From preliminary observations, it appears that potential target areas to perform mitigation for the loss of native grassland exist on the northern

slopes of Ladyface Mountain, within the open space of Zone G **(the area formerly identified in the 1996 Creekside EIR as valley needlegrass grassland and located south of Lindero Canyon Creek)** in the southwest corner of the Specific Plan boundary. These areas need testing to confirm that they meet the soil and habitat requirements for native grassland species. If sufficient mitigation area does not exist onsite, off site mitigation or in lieu fees to an off site local or regional mitigation bank acceptable to the City of Agoura Hills shall be done.

BIO-2(c) **Southern ~~Arroyo~~ Willow ~~Riparian Forest~~ Scrub/ Southern Arroyo Willow Riparian Protection.** Based on a review of pending development applications near Lindero Canyon Creek, it is anticipated that the existing **southern willow scrub/** southern arroyo willow riparian ~~forest~~ may be ~~heavily~~ encroached upon; however, avoidance of these areas is required. If avoidance is feasible, the following **Riparian Habitat and Creek Protection Program** shall be implemented in order to reduce impacts to this sensitive community. If the applicant demonstrates that avoidance would not be feasible or would compromise the objectives of the Specific Plan, on-site mitigation is preferred and shall be implemented through a **Riparian Habitat Restoration Plan,** as outlined below.

Riparian Habitat and Creek Protection Program. A riparian habitat and creek protection program shall be prepared and implemented for any future developments proposed within the Specific Plan area adjacent to Lindero Canyon or Medea Creeks. These shall be prepared by a qualified biologist **(with acceptance by the City Planning and Community Development Department Staff)** and shall include specific measures as dictated by CDFG. The program shall, to the extent feasible, avoid encroachment into any riparian areas. The program shall include, but not be limited to, the following components:

- Riparian areas shall be indicated and fenced off on all grading and construction plans. The location of the habitat and fencing off shall be done under the direction of a qualified **biologist (with acceptance by the City Planning and Community Development Department Staff)**. Construction personnel shall be informed of the sensitivity and location of riparian habitat on the project site; and
- All ground disturbances including grading for buildings, accessways, easements, subsurface grading, and utilities shall be prohibited within the fenced riparian area.

The protection program shall be submitted for review as part of the application process with the City Planning and Community Development Department. In addition, the final plans shall be subject to review and approval by the City Planning and Community Development Department prior to the issuance of a Grading Permit.

Riparian Habitat Restoration Plan. However, if avoidance is not feasible, on-site mitigation is preferred over off-site mitigation but both mitigation measures could be effective at reducing the impacts to less than significant. If avoidance is not feasible, a restoration plan shall be prepared by a qualified plant ecologist. The preferred area to perform mitigation for the loss of riparian forest exists within the southern reach of the channelized and concrete lined portion of Medea Creek, located directly south of Agoura Road and also in the vicinity of Lindero Canyon Creek. If development were to encroach upon this sensitive community, the appropriate permits would be necessary from the Army Corps of Engineers, the California Department of Fish and Game, and the Los Angeles Regional Water Quality Control Board. Individual applicants for projects located south of Agoura Road and that contain riparian habitat areas, shall submit a Riparian Habitat Restoration Plan for review ~~and approval by Agoura Hills~~ **by the City** Planning and Community Development Department and, as necessary, a City approved biologist or qualified landscape specialist, as part of the initial project application. Riparian habitat shall be replaced at a minimum ratio of 2.0 acres for every 1.0 acre of riparian habitat lost. However, additional mitigation may be required by the CDFG. The restoration plans shall include, but not be limited to, the following components:

- Performance criteria (i.e., what is an acceptable success level of revegetation to mitigate past impacts);
- Monitoring effort (i.e., who is to check on the success of the revegetation plan, and how frequently);
- Contingency planning (i.e., if the effort fails to reach the performance criteria, what remediation steps need to be taken); and
- Irrigation method/schedule (i.e., how much water is needed, where, and for how long).

The required level of success, at a minimum, shall be defined as a demonstration of three consecutive years of growth of a population double the size of that which would be lost due to the project. ~~The Riparian Habitat Restoration Plan shall be submitted for review as part of the application process with the City Planning and Development Department.~~ **The final restoration plan shall be subject to review and approval by the City Planning and Community Development Department prior to Grading Permit issuance**.

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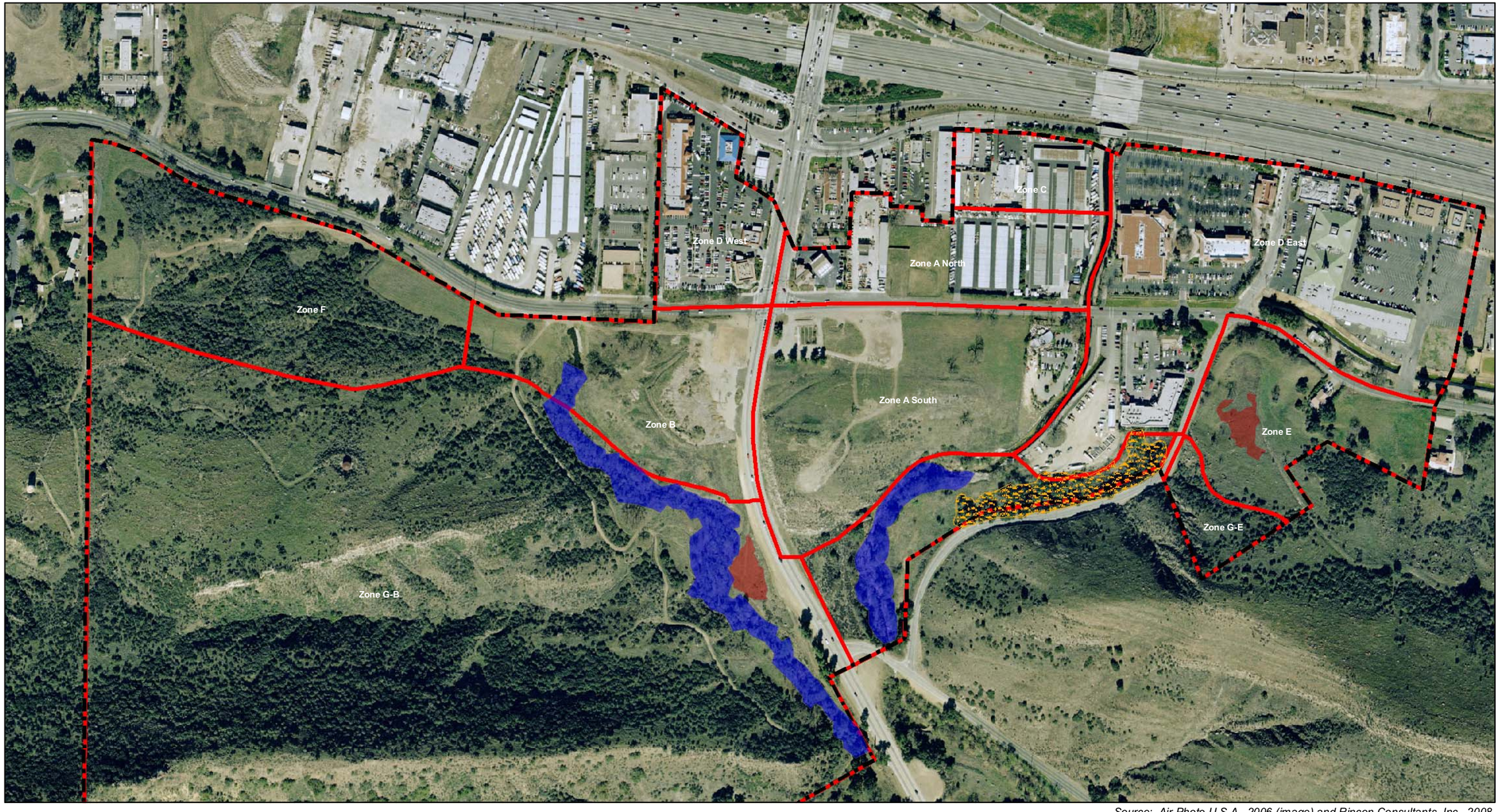
Attachment: *Figure 2-1 2007 Survey Results for Special-Status Communities*
Figure 2-2 Zone E Vegetation Mapping
Figure 2-3 2007 Vegetation Mapping and Community Results



Legend

Plan Area Boundary
Zones
Coast Live Oak Woodland
Southern Willow Scrub/Southern Arroyo Willow Riparian
Valley Needlegrass Grassland

Source: Air Photo U.S.A., 2006 (image) and Rincon Consultants, Inc., 2008.

N

0 250 500 Feet

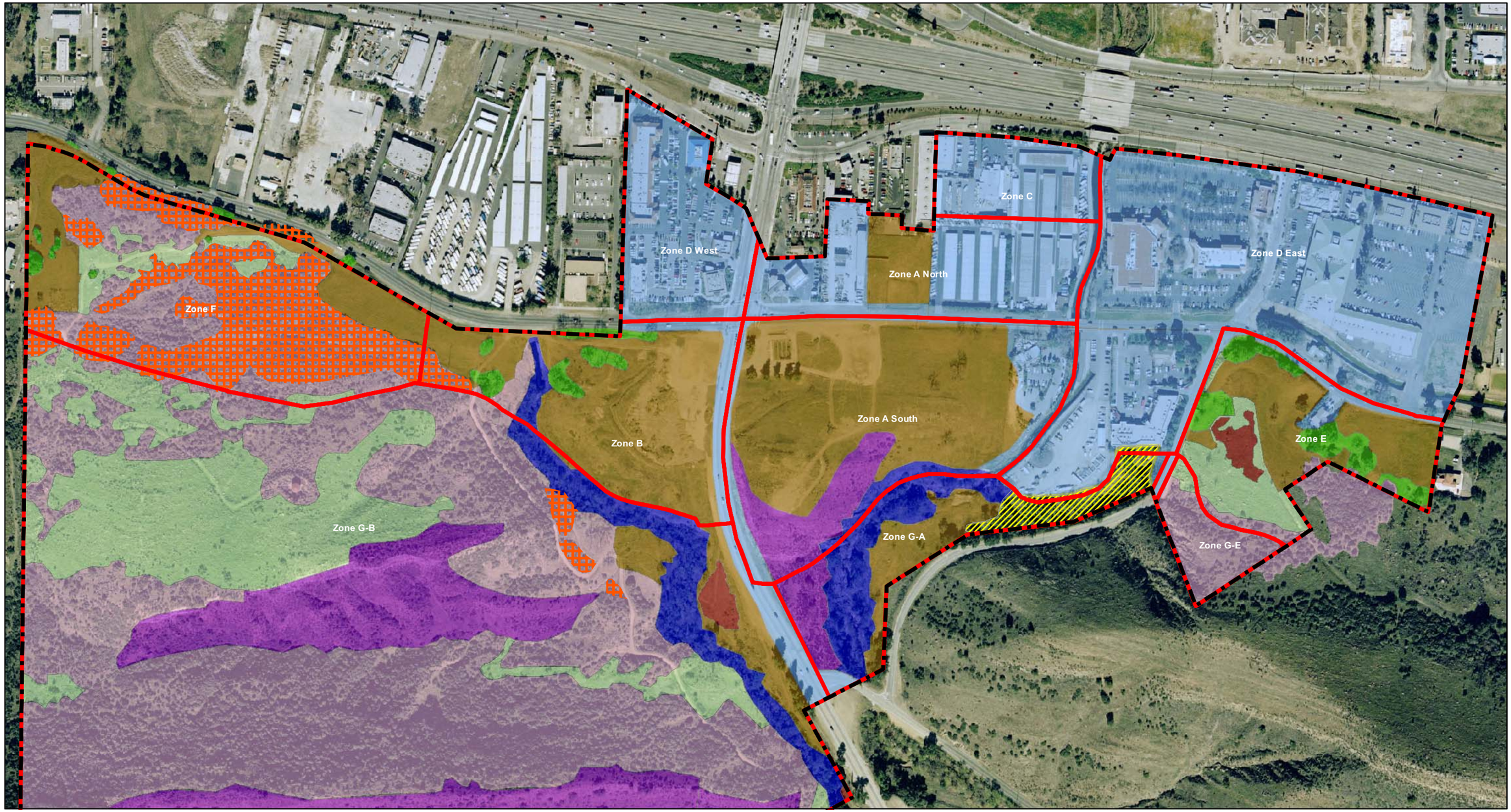
Special-Status
Plant Communities

Figure 2-1

Source: Air Photo U.S.A., 2006 (image), Rincon Consultants, Inc., 2008.

Zone E
Vegetation Mapping

Figure 2-2



Legend

Plan Area Boundary
Zones

Vegetation Types

Coastal Sage Scrub
Developed/Ornamental
California Annual Grassland
Scrub Oak Chaparral
Mixed Chaparral
Oak Stand
Coastal Live Oak Woodland
Southern Willow Scrub/Southern Arroyo Willow Riparian
Ruderal/Disturbed
Valley Needlegrass Grassland

N

0 250 500 Feet

Source: Air Photo U.S.A., 2006 (image), Rincon Consultants, Inc., 2008.

Vegetation Map

Figure 2-3

Section 3

Special-Status Wildlife Surveys

SECTION 3 – SPECIAL STATUS WILDLIFE SURVEYS

Purpose

Rincon Consultants conducted special-status wildlife surveys in response to a Writ of Mandate issued by the Superior Court of California, County of Los Angeles in the case of Mary Altmann vs. City of Agoura Hills. The intent of these surveys was to determine the presence or absence of special-status wildlife within the Specific Plan area. The special-status species targeted in this series of surveys were identified as potentially occurring onsite in previous studies of the area: the California Natural Diversity Database (CNDDB, 2007), CDFG Biogeographic Information and Observation System (BIOS), previous biological surveys (prepared for the Ladyface Mountain Specific Plan, the Creekside Center EIR, the Agoura Village Specific Plan EIR, the City's General Plan EIR, and E.F. Moore & Company development proposal), as well as from public input regarding the Agoura Village Specific Plan EIR (Rincon Consultants, 2006), and general knowledge of the area. The survey was also intended to identify any other special-status species with the potential to occur within the Plan area.

Methodology

Special-status species assessed for the potential to occur onsite for this study include those wildlife species listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (ESA); those listed or proposed for listing as rare, threatened, or endangered by the CDFG under the California Endangered Species Act (CESA); and those listed as Special Animals (SA), California Fully Protected (CFP), or California Species of Special Concern (CSC) by the CDFG.

Rincon biologists surveyed the site for special-status and general wildlife species in 2007 on May 24, 25, June 14, 15, 18, 27, and July 2 and 3, and in 2008 on May 21 and 22. Surveys were performed throughout the undeveloped portions of the Specific Plan area (Zones A south, B, E, F, and G), focusing on riparian zones within Lindero Canyon and Medea Creeks, as well as zones proposed for development and adjacent areas within the proposed open space zones (Zone G, hereafter referred to as Zone GB, Zone GA, and Zone GE) (Figure I-3). The general surveys were conducted by Rincon biologists John Davis IV, John Dreher, Julie Broughton, Lacrissa Cook, and Jennifer Turner under the direction of Duane Vander Pluym. Resumes for these key technical staff are provided as an attachment to this document.

A general inventory of wildlife observations was recorded concurrently with other surveys being performed throughout the Specific Plan area. Observations were either verified in the field or re-visited during specific focused surveys (i.e. stream surveys, bird surveys, or mammal trapping) for confirmation. Wildlife observed during special-status plant surveys, special-status community surveys, and during the oak tree inventory were recorded as part of the wildlife inventory.

Detailed surveys of Lindero Canyon Creek and Medea Creek were performed on June 14, 15, and 18, 2007 by biologists John Dreher, Lacrissa Cook, and Jennifer Turner. The focus of surveys was southwestern pond turtle (*Clemmys marmorata pallida)*, California red-legged frog

(*Rana [auroura] draytonii)*, and two-striped garter snake (*Thamnophis hammondii)*. Biologists surveyed the entire length of each stream within the Specific Plan area on June 14 and 15, 2007 between 7 am and 11 am, predominantly from the bank. Stream sections with steep banks or dense riparian overstory, where visibility from the bank was poor, were surveyed from within the stream. A spot check of the previous observation locations was performed from the bank on June 18, 2007, prior to additional upland wildlife surveys that day.

Additional specific bird surveys were performed by two ornithologists, Jennifer Turner and David Vander Pluym, on July 2 and 3, 2007. The focus of the surveys was to determine the presence or absence of the special-status bird species with the potential to occur within the area. Surveys were conducted along line transects adjacent to both Lindero Canyon Creek and Medea Creek. Surveys were conducted between 6 am to 9 am. Observers stopped at regular intervals to listen and look for species occurrences in adjacent scrub and grassland habitats. Identification was based on auditory and/or visual confirmation.

Small mammal trapping was performed to determine whether San Diego desert woodrat (*Neotoma lepida intermedia*), southern grasshopper mouse (*Onychomys torridus ramona*), or other special-status mammals were present onsite. Trapping occurred on the nights of June 27 and July 2, 2007 and were conducted by Michelle Tollett, Jennifer Turner, Duane Vander Pluym, and David Vander Pluym (Appendix A). Trapping was focused within areas where woodrat nests had previously been observed, near Lindero Canyon Creek, Medea Creek, and under oaks east of the intersection of Agoura Road and Cornell Road. Additional traps were set along the grassland fringe near the southern boundary of Zone E. Traps were set each night beginning at dusk and were left overnight and collected at dawn the following morning. Traps used included Havahart traps (model 1077 – open mesh wire trap for medium-sized mammals), small Sherman traps (model LFA), and large Sherman traps (model XLK). Two trap lines were set per day, and all traps were used each day (4 Havahart traps, 30 small Sherman traps, and 27 large Sherman traps) (Appendix A). Various baits used included bird seed, peanut butter, celery, carrots, crackers, chicken fingers, and oatmeal. Mixed bird seed and oatmeal was used in every trap, while celery, carrots, crackers, and peanut butter were typically used in the Havahart traps. No traps were lost, carried off, or visibly moved. After the traps were set in the evening (around 8:30 pm), the general vicinity was checked visually for the presence of any flying bats.

Rincon purchased recent (February 2006) one-foot resolution color aerial imagery of the Specific Plan area. This was used during the field surveys to assist in mapping the onsite habitat types and any observed special-status wildlife occurrences. In addition, a Trimble® GTX, with sub-meter accuracy, and a Garmin™ GPSmap 76 were used to locate special-status wildlife observations and assist in determining the extent of the survey area.

All wildlife species observed onsite that were identifiable were recorded. Unknown insect taxa observed in the field that had the potential to be special-status were collected and brought to the laboratory for identification. Specifically, striped slant-faced grasshopper (*Amphitornus coloradus*) and an unidentified grasshopper (Family Acrididae, mid-instar, identifiably not Santa Monica Mountains grasshopper [*Trimerotropis occidentaloides*]) were keyed to the greatest extent possible in the field and collected for confirmation by other sources.

Results and Discussion

The Specific Plan area is composed primarily of developed (Zones A north, D east, D west, and C) and disturbed lands (Zones A south, B, E, and F). Areas located along the southern and southwestern boundaries of the AVSP area are undeveloped and relatively natural (proposed open space Zone G). As noted in the 2006 AVSP EIR, classification of habitat types or vegetation communities is based generally on the California Wildlife Habitat Relationship System (WHR), Holland (1986), and Sawyer and Keeler-Wolf (1995). The WHR defines habitats based on the composition and structure of the dominant vegetation of any given area and provides generalized information pertaining to wildlife value and use of these habitat types. The dominant vegetation within the Specific Plan was delineated in the 2006 EIR and reassessed during recent surveys. Figure 3-1 illustrates vegetation as it was delineated in the 2006 EIR and Figure 3-2 illustrates minor modifications to these layers based on the 2007 survey results. These communities are the basis for the habitat categories found within the Specific Plan: aquatic, coastal scrub and chaparral, grassland, oak woodland and developed. Detailed descriptions of each of these habitat categories and their associated wildlife are provided in the 2006 AVSP EIR.

Special-Status Wildlife Species. Based upon a search of the CNDDB database and previous studies within the area, 20 species have the potential to occur onsite (Figure 3-3). Twelve special-status species were seen during the 2007 and 2008 surveys. No federally or state rare, threatened or endangered species were seen at the project site. One Fully Protected species, white-tailed kite, was observed foraging over the project site.

Special-status species observed on the project site included southwestern pond turtle (*Clemmys marmorata pallida*, CSC), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*, WL), oak titmouse (*Baeolophus inornatus*, SA while nesting), Allen's hummingbird (*Selasphorus sasin*, SA while nesting), Nuttall's woodpecker (*Picoides nuttallii*, SA while nesting), Cooper's hawk (*Accipiter cooperi*, WL), great egret (*Ardea alba,* rookery is SA), great blue heron (*Ardea herodias*, rookery is SA), white-tailed kite (*Elanus leucurus*, CFP), and American bittern (*Botaurus lentiginosus*, SA while nesting). Western whiptails (*Aspidoscelis tigris*) were observed at the site in 2007 and 2008, however, they were not captured and could not be identified to subspecies. The project site lies within the overlap zone between the coastal western whiptail (*A. t. stejnegeri*, SA) and the more common California whiptail (*A. t. mundus*) (Stebbins, 2003). For the purpose of this analysis, it is assumed that the subspecies present could be *A. t. stejnegeri.* Although a large number of these species were seen in the proposed open space area (Zone G), pond turtle, western whiptail, southern California rufous-crowned sparrow, Allen's hummingbird, Nuttall's woodpecker, oak titmouse, great egret, white-tailed kite, and Cooper's hawk were observed in the zones proposed for development. Table 3-1 presents legal status and relevant ecological and range information for those special-status species with the potential to occur onsite and the location of those species found within the Specific Plan area. Descriptions provided by the CDFG Habitat Conservation Planning Branch of life history and habitat requirement for each species is provided on the following pages. Figure 3-4 illustrates the location of those special-status species observed within the Specific Plan. Please note that the locations of wildlife shown on the figure are approximate, and that wildlife are highly mobile and will move about extensively within preferred habitat.

