

SECTION 5. PROJECT IMPACTS

This section contains a discussion of the possible environmental effects of the proposed project for the specific issue areas that were identified, through the Initial Study process, as having the potential to experience significant impacts.

The assessment of each issue area begins with an introduction that summarizes the environmental effects considered for that issue area. This is followed by the issue area setting and impact analysis. Within each impact analysis, the first subsection identifies the criteria and significance thresholds. The significance thresholds are those criteria adopted by Los Angeles County or other agencies, and are universally recognized or developed specifically for impact analyses to determine whether potential effects are significant or less than significant.

Following criteria and significance thresholds, the next subsection describes each specific impact of that issue area related to the proposed project. Each issue area impact under consideration is separately listed with a discussion of that impact. Each impact listing contains a significance determination for the environmental impact.

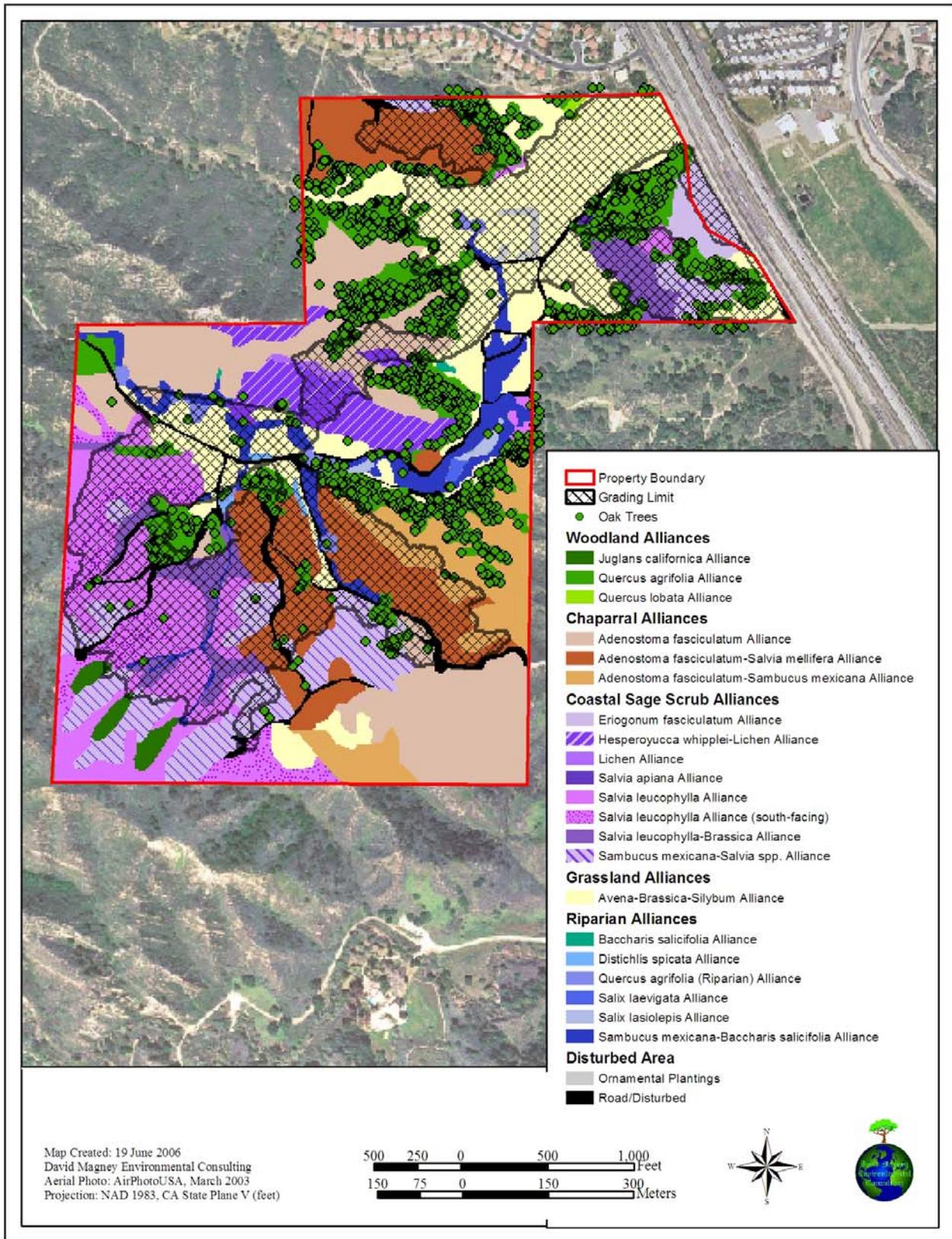
A residual effect is the level of significance remaining after the implementation of the recommended mitigation measures. In those cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed as a residual effect.

The impact analysis for each issue area concludes with a discussion of cumulative effects, which evaluates the impacts associated with the project in conjunction with other future development in the area. Growth-inducing impacts are also discussed.

Each impact presented in this section will have associated mitigation measure(s) as appropriate, which are provided in the following section (Section 6, Mitigation Measures). Each impact number matches its corresponding mitigation measure in Section 6.

The project site will be mass-graded in one phase, with a total grading volume of 3.8 million cubic yards, which will be balanced on-site. The impacts of the proposed grading activities will result in several impacts, which are all addressed separately in the following subsections. Figure 21, Grading Impacts to Lyons Canyon Ranch Vegetation, including Trees, provides an illustration of the general impacts to the project site in terms of biological resources, such as the natural vegetation and important trees onsite. Mitigations for these impacts resulting from the proposed grading activities are presented in Section 6. Since all impacts associated with the grading are addressed separately here in Section 5, the mitigation measures that are associated with those impacts are also addressed separately in Section 6. (Refer to the Oversized Maps at the end of this report for the Lyons Canyon Ranch Site Plans.)

Figure 21. Grading Impacts to Lyons Canyon Ranch Vegetation, including Trees



IMPACTS TO TREES AND SENSITIVE WOODLAND HABITAT

Loss of Southern California Black Walnut Woodland

The sensitive Southern California Black Walnut Woodland plant community observed onsite is also classified as *Juglans californica* var. *californica* Alliance. Approximately 1.89 acres of Southern California Black Walnut Woodland exists onsite. Of the 1.89 acres, approximately 0.08 acre will be impacted (4.2%) as a result of the Lyons Canyon Ranch project, and 1.8 acres will be preserved.

Level of Significance Before Mitigation: Significant

Loss of Oak Trees, Coast Live Oak Woodland, Coast Live Oak Riparian Woodland, and Valley Oak Woodland

The project site contains 1,409 oak trees, primarily consisting of *Quercus agrifolia* var. *agrifolia* (Coast Live Oak) (prior to the Simi Fire of October 2003). Many of these trees have been damaged or killed by the fire, but a complete assessment of post-fire conditions has not been performed; therefore, the impact assessment is based conservatively (more inclusively) upon pre-fire conditions.

A detailed GIS database was developed by DMEC for the assessed oak trees, which was used to determine which trees, by type, would be affected directly or indirectly by various project configurations and alternatives.

The following are oak tree definitions used here to determine oak tree impacts:

- **Lost Tree:** Any tree, the centerpoint of which is located within the grading limits of the project.
- **Encroached Tree:** Any tree, the protected zone of which is located within the grading limits of the project.
- **Avoided Tree:** Any tree that is neither lost nor encroached.
- **Protected Zone:** "...area within the dripline of an oak tree and extending there from to a point at least five feet outside the dripline, or 15 feet from the trunks of a tree, whichever distance is greater..." (Los Angeles County Oak Tree Ordinance 22.56.2060).

Based on the oak tree assessment and GIS database developed for the assessed oak trees, the number of oak trees potentially affected by the proposed project is calculated in Table 15, Impacts of Project on Onsite Oak Trees, which lists the trees by species. (Refer to DMEC's *Oak Tree Assessment for Lyons Canyon Ranch* [DMEC 2004b] for a more detailed account of the oak trees existing onsite.)

A total of 1,409 oak trees meeting the Los Angeles County definition are documented to have occurred onsite prior to the Simi Fire of October 2003, as listed by species in Table 15 and illustrated in DMEC's oak tree report. Of these 1,409 oak trees onsite, the proposed project is expected to directly impact (or result in the loss of) 179 oak trees, and is expected to indirectly impact (encroach upon) 75 oak trees as a result of grading activities onsite. The remaining 1,155 oak trees would be avoided by the proposed project and preserved in the open space preserve areas of the site or in small internal park areas containing the retained trees.

Heritage oak trees onsite are summarized in Table 16, Impacts of Project on Onsite Heritage Oak Trees. The location of heritage oaks that would potentially be impacted by the proposed project is illustrated in the oak tree report (DMEC 2004b).

Table 15. Impacts of Project on Onsite Oak Trees²¹

Scientific Name	Common Name	Number of Lost Trees	Number of Encroached Trees	Number of Avoided Trees	Total Number
<i>Quercus agrifolia</i> ssp. <i>agrifolia</i>	Coast Live Oak	168(1)	69	1,126	1,363(1)
<i>Quercus berberidifolia</i>	Scrub Oak	5	1	19	25
<i>Quercus lobata</i>	Valley Oak	6	5	10(1)	21(1)
Total:		179(1)	75	1,155(1)	1,409(2)

Table 16. Impacts of Project on Onsite Heritage Oak Trees

Scientific Name	Common Name	Number of Lost Heritage Trees	Number of Encroached Heritage Trees	Number of Avoided Heritage Trees	Total Number of Heritage Trees
<i>Quercus agrifolia</i> ssp. <i>agrifolia</i>	Coast Live Oak	17	8	52	77
<i>Quercus berberidifolia</i>	Scrub Oak	0	0	0	0
<i>Quercus lobata</i>	Valley Oak	0	3	2(1)	5(1)
Total:		17	11	54(1)	82(1)

A total of 17 heritage-size Coast Live Oak trees will be lost as a result of the proposed project, and 8 heritage Coast Live Oak trees will be encroached upon as a result of the proposed project. None of the heritage-sized Valley Oak trees would be lost from the proposed project; however, 3 heritage Valley Oak trees will be encroached upon as a result of the proposed project.

The loss of 179 oak trees, including 17 heritage-size trees, is considered a *significant* impact.

The impact assessment for impacts to the sensitive Coast Live Oak Woodland, Coast Live Oak Riparian Woodland, and Valley Oak Woodland plant communities observed onsite (shown above on Figure 21) is as follows:

- Approximately 38.42 acres of **Coast Live Oak Woodland (upland)** currently exist onsite. Of the 38.42 acres, approximately 7.87 acres will be impacted (20.5%) as a result of the project and 30.55 acres will be preserved.
- Approximately 1.65 acres of **Coast Live Oak Riparian Woodland** exist onsite. Of the 1.65 acres, approximately 0.92 acres will be impacted (55.8%) as a result of the proposed project and 0.73 acre will be preserved.
- Approximately 0.23 acres of **Valley Oak Woodland** exist onsite. Of the 0.23 acres, approximately 0.03 acres will be impacted (13.0%) as a result of the proposed project and 0.20 acre will be preserved.

The loss of 7.87 acres of Coast Live Oak Woodland, 0.92 acre of Coast Live Oak Riparian Woodland, and 0.03 acre of Valley Oak Woodland (totaling 8.82 acres of impacts to oak woodland plant communities) is considered a *significant impact*.

Level of Significance Before Mitigation: Significant

²¹ Trees in parentheses indicate trees that were dead pre-fire. This table includes all oak trees onsite, including Heritage oak trees.

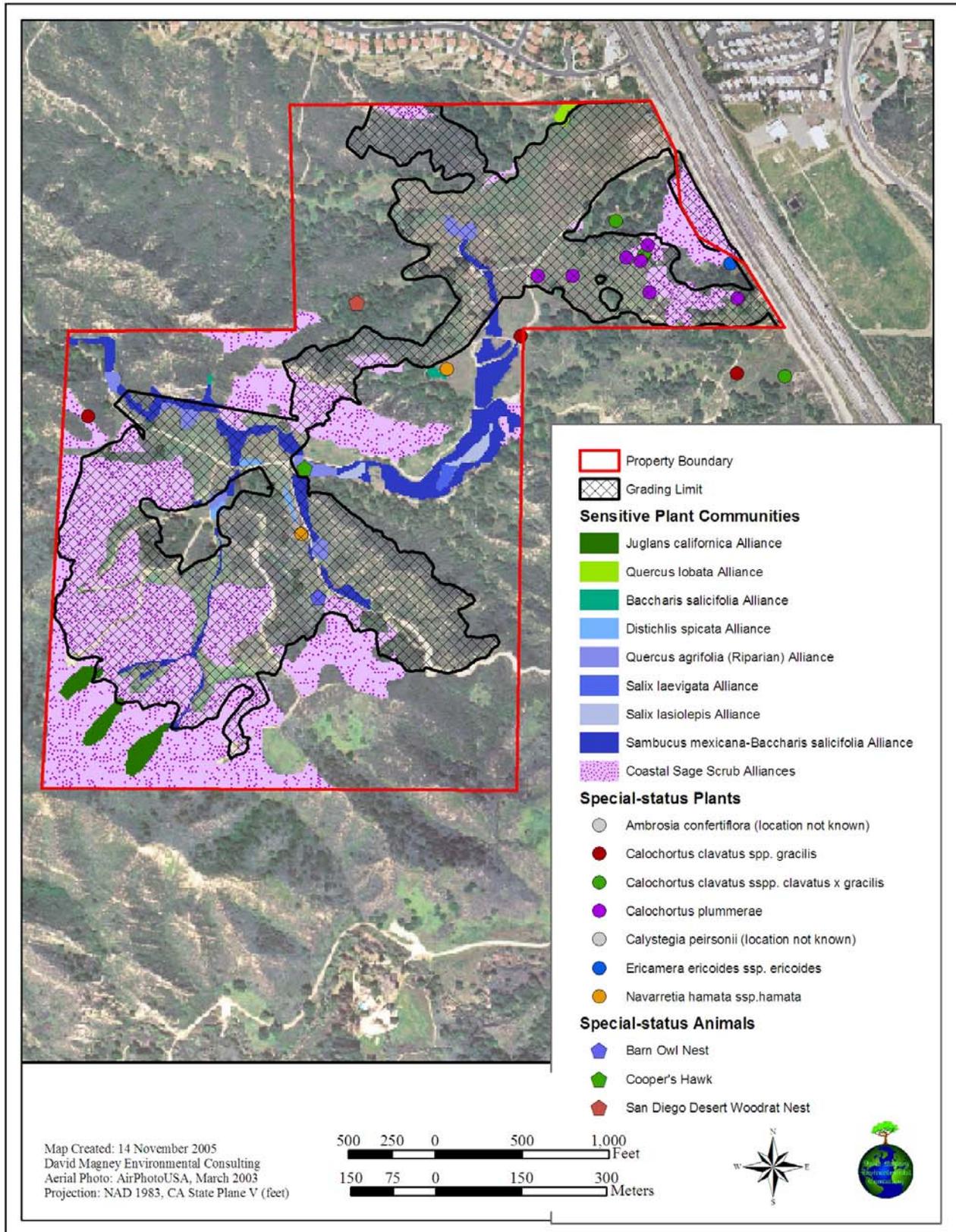
IMPACTS TO BIOLOGICAL LIFE HISTORY

Direct Impacts to Special-Status Plant Species

No federally or state listed plant species were observed at Lyons Canyon Ranch; however, 27 special-status plant species have the potential to occur in the vicinity of the project site. Of these 27 special-status plant species, 24 are tracked for the Lyons Canyon Ranch vicinity by CDFG's (2005) CNDDDB RareFind3, while the remaining three (3) are considered species of local concern (Boyd 1999, Magney 2001). Figure 22, Grading Impacts to Special-Status Species Observed at Lyons Canyon Ranch, illustrates the impacts to the special-status plant species observed onsite. Seven (7) special-status plant species were *observed* (are known) onsite, including:

- ***Ambrosia confertiflora* (Weakleaf Burweed):** This species was observed by BonTerra Consulting onsite. No indication was provided as to the location or population size observed onsite. The population found on Lyons Canyon Ranch represents the northernmost known occurrence of *Ambrosia confertiflora* in Los Angeles County and one of only eight known populations (based on Jepson Herbarium database search) in the County. Only one (likely extirpated) population is known in Ventura County (Marr Ranch in Simi Valley – *A.C. Sanders 22916* UCR).
- ***Calochortus clavatus* var. *gracilis* (Slender Mariposa Lily):** This species is a CNPS List 1B species. All known occurrences are in Los Angeles County, with many locations in the Liebre Mountains. Approximately 600 individuals of *Calochortus clavatus* var. *gracilis* were observed by BonTerra Consulting and Bowland & Associates in the northeastern portion of the project site south of Lyons Ranch Road, in the middle portion of the project site on the southeast side of “Lyons Ranch Road”, and in the southeastern corner of the project site just west of The Old Road (Figure 20).
- ***Calochortus plummerae* (Plummer’s Mariposa Lily):** This species is a CNPS List 1B species. Twenty-six (26) individuals of *Calochortus plummerae* were observed by Bowland & Associates, and approximately 1,100 individuals were observed by BonTerra Consulting. These individuals were observed in the southeastern corner of the project site just west of The Old Road, in the mid-eastern portion of the project site, and in the northeastern portion near the intersection of The Old Road and Lyons Ranch Road.
- ***Calystegia peirsonii* (Peirson’s Morning-glory):** This species is a CNPS List 4 species. *Calystegia peirsonii* occurs in the San Gabriel and Liebre Mountains and in the Antelope Valley. It was known only from a few collections prior to 1970 (Boyd 1999), but it is now believed to be more abundant in Coastal Sage Scrub throughout the Newhall-Mint Canyon region. Occasional individuals were observed by BonTerra Consulting. No location was indicated onsite.

Figure 22. Grading Impacts to Special-Status Species Observed at Lyons Canyon Ranch



- ***Ericameria ericoides* ssp. *ericoides* (Mock Heather):** This species is a species of local concern (Boyd 1999, Magney 2001). *Ericameria ericoides* typically occurs along the coast, and its presence this far inland represents a significant disjunction and extralimital occurrence. One (1) individual of this species was observed by DMEC on the eastern edge of the project site, along The Old Road, growing with *Eriogonum fasciculatum* var. *fasciculatum* (California Buckwheat). It is possible that its presence along The Old Road represents a waif that was included in a hydroseed mulch applied for erosion control immediately south of Lyon Canyon, along with the non-indigenous *E. fasciculatum* at this site.
- ***Juglans californica* var. *californica* (Southern California Black Walnut):** This species is a CNPS List 4 species. Occasional individuals (a few small stands) were observed by BonTerra Consulting and DMEC in the southwestern corner of the project site.
- ***Navarretia hamata* ssp. *hamata* (Skunk Navarretia):** This species is a species of local concern (Boyd 1999, Magney 2001). Approximately 50 individuals of *N. hamata* ssp. *hamata* were observed by DMEC near the “empty pond” in the middle portion of the project site in Ruderal Grassland Alliance. This taxon is treated as a locally rare species onsite, as it is considered a locally rare species in Ventura County (Magney 2005) and is not reported in the Liebre Mountains flora by Boyd (1999). No collections are reported this far north in Los Angeles County in the Jepson Herbarium online database for this variety.

Table 17, Observed Sensitive Plant Species Impacts Matrix, lists all plant species observed on the Lyons Canyon project site, and provides an analysis of habitat suitability and loss, edge effects, reduction of population sizes, restriction of range, and significance of the impact to each species. Figure 22, Grading Impacts to Special-Status Species Observed at Lyons Canyon Ranch (provided above), shows the footprint of the project in relation to the location of observed sensitive species onsite.

Six (6) of the 27 special-status plant species are *likely* to occur at Lyons Canyon Ranch. Species that are likely to occur onsite have required habitat existing at the project site and the species has been reported nearby, and they include:

- *Aster greatae* (Greata's Aster);
- *Erodium macrophyllum* (Round-leaved Filaree);
- *Horkelia cuneata* ssp. *puberula* (Mesa Horkelia);
- *Lepidium virginicum* var. *robinsonii* (Robinson's Pepper-grass);
- *Nolina cismontana* (Chaparral Nolina); and
- *Senecio aphanactis* (Rayless Ragwort).

There is potential to impact these special-status plant species that are likely to occur onsite as a result of the Lyons Canyon Ranch project.



Table 17. Observed Sensitive Plant Species Impacts Matrix

Species Scientific and Common Names:	<i>Ambrosia confertiflora</i> (Weakleaf Burweed) (No location provided by BonTerra)	<i>Calochortus clavatus</i> var. <i>gracilis</i> (Slender Mariposa Lily)	<i>Calochortus plummerae</i> (Plummer's Mariposa Lily)
Habitat present and species is reasonably expected to occur on-site? (YES/NO)	Yes	Yes	Yes
Species impacted directly by habitat loss? (YES/NO)	Unknown	Yes	Yes
Habitat loss substantial? (YES/NO)	Yes	Yes	Yes
Species impacted indirectly on adjacent lands by edge effects? (YES/NO)	Potentially	Yes	Yes
Potential to eliminate species on-site? (YES/NO)	Yes	No	No
Potential to reduce population size below self sustaining levels? (YES/NO)	No	No	No
Potential for substantial reduction in numbers of individuals? (YES/NO)	Unknown	No	Yes
Potential restriction of range of rare or endangered species? (YES/NO)	Yes	No	No
Impact significant? (YES/NO)	Potentially	Yes	Yes
Mitigation:	Additional surveys, seed collection/propagation	Translocation	Translocation



Species Scientific and Common Names:	<i>Calystegia peirsonii</i> (Peirson's Morning-glory) (No location provided by BonTerra)	<i>Ericameria ericoides</i> ssp. <i>ericoides</i> (Mock Heather)	<i>Juglans californica</i> var. <i>californica</i> (Southern California Black Walnut)	<i>Navarretia hamata</i> ssp. <i>hamata</i> (Skunk Navarretia)
Habitat present and species is reasonably expected to occur on-site? (YES/NO)	Yes	Yes	Yes	Yes
Species impacted directly by habitat loss? (YES/NO)	Unknown	No	Yes	Yes
Habitat loss substantial? (YES/NO)	Yes	No	Yes	Yes
Species impacted indirectly on adjacent lands by edge effects? (YES/NO)	Potentially	Yes	Yes	Yes
Potential to eliminate species on-site? (YES/NO)	Yes	No	No	Yes
Potential to reduce population size below self-sustaining levels? (YES/NO)	Unknown	No	No	Yes
Potential for substantial reduction in numbers of individuals? (YES/NO)	Yes	No	No	Yes
Potential restriction of range of rare or endangered species? (YES/NO)	No	Yes	No	No
Impact significant? (YES/NO)	Potentially	Yes	Yes	Yes
Mitigation:	Additional surveys, seed collection/propagation	Seed collection/propagation	Seed collection/propagation	Seed collection/propagation

Loss of *Ambrosia confertiflora* (Weakleaf Burweed) Plants Known Onsite

Ambrosia confertiflora was observed onsite; however, the exact location was not reported by BonTerra Consulting. The population found on Lyons Canyon Ranch represents the northernmost known occurrence of *Ambrosia confertiflora* in Los Angeles County and one of only eight known populations (based on Jepson Herbarium database search) in the County. Only one (likely extirpated) population exists in Ventura County (Marr Ranch in Simi Valley – *A.C. Sanders 22916* UCR). The loss of individual *Calystegia peirsonii* plants is considered a significant impact.