Table 3-1 Special-Status Wildlife Species Potentially Occurring in the Agoura Village Specific Plan Area

Scientific Name	Common Name	Status Federal/State/ Global, State Ranking	Habitat Requirements	Project Site Suitability
Accipiter cooperii	Cooper's hawk	None/ WL/ G5S3	Open woodlands, nests in large trees in riparian areas and oak woodlands.	Potentially breeds in riparian woodlands in Zone G; forage throughout Specific Plan area; observed during 2007 surveys onsite;
Accipiter striatus	Sharp-shinned hawk	None/WL/ G5S3	Roosts in intermediate to high-canopy forest; nests in dense, even-aged, single-layered forest canopy; winters in woodlands.	Project area in known wintering, but not breeding, range.
Aquila chrysaetos	Golden eagle	None/WL, FP/G5S3	Rolling foothills, mountain areas, sage-juniper flats, desert. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Suitable nesting habitat lacking within Specific Plan area, could forage on-site.
Ardea alba	Great egret	None/ SA (rookery site)/G5S4	Common resident throughout most of California; feeds in shallow water and along shores, in cropland and pastures; nests in large trees in mixed species colonies that are limited in distribution.	Observed in suitable foraging habitat in open portion of Zone B; no nesting colonies present.
Ardea herodias	Great blue heron	None/ SA (rookery site)/G5S4	Common throughout most of California in wetlands, croplands, irrigated pasture and in urban areas with open water; nests in large trees in mixed species colonies that are limited in distribution.	Observed in suitable foraging habitat in Zone G; no nesting colonies present.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL/ G5S2.5	Coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Observed, potentially nesting, during 2007 surveys onsite.
Athene cunicularia	Burrowing owl	None/CSC/ G4S2	Burrow sites are open, dry annual or perennial grasslands, deserts & scrublands characterized by low growing vegetation.	No burrowing owls have been observed in the Specific Plan area.
Baeolophus inornatus	Oak titmouse	None/SA (nesting)/ G5S3	Found primarily in oak or oak-pine woodlands of the Pacific slope; non-migratory; nest in natural or woodpecker-excavated cavities.	Observed during 2007 and 2008 surveys onsite.
Botaurus lentiginosus	American bittern	None/SA (nesting)/ G4S3	Uses wetlands with tall, emergent vegetation; cryptic; breeds in freshwater wetlands from the mid-United States to northern Canada.	Observed during 2007 surveys onsite.
Aspidoscelis tigris stejnegeri	Coastal western whiptail	None/SA/ G5S2.5	Deserts and semiarid areas with sparse vegetation and open areas, woodlands and riparian areas. Firm soil; sandy or rocky.	Suitable habitat on-site. Potentially observed during 1993, 2007, and 2008 surveys.
Elanus leucurus	White-tailed kite	None/FP/ G5S3	Riparian woodlands near agricultural fields, forages over open grasslands and scrub.	Seen onsite during 2007 surveys.
Actinemys marmorata pallida	Southwestern pond turtle	None/CSC/ G3.5S2	Inhabits permanent or nearly permanent bodies of water in many habitat types; below 6,000 feet. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks. Needs suitable nesting sites.	Observed during 2007 surveys onsite.

Table 3-1 Special-Status Wildlife Species Potentially Occurring in the Agoura Village Specific Plan Area

Scientific Name	Common Name	Status Federal/State/ Global, State Ranking	Habitat Requirements	Project Site Suitability
Euderma maculatum	Spotted bat	None/CSC/ G4S2.5	Forages in a variety of habitats; roosts strictly in cliffs.	Although few crevices observed, may roost in steep cliff area in Zone A, but no bat sign observed; may forage onsite.
Eumops perotis	Western mastiff bat	None/CSC/ G5S3	Forages in woodlands; roosts in crevices in cliff faces, trees, & tunnels 30-80' above ground; breeds March-June; found 1,000-8,500 feet.	Potentially forages through project area; potentially roosts in riparian area, oak woodland, and scattered trees; documented 1 mile south of site.
Gila orcutti	Arroyo chub	None/CSC/ G2S2	Slow water stream sections with mud or sand bottoms. Slow moving streams with typical water depth of 40 cm (15.75 inches of water). Feeds on aquatic vegetation.	Suitable aquatic habitat not present on-site.
Myotis yumanensis	Yuma myotis	None/CSC/ G5S4	Forages in riparian areas; open forests and woodlands are optimal habitat; roosts in caves, crevices or in buildings.	Although few crevices observed, may use riparian areas in Lindero and Medea Creeks to forage.
Phrynosoma coronatum blainvillei	San Diego horned lizard	None/CSC/ G4.5S3.5	Coastal sage scrub and chaparral in arid and semi-arid climate. Prefers friable, rocky or shallow sandy soils.	Suitable habitat present on-site.
Picoides nuttallii	Nuttall's woodpecker	None/SA (nesting)/ G5S	A year-round resident of oak woodlands in most of the west half of California; sometimes uses riparian or conifer forests;	Observed potentially nesting during 2007 surveys onsite; Observed during 2008 surveys onsite..
Polioptila californica californica	Coastal California gnatcatcher	FT/CSC/ G3S2	Obligate, permanent resident of coastal sage scrub. Low coastal sage scrub in arid washes, on mesas and slopes. Below 2500 feet in southern California.	Species unlikely to occur on site, nearest verified sightings in Thousand Oaks area; not known to occur in this portion of Santa Monica Mts; nearest critical habitat located 7.5 miles to northwest.
Rana auroura draytonii	California red-legged frog	FT/CSC/ G4S2	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Potentially suitable habitat is present within the project area; however, no individuals have been observed within the Specific Plan boundaries.
Selasphorus sasin	Allen's hummingbird	None/SA (nesting)/G5 SNR	Open coniferous forests and riparian woods; migrants common in many habitats, especially mountain meadows.	Observed during 2008 surveys onsite.
Thamnophis hammondii	Two-striped garter snake	None/CSC/ G3S2	Aquatic. Found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Suitable aquatic habitat present within the project area. Observed nearby during 1989 survey.
Trimerotropis occidentaloides	Santa Monica Mountains grasshopper	None/SA/ G1.5S1.5	Known only from the western Santa Monica Mountains in Los Angeles and Ventura Counties; has been found on bare hillsides and along dirt trails in chaparral	Although potential habitat exists, not seen onsite, but could occur onsite.

Source: California Department of Fish and Game, *Special Animals*, February 2008; CNDDB Rarefind 5-mile search radius, March 2007

CSC = California Species of Special Concern
FSC = Federal Species of Special Concern
FP = State Fully Protected
None = no status
SE = State Endangered
FE = Federally Endangered
SR = State Rare
WL = State Watch List
ST = State Threatened
FT = Federally Threatened
SA = California Special Animal

Ranking Explanation:
G1 = Extremely endangered: <6 viable occurrences or <1,000 individuals, or < 2,000 acres of occupied habitat

G2 = Endangered: about 6-20 occurrences or 1,000 - 3,000 individuals, or 2,000 to 10,000 acres of occupied habitat
G3 = Restricted range, rare: about 21-80 occurrences, or 3,000 – 10,000 individuals, or 10,000 – 50,000 acres of occupied habitat
G4 = Apparently secure; some factors exist to cause some concern such as narrow habitat or continuing threats
G5 = Demonstrably secure; commonly found throughout its historic range
S1-S5 = Same general definitions as global ranks but for CA species or subspecies only

Special-Status Species Observed During the 2007 and 2008 Focused Surveys

Aspidoscelis tigris stejnegeri - **Coastal Western whiptail** is a fast-moving species that prefers sparsely vegetated areas and sandy areas along gravelly arroyos or washes. They are typically not found in dense grassland. The diet of coastal whiptail consists of grasshoppers, beetles, ants, termites, and insect larvae. Reproduction typically occurs between April and August. The range of coastal whiptail extends from southern California and the eastern-most edge of the desert regions into Baja, California (Stebbins 2003). Individuals occur from sea level to 7,000 feet elevation in semi arid habitats. Three different whiptails were observed at the same location on different survey days (two on one day, one larger one the second day) on the west side of Kanan Road at the edge of Zone G in 2007, and two whiptails were observed in Zone F in 2008 (Figure 3-4). Identification of the subspecies requires extensive study, often including comparing the animal to museum specimens; therefore, the whiptail was not identified to subspecies onsite. The project site is within the overlap zone for two subspecies, the coastal whiptail and the common California whiptail (*Aspidoscelis tigris mundus*). A review of the California Academy of Sciences online Collection Catalogue provided no accounting of specimens within the area. Therefore, the specific subspecies present is unknown.

Actinemys marmorata pallida - **Southwestern pond turtle** is an aquatic turtle that prefers slack or slow water ponds, marshes, rivers, streams, and irrigation ditches with rocky or muddy bottoms and suitable basking sites (CDFG, 1994; Stebbins, 2003). Females emigrate to upland areas between 700 to 1,000 feet from aquatic sites to lay eggs between the months of April and August. Southwestern pond turtles require an upland oviposition site in the vicinity of the aquatic site (Holland 1991b). Suitable oviposition sites must have the proper thermal and hydric environment for incubation of the eggs. Nests also are typically located on a slope that is unshaded that may be at least in part south-facing, probably to ensure that substrate temperatures will be high enough to incubate the eggs (Rathbun et al. 1993). How close the aquatic site is to the nesting site probably depends largely on the availability of suitable nesting sites adjacent to aquatic sites where southwestern pond turtles are known to occur because the array of features that make a nesting site suitable may significantly limit the availability of such sites. The nesting site can be up to 1300 ft from the aquatic site (Storer 1930), but the majority of nests located to date are within 650 ft (D. Holland, pers. comm.). However, at localities with less gradient, soil moisture gradients and soil type may cause nesting sites to be located at a significantly greater distance than where the majority are located. Slope of the nest sites range up to 60%, but most nests are on slopes < 25%. Hatchlings require shallow water habitat in their first year with dense submergent or short emergent vegetation.

Southwestern pond turtles are known to feed on relatively slow-moving aquatic invertebrates (e.g., the larvae of many aquatic insects) and carrion, although aquatic vegetation may be eaten (Holland 1985a, Bury 1986, Baldwin and Stanford 1987). The range of southwestern pond turtles extends from Washington into northern Baja California, Mexico, generally occurring in coastal environments within an elevational range from near sea level to ca. 4,700 ft (Jose Basin

Creek, Fresno County; D. Holland, pers. comm.). Western pond turtle populations are currently declining throughout most of their range.

Seven individuals were observed within the Specific Plan area, three within Lindero Canyon Creek in Zones B and G and four within Medea Creek in Zone G. Potentially suitable nesting habitat was also identified within Zones G and B, adjacent to both creeks. Several low-lying areas exhibit loose sands, slope, and sunlight that could potentially be suitable for nesting; however it is difficult to tell as much is still unknown regarding the nesting habits of this species.

Aimophila ruficeps canescens - **Southern California rufous-crowned sparrow** is resident in the foothills of mountain ranges from Northern California into northern Baja California and from southern Utah, northern Arizona, northern New Mexico, and Central Texas into Mexico. Smaller populations occur in northern Texas, southeastern Colorado, southwest Kansas, Oklahoma, and central Arkansas. The subspecies occurs along the coastal slope of the Coast Ranges from Santa Barbara County to Northwestern Baja California. This species is found normally in coastal sage scrub and chaparral, particularly in rocky areas and with native perennial bunch grasses. It eats insects, spiders, seeds, and some vegetation which it gleans from the ground or low foliage. Home ranges for this species average about 3.7 acres and territories average about 2 acres (Zeiner et al., 1990). An adult was seen with food (indicative of nesting) just south of Cornell Road and outside the project area (Figure 3-4). Another adult was seen on the southern edge of Zone A South near the steep cliffs indicated in yellow on Figure 3-4.

Elanus leucurus - **White-tailed kite** occurs along the West Coast from Oregon south into the tropics, also in Texas, and Florida. This species normally forages within grasslands, agricultural areas, and marshes in search of small mammals, reptiles, or insects. It nests in large trees adjacent to suitable foraging habitat. Although this species is rarely territorial, it will defend an area as large as 0.04 square miles (~26 acres) for feeding against other species. It usually uses a two square mile area for feeding, though rarely can be found farther than 0.5 miles from a nest (Zeiner et al., 1990). Suitable nesting habitat is present and one individual was seen foraging offsite and onsite. Figure 3-4 illustrates where the kite was first seen over the site south of Agoura Road; it then proceeded to fly from west to east through Zones F, B, A South, G-A, and thence offsite east of Cornell Road.

Baeolophus inornatus, Selasphorus sasin, Picoides nuttallii, Accipiter cooperi, Ardea alba Ardea herodias, Botaurus lentiginosus - **Oak titmouse, Allen's hummingbird, Nuttall's woodpecker**, **Cooper's hawk**, **Great egret**, **Great blue heron**, and **American bittern** are considered special animals only at their nest or rookery sites. No egret or heron rookeries were seen on the project site, nor would they be expected. The Cooper's hawk was seen in a potentially developable area in Zone E; this species is known to breed in suburban areas and suitable nesting habitat is present within the Specific Plan area both within developable zones and the open space Zone G. It was recently downlisted from a CSC to the CDFG Watch List. The titmouse, Allen's hummingbird, and great egret were seen in developable areas as well, with an oak titmouse family group located in Zone F in 2008. The great blue heron and bittern were seen in the proposed open space Zone G. Several Nuttall's woodpeckers were seen, both within and

outside the developable areas. One Nuttall's woodpecker was seen carrying food in Zone G south of Zone A, and so could potentially be nesting.

Other Species. The California thrasher (*Toxostoma redivivum)* was seen foraging on the project site and a male was observed singing and maintaining a territory; it likely breeds onsite as this project is within its breeding range and suitable nesting habitat is found onsite, primarily within the chaparral and scrub areas of Zone G and F. This species was on the February 2006 *Special Animals* list, but was removed during the February 2008 update. It has no special status at this time.

Small mammal trapping was conducted to determine if special status small mammals (particularly San Diego desert woodrat) were present at the site. No special-status species were captured during the June 27 and July 2, 2007 trapping dates. On June 27, traps were set in Zone E and the northwestern area of Zone B. One North American deermouse (*Peromyscus maniculatus*) one brush mouse (*Peromyscus boylii*), one California deermouse (*Peromyscus californicus*), one western harvest mouse (*Reithrodontomys megalotis*), and five big-eared woodrats (*Neotoma macrotis*) were in traps picked up on June 28. On July 2, traps were set along the south side of Lindero Canyon Creek in the southern area of Zone B and the adjacent area of Zone G to the southwest of the dirt road. Four big-eared woodrats, three California deermice, and six North American deermice were in traps picked up on July 3. One trap (a Havahart) was closed when retrieved but did not contain an animal on June 28, and four traps (two small Shermans and two large Shermans) were closed when they were retrieved but did not contain animals on July 3. The small mammal trapping determined that the woodrat nests present at the site contained big-eared woodrat rather than the sensitive subspecies San Diego desert woodrat.

Bat species, specifically western mastiff bat, spotted bat, and Yuma myotis, have the potential to occur onsite. These species have been documented in the area (one mile south of the site, one mile south of the site, and three miles south of the site, respectively). These species use trees, rock crevices, and/or buildings for roosting, and forage over riparian areas or cleared areas onsite. However, no sign of bats could be detected at the most probable location, the 30-40 foot steep cliff area (Figure 3-4), and visual surveys conducted on the evenings of June 27 and July 2, 2007 did not observe any bats foraging over the site.

Impacts and Recommendations

2006 Agoura Village Specific Plan EIR

The 2006 Final EIR for the Agoura Village Specific Plan listed eight special-status wildlife species as occurring within a five mile radius of the Specific Plan. Of those species, six were described as having the potential to occur within the Specific Plan area. Potential occurrence of these species was based on the availability and quality of suitable habitat within the area. Those special-status wildlife with suitable habitat onsite identified by the 2006 Final EIR include: golden eagle (*Aquila chrysaetos*); coastal western whiptail (*Aspidoscelis tigris multiscutatus*); San Diego horned lizard (*Phrynosoma coronatum blainvillei*); California gnatcatcher (*Polioptila californica*); California red-legged frog (*Rana auroura draytoni*); and two-striped garter snake (*Thamnophis hammondi*). Of these species with the potential to occur onsite, the coastal western

whiptail and two-striped garter snake had been previously observed within the Specific Plan area.

Impact BIO-1(a) found that build out of undeveloped properties within the Specific Plan area could result in the loss of habitat that is marginally suitable for both sensitive plants and animals. The significance of the change in land use from ruderal grassland, woodland, riparian, chaparral, and coastal sage scrub habitats to urban uses will vary based on individual site conditions within the Specific Plan area. However, the anticipated impacts to sensitive species would be considered potentially significant, but mitigable.

The EIR noted that the Agoura Village Specific Plan included a number of development standards that would reduce the biological impacts related to site grading, natural resource protection (i.e. tree and stream preservation), and landscaping and vegetated buffer areas from designated scenic roadways. Further, implementation of recommended mitigation measures would reduce the direct loss of individual special-status animals and maintain compliance with City requirements, California Fish and Game Code, and the Migratory Bird Treaty Act.

Mitigation Measure BIO-1(b) requires that a preconstruction survey for the San Diego horned lizard, coastal western whiptail, California red-legged frog, two-striped garter snake, California gnatcatcher, burrowing owl, southwestern pond turtle, sensitive bat species, and any other special-status species is to be conducted by a qualified biologist and submitted to the City Planning and Development Department prior to beginning construction and/or not more than two weeks prior to commencement of any disturbance. If a species is found, avoidance would be the preferred mitigation option. If avoidance would not be feasible, Species of Concern which are not formally listed, would be captured, when possible, and transferred to adjacent appropriate habitat within designated open space areas either onsite or directly adjacent to the project area. This is to be performed only by a CDFG approved biologist. The CDFG and City of Agoura Hills are to be formally notified and consulted regarding the presence of these species onsite. If a federally listed species is found prior to grading of the site, the USFWS is also to be notified. Only a USFWS approved biologist would be allowed to capture and relocate federally listed animals, and such could only occur pursuant to a federal permit.

Mitigation Measure BIO-1(c) required that if vegetation clearing (including tree pruning and removal) or other project construction is to be initiated during the bird breeding season (February 1 through August 31), pre-construction/grading surveys would be conducted by a qualified ornithologist (a person with a biology degree and/or established skills in bird recognition). Surveys should begin 30 days prior to initial disturbance activities and would continue weekly, with the last survey being conducted no more than three days prior to the initiation of clearance/construction work. If bird species are observed nesting within 500 feet of construction/grading areas, all construction or grading activities will be postponed or halted at the discretion of the biologist until the nest is vacated and the juveniles have fledged.

Limits of construction to avoid a nest should be established in the field with flagging and stakes or construction fencing. This distance would be at least 300 feet for raptors and at least 100 feet for all other bird species. Construction personnel should be instructed on the sensitivity of the area. The applicant should record the results of the recommended protective measures

described above to document compliance with applicable State and federal laws pertaining to the protection of native birds.

The EIR found that with the implementation of these measures impacts to special-status wildlife would be less than significant.

2007 and 2008 Findings

The following is a re-examination of the potential impacts to special-status wildlife species within the Specific Plan area utilizing data collected during the 2007 and 2008 surveys. As noted above, recent surveys identified eleven special-status wildlife, nine birds and two reptiles. The majority of the observations were recorded within the proposed open space portions (Zone G) of the Specific Plan area and tended to be species associated with the riparian forest along Lindero Canyon and Medea Creeks. Although most of the bird species observed (American bittern, Nuttall's woodpecker, Oak titmouse, Allen's hummingbird, Great egret, and Great blue heron) are primarily associated with riparian habitats for foraging and nesting, several also forage within upland habitats (developable Zones B, A south, and F). The southwestern pond turtle is also associated with the riparian areas within the Specific Plan. Seven southwestern pond turtles were observed within the Specific Plan, south of Agoura Road.

Western whiptail generally prefers open or rocky areas with little vegetation, but may also be found within shrub, oak, or riparian habitats where invertebrate prey may be prevalent. Three whiptails were observed near Lindero Canyon Creek within Zone G in 2007 and two whiptails were observed in Zone F in 2008. Given the low habitat suitability of most of the developable area and the higher suitability of the much larger open space areas, the proposed development action would not have a significant effect on the populations of this subspecies if it is present.

California thrasher is associated with the chaparral and sage scrub habitats of the hillsides in Zone G and F, though they can also be found at times in the riparian areas. This species was removed from the CDFG *Special Animal List* in 2008 and populations are believed to be stable and not at risk at this time. Impacts associated with buildout of the Specific Plan would not be considered significant.

Species observed within upland, open, ruderal, and grassland habitats within developable Zones B, A south, and F include: Oak titmouse, Allen's hummingbird, Southern California rufous-crowned sparrow, Nuttall's woodpecker, Great egret, White-tailed kite, and Cooper's hawk. The oak titmouse is a "special animal" with respect to its nest locations because it is on various "watch lists" due to declining populations; it is not however listed by the CDFG as a species of special concern. It is found in dry, open woods with a range limited mostly to California (from southern Oregon to northern Mexico; Sibley, 2000). It is considered a common resident in a variety of habitats, but is typically associated with oaks. It sometimes forages and breeds in riparian areas, and ventures into residential areas (Zeiner, et. al., 1990). Development of the site as proposed under the Specific Plan would reduce nesting opportunities for this species, but given the large amount of suitable habitat still present in the Santa Monica Mountains and throughout its range, impacts would not be considered significant.

Allen's hummingbird is a California "Special Animal" and, like the oak titmouse, is not listed by the CDFG as a species of special concern; however it's nesting location is afforded special consideration. The species, found only along the coastal boundary of North America, is thought to be in decline. The male generally sets up a territory in open areas of coastal scrub vegetation or riparian shrubs, while the female selects nest sites in more densely vegetated areas. Development of the Specific Plan would avoid the riparian forests, but could reduce densely vegetated scrub and chaparral which may provide nesting habitat for this species. However, like the oak titmouse, given the large amount of suitable habitat still present in the Santa Monica Mountains and throughout its range, impacts would not be considered significant.

Nuttall's woodpecker is found primarily in oak woodlands and in riparian woods where they nest in tree cavities. Just as the oak titmouse and Allen's hummingbird, the Nuttall's woodpecker is a "Special Animal", and considered of moderate conservation importance, primarily because of its limited range. There is limited oak woodland habitat within the Specific Plan area; however, most of the oak trees are located within Zone G and would be protected as open space. Impacts to this species would not be considered significant.

The southern California rufous-crowned sparrow occurs along the coastal slope of the Coast Ranges from Santa Barbara County to Northwestern Baja California. It typically occurs in coastal sage scrub and chaparral, particularly in rocky areas with native perennial bunch grasses. Its preferred habitat at the site is primarily the proposed open space areas of Zone G; therefore, development as proposed under the Specific Plan would not be expected to cause a significant reduction in the local population.

One great egret was seen foraging within the open area of Zone B; however, this species would not be expected to utilize such an area for nesting. Great egrets generally forage and nest within wetland and riparian habitats and in croplands and irrigated pastures. Similarly, a great blue heron was seen foraging in Zone G. Both birds are relatively common throughout California, and are considered a Special Animal only with respect to their limited nesting habitat, which are large rookeries comprised of multiple nests in tall trees. No rookeries are located within the Specific Plan area and site development would have no effect on breeding habitat for these species. Great egret and great blue heron would be expected to continue to forage along the riparian areas within the site after Specific Plan buildout. No significant impacts to these species are associated with Specific Plan buildout.

The white-tailed kite, sharp-shinned hawk, and Cooper's hawk require large areas of foraging habitat, typically about 1,000 acres for an individual of each species (Zeiner, et al, 1990). Additional suitable foraging habitat is located within the project area, Zone G, or in adjacent lands near the project site. These species would be anticipated to utilize nearby, or adjacent, grasslands and open chaparral and coastal sage scrub upon development of the Specific Plan. The sharp-shinned hawk, while not seen at the site, is a wintering species in this area, and would not breed at the site. Suitable winter foraging area for this species would be preserved within the open space portions of the site in Zone G. After Specific Plan buildout, it would still be possible for the Cooper's hawk to breed in the riparian woodlands of Lindero Canyon and Medea Creeks and forage in the open space areas of Zone G, especially given this species known ability to breed and forage in urban areas. The white-tailed kite can be frequently seen foraging in small grassland habitat patches, particularly along freeways, and would be expected

to continue to forage in the open areas of Zone G after Specific Plan buildout. No nest site for this species was found during the 2007 surveys, but suitable nesting habitat along the creeks would remain after implementation of the Specific Plan. No significant project effects to these species would occur based on CEQA significance criteria.

Golden eagle formerly were found in the Santa Monica Mountains, but currently are rarely reported in this area. It nests on rock ledges on cliff faces, which are not present within the Specific Plan area. Suitable foraging habitat is present in Zone G. No effects to this species would be anticipated from Specific Plan development.

Several other special status wildlife species not observed during the 2007 and 2008 surveys could nonetheless be present within the project site. Those with the greatest potential to be present are the San Diego horned lizard, burrowing owl (winter only), and two-striped garter snake (seen along the creek in prior studies). Discing for weed control substantially reduces horned lizard populations as they rely on cryptic coloration to avoid predation and no horned lizards would be anticipated to be present in those areas of the Specific Plan that are regularly disced. Higher quality habitat for this lizard is present in Zone G and further to the south outside the City limits and most of the local population would be anticipated to be located in that area and not affected by the proposed development. Burrowing owl has not been observed within the Specific Plan area, though it does occur as a winter migrant in the Santa Monica Mountains (CBD et al. 2003). Given the lack of recorded observations in the developable portions of the site and the extensive habitat present to the south, no significant effect would be anticipated. Two-striped garter snake is closely associated with the aquatic habitat, and preservation of these areas in Zone G would serve to protect this species.

Santa Monica Mountains grasshopper was identified as potentially occurring within the Specific Plan area on bare hillsides and along dirt trails in chaparral within Zone G. Only four locations of this grasshopper are contained in the CNDDB and these extend from the Cornell area south of the site to the western edge of the Santa Monica Mountains. Grasshoppers captured during the 2007 field survey were identified sufficiently to eliminate their identification as this species. Given the large amount of more suitable habitat outside the Specific Plan, no significant impacts to this sensitive species would be anticipated.

The majority of the sensitive species observed during the 2007 and 2008 surveys were found within the riparian habitat. Riparian habitat within the Specific Plan is located predominantly within Zone G, and as such would be preserved as open space under the Specific Plan. It is important to note that the approval of the Agoura Village Specific Plan and certification of the FEIR by the City Council on June 14, 2006 included a change to the zone area map, consistent with implementation of Mitigation Measure BIO-1(A) in the FEIR, that shifts the line of Zone G (now G-B) to the north side of Lindero Canyon Creek. This map change was reflected in the Final AVSP, which was revised per the June 14, 2006 City Council hearing (as identified in the errata sheet for the AVSP and provided to the City Council). The adjustment to the boundary of Zones G and B is reflected in Figure 3-4, incorporating the southern half of Lindero Canyon Creek into Zone G. Thus, as shown in Figure 3-4, only a 300 foot section of Lindero Canyon Creek is located outside of Zone G, within Zone B. Further, Mitigation Measure BIO-2(a) requires that a "buffer zone of 50-100 feet of native vegetation be maintained between urban

development and adjacent sensitive native habitats. Such vegetation should be sensitive to, and similar in nature to, the natural environment surrounding the sensitive native habitats."

This buffer as described in the 2006 FEIR would apply only to that portion of Lindero Canyon Creek identified as Southern Arroyo Willow Riparian Forest. This measure does not extend buffer protection to the northern most reach of Lindero Canyon Creek, directly south of Agoura Road, nor to Medea Creek. Therefore, because southwestern pond turtles were observed within these additional areas, it is recommended that the measure be revised to require equal protection of both Lindero Canyon Creek and Medea Creek. In addition, since pond turtles can move up to 1.1 miles within a creek (though more typically within about 1,500 feet) to find suitable nesting habitat, the entire natural length of both creeks needs to be protected.

AVSP EIR Mitigation Measure BIO-2(c) currently provides that avoidance of Southern Arroyo Willow Riparian Forest would be required; however, where an applicant demonstrates that avoidance is not feasible, on-site mitigation and restoration would be allowed to mitigate for encroachment into the riparian area. This measure would not allow development within the riparian forest, but is provided to allow encroachment in those areas during construction where marginal riparian habitat is present, where restoration could benefit the stream, and where avoidance is infeasible. This measure is to be implemented in conjunction with Mitigation Measures BIO-1(a), BIO-1(b), BIO-1(c), and BIO-2(a) and per the development standards of the Specific Plan. The intent of the regulations and policies in the Specific Plan development standards is to integrate natural resources into the planning considerations for proposed developments and to reduce the potential impacts on natural resources within the Specific Plan. As noted in the AVSP EIR, the standards specifically address the protection of riparian habitat and creeks. The measures identified in the 2006 EIR include, but are not limited to, the following:

- Significant natural vegetation shall be retained and incorporated into the project whenever possible.
- Natural amenities, such as views, mature trees, creeks, riparian corridors, and similar features unique to the site should be preserved.
- Oak trees shall be preserved and incorporated into the project whenever possible. New developments shall preserve or improve natural conditions on or adjacent to the site such as wildlife habitats, streams, creeks, views, and restore and preserve riparian habitats to a natural state where appropriate.
- For projects adjacent to Medea, Lindero and Chesebro Creeks, it is the developer's responsibility to prepare a riparian habitat and creek protection program and implement it. Such programs shall be prepared by a qualified biologist and shall, to the extent feasible, avoid encroachment into any riparian areas and provide an adequate buffer distance to adjacent development. The buffer shall be at least 50-100 feet from the edge of riparian vegetation of either side of the creek. The specific dimensions will depend on the value of the habitat. Trails and bicycle paths may be allowed in the buffer, depending on the particular design characteristics and on site habitat.
- To minimize water borne pollution into local creeks and watersheds, all projects shall adhere to National Pollutant Discharge Elimination System (NPDES) requirements for both construction and on-going operational impacts. Use of bioswales and natural filter systems are encouraged.

In addition to the development standards and mitigation measures outlined here and in the Specific Plan and EIR, construction activities would be subject to regulations under the California Fish and Game Code, the state and federal Endangered Species Acts, and regulatory permit requirements associated with the riparian areas. Implementation of Mitigation Measures BIO-1(b), BIO-1(c), and BIO-2(a) (including revisions suggested below) would reduce direct impacts to special-status species within the Specific Plan to a less than significant level by requiring pre-construction surveys, avoidance and/or relocation of special-status wildlife; nesting bird surveys and avoidance; and setbacks from turtle nesting, riparian habitat, and special-status plant communities.

Indirect impacts to sensitive species associated with the proposed Specific Plan are due to the further encroachment of urban uses into the current open areas south of Agoura Road. Currently, the undeveloped areas are somewhat buffered from the effects of urban development by Agoura Road, though grazing and fuel management (disking) has limited the suitability of much of the proposed development area for wildlife. The proposed development of additional residential land use within the Specific Plan area would introduce a new full time human population that may seek to recreate within the preserved open space areas, particularly along the creeks, but also along available trails within Zone G. In particular, the Specific Plan proposes that a public trail and creek restoration would be designed and installed along both Medea and Lindero Creeks. Based on the 2007 and 2008 surveys, the creeks and existing trails are already subject to substantial human effects by an itinerant population. While there may be an increase in recreational use associated with the new land uses, there may also be a subsequent decrease in itinerant use of the land. With respect to the sensitive species observed at the site, the southwestern pond turtle is the most vulnerable to indirect effects associated with physical capture by humans or their associated pets. In the absence of adequate buffering or control of access to the immediate creek environment, recreational use within the riparian corridor could result in the elimination of the local population currently found in these reaches. This is considered a potentially significant indirect effect that is partially mitigated by the requirements under Mitigation Measures BIO-2(a) and 2(c). These indirect impacts would also be directly addressed in any Streambed Alteration Agreement that may be required for development in these areas from the CDFG. Measure BIO-4(e) specifically addresses fencing with respect to ensuring that wildlife can continue to access the riparian corridor. It is recommended that this measure be strengthened to limit human access to the sensitive riparian habitats within the Specific Plan area.

The introduction of domestic predators by residential land uses can have an indirect effect on the population of sensitive animals located adjacent to such use. Specifically, ground-nesting species such as rufous-crowned sparrows (Rising 1996, DeSante and Geupel 1987) are subject to domestic animal predation, particularly that of cats. The coastal western whiptail would similarly be subjected to predation. Given the amount of suitable habitat for these animals preserved under Zone G and present throughout the Santa Monica Mountains within public owned and controlled open space, the local effect on the population of these animals would not be considered significant under CEQA threshold criteria (namely, it would not *substantially* reduce species population, reduce species habitat, or restrict reproductive capacity).

Incorporation of the above mitigation measures, Specific Plan development standards, AVSP EIR mitigation measures, and compliance with current federal, state, and local regulations would reduce direct and indirect impacts to special-status wildlife species within the Specific Plan to a less than significant level. The regional supply of habitat and other individuals of the same species are considered large enough that the project itself would not have a negative cumulative impact on the ability for any special-status species examined herein to experience substantially decreased population numbers.

Conclusion

Wildlife observations made during the 2007 and 2008 surveys identified a greater number of special-status wildlife species within the Specific Plan Area than was anticipated in the 2006 EIR; however, the overall impacts, and level of significance, associated with the project would be generally the same as that described in the 2006 EIR. The EIR indicated 8 special-status species which were known to occur within a five mile radius of the Specific Plan. Of these species six were described as having the potential to occur within the Specific Plan and as having suitable habitat onsite. Results of the 2007 and 2008 wildlife surveys showed that twelve special-status species are present within the Specific Plan.

Inclusive of the new information presented above, the 2006 EIR impacts regarding sensitive wildlife species, Impacts BIO-1 and BIO-2, would still be considered *significant but mitigable*. The 2006 EIR recommended measures (BIO-1(b), BIO-1(c), and BIO-2(a)) which would require pre-construction surveys to identify any special-status species and provide for their avoidance or relocation to appropriate habitat to ensure their safety; surveys for nesting birds to prevent disturbance of nesting activities; and a buffer zone of 50-100 feet from native vegetation. Implementation of these measures would also reduce the level of significance for impacts related to development of the Specific Plan; however, based on the 2007 and 2008 survey data a revision to Mitigation Measure BIO-2(a) is recommended to further clarify the intent of the measure. It is recommended that Mitigation Measure BIO-2(a) be revised to provide protection to the entire length of both Medea and Lindero Canyon Creeks and to recognize areas with the potential for turtle nesting habitat as sensitive vegetation to be buffered at a minimum of 100 feet. The measure would read (additions shown in bold, there are no deletions):

BIO-2(a) **Buffer Zones. Except in cases of Lyon's pentachaeta and/or Agoura Hills Dudleya, which are addressed in MM BIO-1(a), a minimum** buffer zone of 50-100 feet of native vegetation shall be maintained between urban development and adjacent sensitive native habitats. **This includes those areas located along the unchannelized portions of Medea and Lindero Canyon Creeks within the Specific Plan boundaries. This buffer shall extend to and fully include the stand of valley oaks located west of Lindero Canyon Creek in Zone B.** Such vegetation should be sensitive to, and similar in nature to, the natural environment surrounding the sensitive native habitats. **A minimum buffer of 50 feet (or greater if required by the CDFG) from the top of bank and/or edge of riparian cover (whichever is greater) shall be established for the protection of southwestern pond turtle where preferred nesting habitat (exposed, southerly-facing slopes vegetated with open scrub or sparse grassland vegetation, dense soils with a high silt and**

clay fraction, and less than 25% slope) is present. No heavy equipment or ground disturbance shall enter the buffer zone during the nesting period of SWPT (April-August). Further, equestrian trails shall be located no less than 10 to 20 (preferred) feet from the edge of the exterior riparian canopy.

In addition, specific fencing requirements with respect to potential creekside trails are recommended to be added to Mitigation Measure BIO-4(e) to protect the southwestern pond turtle from human traffic and disturbance. The following changes are recommended to this measure to specifically address human and pet egress to the creek environment:

BIO-4(e) Fencing. Solid barrier fencing onsite shall be prohibited around areas that border open spaces or routes of animal movement, specifically riparian areas. Fencing in these areas shall consist of "ranch style" post fencing. Fencing shall allow at least one-foot of clearance above ground to permit wildlife movement. **Fencing between creekside trails and the creeks shall be designed to limit human entry into significant habitat. Such fencing or vegetative barrier shall be at least four feet in height and shall be planted with spinescent plants such as wild rose, blackberry, or other suitable native species in a dense bramble.**

Implementation of these measures, along with those described in the EIR and current Federal, State and local regulations would reduce impacts to a less than significant level.

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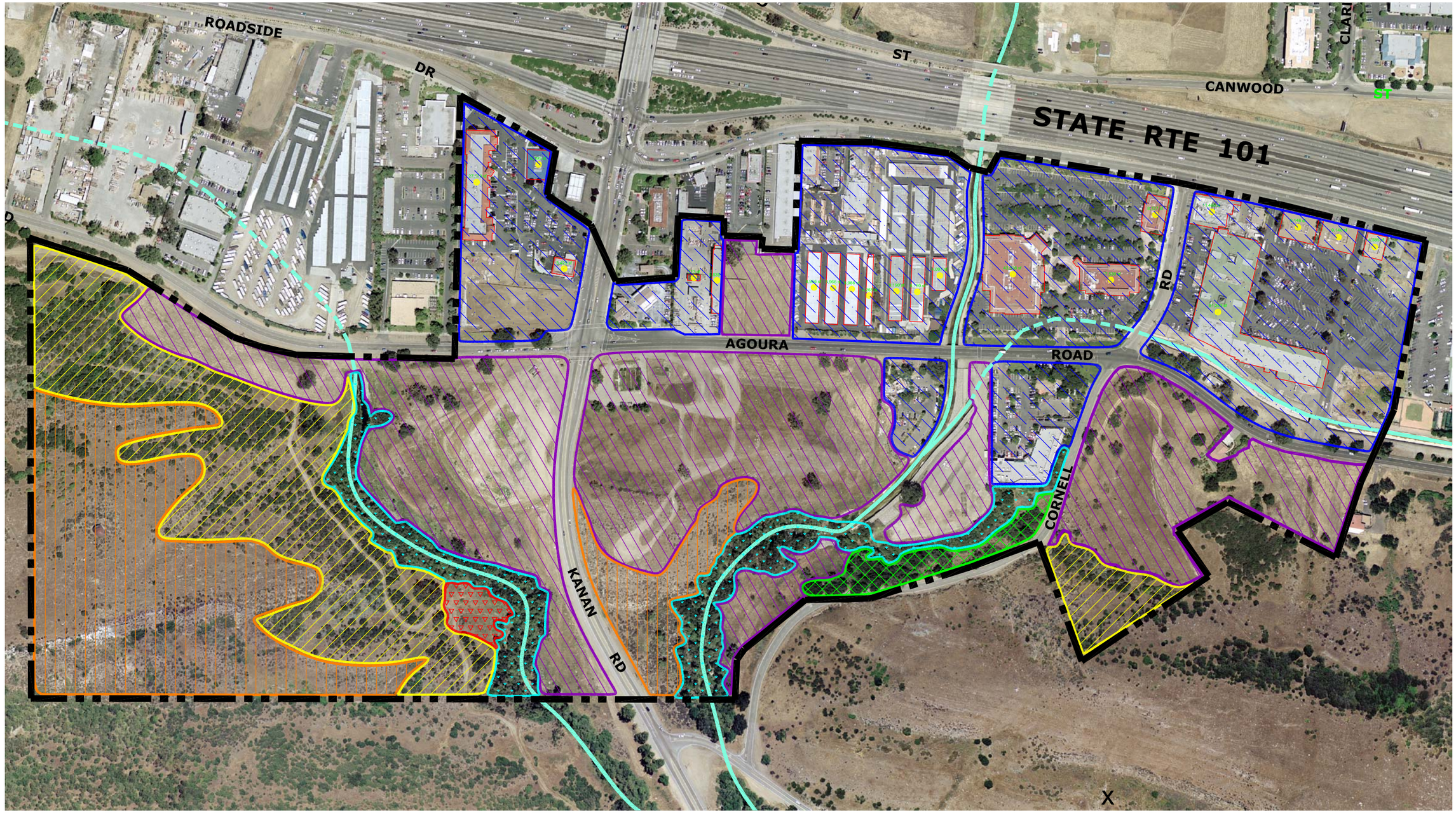
Attachment: *Figure 3-1 2006 EIR Vegetation Map*
Figure 3-2 2007 EIR Vegetation Map
Figure 3-3 CNDDB
Figure 3-4 Special-Status Wildlife Locations
Appendix 3A – Trapping Field Notes

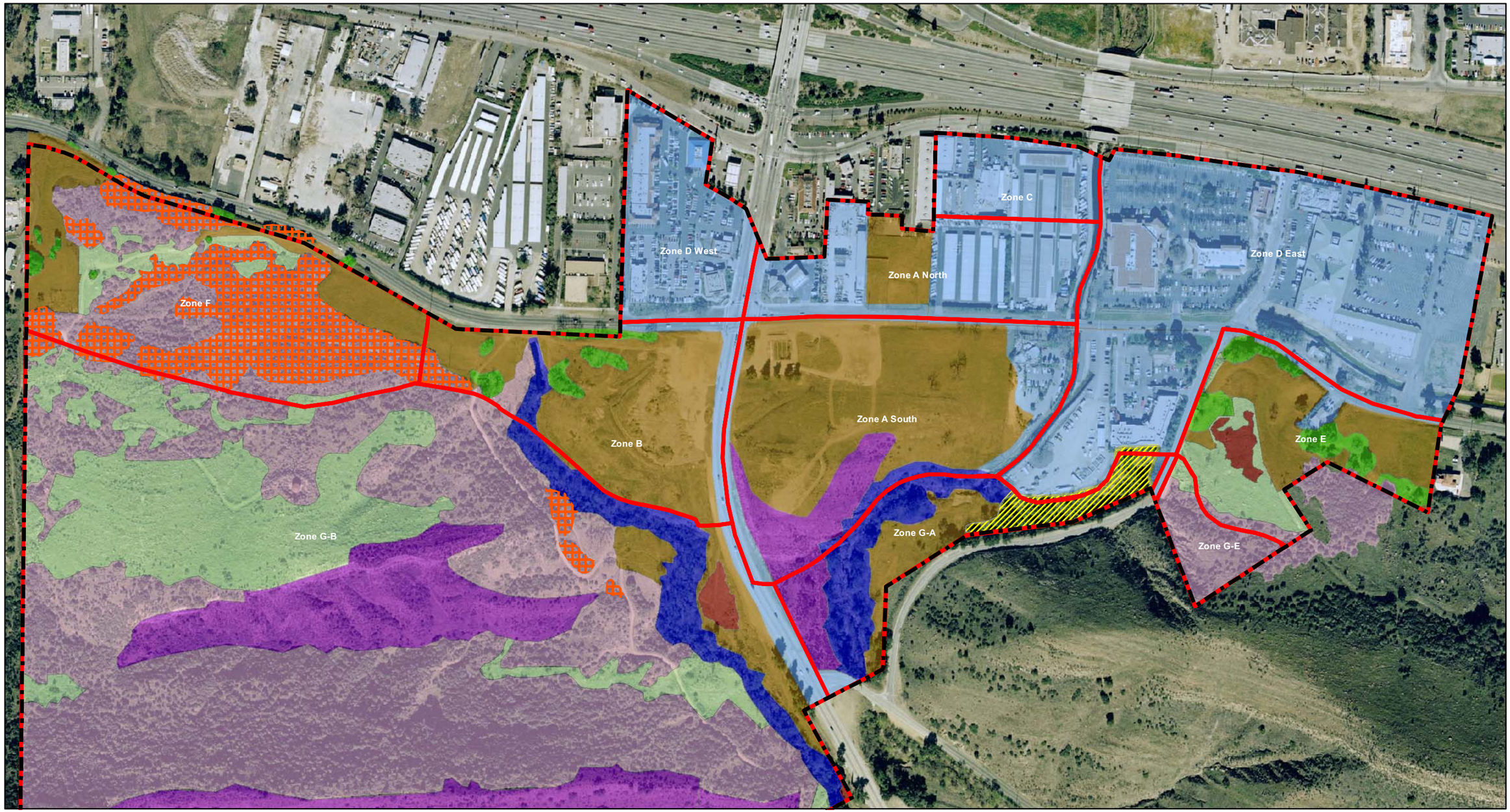


Aerial Source: City of Agoura Hills, 2002

2006 AVSP EIR Vegetation Mapping
Within Project Boundary

Figure 3-1

City of Agoura Hills



Legend

Plan Area Boundary
Zones

Vegetation Types

- Coastal Sage Scrub
- Developed/Ornamental
- California Annual Grassland
- Scrub Oak Chaparral
- Mixed Chaparral
- Oak Stand
- Coastal Live Oak Woodland
- Southern Willow Scrub/Southern Arroyo Willow Riparian
- Ruderal/Disturbed
- Valley Needlegrass Grassland