Level of Significance Before Mitigation: Significant

Loss of Special-Status *Calochortus* Species Known Onsite

Two special-status species of *Calochortus* were observed at the project site:

- *Calochortus clavatus* var. *gracilis* (Slender Mariposa Lily): This species is a CNPS List 1B species. Approximately 600 individuals of *Calochortus clavatus* var. *gracilis* were observed by BonTerra Consulting and Bowland & Associates in the northeastern portion of the project site south of Lyons Ranch Road, in the middle portion of the project site on the southeast side of “Lyons Ranch Road”, and in the southeastern corner of the project site just west of The Old Road.
- *Calochortus plummerae* (Plummer’s Mariposa Lily): This species is a CNPS List 1B species. Twenty-six (26) individuals of *Calochortus plummerae* were observed by Bowland & Associates, and approximately 1,100 individuals were observed by BonTerra Consulting. These individuals were observed in the southeastern corner, in the mid-eastern portion, and in the northeastern portion near the intersection of The Old Road and Lyons Ranch Road.

Slender Mariposa Lily and Plummer’s Mariposa Lily are CNPS List 1B species, which are considered rare, threatened, or endangered in California and elsewhere. Impacts to these species are considered significant. These species have met the criteria of Section 15380 of the *CEQA Guidelines*, which states that species that are not formally listed by the USFWS or CDFG can be treated as if they are listed if they meet the definition of Threatened or Endangered. Impacts to a CNPS List 1B species would be considered significant depending on the size of the population located within the impact area.

The proposed project would impact several individual *Calochortus clavatus* var. *gracilis* plants, which is considered a *significant impact*.

The proposed project would impact approximately 45 individual *Calochortus plummerae* plants, which is considered a *significant impact*.

Level of Significance Before Mitigation: Significant

Loss of *Calystegia peirsonii* (Peirson’s Morning-glory) Plants Known Onsite

Calystegia peirsonii (Peirson’s Morning-glory) was observed onsite; however, the exact location was not reported by BonTerra Consulting. This species is a CNPS List 4 species and considered to have limited distribution.

The loss of individual *Calystegia peirsonii* plants is considered a significant impact.

Level of Significance Before Mitigation: Significant

Loss of Ericameria ericoides ssp. ericoides (Mock Heather)

Plants Known Onsite

This species is a species of local concern (Boyd 1999). *E. ericoides* ssp. *ericoides* typically occurs along the coast, and its presence this far inland represents a significant disjunction and extralimital occurrence. One (1) individual of this species was observed by DMEC on the eastern edge of the project site, along The Old Road. The loss of individual *Ericameria ericoides* ssp. *ericoides* plants is considered a significant impact.

Level of Significance Before Mitigation: Significant

Loss of Juglans californica var. californica (Southern California Black Walnut)

Plants Known Onsite

Juglans californica var. *californica* (Southern California Black Walnut) was observed onsite. This species is a CNPS List 4 species and considered to have limited distributions. Southern California Black Walnut Woodland is considered a sensitive plant community. The proposed project would impact approximately 0.08 acre of Southern California Black Walnut Woodland. The loss of individual *Juglans californica* var. *californica* plants is considered a significant impact.

Level of Significance Before Mitigation: Significant

Loss of Navarretia hamata ssp. hamata (Skunk Navarretia)

Plants Known Onsite

This species is a species of local concern (Boyd 1999). Approximately 50 individuals of *N. hamata* ssp. *hamata* were observed by DMEC near the “empty pond” in the middle portion of the project site in Ruderal Grassland Alliance. This taxon is treated as a locally rare species onsite, as it is considered a locally rare species in Ventura County (Magney 2005) and is not reported in the Liebre Mountains flora by Boyd (1999). No collections are reported this far north in Los Angeles County in the Jepson Herbarium online database for this variety. The loss of individual *N. hamata* ssp. *hamata* plants is considered a significant impact.

Level of Significance Before Mitigation: Significant

Loss of Rare Plants Potentially Occurring Onsite

Several special-status plant species are likely to occur onsite but have not been detected during the field surveys conducted onsite. The rare plant species that are likely to occur onsite include: *Aster greatae*, *Erodium macrophyllum*, *Horkelia cuneata* ssp. *puberula*, *Lepidium virginicum* var. *robinsonii*, *Malacothamnus davidsonii*, *Nolina cismontana*, and *Senecio aphanactis*. Since it is likely for these plants to be present, impacts to them would be considered significant.

Level of Significance Before Mitigation: Potentially Significant

Indirect Impacts to Special-Status Plant Species

Impacts of Increased Dust and Urban Pollutants on Special-Status Plant Species

Grading activities would disturb soils and result in the accumulation of dust on the surface of the leaves of trees, shrubs, and herbs. The respiratory function of the plants in the area would be impaired when dust accumulation is excessive. Dust that coats the leaves of plants has the potential to decrease plant vigor substantially, resulting in a decrease in habitat structure, diversity, and function. These adverse impacts could reduce any current native vegetation below self-sustaining levels onsite. Therefore, the indirect effect of project construction on the native vegetation in the immediate vicinity of the construction area would be *significant* and would require mitigation.

Additional impacts on the biological resources in the area could occur as a result of changes in water quality and water velocity. Urban runoff from the proposed development site, containing petroleum residues and the improper disposal of petroleum and chemical products from construction equipment (temporary) or residential areas (i.e. cars, improper disposal of chemicals) (permanent), could have the potential to adversely affect water quality. Negatively affected water quality in turn could affect populations of aquatic species (fish and amphibians), as well as those that use riparian areas (amphibians, reptiles, birds, and mammals) onsite and in downstream (offsite) habitats. Water quality could also be adversely affected by runoff of nutrients from urban development. These impacts are considered *potentially significant*.

Level of Significance Before Mitigation: Potentially Significant

Impacts of Invasive Exotic Plant Species Introduction into Natural Plant Communities

The proposed project will include landscaping adjacent to the natural vegetation. The landscaping may include ornamental species that are known to be particularly invasive. Subsequent homeowners may also plant invasive plant species in their yards. Seeds or propagules from invasive planted species may escape to natural areas and degrade the native vegetation, particularly along downstream riparian areas. These impacts would be considered *adverse* and *potentially significant* considering the two SEAs on the project site.

Level of Significance Before Mitigation: Potentially Significant

Impacts to General Wildlife Species

The identified potential impacts to wildlife species, as a result of the Lyons Canyon Ranch project, include the following:

- Permanent loss of, or temporary impacts to, any aquatic or terrestrial wildlife species, due to the use of heavy equipment and temporary streambed alteration at the project site;
- Disturbance of breeding and nesting activities of various songbirds and fall migratory birds depending on the timing of construction; and
- Permanent or temporary impacts to any terrestrial wildlife due to temporary or long-term alteration of aquatic habitat; temporary loss of foraging and cover habitat; and temporary reductions in food sources for aquatic, semi-aquatic, and terrestrial wildlife species.

Loss of and Disturbance to Aquatic/Semi-aquatic Wildlife During Construction

Aquatic wildlife are not present onsite for most of the year; however, these resources may be present when water is flowing in Lyon Canyon Creek and its tributaries during the winter and early spring months. The potential for harm to, or permanent loss of, aquatic wildlife species is high since portions of the drainages onsite will be filled during construction activities associated with the development of Lyons Canyon Ranch. Permanent and temporary streambed alterations and filling by heavy equipment, in an active stream channel, create potential for increased erosion, sedimentation, and water turbidity levels, and it reduces the ecological integrity of an otherwise functional Riverine habitat.

The potential for impacts to aquatic wildlife species inhabiting the Riverine and Palustrine habitats onsite may increase in significance if project construction is conducted during seasons of peak channel flows. If construction activities are performed in the presence of active flows, several additional issues - including soil compaction, new channel morphology, potential for increased channel sedimentation and deposition, increased water turbidity levels, and increased erosion due to unstable bank soils - need to be addressed in order to ensure that as much of the aquatic and riparian habitats as possible remains intact and sustainable after construction activities have ceased.

Level of Significance Before Mitigation: Potentially Significant

Loss of and Disturbance to Amphibian Wildlife During Construction

Amphibian wildlife are present onsite year-round, and are most active when flows are present onsite. The potential for harm to, or permanent loss of, amphibian wildlife species is high since portions of the drainages onsite will be filled during construction activities associated with the development of Lyons Canyon Ranch. Permanent and temporary streambed alterations and filling by heavy equipment creates potential for increased erosion, sedimentation, and water turbidity levels, and it reduces the ecological integrity of an otherwise functional riparian habitat.

Level of Significance Before Mitigation: Potentially Significant

Loss of and Disturbance to Reptile Wildlife During Construction

Reptile wildlife species are present year round. Species of reptile onsite utilize all habitats existing onsite, especially oak woodland, chaparral, Coastal Sage Scrub, and riparian communities. The potential for harm to, or permanent loss of, reptile wildlife is high since portions of these habitats onsite will be graded during construction activities associated with the development of Lyons Canyon Ranch. Permanent and temporary natural habitat alterations and filling by heavy equipment creates potential for loss of individuals as well as a loss of habitat required by these species.

Level of Significance Before Mitigation: Potentially Significant

Loss of and Disturbance to Breeding and Nesting Birds During Construction

The potential for temporary harm to, or permanent loss of, observed and expected **breeding birds** within the project area still exists, especially with use of heavy equipment during construction. For example, birds (migratory or nesting birds) may be harmed or lost due to vegetation clearing with the use of heavy equipment or brush clearing. Take (killing, disturbance, harassing, etc.) of active bird nests is prohibited by California Fish and Game Code Section 3503, and migratory birds are protected by the Migratory Bird Treaty Act.

Level of Significance Before Mitigation: Potentially Significant

Loss of and Disturbance to Mammal Wildlife During Construction

Vegetation clearing and grading activities will result in the loss of or harm to mammal species that cannot escape the project site. In particular, small (burrowing) mammals hide in shrubs and herbaceous vegetation or in holes when threatened, and may be harmed during vegetation clearing activities. However, larger mammals will flee the area due to construction preparation activities and the mere presence of human beings. Assuming the adjacent habitats are fully occupied, those wildlife species that escape harm from heavy equipment have a high potential for death because of competition with other mammals occupying the habitats the refugees invade.

Level of Significance Before Mitigation: Potentially Significant.

Direct Impacts to Special-Status Wildlife Species

The identified potential impacts to special-status wildlife species, as a result of the Lyons Canyon Ranch project, include those listed above in Impacts to General Wildlife Species.

Sixty (60) special-status wildlife species have the potential to occur on Lyons Canyon Ranch, based on known occurrences in the vicinity of the project site (refer to Table 14, Special-Status Wildlife Species with Potential to Occur at Lyons Canyon Ranch). No federal or state listed wildlife species were observed at Lyons Canyon Ranch; however, four special-status wildlife species were observed or detected onsite or immediately adjacent to the project site. Three special-status wildlife species were observed or detected by DMEC, including: Cooper's Hawk (*Accipiter cooperi*) flying overhead, San Diego Desert Woodrat (*Neotoma lepida intermedia*) detected by a nest, and Oak Titmouse (*Baeolophus inornatus*). The fourth species, Nuttall's Woodpecker (*Picoides nuttallii*), was observed at Towsley Park by Wendy Langhans, with the Mountains Recreation and Conservation Authority (Wendy Langhans, pers. comm. 21 July 2005). It should also be noted that DMEC observed an occupied Barn Owl (*Tyto alba*) nest in Coast Live Oak (*Quercus agrifolia* ssp. *agrifolia*) onsite.

These species are described briefly below:

- **Cooper's Hawk (*Accipiter cooperii*):** Cooper's Hawk is a California Species of Concern. DMEC observed one individual Cooper's Hawk flying overhead onsite during biological surveys. The project site provides suitable foraging as well as nesting habitat for the Cooper's Hawk. Declines of the Cooper's Hawk in the late 1940s and 1950s were blamed on DDT and pesticide contamination. Populations started increasing in the late 1960s, but it is still listed as threatened or of special concern in a number of states. (Cornell Lab of Ornithology 2003 at http://www.birds.cornell.edu/programs/AllAboutBirds/BirdGuide/Coopers_Hawk.html.)
- **Barn Owl (*Tyto alba*) Nest:** A Barn Owl was observed flying from a nest in a Coast Live Oak tree onsite in the southeastern portion of the project site. The nest appeared to be occupied and active. Although Barn Owl has no protection as a species, all raptor nests are protected by the California Fish and Game Code Section 3503.5.
- **Oak Titmouse (*Baeolophus inornatus*):** An Oak Titmouse was also observed by DMEC in a Coast Live Oak tree onsite in the south central portion of the project site. This species is listed with a Global-rank of G5, and a State-rank of S3?. Though the bird clearly prefers open oak and pine-oak woodlands, populations have adapted locally to warm, dry

environments without oaks. Oak Titmouse declined 1.9% per year throughout California from 1980 through 1996. Oak Titmouse experienced a 1.6% annual decline in the California foothills from 1966 through 1996. Habitat loss from development is the greatest threat to the species. (National Audubon Society [2002] available at: <http://audubon2.org/webapp/watchlist/viewSpecies.jsp?id=148> 2002 by.)

- **Nuttall’s Woodpecker (*Picoides nuttallii*):** A Nuttall’s Woodpecker was observed at Towsley Park by Wendy Langhans, with the Mountains Recreation and Conservation Authority (Wendy Langhans, pers. comm. 21 July 2005). This species is listed with a Global-rank of G5S?. Scrub oak communities, oak woodlands, and streamside growth are the preferred habitats of this species (Field Guide to Birds of North America, 2002-2005, Mitch Waite Group, available at: http://identify.whatbird.com/obj/182/_Nuttalls_Woodpecker.aspx).
- **San Diego Desert Woodrat (*Neotoma lepida intermedia*):** This species is a California Species of Concern. A nest of this rodent was observed by DMEC during small mammal trapping onsite. Populations may be impacted by habitat loss to agricultural and urban development, isolation and fragmentation of habitats, and wildfires, especially in cactus areas (Aquarium of the Pacific Animal Data Base available at http://www.aquariumofpacific.org/ANIMAL_DATABASE/animaldb.asp?id=158).

Temporary harm to, or permanent loss of, any special-status wildlife species observed onsite is considered a *significant impact*; therefore, all potential impacts to special-status wildlife species observed onsite should be avoided and minimized to the maximum extent possible. This project may contribute to this species’ habitat destruction and fragmentation, which are ultimately responsible for the continuing decline of these sensitive species.

Table 18, Observed Sensitive Wildlife Species Impacts Matrix, lists the three special-status wildlife species and resources (nest) observed on the Lyons Canyon project site and provides an analysis of habitat suitability and loss, edge effects, reduction of population sizes, restriction of range, and significance of the impact to each species. Figure 22, Grading Impacts to Special-Status Species Observed at Lyons Canyon Ranch (provided above), shows the footprint of the project in relation the location of observed sensitive species onsite.

Table 18. Observed Sensitive Wildlife Species Impacts Matrix

Species Common and Scientific Names:	Cooper’s Hawk (<i>Accipiter cooperii</i>)	Barn Owl (<i>Tyto alba</i>) Nest	San Diego Desert Woodrat (<i>Neotoma lepida intermedia</i>)
Habitat present and species is reasonably expected to occur onsite? (YES/NO)	Yes	Yes	Yes
Species impacted directly by habitat loss? (YES/NO)	No	Yes, nest in habitat to be lost	Yes
Habitat loss substantial? (YES/NO)	No	No	Yes
Species impacted indirectly on adjacent lands by edge effects? (YES/NO)	No	No	Yes
Potential to eliminate species onsite? (YES/NO)	No	Nest-Yes	Yes

Species Common and Scientific Names:	Cooper's Hawk (<i>Accipiter cooperii</i>)	Barn Owl (<i>Tyto alba</i>) Nest	San Diego Desert Woodrat (<i>Neotoma lepida intermedia</i>)
Potential to reduce population size below self sustaining levels? (YES/NO)	No	No	No
Potential for substantial reduction in numbers of individuals? (YES/NO)	No	No	Yes
Potential restriction of range of rare or endangered species? (YES/NO)	No	No	Yes
Impact significant? (YES/NO)	Yes	Yes	Yes
Mitigation	Conduct survey prior to construction, Avoid contact with and harm to species; allow to escape	Conduct nest survey prior to construction; avoid contact with and harm to species; allow to escape. Protect nesting activity; 300/100-foot-buffer area	Conduct survey prior to construction; flag off active nests; avoid contact with and harm to species; allow to escape

Of the 60 special-status wildlife species tracked in the project region, 19 special-status wildlife species are *likely* to occur onsite, based on suitable required habitat present onsite, and based on the CNDDDB results for special-status wildlife species tracked in the vicinity of the project site (CDFG 2005). The 19 special-status wildlife species *likely* to occur onsite include:

- Silvery Legless Lizard (*Anniella pulchra pulchra*);
- Coastal Western Whiptail (*Aspidoscelis tigris stejnegeri*);
- Rosy Boa (*Charina trivirgata*);
- San Diego Banded Gecko (*Coleonyx variegates abbotti*);
- San Diego Horned Lizard (*Phrynosoma coronatum*);
- Coast Patch-nosed Snake (*Salvadora hexalepis virgulata*);
- Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*);
- Grasshopper Sparrow (*Ammodramus savannarum*);
- Bell's Sage Sparrow (*Amphispiza belli* ssp. *belli*);
- Long-eared Owl (*Asio otus*);
- Costa's Hummingbird (*Calypte costae*);
- Lawrence's Goldfinch (*Caroluelis lawrencei*);
- Lark Sparrow (*Chondestes grammacus*);
- Northern Harrier (*Circus cyaneus*);
- Loggerhead Shrike (*Lanius ludovicianus*);
- California Thrasher (*Toxostoma redivivum*);
- Ring-tailed Cat (*Bassariscus astutus*);
- Western Mastiff Bat (*Eumops perotis californicus*); and
- Mountain Lion (*Puma concolor*).

If these species that are likely onsite actually do occur onsite, impacts to these, or any other special-status wildlife species found to be present, would be considered a significant impact. The potential for encountering and/or impacting some of these species is low considering nature of their habits and ability to avoid being killed during construction activities. The less mobile species - such as Silvery Legless Lizard, Coastal Western Whiptail, Rosy Boa, San Diego Banded Gecko, San Diego Horned Lizard, Coast Patch-nosed Snake, and San Diego Desert Woodrat - would not likely be able to escape. Pre-construction surveys and onsite monitoring

during at least initial site clearing and grading are necessary to determine presence, and implementation of avoidance measures.

Loss of Cooper's Hawk (Accipiter cooperii) and Foraging and Nesting Habitat

Cooper's Hawk is a California Species of Concern. DMEC observed one individual Cooper's Hawk flying overhead onsite during biological surveys. The project site provides suitable foraging and/or nesting habitat for this species. Any impacts to this species may be considered significant under Section 15380 of the *State CEQA Guidelines* if construction occurs during nesting season and this species is present. In addition, impacts to any active raptor nest (common or special-status species) would be considered a violation of the California Fish and Game Code Sections 3503, 3503.5, and 3513.

The loss of Cooper's Hawk individuals would be considered a *significant* impact if construction occurs during the nesting season and the species is present. The loss of 99.73 acres of a variety of suitable habitats for this species would also be considered a *significant* impact.

Level of Significance Before Mitigation: Significant

Loss of Oak Titmouse (Baeolophus inornatus) and Foraging and Nesting Habitat

Oak Titmouse is listed with a Global-rank of G5, and a State-rank of S3?. An Oak Titmouse was also observed by DMEC in a Coast Live Oak tree onsite in the south central portion of the project site. The project site provides suitable foraging and/or nesting Coast Live Oak Woodland habitat for this species. Any impacts to this species may be considered significant under Section 15380 of the *State CEQA Guidelines* if construction occurs during nesting season and this species is present.

The loss of Oak Titmouse individuals would be considered a *significant* impact if construction occurs during the nesting season and the species is present. The loss of 8.79 acres of Coast Live Oak Woodland and Coast live Oak Riparian Woodland habitats for this species would also be considered a *significant* impact.

Level of Significance Before Mitigation: Significant

Loss of Nuttall's Woodpecker (Picoides nuttallii) and Foraging and Nesting Habitat

Nuttall's Woodpecker is listed with a Global-rank of G5S?. This species was observed at Towsley Park by Wendy Langhans, with the Mountains Recreation and Conservation Authority (Wendy Langhans, pers. comm. 21 July 2005). The project site provides suitable foraging and/or nesting habitat (oak woodlands and riparian scrub/woodlands) for this species. Any impacts to this species may be considered significant under Section 15380 of the *State CEQA Guidelines* if construction occurs during nesting season and this species is present.

The loss of Nuttall's Woodpecker individuals would be considered a *significant* impact if construction occurs during the nesting season and the species is present. The loss of 8.79 acres

of Coast Live Oak Woodland and Coast live Oak Riparian Woodland, and 3.56 acres of riparian scrub habitats for this species would be considered a *significant* impact.