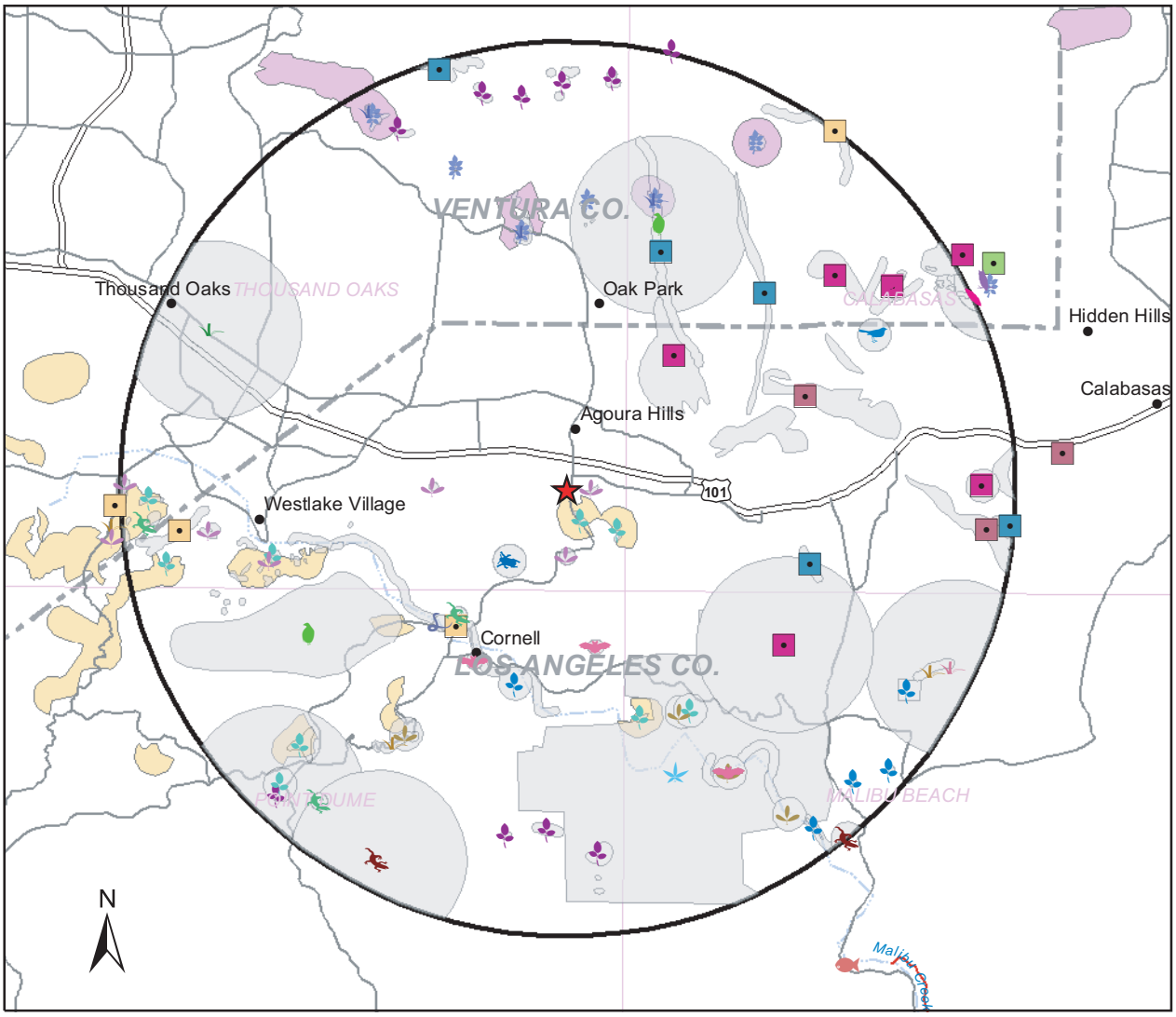
N

0 250 500 Feet

Source: Air Photo U.S.A., 2006 (image), Rincon Consultants, Inc., 2008.

Vegetation Map

Figure 3-2



Sources: California Natural Diversity Database, March 2007; U.S. Fish and Wildlife Service, February 2007; Rincon Consultants, 2007; U.S. Bureau of the Census TIGER 2000 data; and ESRI, 2002.
Note: Markers represent approximate locations where species may be found.
Critical habitat shown is that most recently available from U.S. FWS.
Check with U.S. FWS or Federal Register to confirm.

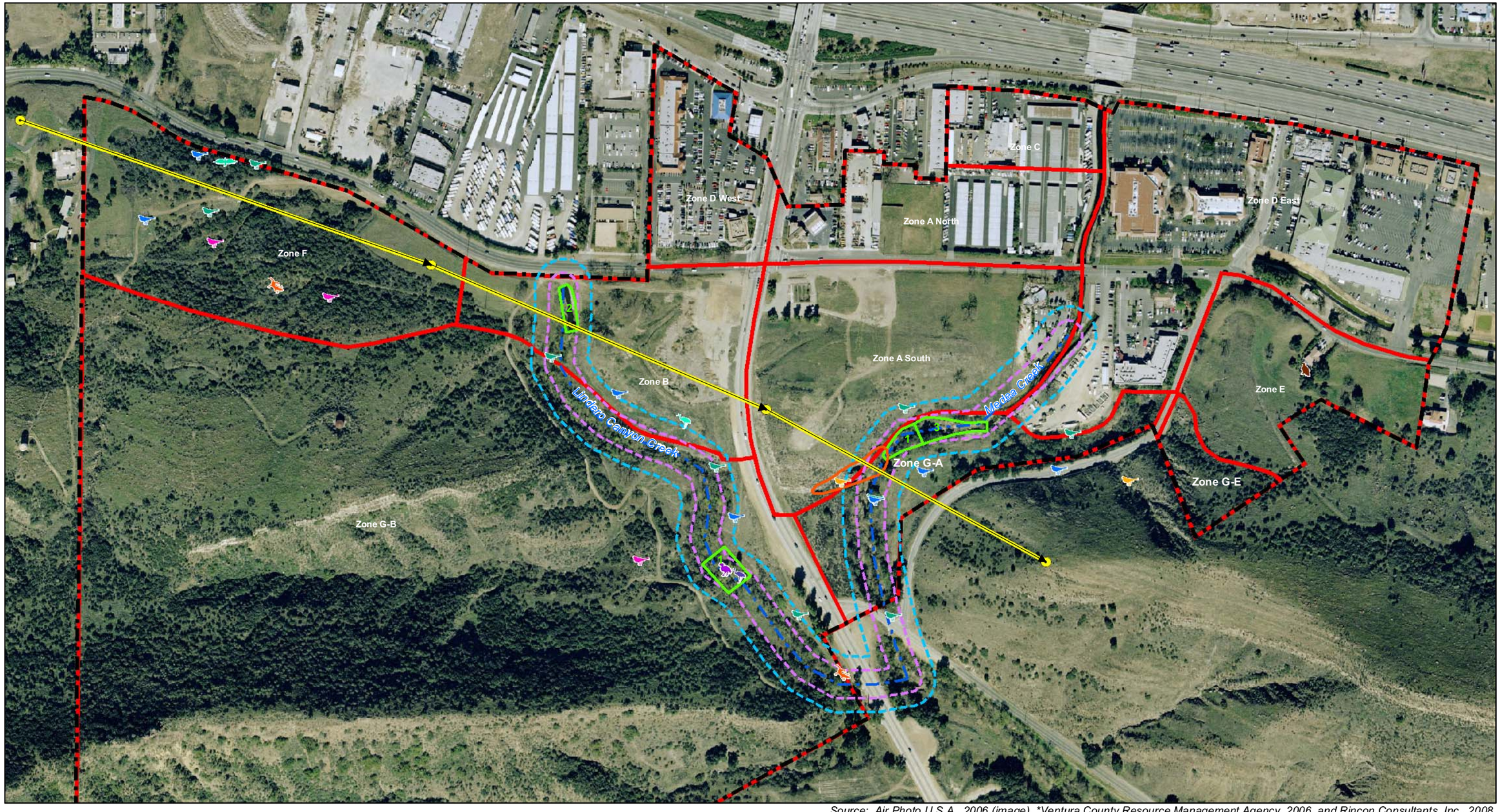
0 1.25 2.5 3.75 5 Miles

Legend

- Project Location
- 5-Mile Radius
- AAABH01022, California red-legged frog
- ABNKC22010, golden eagle
- ABNSB10010, burrowing owl
- ABPBJ08081, coastal California gnatcatcher
- AFCJB13120, arroyo chub
- AMACC07010, spotted bat
- AMACD02011, western mastiff bat
- ARACF12021, Coast (San Diego) horned lizard
- ARACJ02143, coastal western whiptail
- ARADB36160, two-striped garter snake
- CTT42110CA, Valley Needlegrass Grassland
- CTT61310CA, Southern Coast Live Oak Riparian Forest
- CTT62400CA, Southern Sycamore Alder Riparian Woodland
- CTT71130CA, Valley Oak Woodland
- CTT71210CA, California Walnut Woodland
- IIORT36300, Santa Monica grasshopper
- PDAST0W0W0, Malibu baccharis
- PDAST4R0J0, Santa Susana tarplant
- PDAST6X060, Lyon's pentachaeta
- PDCRA040A3, marcescent dudleya
- PDCRA040A7, Agoura Hills dudleya
- PDFAB0F1G0, Braunton's milk-vetch
- PDGER01070, round-leaved filaree
- PDPGN040J1, San Fernando Valley spineflower
- PMAGA080E0, chaparral nolina
- PMLIL0D096, slender mariposa lily
- PMLIL0D150, Plummer's mariposa lily
- PMPOA4G010, California Orcutt grass
- S Calif Steelhead FCH
- Braunton's Milk Vetch FCH
- Lyon's Pentachaeta FCH

Sensitive Elements Reported by the California Natural Diversity Database

Figure 3-3



*Source: Air Photo U.S.A., 2006 (image), *Ventura County Resource Management Agency, 2006, and Rincon Consultants, Inc., 2008.*

Legend

- Plan Area Boundary
- Zones
- 50' Native Vegetation Buffer
- 100' Native Vegetation Buffer
- Steep Cliff Area
- # Western Pond Turtles Sighted
- Bird Flight Path/Direction
- Allen's Hummingbird
- Western Whiptail
- California Thrasher
- Nuttall's Woodpecker
- Oak Titmouse
- Southern California Rufous-Crowned Sparrow
- Cooper's Hawk
- White-Tailed Kite
- American Bittern
- Great Blue Heron
- Great Egret

N

0 250 500 Feet

Special-Status Wildlife

Figure 3-4

Small Mammal Trapping Form

Project:	AVSP	Date:	June 27-28, 2007
Location:	Agoura Hills	Time - Star	630
% Cloud Cover	0	End:	900
Wind:	0 mph	Observers:	JMT, MT, DVP
Temperature (F	Start: 78 F		
	End: 92 F		

Type/Trap #	Species	Sex	Notes
T4	Western harvest mouse	M	
T3	Big-eared woodrat	M	
T20	Deer mouse	M	Juvenile
T28	Brush mouse	U	
TT30	Big-eared woodrat	F	
TT3	Big-eared woodrat	M	
TT7	Big-eared woodrat	F	Juvenile
TT16	Big-eared woodrat	M	
TT20	California mouse	M	

Additional notes:

Small Mammal Trapping Form

Project: AVSP Date: July 2-3, 2007

Location: Agoura Hills Time - Star 615
% Cloud Cover 0 End: 800
Wind: 0 mph Observers: JMT, DVP, DVP
Temperature (F Start: 65 F
End: 72 F

Type/Trap #	Species	Sex	Notes
SH 5	Deer mouse	M	No measurements recorded
TT 24	Big-eared woodrat	F	Dark feet; tail hairy; juv
SH 16	Deer mouse	M	1/2 bicolored tail
SH 17	Big-eared woodrat	U	Escaped; lost tail
SH 18	Deer mouse	M	
TT 27			closed, no capture
SH 19			closed, no capture
SH 20			closed, no capture
SH 22	Deer mouse	F	
SH 27	Deer mouse	M	
TT 28	Deer mouse	M	
SH 30			closed, no capture
TT 29	California mouse	M	1/2 bicolored tail, heel w hair; at wood rat nest
TT 3	Big-eared woodrat	U (F?)	Dusky foot, cinn. color on side; escaped
TT 8	California mouse	F	Heel hairy-ish
HR 3	Big-eared woodrat	M	Dusky foot
TT 2	California mouse	M	Ind. bicolored tail

Additional notes:

Scientific Name	Common Name	Status/Notes
BIRDS		
Selasphorus sasin	Allen's hummingbird	SA[a] (nesting)
Botaurus lentiginosus	American bittern	SA
Corvus brachyrhynchos	American crow	
Turdus migratorius	American robin	
Calypte anna	Anna's hummingbird	
Myiarchus cinerascens	Ash-throated flycatcher	
Hirundo rustica	Barn swallow	
Ceryle alcyon	Belted kingfisher	
*Thryomanes bewickii**	Bewick's wren	
Sayornis nigricans	Black phoebe	
Nycticorax nycticorax	Black-crowned night-heron	SA (rookery site)
Pheucticus melanocephalus	Black-headed grosbeak	
Molothrus ater	Brown-headed cowbird	
Icterus bullockii	Bullock's oriole	
Psaltriparus minimus	Bushtit	
Callipepla californica	California quail	
Toxostoma redivivum	California thrasher	
Pipilo crissalis	California towhee	
Tyrannus vociferans	Cassin's kingbird	
Petrochelidon pyrrhonota	Cliff swallow	
Corvus corax	Common raven	
Geothlypis trichas	Common yellowthroat	
Accipiter cooperii	Cooper's hawk	WL[b]
Picoides pubescens	Downy woodpecker	
Sturnus vulgaris	European starling	
Ardea Herodias	Great blue heron	SA (rookery site)
Ardea alba	Great egret	SA (rookery site)
Butorides virescens	Green heron	
Icterus cucllatus	Hooded oriole	
Carpodacus mexicanus	House finch	
Passer domesticus	House sparrow	
Troglodytes aedon	House wren	
Charadrius vociferus	Killdeer	
Passerina amoena	Lazuli bunting	
Carduelis psaltria	Lesser goldfinch	
Anas platyrhynchos	Mallard	
Zenaida macroura	Mourning dove	
Mimus polyglottos	Northern mockingbird	
*Picoides nuttallii**	Nuttall's woodpecker	SA (nesting)
Baeolophus inornatus	Oak titmouse	SA (nesting)
Buteo lineatus	Red-shouldered hawk	
Buteo jamaicensis	Red-tailed hawk	
*Aimophila ruficeps**	Rufous-crowned sparrow	*A.r. canescens* = WL
Melospiza melodia	Song sparrow	
Pipilo maculatus	Spotted towhee	
Cathartes aura	Turkey vulture	
Vireo gilvus	Warbling vireo	
Sialia mexicana	Western bluebird	
Tyrannus verticalis	Western kingbird	
Larus occidentalis	Western gull	

Aphelocoma californica	Western scrub jay	
Sitta carolinensis	White-breasted nuthatch	
Elanus leucurus	White-tailed kite	CFP [c]
Chamaea fasciata	Wrentit	
MAMMALS		
Peromyscus maniculatus	North American deermouse	
Peromyscus boylii	Brush deermouse	
Peromyscus californicus	California deermouse	
Reithrodontomys megalotis	Western harvest mouse	
Sylvilagus audubonii	Desert cottontail	
Odocoileus hemionus	Mule deer	
Spermophilus beecheyi	California ground squirrel	
Vulpes vulpes	Red fox	individuals and potential den
Neotoma macrotis	Big-eared woodrat	
Canis latrans	Coyote	scat
HERPETOFAUNA		
Crotalus oreganus helleri	Southern Pacific rattlesnake	
Actinemys marmorata pallida	Southern Pacific (Southwestern) pond turtle	CSC [d]
Uta stansburiana	Side-blotched lizard	
Sceloporus occidentalis	Western Fence Lizard	
Aspidoscelis tigris	Western Whiptail	*A.s. stejnegeri* = SA
Rana catesbeiana	Bullfrog	
INVERTEBRATES		
Apis mellifera	Honey bees	
Amphitornus coloradus	Slant-faced grasshopper	
Family Acrididae	Short-horned grasshopper (not Santa Monica Mountains grasshopper)	
Cambarus conasaugaensis	Crayfish	
Danaus plexippus	Monarch butterfly	SA
Chlosyne sp.	Checkerspot butterfly	
Plebejus acmon	Acmon blue butterfly	
Pontia protodice	Checkered white butterfly	
Vanessa cardui	Painted lady butterfly	
FISH		
Cyprinus carpio	Koi/carp	

*potentially nesting

[a] SA = California Special Animal (where mentioned, includes life stage of concern)

[b] WL = California Fish and Game Watch List

[c] CFP = California Fully Protected

[d] CSC = California Species of Special Concern

Section 4

Oak Species Study

SECTION 4 – OAK SPECIES STUDY

Purpose

Rincon Consultants conducted an oak species inventory in response to a Writ of Mandate issued by the Superior Court of California, County of Los Angeles in the case of Mary Altmann vs. City of Agoura Hills. The City's Oak Tree Ordinance states that all oak species of two inches or greater in diameter at 3.5 feet above natural grade are protected. Therefore, the intent of this oak inventory was to identify and map using a Global Positioning System (GPS) the location (latitude and longitude) of oak species with diameters of two inches or greater within the Specific Plan area.

Methodology

Rincon biologists surveyed the site for oak trees in 2007 on May 24 and 25, and on June 6, 11, 13, and 18, and in 2008 on May 22. Oak species identified on site included Valley Oak (*Quercus lobata*), Coast Live Oak (*Q. agrifolia*), and Scrub Oak (*Q. berberidifolia*). Surveys were conducted throughout the undeveloped portions of the Specific Plan area in Zones A South, B, E, and F where future development is under consideration. Additionally, surveys were performed along the entire natural length of Lindero Canyon and Medea Creeks. Lindero Canyon Creek extends south through Zone B and Zone G, south of Zone B (hereafter Zone G-B). Medea Creek extends south and west through that portion of Zone G, south of Zone A (hereafter Zone G-A). Although currently developed, the southernmost portion of Zone D West was also surveyed due to the proposed development of a round-a-bout at the intersection of Kanan and Agoura Roads. Most of Zone G, the area outside of the riparian zones, which is proposed as preserved open space, was not surveyed for oak trees. The surveys were conducted by Rincon biologists Jennifer Turner, Lacrissa Cook, Gail Bellenger, and John Dreher Jr.

Zones were systematically traversed, with special attention paid to the dense riparian woodlands along Medea and Lindero Canyon Creeks in Zones B, G-B, and G-A, to ensure that all oak individuals were located and mapped. Data was collected for oak individuals greater than 2" as measured at between 3.5 to 4.5 feet above natural grade. This range was used due to the difficulty in accessing certain trees within the Specific Plan area. Where specific measurements could not be taken, diameter estimates were made accounting for the range in height of measurement. In addition, grade differential on different sides of certain trees alters this height measurement. It should be noted there is generally very little difference in the DBH measured at either exact height; thus, marginal trees close to meeting the 2" requirement were included to provide a conservative estimate. The geographical location of each tree trunk was recorded using a Trimble® GTX, which has sub-meter accuracy. Additionally, for each tree meeting the DBH requirement, estimates of tree height and canopy width were recorded and any existing identification tags from previous surveys were noted for reference purposes and background data. Per communications with the Agoura Hills Planning and Community Development Department oak tree consultant, Kay Greeley, where *Q. berberidifolia* clusters consisted of numerous large shrubs, a polygon was drawn around the edge of canopy for each cluster and a total DBH provided. When *Quercus lobata* and *Q. agrifolia* oak trees were arranged in tight clusters and/or difficult to delineate separately, or were unreachable due to safety

reasons, or canopy cover resulted in poor GPS satellite reception, an estimate of average DBH, height, canopy and approximate location were recorded. A reference point for these trees and clusters was taken with the GPS to correspond with an aerial markup prepared in the field.

Results and Discussion

Recent surveys identified 453 oak individuals within the surveyed zones, including 185 Valley Oaks, 214 Coast Live Oaks, and 54 Scrub Oaks. Additionally, several large clusters of scrub oaks were located in Zones E, F and G-B that are best described as shrubs rather than trees as they do not have a single main trunk. Nonetheless, these large shrubs would have multiple branches with diameters at 3.5 feet above the ground of 1.5 to 2.5 inches and so are subject to the City's Tree Ordinance. The largest numbers (87%) of scrub oak shrubs are in Area F, with an estimated total of 1,244 scrub oaks in the scrub oak chaparral.

Table 4-1 identifies the number of trees inventoried according to species per zone. Figures 4-1 through 4-8 illustrate the locations of these oaks within each of the zones. The largest proportion of oak trees within the Specific Plan area were those comprising the riparian woodlands along Medea (Zone G-A) and Lindero Canyon Creeks (Zones B and G-B). Of the total individual oaks inventoried, 250 oaks were located within the proposed open space portion of the Specific Plan (Zone G) and 203 were located within the portion of the plan area proposed for development (Zones A South, B, D West, E, and F). The majority of oak trees within the developable zones were located within Zones B and E. The complete list of oak individuals and their corresponding data is provided as an attachment to this study.