Level of Significance Before Mitigation: Significant

Loss of Barn Owl (*Tyto alba*) Foraging and Nesting Habitat

Barn Owl was observed flying from its nest in a Coast Live Oak tree onsite. This species is not a special-status wildlife species; however, the project site provides suitable foraging and/or nesting habitat for this species. Impacts to any active raptor nest (common or special-status species) regulated by California Fish and Game Code Sections 3503, 3503.5, and 3513.

The loss of a Barn Owl **nest** would be considered a *significant* impact. The loss of habitat required by Barn Owl is a *less than significant* impact since Barn Owl is not a special-status species. Only its nest is regulated by the Fish and Game Code.

Level of Significance Before Mitigation: Significant (for impacted nests only)

Loss of San Diego Desert Woodrat (*Neotoma lepida intermedia*) and Habitat

San Diego Desert Woodrat is a California Species of Concern. A nest of this rodent was observed by DMEC during small mammal trapping onsite. The proposed project would result in the loss of 33.93 acres of suitable Coastal Sage Scrub habitat for this species. Any impacts to this species is considered significant under Section 15380 of the *State CEQA Guidelines* if construction occurs while this species is present.

The loss of San Diego Desert Woodrat individuals and loss of suitable habitat would be considered a *significant* impact.

Level of Significance Before Mitigation: Significant

Loss of Special-Status Reptiles Potentially Present

Six (6) special-status reptile species are *likely* to occur onsite due to the present of suitable habitat onsite and their known occurrence nearby. These species are discussed in the following paragraphs. While none of these reptiles were observed during surveys, loss of individuals of these species would be considered a significant impact if any are actually present onsite.

Silvery Legless Lizard (*Anniella pulchra pulchra*) was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite and this species is reported nearby (CDFG 2005). In addition, the proposed project would result in the loss of 7.84 acres of potentially occupied Coast Live Oak Woodland habitat, and loss of over 4 acres of potentially occupied riparian habitat for this species. This species is a CDFG California Species of Concern.

Coastal Western Whiptail (*Aspidoscelis tigris stejnegeri*) was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite and this species is reported nearby (CDFG 2005). In addition, the proposed project would result in the loss of 7.84 acres of potentially occupied Coast Live Oak Woodland habitat, and loss of over 4 acres of potentially occupied riparian habitat for this species.

Rosy Boa (*Charina trivirgata*) was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite and this species is reported nearby (CDFG 2005). The proposed project would result in the loss of up to 23.57 acres of suitable Chaparral habitat for this species.

San Diego Banded Gecko (*Coleonyx variegates abbotti*) was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite and this species is reported nearby (CDFG 2005). In addition, the proposed project would result in the loss of 2.66 acres of potentially occupied Rock Outcrops, 33.93 acres of Coastal Sage Scrub, and 23.57 acres of Chaparral habitat for this species.

San Diego Horned Lizard (*Phrynosoma coronatum [blainvillei]*) was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite (Coastal Sage Scrub), and this species is reported nearby (CDFG 2005). The Argentine Ant is the primary prey of the San Diego Horned Lizard. The Argentine Ant is closely associated with urban and suburban habitats, particularly where landscaping is regularly irrigated. Argentine Ant invasions into natural habitats of native ant species will result in the loss of the native ant species, a vital food source for San Diego Horned Lizard. In addition, the proposed project would result in the loss of 33.93 acres of suitable Coastal Sage Scrub habitat for this species. This species is a CDFG California Species of Concern.

Coast Patch-nosed Snake (*Salvadora hexalepis virgultea*) was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite, and this species is reported nearby (CDFG 2005). In addition, the proposed project would result in the loss of suitable habitat for this species, including 7.87 acres of Coast Live Oak Woodland, 2.66 acres of Lichen Rock Outcrop, and 26.85 acres of Grassland. This species is a CDFG California Species of Concern.

Any impacts to Silvery Legless Lizard, Coastal Western Whiptail, Rosy Boa, San Diego Banded Gecko, San Diego Horned Lizard, and Coast Patch-nosed Snake are considered significant under Section 15380 of the *State CEQA Guidelines* if construction occurs while these species are present. The loss of individuals of these six species would be considered a *potentially significant* impact and the loss of suitable habitat would be considered a *significant* impact.

Level of Significance Before Mitigation: Potentially Significant

Loss of Special-Status Bird Species Potentially Present

Since it is likely for ten (10) special-status bird species to occur onsite, there is potential for direct loss of these species, direct and indirect impacts to active nests, and a known loss of suitable habitat for these species. The impacts, to each special-status bird species likely to occur onsite, are discussed in the following paragraphs.

Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*): The loss of potential Southern California Rufous-crowned Sparrow individuals onsite would be considered a *potentially significant* impact. The loss of observed Southern California Rufous-crowned Sparrow individuals would be considered a *significant* impact. The proposed project would result in the loss of 33.93 acres of potentially occupied Coastal Sage Scrub, 23.57 acres of potentially occupied Chaparral, and 2.66 acres of potentially occupied Rock Outcrops for this species. The loss of its suitable habitat is also considered a *significant* impact.

Grasshopper Sparrow (*Ammodramus savannarum*): The loss of potential Grasshopper Sparrow individuals onsite would be considered a *potentially significant* impact. The loss of observed Grasshopper Sparrow individuals would be considered a *significant* impact. The proposed project would result in the loss of 26.85 acres of potentially occupied Grassland habitat for this species. The loss of its suitable habitat is also considered a *significant* impact.

Bell's Sage Sparrow (*Amphispiza belli* ssp. *belli*): The loss of potential Bell's Sage Sparrow individuals onsite would be considered a *potentially significant* impact. The loss of observed Bell's Sage Sparrow individuals would be considered a *significant* impact. The proposed project would result in the loss of 33.93 acres of potentially occupied Coastal Sage Scrub, and 23.57 acres of potentially occupied Chaparral for this species. The loss of its suitable habitat is considered a *significant* impact.

Long-eared Owl (*Asio otus*): The loss of potential Long-eared Owl individuals onsite would be considered a *potentially significant* impact. The loss of observed Long-eared Owl individuals would be considered a *significant* impact. The proposed project would result in the loss of 3.56 acres of potentially occupied Southern Riparian Scrub, and 0.92 acre of potentially occupied Coast Live Oak Riparian Woodland for this species. The loss of its suitable habitat is considered a *significant* impact.

Costa's Hummingbird (*Calypte costae*): The loss of potential Costa's Hummingbird individuals onsite would be considered a *potentially significant* impact. The loss of observed Costa's Hummingbird individuals would be considered a *significant* impact. The proposed project would result in the loss of 33.93 acres of potentially occupied Coastal Sage Scrub and 3.56 acres of potentially occupied Southern Riparian Scrub for this species. The loss of its suitable habitat is also considered a *significant* impact.

Lawrence's Goldfinch (*Caroluelis lawrencei*): The loss of potential Lawrence's Goldfinch individuals onsite would be considered a *potentially significant* impact. The loss of observed Lawrence's Goldfinch individuals would be considered a *significant* impact. The proposed project would result in the loss of 7.98 acres of potentially occupied Coast Live Oak, Valley Oak, and Southern California Black Walnut Woodlands; 23.57 acres of potentially occupied Chaparral; and 26.85 acres of potentially occupied Grassland habitat for this species. The loss of its suitable habitat is also considered a *significant* impact.

Lark Sparrow (*Chondestes grammacus*): The loss of potential Lark Sparrow individuals onsite would be considered a *potentially significant* impact. The loss of observed Lark Sparrow individuals would be considered a *significant* impact. The proposed project would result in the loss of 26.85 acres of potentially occupied Grassland habitat, 7.87 acres of potentially occupied Coast Live Oak Woodland, and 33.93 acres of potentially occupied Coastal Sage Scrub habitat for this species. The loss of its suitable habitat is also considered a *significant* impact.

Northern Harrier (*Circus cyaneus*): The loss of potential Northern Harrier individuals onsite would be considered a *potentially significant* impact. The loss of observed Northern Harrier individuals would be considered a *significant* impact. The proposed project would result in the loss of 99.73 acres of a variety of potentially occupied habitats for this species. The loss of its suitable habitat is considered a *significant* impact.

Loggerhead Shrike (*Lanius ludovicianus*): The loss of potential Loggerhead Shrike individuals onsite would be considered a *potentially significant* impact. The loss of observed Loggerhead Shrike individuals would be considered a *significant* impact. The proposed project would result in the loss of 7.98 acres of potentially occupied Coast Live Oak, Valley Oak, and Southern

California Black Walnut Woodlands; 3.56 acres of potentially occupied Southern Riparian Scrub, and 0.92 acre of potentially occupied Coast Live Oak Riparian Woodland for this species. The loss of its suitable habitat is considered a *significant* impact.

California Thrasher (*Toxostoma redivivum*): The loss of potential California Thrasher individuals onsite would be considered a *potentially significant* impact. The loss of observed California Thrasher individuals would be considered a *significant* impact. The proposed project would result in the loss of 23.57 acres of potentially occupied Chaparral habitat for this species. The loss of its suitable habitat is also considered a *significant* impact.

Level of Significance Before Mitigation: Potentially Significant

Disturbance to Mountain Lion (Puma concolor) and Loss of Habitat

Mountain Lion was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite, and known occurrences in the vicinity of the project site.

A total of 99.73 acres of natural habitat will be permanently lost, which contributes to the cumulative loss of habitat for a population that is already at risk of local extinction. Construction activities will keep Mountain Lion from foraging onsite in the development area and temporarily from adjacent open space areas during construction.

Level of Significance Before Mitigation: Significant

Disturbance to Ring-tailed Cat (Bassariscus astutus) and Loss of Habitat

Ring-tailed Cat was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite, and known occurrences in the vicinity of the project site. A total of 99.73 acres of natural habitat will be permanently lost, which also contributes to the cumulative loss of habitat for this species. Foraging area will be lost and disturbed during construction.

Level of Significance Before Mitigation: Significant

Disturbance to Western Mastiff Bat (Eumops perotis californicus) and Loss of Habitat

Western Mastiff Bat was not observed onsite; however, this species is likely to occur onsite based on the presence of suitable habitat onsite, and known occurrences in the vicinity of the project site. Western Mastiff Bat may forage and nest on the project site. Project impacts are not expected to affect the overall availability of prey on the project site for bats foraging at night. However, project implementation would result in night lighting and may cause subsequent changes in inter-species bat and prey behavior. In addition, project implementation would result in the loss of some roosting habitat for bats. Any impacts to this species may be considered significant under Section 15380 of the *State CEQA Guidelines* if construction occurs while this species is present.

Level of Significance Before Mitigation: Significant

Indirect Impacts to Special-Status Wildlife Species

Indirect impacts to special-status wildlife species are caused when project-related activities cause unusual and detrimental behavioral changes in wildlife that results in sickness, death, or abandonment of otherwise suitable habitat. The causes of such behavioral changes can be excessive noise, annoyance, harassment by humans and/or pets, and increased excessive nighttime lighting. Such indirect impacts have the potential to cause significant impacts to sensitive wildlife.