Table 4-1 – Oak Inventory Summary for Agoura Village Specific Plan Area

	A South	B	D West	E	F	G-A	G-B	G-E	Total
Valley Oak	16	50	3	33	8	36	39	0	185
Coast Live Oak	4	2	0	14	19	141	33	1	213
Scrub Oak	0	0	0	52	2	0	0	0	54
Subtotal	*20*	*52*	*3*	*99*	*29*	*177*	*72*	*1*	*452*
Scrub Oak Chaparral (estimate) [1]		61			1080		103		1244
Total	**20**	**113**	**3**	**99**	**1109**	**177**	**175** [2]	**1**	**1696**

[1] *Estimate based on density times square footage of mapped polygon*
[2] *Includes only mapped individuals and scrub oak polygons. Additional unmapped oak trees and shrubs present in Zone G-B south of the first ridgeline and west of Lindero Canyon Creek.*

Impacts and Recommendations

2006 Agoura Village Specific Plan EIR

Buildout within the Specific Plan area may impact oak trees either by their permanent removal, or through encroachment. These impacts were considered significant but mitigable (Impact BIO-3 and Impact AES-5) in the 2006 Agoura Village Specific Plan EIR. The EIR based its analysis on two preliminary oak tree surveys that were performed within two separate areas of the southern half of the Specific Plan for previously proposed development projects. The EIR utilized the two reports to provide an indication of the potential impacts to oak tree resources within the southern half of the Specific Plan area. It was assumed that future development within this area would have similar impacts to oak resources as those described for the two individual projects.

Impact BIO-3 referred to the 1997 Creekside EIR (Melendrez Associates et al., (1997) for surveys of approximately 17 acres located south and west of the intersection of Kanan and Agoura Roads within Zones B, F and G-B. The document notes that of the 93 oaks reported in the Creekside project area, approximately 55% would have been impacted (permanently removed or encroached upon) by the proposed project. Impact BIO-3 also discussed the findings of the 2004 TREES, etc. study (2004) of the 6.8 acres located south and east of the intersection of Cornell and Agoura Road within Zone E and G-E. The survey was for a pending development application for that property and stated that of the 61 oaks within the proposed development area (approximately 41%) would have been impacted by that previously proposed project.

Based on these preliminary reports, the Agoura Village Specific Plan EIR concluded that the overall percentage of oaks that would be affected by buildout of the Specific Plan would be between 40% and 50%, a significant but mitigable impact. The loss of overstory, shrub and understory plants associated with these individual oaks was considered significant. In addition to the requirement to obtain a permit from the City for the removal of onsite oak individuals and to comply with the provisions of the permit and City's Oak Tree Ordinance, the EIR recommended Mitigation Measures BIO-3(a) –BIO-3(d).

Mitigation Measure BIO-3(a) required that individual project applicants submit the results of a new oak tree survey and an Oak Tree Report, including an Oak Tree Preservation Program, for review and approval by the Agoura Hills Planning and Community Development Department oak tree consultant as part of the project application. The measure detailed a list of minimum performance criteria that must be met and included in each preservation program. Mitigation measure BIO-3(b) requires that the number of oak trees planned for removal and the number of trees that will be encroached upon by grading and project development must be confirmed by the City's oak tree consultant with the final grading plan. Further, the measure requires that grading plans indicate requirements for retaining walls, tree wells, tree drainage requirements, and pruning. Mitigation measure BIO-3(c) established a mitigation replacement ratio for oak trees based on percent loss. For impacts involving 10 percent or less of oak tree removal, trees would be replaced onsite with the same species as that removed, per the quantities and dimensions specified in the Zoning Code. Impacts involving greater than 10 percent of oak tree removal would mitigate onsite with the requirements as listed above, or an in-lieu fee may be

paid to the City to be used to acquire land and/or install oak trees. The measure goes on to require specific performance criteria for replacement tree plantings, City approval, and surveys for all naturally occurring native vegetation in the areas proposed for oak tree mitigation. Measure BIO-3(d) requires that replacement trees be clustered in an attempt to replace oak woodland habitat.

Additionally, the EIR considered the potential aesthetic impacts due to the loss of oak trees within the Specific Plan area. Impact AES-5 considered the removal of oak trees, which are considered to be an important aesthetic resource, a significant but mitigable impact. The impact analysis noted that oak woodlands onsite are primarily located along the southern and eastern Specific Plan boundaries, near the riparian areas of Medea Creek, and south of Zone E with a few oaks scattered around the project area and along Agoura Road.

The EIR reviewed Specific Plan development standards regulating the integration and preservation of natural resources onsite. Among these, a requirement that individual projects consider oak trees as a natural feature to be incorporated into site design and protected according to the City's Oak Tree Preservation Guidelines. The following are the land use and development standards as provided under the Specific Plan and noted in the EIR:

- Oak trees shall be preserved and incorporated into the project whenever possible. New developments shall preserve or improve natural conditions on or adjacent to the site such as wildlife habitats, streams, creeks, views, and restore and preserve riparian habitats to a natural state where appropriate,
- All projects shall comply with the regulations contained in the Oak Tree Preservation Guidelines (Sections 9657 through 9657.5 of the Zoning Ordinance).

Impact AES-5 states that implementation of Mitigation Measures BIO-3(a) through BIO-3(d) would ensure that damage to, and removal of, oak trees would be avoided to the extent feasible. Moreover, implementation of the Oak Tree Preservation Guidelines (§C.1) and Mitigation Measures BIO-3(a) through BIO-3(d) would ensure that when development impacts to oak trees cannot be avoided, oak trees are planted or replaced such that the overall population size of oak trees within the project area is not reduced and that oaks are replaced in as close proximity to those removed as possible. Thus, the EIR and Specific Plan provide several policies and standards which identify the intent of the Specific Plan to first identify and avoid impacts to important resources, but to also allow flexibility in the design and development of projects provided that the resource is replaced or restored following such impacts.

2007 and 2008 Findings

The following is a re-examination of the potential impacts to oak tree resources within the Specific Plan area utilizing data collected during the 2007 and 2008 oak tree study. The analysis considers two scenarios: a worst-case scenario that assumes maximum allowable tree loss within the developable zones and a more likely scenario based on setbacks, topography of the site, grading concepts, and fulfillment of the goals and intent of the Specific Plan. In addition, the approval of the AVSP and certification of the FEIR by the City Council on June 14, 2006 included a change to the zone area map, consistent with implementation of Mitigation Measure

BIO-1(A) in the FEIR, that shifts the line of Zone G (now G-B) to the north side of Lindero Canyon Creek. The following discussion incorporates that change.

Maximum Tree Loss Scenario. Under a full development, worst-case scenario, complete development of Zones A South, B, D West, E, and F, could involve removal of up to 110 Valley, 39 Coast Live, and 54 Scrub Oaks which are 2 inches or greater at DBH. Additionally, an estimated 1,141 scrub oak shrubs located within the large Scrub Oak Chaparral areas within Zones F and B would also be lost. Although development is actually limited to 0.35 FAR (or 35% of the total site area), without specific site plans it is difficult to assume the particular location of such development. Thus, this estimate assumes that development would require removal of all oak trees occurring within the development zones. Under this development plan, impacts to oak trees would still be considered significant, but mitigable as each development would still be subject to the City's Oak Tree Ordinance, the Specific Plan land use development standards and mitigation measures outlined in the 2006 EIR.

Mitigation measures BIO-3(a) through BIO-3(d) would still apply as recommended in the 2006 EIR, thus requiring submittal of an oak tree survey, oak tree report and oak tree preservation program to the City's oak tree consultant as part of the project application. At a minimum, this would require protection of those trees not proposed for removal, confirmation by the City of the number of trees to be removed or encroached upon. Further, implementation of the mitigation measures, specifically BIO-3(c) and (d) would stipulate the number, size, and placement of replacement trees or the amount for payment to an in-lieu fee to the City. Pursuant to the City's Oak Tree Ordinance, implementation of these mitigation measures would reduce impacts to oak trees under the full buildout scenario to a less than significant level.

Although full development and the complete removal of all oak trees is possible and could occur, it is an unlikely scenario. The City's Oak Tree Preservation Guidelines state that it is "the policy of the City of Agoura Hills to require the preservation of all oak trees unless compelling reasons justify the removal of such trees." Additionally, the Agoura Specific Plan states that "Oak trees shall be preserved and incorporated into the project whenever possible. New developments shall preserve or improve natural conditions on or adjacent to the site such as wildlife habitats, streams, creeks, views, and restore and preserve riparian habitats to a natural state where appropriate." Furthermore, EIR mitigation measure BIO-2(a) requires a buffer zone of 50-100 feet of native vegetation to be maintained between urban development and adjacent sensitive native habitats. This measure would prohibit development and encroachment within the 50-100 buffer area from the Southern Arroyo Willow Scrub/Arroyo Willow Riparian habitat. Thus, those trees occurring within the established native vegetation buffer would be protected from removal or encroachment. Therefore, although impact to a majority of the oak trees within the developable areas is allowable under the General Plan, the Specific Plan and EIR would limit development outside of the riparian and native vegetation buffer.

Likely Tree Loss Scenario. A more likely scenario is that many of the oak trees within those developable zones in the southern portion of the Specific Plan would actually be preserved and incorporated into the individual projects' landscaping. This scenario assumes that applicants would successfully implement the Specific Plan policy requiring "Oak trees shall be preserved and incorporated into the project whenever possible. New developments shall preserve or

improve natural conditions on or adjacent to the site such as wildlife habitats, streams, creeks, views, and restore and preserve riparian habitats to a natural state where appropriate."

As shown in Figure 4-9, under this scenario, all oak trees occurring within Lindero Canyon and Medea Creek's riparian area, including the 50-100 foot buffer, would be preserved, as well as most of the trees occurring along Agoura Road and along the southern most boundary of Zone E, which abuts the Scrub Oak Chaparral offsite to the south. Additionally, presence of Lyon's Pentachaeta (*Pentachaeta lyonii*), a Federal and State endangered plant, in Zone F, would reduce the likelihood of development within the large Scrub Oak Chaparral in Zones F and B, and is therefore not included in the likely development scenario. This assumes that the vast majority of the estimated 1,141 scrub oak shrubs would not be affected. As shown in Table 4-2, below, and in Figure 4-9, under this scenario it is estimated that a total of up to 80 oak trees would be impacted: 48 Valley, 14 Coast Live, and 18 Scrub Oak. The percentage of oak trees that would be impacted is estimated to be approximately 18% of the total number of trees south of Agoura Road (thereby excluding Zone D West) within the Specific Plan. An estimated 26% of Valley, 7% of Coast Live, and 33% of Scrub Oak trees would be impacted under this scenario. When excluding Zones G-A, G-B and G-E, the percentage of trees impacted south of Agoura Road increases to approximately 40%, or 45% of Valley, 36% of Coast Live, and 33% of Scrub Oak . Trees located in the proposed open space area of Zone G would be fully protected. Table 4-2 illustrates the number of oak trees that may be impacted by zone.

Table 4-2 - Estimate of Impacted Oak Trees Under the Likely (partial tree loss) Scenario

	A South	B	D West	E	F	G-A	G-B	G-E	Total All Zones	Zones A, B, D, E and F
Incorporated Oak Trees										
Valley Oak	4	34	3	15	6	36	39	0	137	62
Coast Live Oak	4	1	0	8	12	141	33	1	200	25
Scrub Oak	0	0	0	36	0	0	0	0	36	36
Total	8	35	3	59	18	177	72	1	373	123
Impacted Oak Trees										
Valley Oak	12	16	0	18	2	0	0	0	48	48
Coast Live Oak	0	1	0	6	7	0	0	0	14	14
Scrub Oak	0	0	0	16	2	0	0	0	18	18
Total	12	17	0	40	11	0	0	0	80	80

Conclusion

Analysis of tree inventory data gathered in 2007 and 2008 indicates similar impacts under a likely buildout scenario as that discussed in the 2006 EIR. Although the 2007/2008 analysis reveals a percent loss of trees for the developable zones of the Specific Plan area (40%) similar to that in the 2006 EIR (40% - 50%), the 2007/2008 findings show an overall decrease in the total number of trees likely to be removed. The number of potential scrub oak shrubs that may be removed would be dependent on successful implementation of endangered species mitigation. It is assumed that the majority of scrub oaks shrubs in Area F would be retained.

Based on data collected in 2007 and 2008 and the analysis above, the overall percentage of trees that is anticipated to be affected by buildout of the Specific Plan would be at the low end (40%) of the range identified in the 2006 EIR as 40% to 50%. The loss of overstory, shrub and understory plants associated with these individual trees was considered significant in the EIR and would still be considered as such. Thus, as the revised analysis results would indicate that the assumptions and findings of the EIR were accurate, the impacts and mitigation measures as prescribed in the EIR, in addition to the requirement to prepare an oak tree survey and report as part of the project application, to obtain a permit from the City for the removal of onsite oak trees and to comply with the provisions of the permit and City's Oak Tree Ordinance, would remain as recommended. In light of the new information presented above, the 2006 EIR impacts regarding oak trees, Impacts BIO-2 and BIO-3, would still be considered *significant but mitigable*. Implementation of Mitigation Measures BIO-3(a) –BIO-3(d) would reduce impacts to a level considered less than significant. It is important to note here that BIO-3(d) was included in the Mitigation Monitoring and Reporting Program for the Final EIR in response to a comment on the Draft EIR. Although this comment was addressed and an additional mitigation measure drafted for inclusion in the MMRP, it was not carried over into the final text of Section 4.3 of the EIR. It is therefore mentioned herein for inclusion in the Updated Revised and Recirculated EIR. No amendment to these mitigation measures is deemed necessary in light of the new information revealed as part of the 2007/2008 study.

Section 4 References

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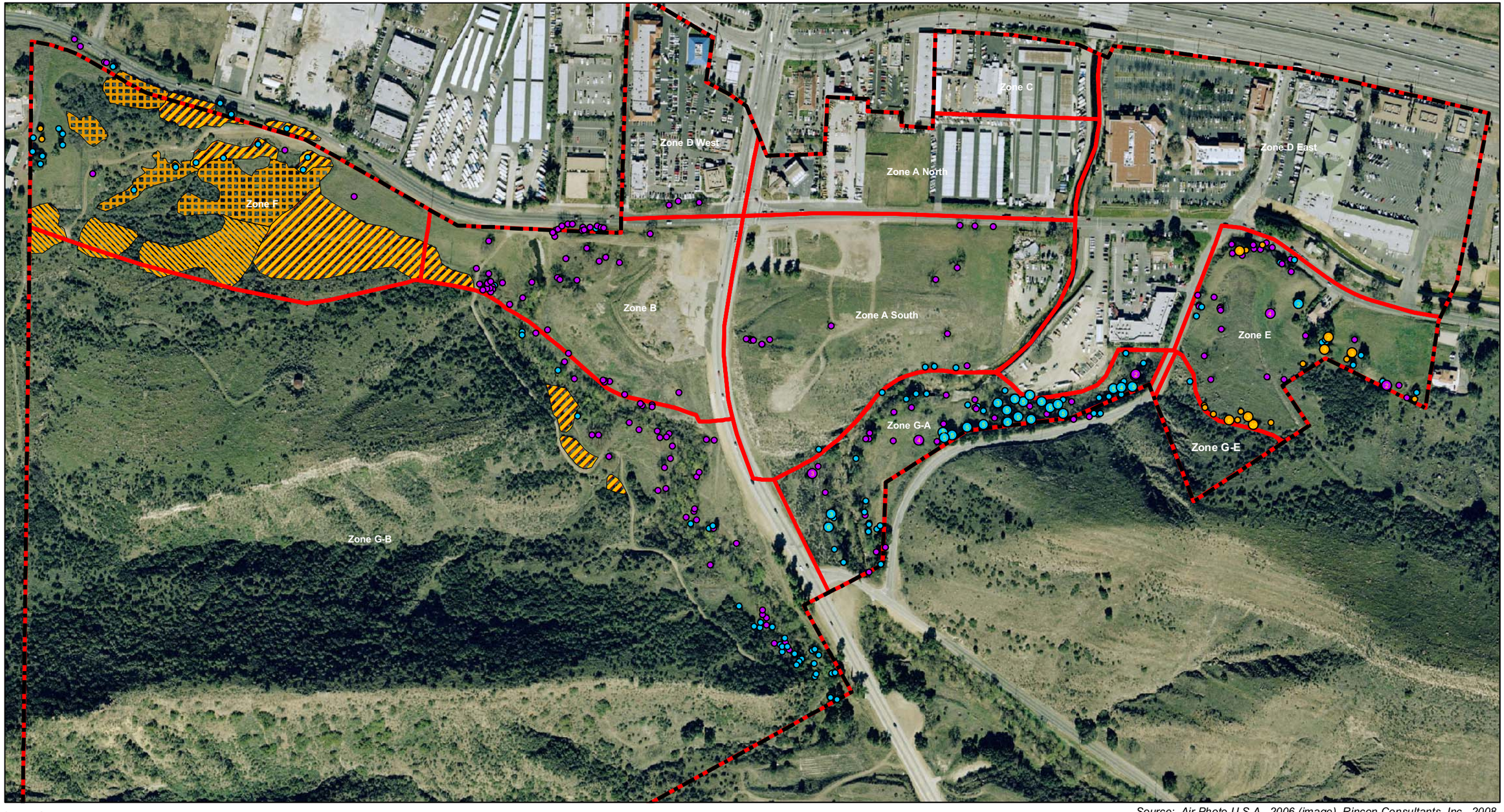
Attachments:
Figure 4-1 – Valley Oak, Coast Live, and Scrub Oak Inventory Map
Figure 4-2 – Oak Tree Inventory Zone A South
Figure 4-3 – Oak Tree Inventory Zone B
Figure 4-4 – Oak Tree Inventory Zone D West
Figure 4-5 – Oak Tree Inventory Zone E
Figure 4-6 – Oak Tree Inventory Zone F
Figure 4-7 – Oak Tree Inventory Zone G-A
Figure 4-8 – Oak Tree Inventory Zone G-B
Figure 4-9 – Practical Tree Loss Scenario
Appendix 4A Oak Tree Inventory Table



Legend

Zones
Plan Area Boundary

Single Oaks	Group of Multiple Oaks with # of Oaks in Center	Mixed Scrub Oak Chaparral
Coast Live Oak	Coast Live Oak	20% Scrub Oak
Scrub Oak	Scrub Oak	50% Scrub Oak
Valley Oak	Valley Oak	90% Scrub Oak

Source: Air Photo U.S.A., 2006 (image), Rincon Consultants, Inc., 2008.

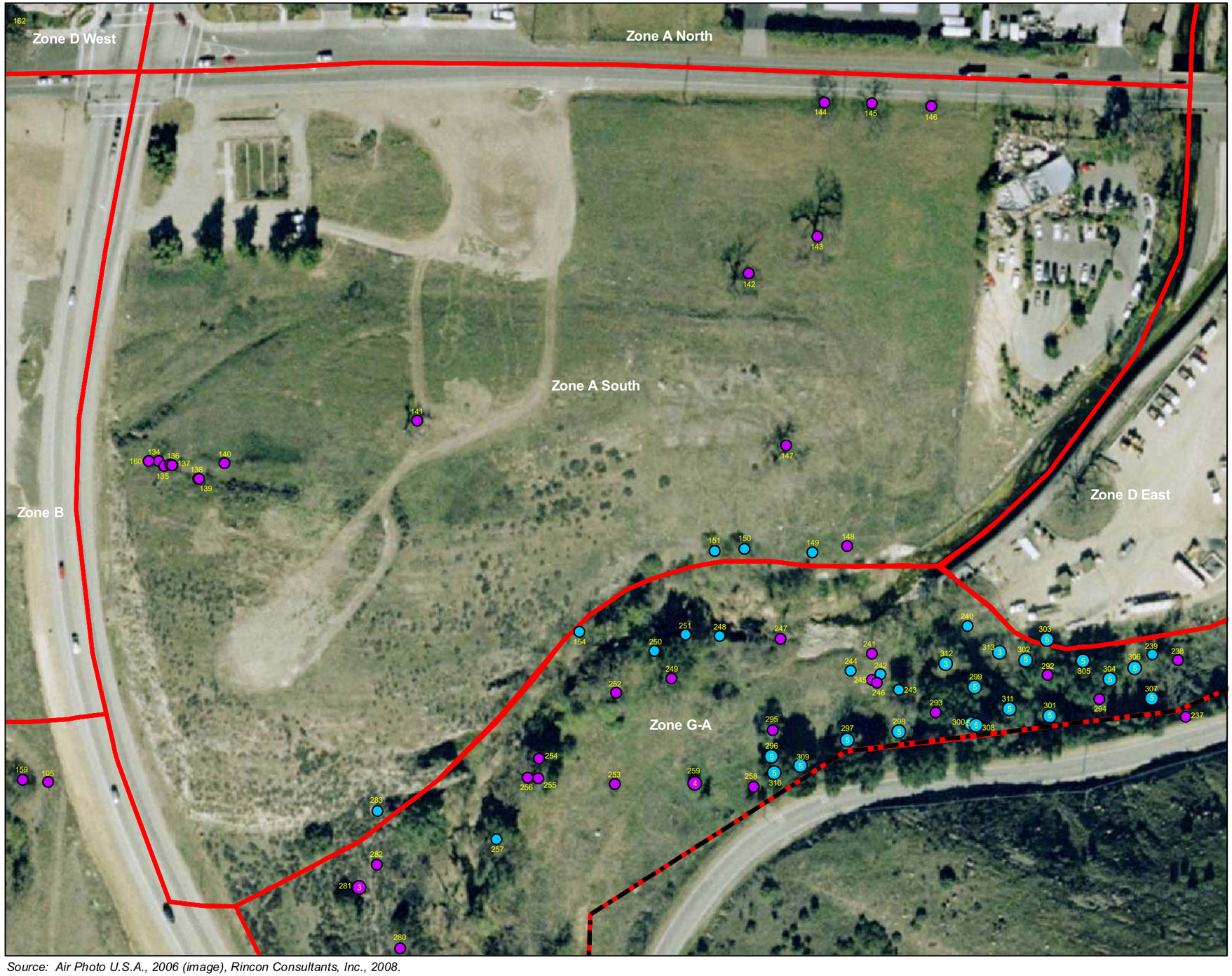
N

0 250 500 Feet

Oak Species Inventory

Figure 4-1

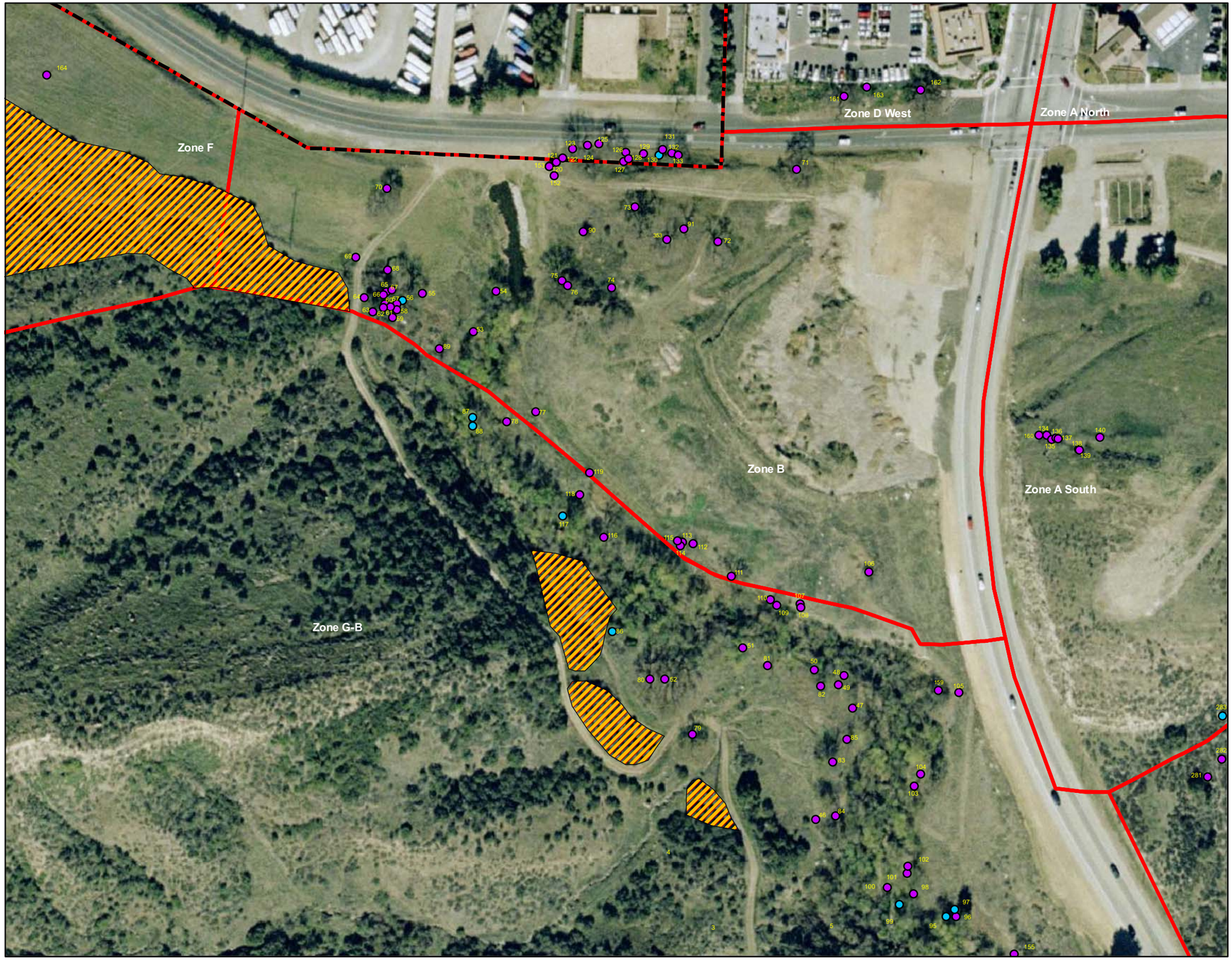
City of Agoura Hills



Source: Air Photo U.S.A., 2006 (image), Rincon Consultants, Inc., 2008.

Oak Species Inventory
Zone A South

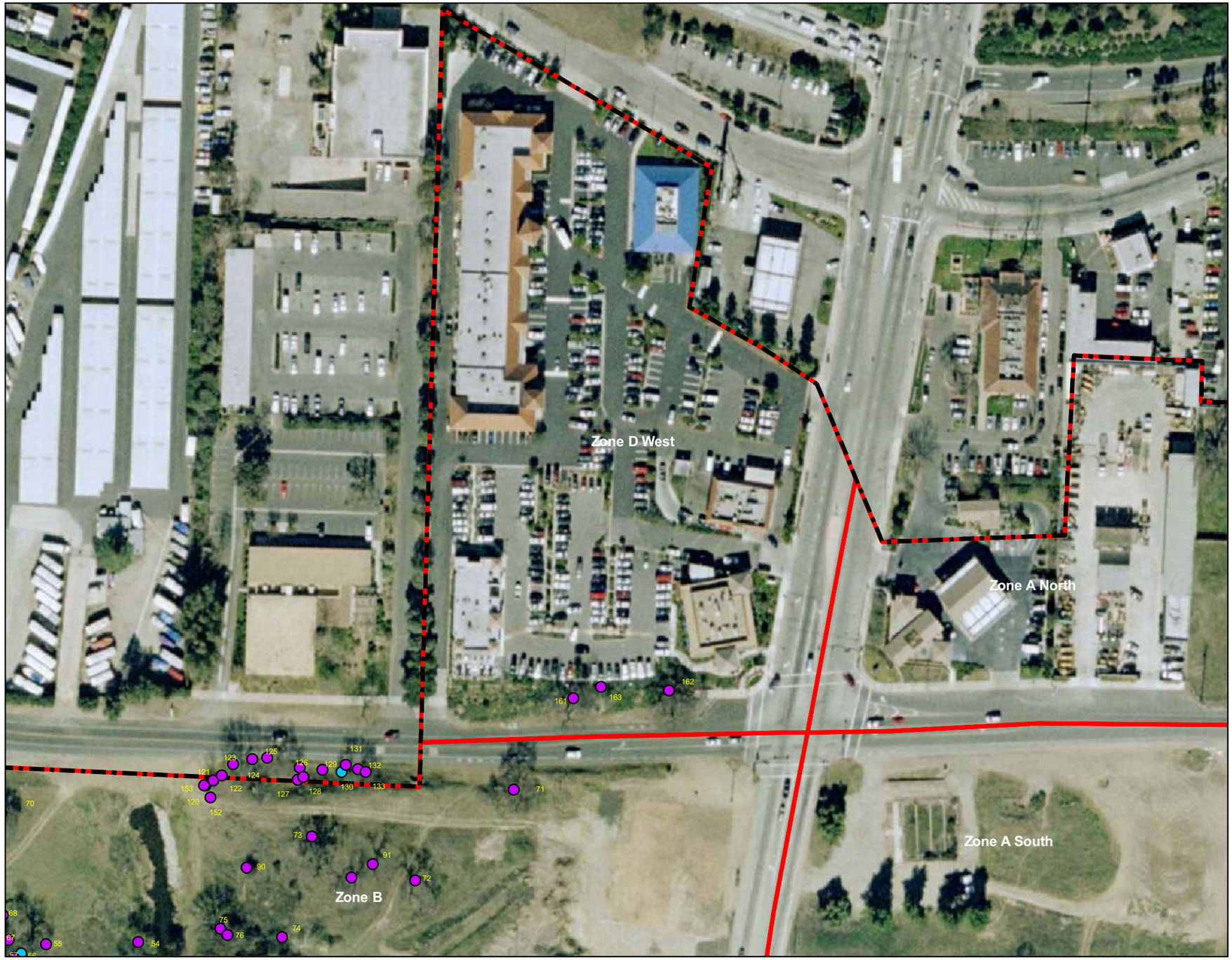
Figure 4-2



Source: Air Photo U.S.A., 2006 (image), Rincon Consultants, Inc., 2008.

Oak Species Inventory
Zone B

Figure 4-3



Source: Air Photo U.S.A., 2006 (image), Rincon Consultants, Inc., 2008.

Oak Species Inventory
Zone D West

Figure 4-4

Legend
- Plan Area Boundary
- Zones

Single Trees
- Coast Live Oak
- Scrub Oak
- Valley Oak

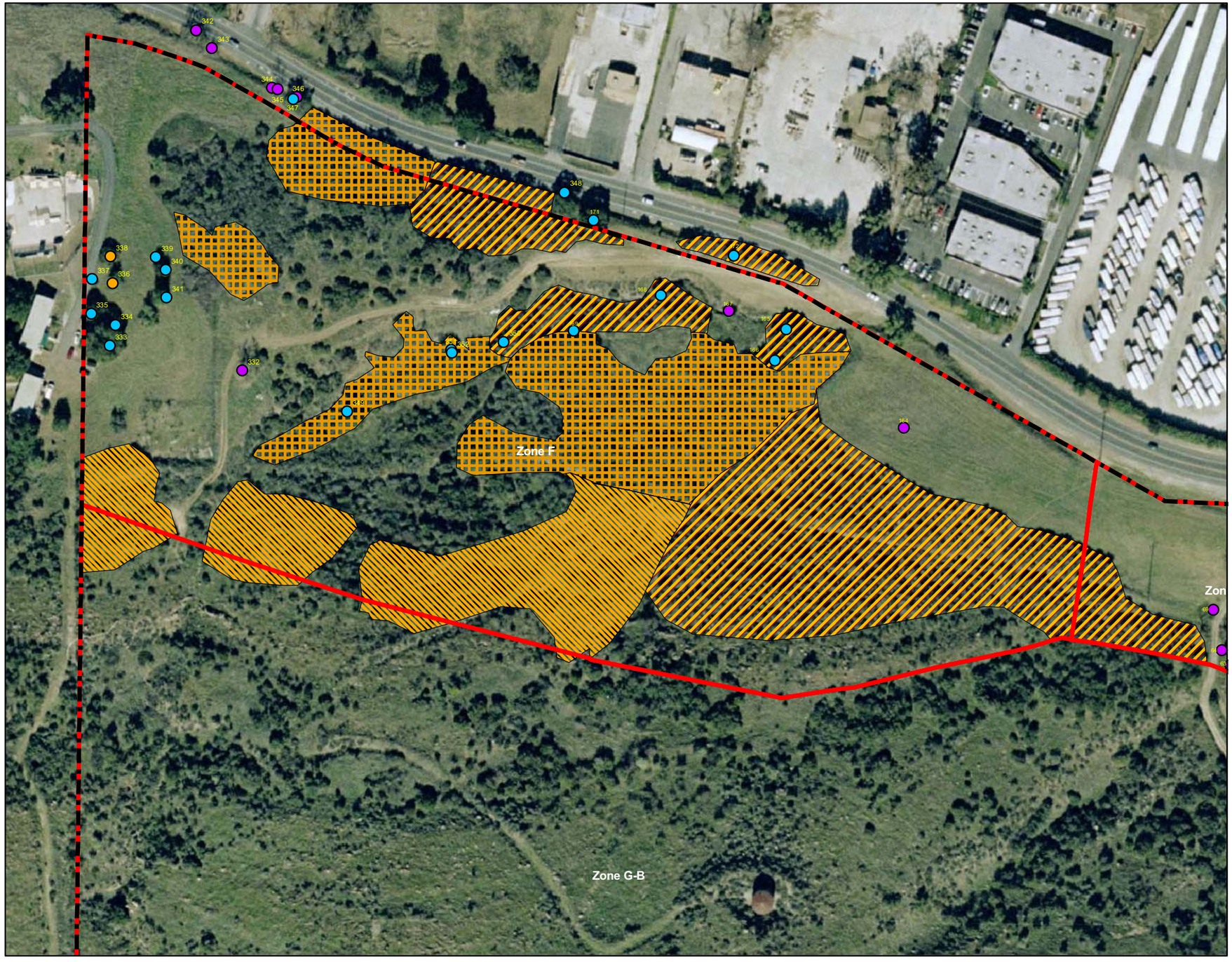
Group of Multiple Oaks with # of Oaks in Center
- Coast Live Oak
- Scrub Oak
- Valley Oak

N
0 100 200 Feet

Source: Air Photo U.S.A., 2006 (image), Rincon Consultants, Inc., 2008.

Oak Tree Inventory
Zone E

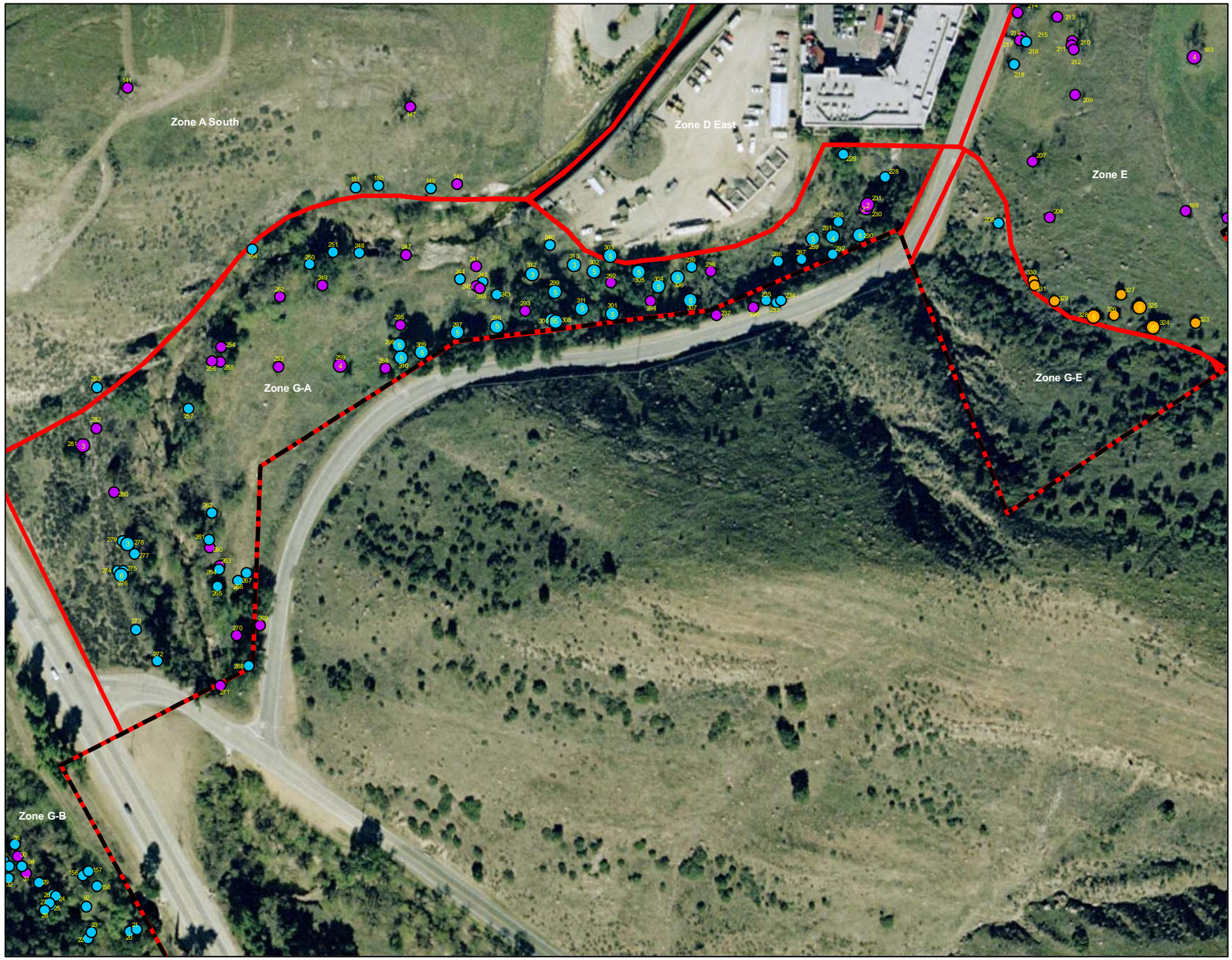
Figure 4-5



Source: Air Photo U.S.A., 2006 (image), Rincon Consultants, Inc., 2008.

Oak Species Inventory
Zone F

Figure 4-6



Legend
- Plan Area Boundary
- Zones

Single Oaks
- Coast Live Oak
- Scrub Oak
- Valley Oak

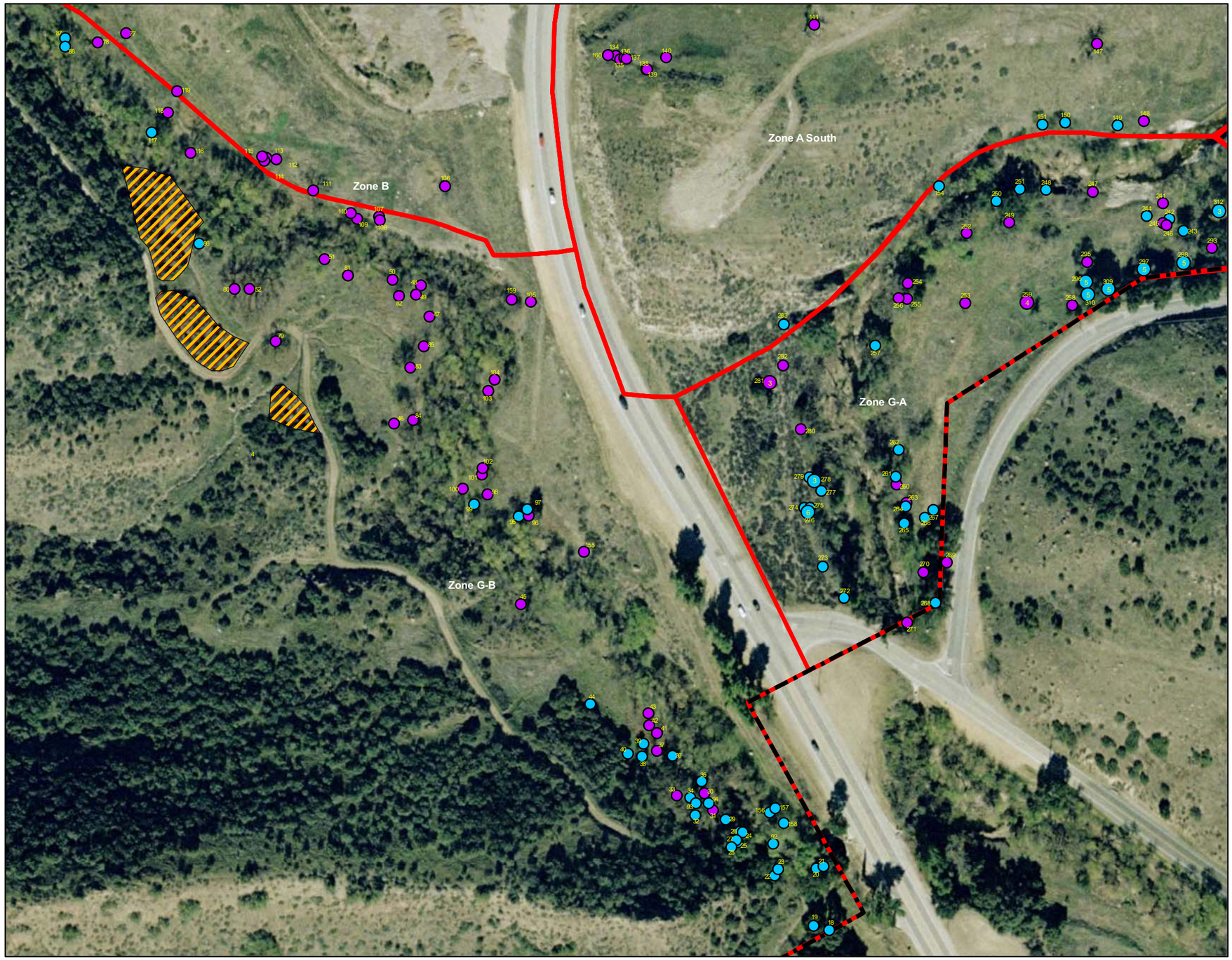
Group of Multiple Oaks with # of Oaks in Center
- Coast Live Oak
- Scrub Oak
- Valley Oak

N
0 100 200 Feet

Source: Air Photo U.S.A., 2006 (image), Rincon Consultants, Inc., 2008.