Impacts Related to Noise

Noise levels on the project site would increase over present levels during construction of the proposed project. During construction, temporary noise impacts have the potential to disrupt foraging, nesting, roosting, and denning activities for a variety of wildlife species including reptiles, amphibians, mammals, and birds. Noise can also interfere with a species' ability to protect itself from predators, and to communicate. While each species of wildlife present onsite has different tolerance levels to noise, and individuals within each species can vary considerably, little data on thresholds are available. The degree of species habituation to various levels and types of noise disturbances in their territories and home ranges will dictate the extent, if any, of induced stresses.

The effect of intolerable construction-related noise on wildlife is related directly to a species' ability to breed, forage, and avoid predation. Excessive noise can reduce or eliminate some wildlife species' ability to attract mates, repel competitors, avoid predators, communicate, and detect food. Amphibians, reptiles, and mammals suffered deleterious effects from moderate exposure to off-road vehicle (ORV) noise (Brattstrom and Bondello 1983 in Schubert and Smith 2000). These effects included physiological and behavioral hearing loss and the misinterpretation of important environmental acoustic signals.

SPECIFIC EFFECTS ON WILDLIFE

Wildlife exposed to noise can suffer high levels of physiological stress even if they appear to fully adapt to the noise (Aune 1981 in Schubert and Smith 2000; Environmental Protection Agency [EPA] and Memphis State University 1971). Loss of hearing sensitivity can lead to increased exposure to predation, increased difficulty killing prey, and otherwise significant disruptions in predator-prey relationships (EPA and Memphis State University 1971). The impairment of intraspecific communication is another serious concern (Luz and Smith 1976; Luckenbach 1975 and 1978; and Weinstein 1978 in Schubert and Smith 2000). Specific problems can include the inability to recognize mating signals, warning calls, and calls by juveniles (EPA and Memphis State University 1971). The degree of species habituation to various levels and types of noise disturbances in their territories and home ranges will dictate the extent, if any, of induced stresses.

SOUND ATTENUATION

Moderate noise levels associated with construction activities will be fluctuating and intermittent. High noise levels will also be fluctuating, but these noise levels will be more continuous in nature due to the extent and duration of the construction activities. Noise levels at any individual project site will be attenuated to varying degrees, dependent on the sound frequency, by

atmospheric conditions, terrain, ground impedance, foliage and vegetation, and the actual distance between the sound source and potential wildlife species (U.S. Fish and Wildlife Service 1997). The formula to calculate sound attenuation with distance in a free field (outdoors) is:

$$\text{Decibels of Change} = 20 \times \log(\text{distance 1}/\text{distance 2}).$$

For example, if you were standing 10 feet from a noise source, and were to move 100 feet away from that noise source, you would expect to see a drop in level of 20dB (Mc Squared System Design Group, Inc, 2005).

SPECIES AFFECTED

Birds: Nesting raptors and other bird species have the potential to incur temporary short-term impacts from construction noise, if present in the vicinity of the project site, and may be temporarily displaced due to these disturbances. The effect of intolerable construction-related noise on wildlife is related directly to a species' ability to breed, forage, and avoid predation.

Falcons: Peregrine Falcons are in this group and are known for being scared off their nest by sonic booms (Manci et al. 1988). A study done in Arizona found responses to extremely frequent and nearby jet aircraft by peregrines were often minimal; however, the disturbance was not found to be associated with reproductive failure. Nesting success and site reoccupancy rates were high for all aeries. The birds observed were noticeably alarmed by the noise stimuli (82-114 dBA), but the negative responses were brief and apparently not productivity limiting (Ellis 1981, as cited in Manci et al. 1988). Prairie Falcon and Merlin are not expected onsite (no nesting habitat).

Accipiters: White-tailed Kite, Sharp-shinned Hawk, Northern Harrier, and Golden Eagle have potential to occur at the project site. Cooper's Hawk is known onsite. Accipiters in general are not known to be as sensitive to noise, and Northern Harriers have been observed to continue to prey on disturbed smaller birds near the origination site of a loud noise from a practice bomb (Jackson et al. 1977 in Manci et al. 1988).

Amphibians: Spadefoot Toad (*Scaphiopus couchi*) is known to be cued by early summer thunderstorms to emerge from the burrow to mate and lay eggs, and larvae are subsequently born and undergo metamorphosis. If other noise mimics the sound of thunderstorms, reproductive activity can occur in the absence of appropriate environmental conditions, and cause adverse impacts to the local population. (McClanahan 1967; Brattstrom and Bondello 1983 in Schubert and Smith 2000). A congener, the Western Spadefoot Toad (*Scaphiopus hammondi*), is a species of special concern that may possibly occur onsite.

Reptiles: The reproductive success of lizards is known to decrease when ORV activity peaks in their vicinity (Mayhew 1966 and 1966a, as cited in Schubert and Smith 2000). Reptiles that may occur on the project site include Silvery Legless Lizard, Two-striped Garter Snake, and the Coast Patch-nosed Snake. The Coastal Western Whiptail and San Diego Horned Lizard are expected to occur onsite.

Mammals: Sprock et al. (1967), as cited in EPA and Memphis State University (1971), subjected caged wild rats and mice to sounds of varying frequencies (100-25,000 Hz) and Sound Pressure Level (60-140 dB). Rats exposed to high noise levels suffered impacts which included reduced body weight, increased heart rate, and the shrinking of ovaries and kidneys, decreased nesting, and death (Geber and Geber et al. (1966), as cited in EPA and Memphis State University (1971). Manci et al. (1988) reports that at noise levels above 90 decibels mammals may retreat, freeze, or become startled. One potential effect of noise on mammals is that of displacement.

When a species is dependent upon a narrow range of habitat characteristics, displacement to marginal or unsuitable habitat can have lasting impacts on survival and productivity. This has been found to be true for the kangaroo rat (Brattstrom and Bondello 1983, as cited in Schubert and Smith 2000). These studies may indicate potential impacts for the San Diego Desert Woodrat, a special-status species that may occur at the project site.

A number of species of bat species are considered likely to occur at the project site. It has been shown that bats are generally resistant to jamming of their “radar” echo-location abilities by external noise sources (Griffin, McCue, and Grinnell 1963). Apparently, they orient themselves so that noise and signal are received from different angles. Signal masking is greatest when noise and signal are received from the same direction. Despite these results, it would be conservative to halt construction activities just before bat feeding times, before or at dusk, in the immediate vicinity of bat foraging areas onsite. A number of special-status species bats may occur at the site, including Pallid Bat, Pale Big-eared Bat, Western Mastiff Bat, California Leaf-nosed Bat, and Yuma Myotis.

EQUIPMENT NOISE LEVELS

Noise levels of various types of construction equipment are provided in Table 19, Noise Levels of Construction Equipment, which provides a basic guide to expected noise levels that would significantly disturb wildlife enough to change their normal behavior patterns in a detrimental manner. Since wildlife sensitivity to specific noise levels is not well known, human sensitivity levels will be used as a surrogate. Generally, levels above 86 dBA at 15 meters would be used as the impact threshold, requiring implementation of measures to mitigate the adverse behavioral changes, based on the Caltrans Traffic Noise Analysis Protocols (California Department of Transportation 1998).

Table 19. Noise Levels of Construction Equipment²²

Type of Equipment	Range of Maximum Sound Level Measured at 50 feet (dBA)	Suggested Maximum Sound Level for Analysis at 50 feet (dBA)
Pile Drivers, 12,000 to 18,000 ft-lb/blow	81-96	93
Rock Drills	83-99	96
Jackhammers	75-85	82
Pneumatic Tools	78-88	85
Pumps	74-84	80
Scrapers	83-91	87
Haul Trucks	83-94	88
Cranes	79-86	82
Portable Generators	71-87	80
Rollers	75-82	80
Dozers	77-90	85
Tractors	77-82	80
Front-End Loaders	77-90	86
Hydraulic Backhoes	81-90	86
Hydraulic Excavators	81-90	86

²² From Bolt, Beranek, & Newman. 1987. Noise Control for Buildings and Manufacturing Plants.

Type of Equipment	Range of Maximum Sound Level Measured at 50 feet (dBA)	Suggested Maximum Sound Level for Analysis at 50 feet (dBA)
Graders	79–89	86
Air Compressors	76–89	86
Trucks	81–87	86

EFFECTS ON WILDLIFE AFTER DEVELOPMENT OF PROPOSED PROJECT

The project site is adjacent to a major State Highway generating substantial noise under existing conditions. Project related noise levels would not increase substantially over present levels when the land use is converted to a residential community. Nevertheless, wildlife habitat within isolated areas of the project site and immediately surrounding areas to the west and south could be disturbed. Therefore, some wildlife species stressed by noise may disperse from the remaining habitat on and in the vicinity of the site, leaving only wildlife tolerant of human activity. Though these adverse impacts from construction-related noise would not be expected to reduce any current wildlife population below self-sustaining levels, mortality of breeding wildlife of special-status species would be considered adverse and significant. Chronic (permanent) noise impacts would be less than significant and mitigation would not be required. Mitigation measures, such as capture and relocation, or capture and hold wildlife until the impact has ended or decreased to tolerable levels, have the potential for impacts equal to the temporary displacement of these animals, and are therefore not recommended. Noise attenuation and work scheduling measures are feasible mitigation to reduce temporary noise impacts to sensitive wildlife.

The impacts resulting from excessive noise levels that result in the abandonment of care-giving, and interference to survival, growth, and reproduction are considered adverse and *significant*, especially because the proposed project occurs adjacent to natural open space areas that support high wildlife value.

Level of Significance Before Mitigation: Potentially Significant

Impacts Related to Human Activity

The residents of the proposed development may use the proposed open space for passive recreation (e.g. hiking). This would increase the noise and disturbance of habitat areas remaining on the site, especially those adjacent to the proposed development. Human disturbance could disrupt normal foraging and breeding behavior of wildlife remaining on the site, substantially diminishing the value of habitat areas remaining. In addition, pets in these neighborhoods (i.e., cats and dogs) would become introduced predators and would increase the stresses of wildlife remaining in the open space areas on the site. This impact would be considered potentially significant.

Level of Significance Before Mitigation: Potentially Significant

Impacts Related to Night Lighting

Lighting of the urban development would inadvertently affect the behavior patterns of nocturnal and crepuscular (active at dawn and dusk) wildlife at these areas, especially amphibian and bat species. Of greatest concern is the effect on small ground-dwelling animals that use the darkness

to hide from predators, and on owls that are specialized night foragers. Night lighting could inhibit wildlife from using the habitat adjacent to lighted areas.

Night lighting could negatively affect wildlife activities and wildlife vigor if exposed to bright artificial lighting from streetlights, or outdoor lighting at residences. While limited to the areas a short distance from the light source, and depending on the intensity of the outdoor lighting, such nuisance spillover lighting represents a potentially significant impact to wildlife sensitive to such lighting.

Level of Significance Before Mitigation: Potentially Significant

IMPACTS TO NATURAL VEGETATION, INCLUDING SENSITIVE HABITATS

Lyons Canyon Ranch includes 11 general vegetation types that make up the landscape onsite. Damage or loss of any natural, native vegetation ultimately contributes to the degradation of a region's structural diversity, species richness, and ecological integrity. Nine sensitive habitats were observed onsite that are tracked by CNDDDB (CDFG 2005).