Oak Species Inventory
Zone G-A and Zone G-E

Figure 4-7



Legend
- Plan Area Boundary
- Zones

Single Oaks
- Coast Live Oak
- Scrub Oak
- Valley Oak

Group of Multiple Oaks with # of Oaks in Center
- Coast Live Oak
- Scrub Oak
- Valley Oak

Mixed Scrub Oak Chaparral
- 90% Scrub Oak

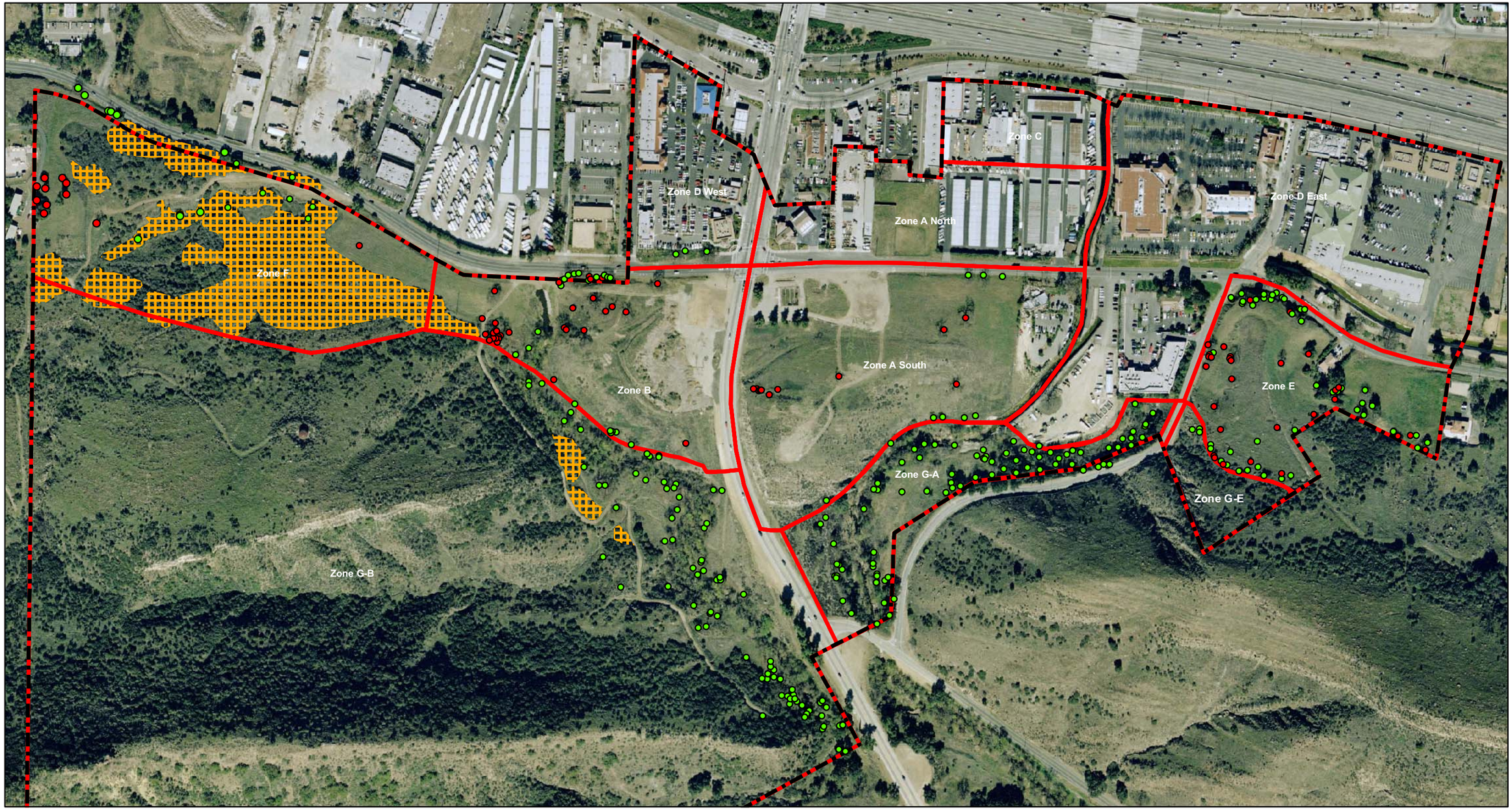
N

0 100 200 Feet

Source: Air Photo U.S.A., 2006 (image), Rincon Consultants, Inc., 2008.

Oak Species Inventory
Zone G-B

Figure 4-8



Source: Air Photo U.S.A., 2006 (image), Rincon Consultants, Inc., 2008.

Legend

Plan Area Boundary
Zones
Impacted Oak Trees
Incorporated Oak Trees
Scrub Oak Chaparral

N

0 250 500 Feet

Practical Oak Loss Scenario

Figure 4-9

Oak Tree Inventory Table

Zone	Map ID	Species	No. of trees	DBH	Height	Canopy	Latitude	Longitude	Tag ID number(s)
A South	134	Valley	1	3	7	8	34.1423	-118.7616	
A South	135	Valley	1	2	12	8	34.1423	-118.7616	
A South	136	Valley	1	2	14	10	34.1423	-118.7616	
A South	137	Valley	1	5	30	15	34.1423	-118.7616	
A South	138	Valley	1	4	18	15	34.1423	-118.7615	
A South	139	Valley	1	5	12	15	34.1423	-118.7615	
A South	140	Valley	1	2	10	5	34.1423	-118.7614	
A South	141	Valley	1	31	45	50	34.1425	-118.7607	
A South	142	Valley	1	27	55	65	34.1429	-118.7595	
A South	143	Valley	1	35	70	75	34.1430	-118.7593	
A South	144	Valley	1	27	50	65	34.1434	-118.7593	
A South	145	Valley	1	28	45	60	34.1434	-118.7591	84, 6
A South	146	Valley	1	12	35	45	34.1434	-118.7589	
A South	147	Valley	1	36	60	65	34.1424	-118.7594	
A South	148	Valley	1	2	20	20	34.1421	-118.7592	
A South	149	Coast Live	1	5	25	12	34.1421	-118.7593	
A South	150	Coast Live	1	3	20	8	34.1421	-118.7595	
A South	151	Coast Live	1	4	25	10	34.1421	-118.7596	
A South	160	Valley	1	28	30	45	34.1423	-118.7617	1
A South	283	Coast Live	1	23	30	50	34.1413	-118.7608	
B	53	Valley	1	8	30	25	34.1427	-118.7642	
B	54	Valley	1	4	20	15	34.1428	-118.7641	
B	55	Valley	1	23	60	55	34.1428	-118.7644	264
B	56	Coast Live	1	4	7	10	34.1428	-118.7645	272
B	57	Valley	1	2	10	10	34.1428	-118.7645	
B	58	Valley	1	5	20	15	34.1428	-118.7645	271

Oak Tree Inventory Table

Zone	Map ID	Species	No. of trees	DBH	Height	Canopy	Latitude	Longitude	Tag ID number(s)
B	59	Valley	1	4	15	10	34.1427	-118.7646	330
B	60	Valley	1	4	25	10	34.1428	-118.7646	267, 174
B	61	Valley	1	6	30	15	34.1428	-118.7646	272.2
B	62	Valley	1	17	55	45	34.1428	-118.7646	
B	63	Valley	1	18	50	45	34.1428	-118.7646	269
B	64	Valley	1	2	6	3	34.1428	-118.7647	
B	65	Valley	1	5	20	10	34.1428	-118.7646	
B	66	Valley	1	2	7	8	34.1428	-118.7646	
B	67	Valley	1	3	10	8	34.1428	-118.7646	
B	68	Valley	1	45	45	30	34.1429	-118.7646	263
B	69	Valley	1	24	40	35	34.1430	-118.7647	271
B	70	Valley	1	39	50	60	34.1432	-118.7646	262
B	71	Valley	1	19	35	40	34.1433	-118.7628	246
B	72	Valley	1	37	40	45	34.1430	-118.7631	245
B	73	Valley	1	3	10	6	34.1432	-118.7635	245.1
B	74	Valley	1	28	50	60	34.1429	-118.7636	244
B	75	Valley	1	4	20	15	34.1429	-118.7638	
B	76	Valley	1	4	20	25	34.1429	-118.7638	261
B	77	Valley	1	2	10	7	34.1424	-118.7639	
B	89	Valley	1	10	35	30	34.1426	-118.7644	
B	90	Valley	1	2	8	6	34.1431	-118.7637	
B	91	Valley	1	19	35	30	34.1431	-118.7633	247
B	106	Valley	1	15	25	30	34.1418	-118.7624	18
B	111	Valley	1	28	45	60	34.1418	-118.7630	39
B	112	Valley	1	10	25	15	34.1419	-118.7632	40
B	113	Valley	1	2	12	9	34.1419	-118.7633	
B	114	Valley	1	2	12	7	34.1419	-118.7633	

Oak Tree Inventory Table

Zone	Map ID	Species	No. of trees	DBH	Height	Canopy	Latitude	Longitude	Tag ID number(s)
B	115	Valley	1	4	25	15	34.1419	-118.7633	
B	119	Valley	1	3	17	8	34.1422	-118.7637	
B	120	Valley	1	6	30	25	34.1433	-118.7639	
B	121	Valley	1	2	10	15	34.1433	-118.7638	
B	122	Valley	1	26	65	70	34.1433	-118.7638	16
B	123	Valley	1	12	35	50	34.1434	-118.7638	255, 17
B	124	Valley	1	51	50	60	34.1434	-118.7637	257, 18
B	125	Valley	1	19	50	60	34.1434	-118.7636	19
B	126	Valley	1	3	20	8	34.1434	-118.7635	
B	127	Valley	1	5	25	10	34.1433	-118.7635	
B	128	Valley	1	2	10	60	34.1433	-118.7635	
B	129	Valley	1	7	40	30	34.1434	-118.7634	20
B	130	Coast Live	1	2	8	12	34.1434	-118.7634	
B	131	Valley	1	11	45	40	34.1434	-118.7634	21
B	132	Valley	1	14	50	50	34.1434	-118.7633	22
B	133	Valley	1	9	30	30	34.1434	-118.7633	23
B	152	Valley	1	11	40	35	34.1433	-118.7638	
B	153	Valley	1	2	20	10	34.1433	-118.7639	
B	353	Valley	1	-	-	-	34.1430	-118.7633	
D	161	Valley	1	34	50	65	34.1436	-118.7626	
D	162	Valley	1	37	55	65	34.1436	-118.7622	
D	163	Valley	1	9	30	20	34.1436	-118.7625	
E	173	Valley	1	27	40	45	34.1432	-118.7562	19
E	174	Valley	1	25	40	60	34.1431	-118.7561	18
E	176	Valley	1	9	20	35	34.1433	-118.7562	
E	177	Valley	1	12	30	40	34.1432	-118.7559	16
E	178	Valley	1	5	20	15	34.1432	-118.7559	15

Oak Tree Inventory Table

Zone	Map ID	Species	No. of trees	DBH	Height	Canopy	Latitude	Longitude	Tag ID number(s)
E	179	Coast Live	1	4	15	10	34.1431	-118.7556	
E	180	Valley	1	12	40	45	34.1431	-118.7556	
E	181	Valley	1	12	40	50	34.1430	-118.7555	99, 12
E	182	Coast Live	2	12	45	75	34.1427	-118.7554	
E	183	Valley	4	10	40	50	34.1426	-118.7557	43
E	184	Valley	1	9	40	25	34.1424	-118.7553	
E	185	Coast Live	1	19	60	80	34.1423	-118.7551	
E	186	Coast Live	1	16	50	70	34.1423	-118.7551	
E	187	Coast Live	1	4	12	15	34.1424	-118.7551	
E	188	Coast Live	1	16	35	40	34.1424	-118.7551	
E	189	Valley	1	12	40	80	34.1424	-118.7548	52
E	190	Coast Live	1	6	25	40	34.1421	-118.7548	54
E	191	Coast Live	1	19	45	60	34.1422	-118.7547	
E	192	Valley	1	2	12	3	34.1419	-118.7543	
E	193	Valley	2	3	14	7	34.1419	-118.7544	
E	194	Valley	1	22	40	60	34.1418	-118.7542	34
E	195	Coast Live	1	9	15	25	34.1419	-118.7541	33, 11
E	197	Valley	1	22	25	55	34.1420	-118.7556	41, 20
E	198	Valley	1	6	18	20	34.1420	-118.7558	40, 21
E	206	Valley	1	17	25	20	34.1420	-118.7564	39, 22
E	207	Valley	1	22	25	40	34.1422	-118.7565	
E	209	Valley	1	4	12	15	34.1425	-118.7563	37
E	210	Valley	1	17	40	40	34.1427	-118.7563	
E	211	Valley	1	4	15	15	34.1426	-118.7563	36
E	212	Valley	1	3	15	10	34.1426	-118.7563	
E	213	Valley	1	7	20	25	34.1428	-118.7564	
E	214	Valley	1	38	45	90	34.1428	-118.7566	

Oak Tree Inventory Table

Zone	Map ID	Species	No. of trees	DBH	Height	Canopy	Latitude	Longitude	Tag ID number(s)
E	216	Valley	1	4	20	15	34.1427	-118.7565	29, 2
E	217	Valley	1	13	30	45	34.1427	-118.7565	28
E	218	Coast Live	1	5	12	10	34.1427	-118.7565	
E	219	Coast Live	1	10	20	20	34.1426	-118.7566	
E	222	Valley	1	9	20	20	34.1433	-118.7558	6, 4
E	223	Valley	1	8	20	15	34.1432	-118.7557	13, 5
E	226	Valley	1	4	15	12	34.1431	-118.7555	8
E	227	Coast Live	1	7	20	20	34.1431	-118.7555	9
E	284	Valley	1	13	35	40	34.1432	-118.7559	92
E	285	Coast Live	1	3	14	7	34.1420	-118.7545	193
E	314	Scrub	4	2	5	3	34.1432	-118.7561	
E	315	Scrub	1	11	20	40	34.1432	-118.7560	
E	316	Scrub	1	4	10	15	34.1432	-118.7558	
E	317	Scrub	3	2	5	6	34.1423	-118.7551	
E	318	Scrub	2	2	8	16	34.1424	-118.7551	
E	319	Scrub	1	3	14	12	34.1422	-118.7549	
E	320	Scrub	3	3	12	40	34.1422	-118.7548	
E	321	Scrub	1	2	5	7	34.1418	-118.7541	
E	322	Scrub	1	2	5	8	34.1421	-118.7554	
E	323	Scrub	1	2	7	20	34.1416	-118.7557	
E	324	Scrub	20	3	10	80	34.1416	-118.7559	
E	325	Scrub	3	3	10	30	34.1416	-118.7560	
E	326	Scrub	1	3	8	20	34.1416	-118.7561	
E	327	Scrub	1	2	5	8	34.1417	-118.7561	
E	328	Scrub	6	3	12	12	34.1416	-118.7562	
E	329	Scrub	1	2	6	15	34.1417	-118.7564	
E	330	Scrub	1	2	6	15	34.1417	-118.7565	

Oak Tree Inventory Table

Zone	Map ID	Species	No. of trees	DBH	Height	Canopy	Latitude	Longitude	Tag ID number(s)
E	331	Scrub	1	2	6	10	34.1417	-118.7565	
F	164	Valley	1	2	10	15	34.1436	-118.7661	
F	165	Coast Live	1	27	45	70	34.1440	-118.7666	512, 281
F	166	Coast Live	1	17	40	45	34.1439	-118.7667	280
F	167	Valley	1	6	30	12	34.1441	-118.7669	
F	168	Coast Live	1	10	25	25	34.1441	-118.7672	
F	169	Coast Live	1	19	30	45	34.1440	-118.7676	284, 106
F	171	Coast Live	1	24	25	60	34.1444	-118.7675	99, 14, 283, 68
F	172	Coast Live	1	8	20	15	34.1443	-118.7669	28
F	332	Valley	1	21	35	36	34.1438	-118.7690	113, 290
F	333	Coast Live	1	53	30	70	34.1439	-118.7697	115, 292
F	334	Coast Live	1	12	15	25	34.1440	-118.7697	116
F	335	Coast Live	1	6	15	15	34.1440	-118.7697	117
F	336	Scrub	1	3	10	25	34.1441	-118.7697	
F	337	Coast Live	1	2	10	10	34.1441	-118.7697	
F	338	Scrub	1	3	15	30	34.1442	-118.7696	
F	339	Coast Live	1	10	25	15	34.1442	-118.7694	120
F	340	Coast Live	1	7	15	15	34.1442	-118.7694	119
F	341	Coast Live	1	9	20	30	34.1440	-118.7694	
F	342	Valley	1	27	40	40	34.1450	-118.7692	6, 130, 46, 322
F	343	Valley	1	6	20	20	34.1450	-118.7692	7, 129
F	344	Valley	1	9	25	25	34.1448	-118.7689	128, 258
F	345	Valley	1	7	25	25	34.1448	-118.7689	127, 9
F	346	Valley	1	8	30	25	34.1448	-118.7688	125, 10
F	347	Coast Live	1	27	35	50	34.1448	-118.7688	126, 11, 326
F	348	Coast Live	1	18	30	60	34.1445	-118.7676	282, 100
F	349	Coast Live	1	12	40	50	34.1436	-118.7686	108, 289

Oak Tree Inventory Table

Zone	Map ID	Species	No. of trees	DBH	Height	Canopy	Latitude	Longitude	Tag ID number(s)
F	350	Coast Live	1	19	35	30	34.1439	-118.7679	285
F	351	Coast Live	1	15	30	25	34.1439	-118.7681	112, 288
F	352	Coast Live	1	15	30	25	34.1439	-118.7681	
G-A	154	Coast Live	1	3	20	10	34.1418	-118.7601	
G-A	228	Coast Live	1	3	15	10	34.1421	-118.7572	
G-A	229	Coast Live	1	25	50	70	34.1422	-118.7574	
G-A	230	Valley	2	5	20	8	34.1420	-118.7573	
G-A	231	Valley	2	16	40	60	34.1420	-118.7573	
G-A	232	Coast Live	1	31	20	45	34.1418	-118.7574	
G-A	233	Coast Live	1	10	30	40	34.1416	-118.7577	
G-A	234	Coast Live	1	5	15	10	34.1416	-118.7577	
G-A	235	Coast Live	1	2	10	5	34.1416	-118.7577	
G-A	236	Valley	1	5	15	8	34.1416	-118.7578	
G-A	237	Valley	1	17	30	50	34.1416	-118.7580	
G-A	238	Valley	1	22	45	60	34.1418	-118.7580	
G-A	239	Coast Live	1	13	40	40	34.1418	-118.7581	
G-A	240	Coast Live	1	22	40	40	34.1419	-118.7587	
G-A	241	Valley	1	28	40	50	34.1418	-118.7591	
G-A	242	Coast Live	1	14	40	25	34.1417	-118.7590	
G-A	243	Coast Live	1	14	40	25	34.1417	-118.7590	
G-A	244	Coast Live	1	10	25	15	34.1417	-118.7592	
G-A	245	Valley	1	7	30	15	34.1417	-118.7591	
G-A	246	Valley	1	17	45	40	34.1417	-118.7591	
G-A	247	Valley	1	25	40	45	34.1418	-118.7594	
G-A	248	Coast Live	1	6	15	7	34.1418	-118.7596	
G-A	249	Valley	1	47	50	100	34.1417	-118.7598	
G-A	250	Coast Live	1	15	40	25	34.1418	-118.7599	

Oak Tree Inventory Table

Zone	Map ID	Species	No. of trees	DBH	Height	Canopy	Latitude	Longitude	Tag ID number(s)
G-A	251	Coast Live	1	14	40	25	34.1418	-118.7597	
G-A	252	Valley	1	58	50	120	34.1416	-118.7600	
G-A	253	Valley	1	14	20	25	34.1414	-118.7600	
G-A	254	Valley	1	22	30	40	34.1414	-118.7603	
G-A	255	Valley	1	16	30	30	34.1414	-118.7603	74
G-A	256	Valley	1	37	50	80	34.1414	-118.7603	
G-A	257	Coast Live	1	75	40	60	34.1412	-118.7604	75
G-A	258	Valley	1	2	12	3	34.1414	-118.7595	
G-A	259	Valley	4	2	10	3	34.1414	-118.7597	
G-A	260	Valley	1	13	50	30	34.1407	-118.7603	79
G-A	261	Coast Live	1	12	40	25	34.1407	-118.7603	
G-A	262	Coast Live	1	11	40	25	34.1408	-118.7603	
G-A	263	Valley	1	10	25	30	34.1406	-118.7603	
G-A	264	Coast Live	1	12	25	20	34.1406	-118.7603	
G-A	265	Coast Live	1	14	25	40	34.1405	-118.7603	
G-A	266	Coast Live	1	21	25	70	34.1405	-118.7602	98
G-A	267	Coast Live	1	16	25	70	34.1406	-118.7601	
G-A	268	Coast Live	1	21	35	50	34.1402	-118.7601	
G-A	269	Valley	1	7	15	10	34.1404	-118.7601	37
G-A	270	Valley	1	6	25	15	34.1403	-118.7602	
G-A	271	Valley	1	7	25	15	34.1401	-118.7603	
G-A	272	Coast Live	1	6	25	15	34.1402	-118.7605	
G-A	273	Coast Live	1	10	25	25	34.1403	-118.7606	
G-A	274	Coast Live	1	10	20	15	34.1406	-118.7607	
G-A	275	Coast Live	1	10	20	15	34.1406	-118.7607	
G-A	276	Coast Live	6	3	10	6	34.1406	-118.7607	
G-A	277	Coast Live	1	10	25	25	34.1406	-118.7607	

Oak Tree Inventory Table

Zone	Map ID	Species	No. of trees	DBH	Height	Canopy	Latitude	Longitude	Tag ID number(s)
G-A	278	Coast Live	3	5	10	6	34.1407	-118.7607	
G-A	279	Coast Live	1	5	20	20	34.1407	-118.7607	
G-A	280	Valley	1	10	30	20	34.1409	-118.7608	
G-A	281	Valley	3	6	15	15	34.1411	-118.7609	
G-A	282	Valley	1	6	15	15	34.1411	-118.7608	
G-A	286	Coast Live	1	10-30	-	-	34.1418	-118.7577	
G-A	287	Coast Live	1	10-30	-	-	34.1418	-118.7576	
G-A	288	Coast Live	1	10-30	-	-	34.1420	-118.7574	
G-A	289	Coast Live	5	2-10	-	-	34.1419	-118.7575	
G-A	290	Coast Live	5	2-10	-	-	34.1419	-118.7573	
G-A	291	Coast Live	4	2-10	-	-	34.1419	-118.7574	
G-A	292	Valley	1	2-10	-	-	34.1417	-118.7584	
G-A	293	Valley	1	2-10	-	-	34.1416	-118.7588	
G-A	294	Valley	1	10-30	-	-	34.1416	-118.7583	
G-A	295	Valley	1	40	-	-	34.1415	-118.7594	
G-A	296	Coast Live	5	10-30	-	-	34.1415	-118.7594	
G-A	297	Coast Live	5	10-30	-	-	34.1415	-118.7592	
G-A	298	Coast Live	5	10-30	-	-	34.1415	-118.7590	
G-A	299	Coast Live	5	10-30	-	-	34.1417	-118.7587	
G-A	300	Coast Live	5	10-30	-	-	34.1416	-118.7587	
G-A	301	Coast Live	5	10-30	-	-	34.1416	-118.7584	
G-A	302	Coast Live	5	10-30	-	-	34.1418	-118.7585	
G-A	303	Coast Live	5	10-30	-	-	34.1418	-118.7585	
G-A	304	Coast Live	5	10-30	-	-	34.1417	-118.7582	
G-A	305	Coast Live	5	10-30	-	-	34.1418	-118.7583	
G-A	306	Coast Live	5	2-10	-	-	34.1417	-118.7581	
G-A	307	Coast Live	5	2-10	-	-	34.1416	-118.7581	