Table 20, Project Impact Area for each Vegetation Type Onsite, presents the area of impact for each of the nine sensitive habitats as well as the area of impact to other plant communities creating the landscape onsite. The subsections following Table 20 provide an impact analysis for the sensitive plant communities observed onsite.

The project site consists of approximately 226.8 acres of natural vegetation. The proposed project will impact a total of approximately 99.7 acres of natural vegetation would be impacted by the proposed project and 127.1 acres would be preserved. Of the 226.8 acres of vegetation onsite, approximately 119.4 acres consist of sensitive habitat types. Of the 119.4 acres of sensitive habitat onsite, the proposed project would impact approximately 49.3 acres of sensitive habitat onsite and would preserve approximately 70.1 acres of sensitive habitat onsite.

Table 20. Project Impact Area for Each Vegetation Type Onsite

Vegetation Type	Sensitive? (Yes/No)	Existing Acreage	Impact Acreage	Percent of Impacts	Acres Preserved	Impact Significant ?
<i>Riparian</i>						
Coast Live Oak Riparian Woodland (<i>Quercus agrifolia</i> Alliance)	Yes	1.65	0.92	55.8	0.73	Yes
Southern Mixed Riparian Forest (<i>Salix lasiolepis</i> Alliance and <i>Salix laevigata</i> Alliance)	Yes	0.81	0	0	0.81	No
Southern Riparian Scrub (<i>Baccharis salicifolia</i> Alliance and <i>Sambucus mexicana</i> - <i>Baccharis salicifolia</i> Alliance)	Yes	9.15	3.56	38.9	5.59	Yes
Cismontane Alkali Marsh (<i>Distichlis spicata</i> Alliance)	Yes	0.34	0.26	76.5	0.08	Yes
<i>Upland</i>						
Coast Live Oak Upland Woodland (<i>Quercus agrifolia</i> Alliance)	Yes	38.42	7.87	20.5	30.55	Yes
Valley Oak Woodland (<i>Quercus lobata</i> Alliance)	Yes	0.23	0.03	13.0	0.20	Yes
Southern California Black Walnut Woodland (<i>Juglans californica</i> var. <i>californica</i> Alliance)	Yes	1.89	0.08	4.2	1.81	Yes
Chaparral (<i>Adenostoma fasciculatum</i> Alliance, <i>Adenostoma fasciculatum</i> - <i>Salvia mellifera</i> Alliance, and <i>Adenostoma fasciculatum</i> - <i>Sambucus mexicana</i> Alliance)	No	69.41	23.57	34.0	45.84	Yes
Coastal Sage Scrub (<i>Eriogonum fasciculatum</i> Alliance, <i>Salvia leucophylla</i> Alliance, <i>Salvia leucophylla</i> - <i>Brassica</i> Alliance, <i>Salvia apiana</i> Alliance, and <i>Sambucus mexicana</i> - <i>Salvia leucophylla</i> Alliance)	Yes	57.43	33.93	59.1	23.50	Yes
Lichen Rock Outcrop (Lichen Alliance and <i>Hesperoyucca whipplei</i> -Lichen Alliance)	Yes	9.50	2.66	28.0	6.84	Yes
Grassland (<i>Avena</i> - <i>Brassica</i> - <i>Silybum</i> Alliance)	No	37.96	26.85	70.7	11.11	Yes
Totals:	-	226.79²³	99.73²⁴	44.0%	127.06	Yes

²³ Total area of project site is approximately 235.50 acres. The project site vegetation area of 226.79 acres includes only the vegetated portions of the project site.

²⁴ Total grading/impact area is approximately 104.90 acres. The impact area of approximately 99.73 represents the estimated impact acreage on natural vegetation. Therefore, the difference represents land that is already disturbed by roads and previous development and ornamental landscaping.

Loss of Grassland Habitat

Grasslands support some of the most diverse assemblies of plant and wildlife species in California (Jones & Stokes Associates, Inc 1989), many of which are threatened and endangered. Mule Deer and Coyote both breed in grasslands, as do Short-eared Owl, Burrowing Owl, Peregrine Falcon, Northern Harrier, American Badger, Western Spotted Skunk, San Diego Black-tailed Jackrabbit, and many other species (CWHR System Version 7.0). Although the grassland communities onsite include a large component of nonnative plant species, this condition does not preclude it from being used as habitat by native plants and animals (Howald 1993). CWHR rates grasslands as of high reproductive, cover, and feeding value for many wildlife species.

Approximately 37.96 acres of Grassland habitat exists onsite. Approximately 26.85 acres of this natural habitat will be impacted by the proposed project (70.7%). This is considered a *significant* impact.

Level of Significance Before Mitigation: Significant

Loss of Lichen-Rock Outcrop Habitat

Approximately 9.50 acres of sensitive Lichen-Rock Outcrop Habitat exist onsite. Approximately 2.66 acres will be impacted by the proposed project (28.0%). This is considered a *potentially significant* impact.

Level of Significance Before Mitigation: Potentially Significant

Loss of Coastal Sage Scrub

The sensitive Coastal Sage Scrub plant communities observed onsite include *Sambucus mexicana-Salvia leucophylla* Alliance, *Salvia leucophylla* Alliance, and *Salvia apiana* Alliance. Approximately 57.43 acres of Coastal Sage Scrub exist onsite. Of this, approximately 33.93 acres of Coastal Sage Scrub will be impacted by the project. Approximately 7.61 acres of the Coastal Sage Scrub proposed to be impacted by the project are degraded habitat infested by invasive exotic plants such as *Brassica nigra*, *Silybum marianum*, *Cirsium vulgare*, and *Avena barbata*, effectively decreasing its functional value to native wildlife species that may utilize it onsite. The remaining 27.43 acres are dominated by natives; but still contain several nonnative forbs, degrading its value to wildlife, but to a lesser extent.

At one time, the Santa Clarita Valley area supported the region's most extensive patches of sage and sagebrush scrub plant communities prior to urbanization. Coastal Sage Scrub is a community at risk, with approximately 90 percent already lost to development (urban and agriculture); very little Coastal Sage Scrub has been protected by any mechanisms, such as enforceable conservation easements (Davis et al. 1985). (Boyd 1999.)

Although the vegetation burned in the Simi Fire, Coastal Sage Scrub recovers quickly and may support habitat for special-status species. The loss of 33.93 acres of Coastal Sage Scrub vegetation onsite (59.1%) is considered a significant impact due to the cumulative losses of this habitat in southern California, and the potential for it to support special-status species.

Level of Significance Before Mitigation: Significant

Loss of Chaparral Habitat

Approximately 69.41 acres of functional Chaparral habitat exists on the Lyons Canyon Ranch property. Approximately 23.57 acres will be impacted by the proposed project (34.0%), which will decrease natural open areas and contribute to the loss of habitats for several wildlife species.

Chaparral habitats are typically not considered sensitive habitats. However, Lyon Canyon SEA 63 specifically focuses on Chamise Chaparral, riparian, and oak woodland habitats along Lyon Canyon Creek. SEA 63 includes the middle portion of the creek with the eastern end of the SEA in the center of the Lyons Canyon Ranch, extending westward beyond the project site. Lyon Canyon SEA 63 is approximately 174.45 acres total, of which approximately 58.48 acres of SEA 63 exist onsite.

The northern portion of the SEA contains Chamise Chaparral, which is dominated by *Adenostoma fasciculatum* (Chamise) and includes *Rhus ovata* (Sugarbush), *Ceanothus crassifolius* (Snowball Ceanothus), and *Salvia mellifera* (Black Sage), as major canopy contributors.

Of the 58.48 acres of SEA 63 existing onsite, 18.27 acres is occupied by Chaparral. Of the 18.27 acres of Chaparral within the SEA, 7.34 acres will be impacted by the proposed project. This is considered a *significant* impact.

Level of Significance Before Mitigation: Significant

Loss of Southern California Black Walnut Woodland

Approximately 1.89 acres of sensitive Southern California Black Walnut Woodland habitat exist onsite. Southern California Black Walnut Woodland plant community observed onsite is also classified as *Juglans californica* var. *californica* Alliance. Approximately 0.08 acre will be impacted (4.2%) as a result of the Lyons Canyon Ranch project.

Level of Significance Before Mitigation: Significant

Loss of Coast Live Oak Woodland and Coast Live Oak Riparian Woodland

A total of 1,409 oak trees meeting the Los Angeles County definition are documented to have occurred onsite prior to the Simi Fire of October 2003, as listed by species in Table 15 and illustrated in DMEC's oak tree report. Of the 1,409 Los Angeles County regulated oak trees present onsite, the proposed project is expected to directly impact (or resulting the loss of) 179 oak trees, and is expected to indirectly impact (encroach upon) 75 oak trees. The remaining 1,155 oak trees would be avoided by the proposed project and preserved in the open space preserve areas of the site or in small internal park areas containing the retained trees.

A total of 17 heritage-size Coast Live Oak trees will be lost as a result of the proposed project, and 8 heritage Coast Live Oak trees will be encroached upon as a result of the proposed project. None of the heritage-sized Valley Oak trees would be lost from the proposed project; however, three heritage Valley Oak trees will be encroached upon as a result of the proposed project.

The loss of 179 oak trees, including 17 heritage-size trees, is considered a *significant* impact.

The impact assessment for impacts to the sensitive Coast Live Oak Woodland and Coast Live Oak Riparian Woodland observed onsite (shown above on Figure 21) is as follows:

- Approximately 38.42 acres of **Coast Live Oak Woodland (upland)** currently exist onsite. Of the 38.42 acres, approximately 7.87 acres will be impacted (20.5%) as a result of the project and 30.55 acres will be preserved.
- Approximately 1.65 acres of **Coast Live Oak Riparian Woodland** exist onsite. Of the 1.65 acres, approximately 0.92 acres will be impacted (55.8%) as a result of the proposed project and 0.73 acre will be preserved.

The loss of 7.87 acres of Coast Live Oak Woodland, and 0.92 acre of Coast Live Oak Riparian Woodland (totaling 8.79 acres of impacts to oak woodland) would be considered a *significant* impact.

Level of Significance Before Mitigation: Significant

Loss of Valley Oak Woodland

Approximately 0.23 acres of Valley Oak Woodland exist onsite. Of the 0.23 acres, approximately 0.03 acres will be impacted (13.0%) as a result of the proposed project and 0.20 acre will be preserved.

The loss of 0.03 acres of Valley Oak Woodland would be considered a *significant* impact.

Level of Significance Before Mitigation: Significant

Loss of Wetland Habitats and Plant Communities

The Lyons Canyon Ranch project will result in impacts to riparian habitats, including waters and wetlands regulated by federal and state agencies. Several wetland and/or riparian plant communities will be directly and indirectly affected by the proposed project. Since wetlands and waters of the United States will be affected, a permit from the U.S. Army Corps of Engineers (Corps) will be required. CDFG regulated wetland habitats are also present, and would be impacted. A Streambed Alteration Agreement will be required to alter wetland habitats under CDFG jurisdiction.

Under US Army Corps of Engineers standards, a total of 9.10 acres of “Waters of the United States” and “Wetlands” are found on the project site, of which 2.96 acres would be impacted by the proposed project. A total of 15.51 acres of CDFG riparian habitat and stream courses occur onsite, of which 5.74 acres would be impacted by the proposed project. A detailed breakdown of onsite wetlands and riparian habitats under jurisdiction of Corps and CDFG are calculated in Table 21, Summary of All Jurisdictional Waters, Wetlands, and Riparian Areas at Lyons Canyon Ranch.