Oak Tree Inventory Table

Zone	Map ID	Species	No. of trees	DBH	Height	Canopy	Latitude	Longitude	Tag ID number(s)
G-A	308	Coast Live	5	2-10	-	-	34.1416	-118.7587	
G-A	309	Coast Live	5	2-10	-	-	34.1414	-118.7593	
G-A	310	Coast Live	5	2-10	-	-	34.1414	-118.7594	
G-A	311	Coast Live	5	2-10	-	-	34.1416	-118.7586	
G-A	312	Coast Live	3	2-10	-	-	34.1417	-118.7588	
G-A	313	Coast Live	3	10-30	-	-	34.1418	-118.7586	
G-B	18	Coast Live	1	21	40	45	34.1389	-118.7606	3
G-B	19	Coast Live	1	16	45	50	34.1390	-118.7607	4
G-B	20	Coast Live	1	26	50	60	34.1392	-118.7607	2
G-B	21	Coast Live	1	22	45	40	34.1392	-118.7606	1
G-B	22	Coast Live	1	5	4	10	34.1391	-118.7609	
G-B	23	Coast Live	1	4	15	7	34.1392	-118.7608	
G-B	24	Coast Live	1	13	45	50	34.1393	-118.7610	
G-B	25	Coast Live	1	5	20	25	34.1393	-118.7610	
G-B	26	Coast Live	1	8	25	20	34.1393	-118.7610	
G-B	27	Coast Live	1	26	60	60	34.1393	-118.7610	
G-B	28	Coast Live	1	16	50	45	34.1393	-118.7611	16
G-B	29	Coast Live	1	6	20	15	34.1394	-118.7611	
G-B	30	Valley	1	35	60	70	34.1395	-118.7612	218
G-B	31	Valley	1	4	30	15	34.1394	-118.7612	
G-B	32	Coast Live	1	2	20	5	34.1394	-118.7612	
G-B	33	Valley	1	44	60	50	34.1395	-118.7613	
G-B	34	Coast Live	1	10	30	35	34.1395	-118.7613	
G-B	35	Coast Live	1	6	20	25	34.1395	-118.7612	
G-B	36	Coast Live	1	16	25	25	34.1396	-118.7613	
G-B	37	Valley	1	11	30	20	34.1396	-118.7614	21
G-B	38	Coast Live	1	3	15	10	34.1396	-118.7615	

Oak Tree Inventory Table

Zone	Map ID	Species	No. of trees	DBH	Height	Canopy	Latitude	Longitude	Tag ID number(s)
G-B	39	Coast Live	1	5	15	15	34.1397	-118.7615	
G-B	40	Coast Live	1	3	15	15	34.1396	-118.7616	
G-B	41	Valley	1	8	35	20	34.1397	-118.7614	
G-B	42	Valley	1	9	35	25	34.1397	-118.7615	221
G-B	43	Valley	1	12	35	20	34.1398	-118.7615	
G-B	44	Coast Live	1	2	10	10	34.1398	-118.7617	
G-B	45	Valley	1	21	25	35	34.1402	-118.7621	
G-B	46	Valley	1	2	10	4	34.1409	-118.7627	
G-B	47	Valley	1	13	40	35	34.1413	-118.7625	
G-B	48	Valley	1	14	45	40	34.1414	-118.7625	
G-B	49	Valley	1	13	45	35	34.1414	-118.7626	234
G-B	50	Valley	1	12	40	35	34.1414	-118.7627	237
G-B	51	Valley	1	9	40	20	34.1415	-118.7630	
G-B	52	Valley	1	34	60	80	34.1414	-118.7633	241
G-B	78	Valley	1	4	15	12	34.1424	-118.7640	
G-B	79	Valley	1	25	40	40	34.1412	-118.7632	239
G-B	80	Valley	1	27	60	60	34.1414	-118.7634	424
G-B	81	Valley	1	13	35	30	34.1415	-118.7629	
G-B	82	Valley	1	15	45	35	34.1414	-118.7626	235
G-B	83	Valley	1	14	25	30	34.1411	-118.7626	231
G-B	84	Valley	1	11	25	25	34.1409	-118.7626	230
G-B	85	Valley	1	12	25	30	34.1412	-118.7625	
G-B	86	Coast Live	1	5	20	25	34.1416	-118.7636	
G-B	87	Coast Live	1	2	6	8	34.1424	-118.7642	
G-B	88	Coast Live	1	2	7	7	34.1423	-118.7642	
G-B	92	Coast Live	1	10	35	40	34.1393	-118.7609	
G-B	93	Coast Live	1	6	30	25	34.1394	-118.7612	

Oak Tree Inventory Table

Zone	Map ID	Species	No. of trees	DBH	Height	Canopy	Latitude	Longitude	Tag ID number(s)
G-B	94	Coast Live	1	7	20	15	34.1394	-118.7612	
G-B	95	Coast Live	1	4	15	6	34.1405	-118.7621	
G-B	96	Valley	1	15	35	30	34.1405	-118.7620	222, 5
G-B	97	Coast Live	1	14	30	30	34.1406	-118.7620	6
G-B	98	Valley	1	15	40	50	34.1406	-118.7622	11
G-B	99	Coast Live	1	5	10	15	34.1406	-118.7623	9
G-B	100	Valley	1	3	15	6	34.1406	-118.7623	10
G-B	101	Valley	1	16	55	50	34.1407	-118.7622	224, 12
G-B	102	Valley	1	8	30	15	34.1407	-118.7622	13
G-B	103	Valley	1	5	25	12	34.1410	-118.7622	14
G-B	104	Valley	1	31	60	60	34.1411	-118.7622	15
G-B	105	Valley	1	2	10	10	34.1414	-118.7620	16
G-B	107	Valley	1	4	12	8	34.1417	-118.7627	34
G-B	108	Valley	1	2	7	5	34.1417	-118.7627	35
G-B	109	Valley	1	8	25	35	34.1417	-118.7628	37
G-B	110	Valley	1	10	35	35	34.1417	-118.7629	38
G-B	116	Valley	1	18	55	60	34.1419	-118.7636	243
G-B	117	Coast Live	1	2	18	5	34.1420	-118.7638	
G-B	118	Valley	1	4	20	12	34.1421	-118.7637	
G-B	155	Valley	1	4	20	12	34.1404	-118.7618	7
G-B	156	Coast Live	1	3	15	7	34.1394	-118.7609	
G-B	157	Coast Live	1	4	12	8	34.1394	-118.7609	
G-B	158	Coast Live	1	2	12	7	34.1394	-118.7608	
G-B	159	Valley	1	18	50	60	34.1414	-118.7621	17
G-E	208	Coast Live	1	5	12	30	34.1420	-118.7566	

Section 5

Lichen Survey

SECTION 5 – LICHEN SURVEY

Purpose

The following focused lichen survey was performed in response to a Writ of Mandate issued by the Superior Court of California, County of Los Angeles in the case of Mary Altmann vs. City of Agoura Hills. The focus of this survey was special-status lichen, specifically *Texosporium sancti-jacobi* (Tuck), found along the ridgeline near "Cornell Corners." It is important to note that lichens are not plants, but a symbiotic relationship between a fungus and either green algae or cyanobacteria (aka bluegreen algae) (CDFG's *Special Vascular Plants, Bryophytes, and Lichens List*, April 2007).

The 2007 Writ of Mandate states that a "proper survey" of the lichen is required to adequately analyze the effects of the project on "Tuck." Therefore, the focus of this study was to confirm the presence/absence of the previously recorded population of Tuck, to determine if any other special-status species of lichen could occur within the Specific Plan area and if the proposed Specific Plan has the potential to impact such occurrences. Results of this and other baseline studies shall be compiled as a Biological Technical Appendix (BTA) to accompany and support a review of project impacts delineated in the 2006 EIR.

Methodology

The primary special-status lichen species targeted in this survey was identified in a comment letter on the 2006 AVSP EIR by the National Park Service as occurring outside of the Specific Plan boundaries, within the project vicinity. The population referenced was formerly reported along the ridgeline above Zone E. The lichen is listed as a Species of Special Concern by California Department of Fish and Game (G2/S1.1); as critically endangered, globally, by the International Association of Lichenologists; and is proposed for rare status by the California Lichen Society.

For this study, special-status species assessed for the potential to occur onsite are those lichens described as "Special" in the CDFG's *Special Vascular Plants, Bryophytes, and Lichens List*, (April 2007) and that have a minimum State Ranking of S1, meaning there are less than 6 element occurrences, less than 1,000 individuals, or less than 2,000 acres. Listings of "special lichens" are developed in coordination with the California Lichen Society (CALS) and relevant experts.

Lichenologist Kerry Knudsen (Lichen Curator at the University of California at Riverside Herbarium, Department of Botany and Plant Sciences, and member of the International Association of Lichenologists and the California Lichen Society) surveyed the site on May 29, 2007. The survey focused on the previously recorded location of "Tuck" known along the ridgeline above Cornell Corners (the intersection of Cornell and Agoura Road). A binocular survey of the remainder of the Specific Plan area was performed to assess suitable habitat for Tuck or other special lichens.

Rincon purchased recent (February 2006) one-foot resolution color aerial imagery of the Specific Plan area. This was used during the field survey to assist in mapping the onsite cluster of

populations of Tuck. In addition, a Magellan Explorist 200 Global Positioning System (GPS) was used to pinpoint the cluster boundaries.

Results and Discussion

Much of what is known regarding the lichen flora of the Santa Monica Mountains was written and collected by Hermann Hasse. Hasse summarized much of his 25 years of work in the publication *Lichen Flora of southern California* (1913). Hasse reported over two hundred species for the Santa Monica Mountains (1913). Recent collections and inventories of lichens near the Specific Plan area were published by Knudsen, who is working on a lichen flora of the Santa Monica Mountains funded by the National Park Service (Knudsen 2005, Knudsen in prep). Knudsen's first publication, *Lichens of the Santa Monica Mountains, Part One* (2005) focused on the sandstone outcrops and terricolous lichen communities. "Sandstone outcrops are only rich in lichen flora generally at the top of ridges. This may be because catastrophic fires have destroyed much of the lichen flora on smaller outcrops in dense chaparral areas. "

Knudsen notes that terricolous communities were common in Hasse's time (Hasse 1913), but that he has located only two such sites: the un-named ridgetop in Agoura above Cornell Corners and the Cenozoic surfaces near Sandstone Peak. The un-named ridgetop above Cornell Corners was noted as the location of concern in the National Park Service's 2006 comment letter on the Draft AVSP EIR. Knudsen's examination of lichens within this area (Knudsen 2005) identified the following lichen species along the ridge above Cornell Corners: *Acarospora socialis, Acarospora veronensis, Buellia sequax, Caloplaca bolacina, Catillaria franciscana, Cladonia hammeri, Diploschistes muscorum, Endocarpon pusillum, Peltula bolanderi, Peltula patellata, Psora pacifica, Rinodina intermedia, Texosporium sancti-jacobi.* Of these species only *Texosporium sancti-jacobi* is listed by CDFG as a special-status lichen.

It should be noted that *Texosporium sancti-jacobi* will not be proposed for federal or state listing by the California Lichen Society (Per. communications with Kerry Knudsen). The Conservation Committee of the California Lichen Society is currently reevaluating its listing as a Species of Special Concern by the California Department of Fish and Game. It is expected to stay a Species of Special Concern but reported and unreported occurrences being evaluated will probably change its ranking because over thirteen new populations have been discovered in southern and central California.

Special-Status Lichen Species Observed During the 2007 Focused Survey

Texosporium sancti-jacobi (Tuck.) (CDFG Species of Special Concern) forms small white verrucose crusts, 1-4 centimeters across, attached with the lower side to soil, rabbit dung, and spike moss, occurring alone or growing with other crustose lichens. Its taxonomy is well-understood (Tibell & Ryan 2005); however its life cycle has not been studied in the field. The apothecia and possibly the whole thallus, unlike most lichens, are evanescent, lasting for possibly only a few years. In the field only fruiting populations can be identified by their distinctive green mazadium and narrow sessile apothecia. Its type locality is the mesas of San Diego County. It is endemic to western North America from southern California to Washington and inland to Idaho (McCune & Rosentreter 1992).

"Tuck" was found during the May 29 survey on the ridge line above Cornell Corners (refer to Figure 5-1). The occurrence is the only cluster of populations of *Texosporium sancti-jacobi* found in the Santa Monica Mountains and in Los Angeles County (Knudsen 2004). The populations are scattered and small, occurring on the crest of the ridge in thin-soiled habitat around volcanic rock on soil, spike moss, and among other lichens or solitary. Populations are one or more individuals in an area of approximately two square meters. Within this area, infertile specimens could be confused with the sterile thalli of *Trapeliopsis bisorediata*, which is more abundant on the ridge.

No other special-status lichens were observed within the project area.

Impacts and Recommendations

2006 Agoura Village Specific Plan EIR

The 2006 Final EIR for the Agoura Village Specific Plan addressed potential impacts to special-status lichens as a response to comments made by Woody Smeck, Superintendent United States Department of the Interior National Parks Service. Mr. Smeck's comment letter on the Draft EIR was labeled "Comment Letter 4." The response to Mr. Smeck's comment letter was labeled "Response Letter 4" and was included under Appendix G of the Final EIR. Specifically, Response 4D addressed Mr. Smeck's concerns regarding potential impacts to nearby special-status lichens, Tuck.

Response 4D restated the commenter's concerns regarding indirect impacts to a population of globally rare soil lichen, *Texosporium sancti-jacobi (Tuck)*. That the lichen occurs along the ridgeline above Cornell Corners (historically the corner of Cornell Road and Agoura Road) and is found in less than ten extremely small and localized populations in western North America. The response provided the lichen's sensitivity status and the commenter's suggestion that the EIR evaluate the proposed project's potential to cause negative impacts to this population from deposition of dust and reduced air quality during construction.

The following is the response as provided in the Final EIR:

> "The precise location of this lichen population based on this description is unclear, but assuming that it is the first of several ridgelines to the south of the project, the lichen population would be approximately 300 feet from the edge of the nearest grading activity. The primary concern to lichen survivorship would be fallout of relatively large particle (greater than 30 microns [µm] in diameter) fugitive dust during construction, as compared to respirable particulates (less than 10 µm). Fugitive dust generation was discussed in Section 4.2 Air Quality of the Draft EIR. Large particle dust (greater than 100 µm) settles out within 20 to 30 feet from the point of emission at a typical mean wind speed of 10 mph, while particles that are 30 to 100 µm in diameter undergo impeded settling. Nonetheless, these particles are still likely to settle within a few hundred feet from the source (EPA AP-42, Compilation Of Air Pollutant Emission Factors, Section 13.2). In addition, project-related dust would need to drift upwards 100-200 vertical feet in order to rise to the same elevation as the lichens. This would require unusual air circulation and substantial wind speeds. Therefore, it is unlikely that substantial

amounts of dust from the construction activity would reach the lichens or affect their health. Please also note that mitigation measure AQ-1a provides actions to minimize the production of fugitive dust and its transport, and thereby minimize the potential for impacts to these lichens."

As no direct or indirect impacts were anticipated, no further changes were made to the EIR regarding this species of lichen.

2007 Findings

The following is a re-examination of the potential impacts to special-status lichen within the Specific Plan area and surrounding vicinity utilizing data collected during the 2007 focused lichen survey. As shown in Figure 5-1, the cluster of Tuck populations located above Cornell Corners is located over 570 feet from the Specific Plan's southern and nearest possible construction boundary. As discussed in the EIR Response 4D, the primary concern to lichen survivorship would be fallout of relatively large particle (greater than 30 microns [µm] in diameter) fugitive dust during construction, as compared to respirable particulates (less than 10 µm). Atypical wind patterns and wind speed, in excess of that allowed under construction Best Management Practices (BMPs) would be required to lift such dust particles to the elevation and across the distance necessary to reach the Tuck populations.

Further, based on the recent 2007 surveys, Mr. Knudsen provided his expert opinion in concurrence with the evaluation made in the 2006 EIR Response 4D,that the distance and elevation between proposed construction activities and the lichen populations along the ridgeline would be too great for the lichens to be negatively impacted from such activities. As no other populations were observed lower than the crest of the ridge, transport of fugitive dust is not anticipated to reach the Tuck populations, and impacts to special-status lichens, specifically Tuck, are not anticipated.

Conclusion

During the 2007 survey, no special-status lichens were identified within the Specific Plan boundaries; no special-status lichen habitat was recognized within the Specific Plan boundaries, and the distance measured between known populations of Tuck and the developable areas of the Specific Plan was determined to be too great for fugitive dust to travel and impact the lichen population. Further EIR Mitigation Measure AQ—1(a) recommends the following fugitive dust control measures during construction:

- Water trucks shall be used during construction to keep all areas of vehicle movements damp enough to prevent dust from leaving the site. At a minimum, this will require twice daily applications (once in late morning and once at the end of the workday). Increased watering is required whenever wind speed exceeds 15 mph. Grading shall be suspended if wind gusts exceed 25 mph.
- The amount of disturbed area shall be minimized and onsite vehicle speeds shall be limited to 15 mph or less.
- If importation, exportation and stockpiling of fill material is involved, earth with 5% or greater silt content that is stockpiled for more than two days shall be covered, kept

moist, or treated with earth binders to prevent dust generation. Trucks transporting material shall be tarped from the point of origin or shall maintain at least two feet of freeboard.

- After clearing, grading, earth-moving or excavation is completed, the disturbed area shall be treated by watering, revegetation, or by spreading earth binders until the area is paved or otherwise developed.
- All material transported off-site shall be securely covered to prevent excessive amounts of dust.

Due to the distance between the Tuck population and the Specific Plan development boundaries, impacts to lichens within the project vicinity would not be anticipated. Additionally, implementation of the dust control measures outlined in Mitigation Measure AQ-1(a) would further reduce fugitive dust and lower the potential for indirect impacts. Further, 13 new populations of Tuck have been discovered in southern and central California recently and thus have significantly reduced the level of threat to this species. As impacts are not anticipated and this concern was addressed in the Response to Comments (Appendix G of the EIR), and further substantiated with the survey and expert opinion above, no additional ~~action is necessary~~impacts or mitigation measures or changes to existing impacts or measures are suggested.

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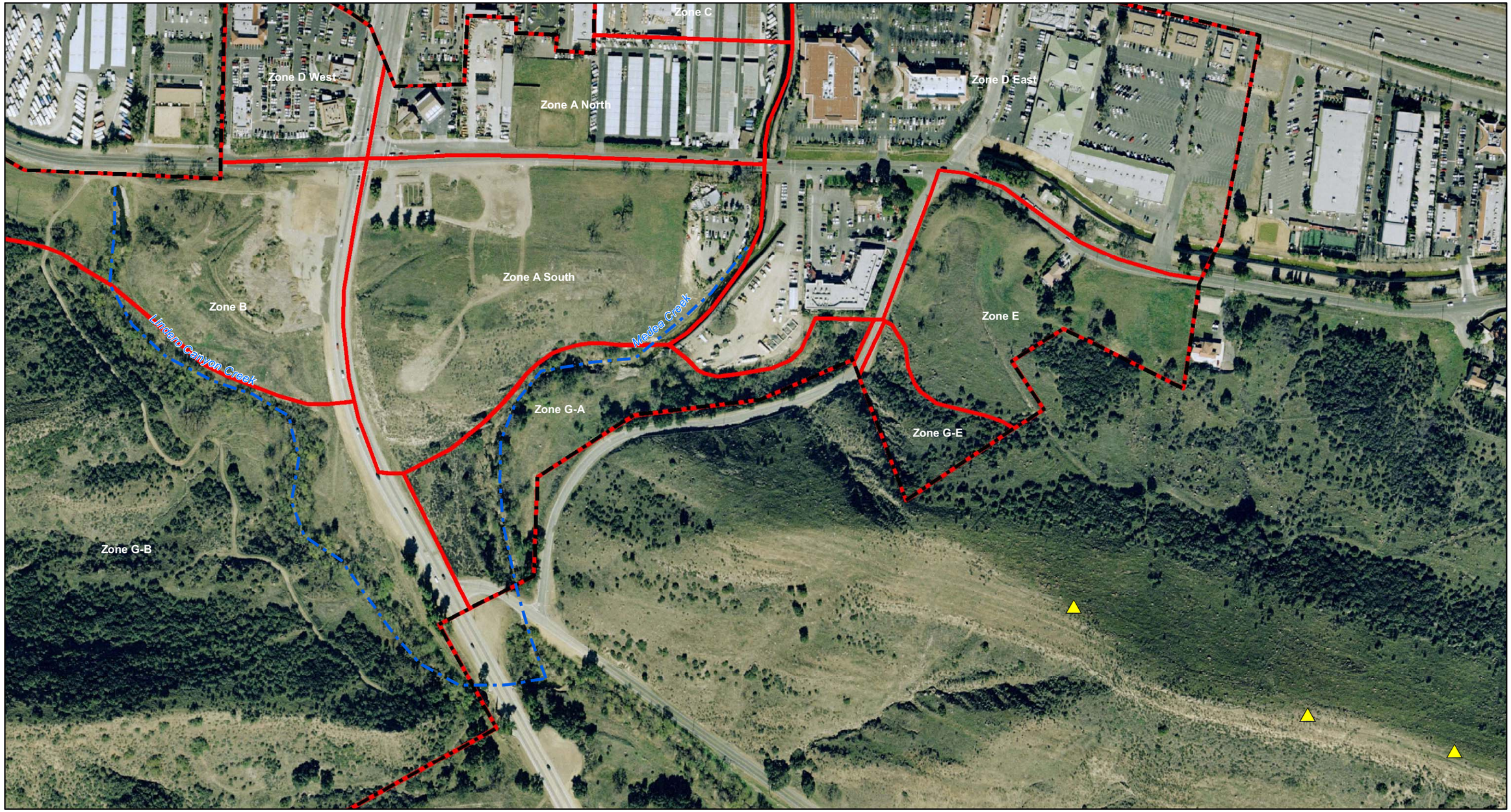
Attachment: *Figure 5-1 Special-Status Lichen Locations*



Source: Air Photo U.S.A., 2006 (image) and Rincon Consultants, Inc., 2008.

Legend
Plan Area Boundary
Zones
Texosporium sancti-jacobi

N
0 250 500 Feet

Special-Status Lichen Locations

Figure 5-1