Table 21. Summary of All Jurisdictional Waters, Wetlands, and Riparian Areas at Lyons Canyon Ranch

Agency/Status	Stream Lengths (linear feet)	Total Area (acres)	Proposed Project Impacts (acres)
Corps Jurisdictional Waters of the U.S., excluding wetlands	28,723.8	4.35	2.11
Corps Jurisdictional Wetlands	6,216.0	4.75	0.85
Total Corps Jurisdiction (Waters and Wetlands)	34,939.8	9.10	2.96
CDFG Riparian Habitats	14,474.5	12.44 ²⁵	4.38
CDFG stream courses (without riparian vegetation)	19,343.4	3.07	1.36
Total CDFG Jurisdictional Area²⁶	33,814.9	15.51	5.74

Direct impacts to wetland and riparian habitats are regulated by the Corps and/or CDFG pursuant to Section 404 of the Clean Water Act and Section 1600 *et seq.* of the California Fish and Game Code, respectively. The loss of, or damage to, riparian trees and shrubs that contribute to a sensitive habitat type is considered a *significant direct and cumulative impact*, directly and indirectly negatively affecting wildlife inhabiting it.

Corps and CDFG regulatory requirements are described below.

Corps Jurisdictional Waters and Wetlands

State and federal regulations have been established to protect wetland and water quality resources. Section 404 of the Clean Water Act regulates certain activities within waters of the U.S., including wetlands. The State Water Resources Control Board, through regional water quality control boards (Los Angeles RWQCB), regulates discharges into waters of the U.S. and the State, pursuant to Section 401 of the Clean Water Act. Waters of the U.S., including stream channels and wetlands, fall under the jurisdiction of the Corps under Section 404 of the Clean Water Act. (Refer to DMEC 2004.)

The Corps, under Section 404 of the Clean Water Act, defines a wetland as possessing the following three general diagnostic environmental characteristics during the growing season: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. The Corps requires that one or more indicators, for each of the three wetland criteria, be met in order for an area in question to be considered a jurisdictional wetland. This requirement for the presence of all three environmental conditions does not apply in Atypical Situations and in problem areas; therefore, all three wetland parameters need not be met for most portions of Lyons Canyon Ranch since most of the property is in an Atypical Situation (DMEC 2004a).

The function of Riverine (aquatic) habitats is largely dependent upon the natural channel morphology and bordering native plant communities, both of which will be temporarily altered by the project. Thus, the completion of the proposed project will have negative effects on the overall ecosystem function of the aquatic habitat of the Lyon Canyon Creek portion of the project site.

²⁵ The area of riparian habitat was calculated from the delineation of habitat by the field surveys and aerial photograph interpretation of pre-burned vegetation.

²⁶ Includes all areas under CDFG jurisdiction, including areas lacking riparian vegetation.

The Riverine habitat onsite is classified as Riverine Intermittent Streambed. This habitat is jurisdictional waters of the U.S., but is not determined to be a *wetland* under Corps jurisdiction, since it has positive indicators for the presence of only two of the three wetland criteria: (1) wetland hydrology, including drift lines, sediment deposits, and drainage patterns; and (2) sand and Riverwash hydric soils. The Riverine habitat located in the immediate active creek bottom is not dominated by hydrophytic vegetation. This habitat lacks vegetation in general, except for a few scattered emergent forbs.

A total of 9.1 acres of Corps jurisdictional waters of the U.S., including wetlands, have been verified (Corps pers. comm.) as occurring on the project site, which includes the adjacent Taylor-Prentice property immediately to the southeast (DMEC 2004a). Of the 9.1 acres, 4.75 acres are Corps jurisdictional *wetlands*.

The proposed project will result in impacts to approximately 0.85 acre of Corps jurisdictional wetlands, and approximately 7,820.93 linear feet (2.11 acres) of Corps jurisdictional waters (not including wetlands), or Riverine habitat. (DMEC 2004a.).

CDFG Jurisdictional Riparian Habitats

The California Fish and Game Code protects and regulates activities associated with wildlife and wildlife habitats. Wetlands, such as habitats occurring in freshwater stream channels, are considered sensitive and declining by several regulatory agencies, including CDFG and USFWS. Stream channels and banks are specifically addressed by the CDFG Streambed Alteration Agreement, pursuant to Section 1600 *et seq.* of the California Fish and Game Code.

CDFG jurisdictional wetlands and riparian habitat onsite totals 15.51 acres, of which 12.44 acres consists of riparian vegetation. The remaining 3.07 acres consists of unvegetated ephemeral drainages, usually on the steep slopes of the project site.

The construction activities to be conducted in Lyon Canyon Creek and tributaries will substantially adversely affect existing biological resources of the project site and will result in the loss of, or disturbance to, a total of approximately 5.74 acres of CDFG jurisdictional wetlands and riparian habitat.

All impacts should be minimized to the maximum extent possible, such as keeping the area of impact as small as possible. Impacts resulting from project construction activities within the sensitive riparian zone should also be compensated for by implementing specific mitigation measures (restoration). A Streambed Alteration Agreement will need to be obtained from CDFG to modify existing wetland riparian habitats under CDFG jurisdiction.

Loss of Sensitive Wetland Plant Communities

The riparian vegetation onsite provides functional habitat for a number of plant and wildlife species. For example, riparian habitat is used for nesting and foraging sources for several species of birds, as well as cover and foraging habitat for small and large mammals, some of which may use the site as a movement corridor where vegetation provides cover from predators.

Four riparian habitats exist onsite, all of which are sensitive wetland habitats, and they include: Coast Live Oak Riparian Woodland (discussed earlier), Cismontane Alkali Marsh, Southern Riparian Scrub, and Southern Mixed Riparian Forest. The acreage and Alliance names for these sensitive habitat types are presented below:

Vegetation Type	Sensitive? (Yes/No)	Existing Acreage	Impact Acreage	Percent of Impacts	Acres Preserved	Significant Impact?
Coast Live Oak Riparian Woodland (<i>Quercus agrifolia</i> Alliance)	Yes	1.65	0.92	55.8	0.73	Yes
Southern Mixed Riparian Forest (<i>Salix lasiolepis</i> Alliance and <i>Salix laevigata</i> Alliance)	Yes	0.81	0	0	0.81	No
Southern Riparian Scrub (<i>Baccharis salicifolia-Sambucus mexicana</i> Alliance)	Yes	9.15	3.56	38.9	5.59	Yes
Cismontane Alkali Marsh (<i>Distichlis spicata</i> Alliance)	Yes	0.34	0.26	76.5	0.08	Yes
Totals:	-	11.95	4.74²⁷	40.0%	7.21	Yes

A total of 11.95 acres of riparian habitat is mapped as existing onsite. Approximately 1.65 acres of **Coast Live Oak Riparian Woodland** (*Quercus agrifolia* Alliance) exists onsite. Of that, 0.92 acre (55.8%) will be impacted as a result of the proposed project, and 0.73 acre will be preserved. Approximately 9.15 acres of **Southern Riparian Scrub** (*Baccharis salicifolia-Sambucus mexicana* Alliance) exists onsite. Of this, 3.56 acres (38.9%) of will be impacted as a result of the Lyons Canyon Ranch project, and 5.59 acres will be preserved. Approximately 0.34 acre of **Cismontane Alkali Marsh** (*Distichlis spicata* Alliance) exists onsite. Of this, 0.26 acre (76.5%) will be impacted as a result of the proposed project, and 0.8 acre will be preserved. These three habitats are not only a sensitive plant community tracked by CDFG's CNDDDB RareFind3 (CDFG 2005), the riparian habitats are also considered jurisdictional wetlands by regulatory agencies. No existing **Southern Mixed Riparian Forest** (*Salix lasiolepis* Alliance and *Salix laevigata* Alliance) will be impacted as a result of the proposed project.

Wetlands such as freshwater stream channels are considered sensitive and declining by several regulatory agencies, including CDFG and the U.S. Fish and Wildlife Service (USFWS). Stream channels and banks are specifically addressed by the California Fish and Game Code Section 1600 *et seq.* (Streambed Alteration Agreement). Waters of the U.S., including stream channels and wetlands, may fall under the jurisdiction of Corps under Section 404 of the Clean Water Act.

Direct impacts to a total of 5.74 acres of jurisdictional wetlands habitats will result from the development of the proposed project. A Streambed Alteration Agreement will be required from CDFG and a permit will be required from the Corps to alter or fill those wetlands under CDFG or Corps jurisdiction. The completion of the proposed project will have negative effects on the overall ecosystem function of Lyon canyon Creek, its tributaries, and the associated riparian wetlands. Mitigation measures will be implemented to compensate for permanently lost wetlands and a temporary loss of ecosystem functions. The Applicant will implement measures to avoid and minimize unnecessary impacts to waters of the U.S., and to biological resources. Furthermore, the Applicant will implement a long-term monitoring program to ensure that any mitigation efforts are successful.

Level of Significance Before Mitigation: Significant.

²⁷ This area includes only the jurisdictional area dominated by wetland/riparian vegetation, and excludes jurisdictional areas not dominated by riparian vegetation.

Loss of Wildlife Foraging and Cover Habitats

The wildlife habitats observed onsite include those sensitive habitats discussed, including Grassland, Coastal Sage Scrub, Chaparral, Coast Live Oak-California Black Walnut Woodland, and Southern Riparian Scrub. These habitats observed at Lyons Canyon Ranch are used for nesting and foraging habitat for several species of birds, and cover and foraging habitat for small and large mammals. Several wildlife species use the habitats onsite as a movement corridor where the site vegetation provides cover from predators, and food and water resources. The function of the wetland habitat onsite is improved by the presence of natural upland vegetation and habitats creating cumulative high species richness for the Lyon Canyon area.

When functional wildlife habitat, consisting of ample foraging and cover resources, is degraded or negatively impacted, a temporary reduction in various food sources for aquatic, semi-aquatic, and terrestrial wildlife species typically follows. For example, stream channel disturbances - such as changes in channel morphology, fill of channel materials, surface water quality degradation (increased siltation, turbidity levels, and sedimentation), and removal of mature native vegetation within the water column of Riverine habitats - may result in short-term reductions of aquatic invertebrates, which are a valuable food source for many wildlife species. Furthermore, damaging or clearing plants contributing to a functional wildlife habitat will result in a shortage of cover, nesting, and breeding resources vital for several wildlife species' survival. Therefore, impacts to foraging and cover habitats, contributing to the function of a region's ecosystem, should be minimized and avoided as much as possible.

A total of approximately 99.73 acres of natural vegetation will be impacted onsite, including sensitive plant communities and wetlands. Collectively, impacts to these wildlife habitats, including impacts that break their connectivity and increase habitat fragmentation, are considered a significant impact.

Level of Significance Before Mitigation: Significant

IMPACTS OF FUEL MODIFICATION

The County of Los Angeles Fire Department (LAFD) Fuel Modification Program's objective is to create the defensible space necessary for effective fire protection in newly constructed and/or remodeled homes within the Department's Very High Fire Hazard Severity Zones. Fuel modification zones are strategically placed as a buffer to open space, or areas of natural vegetation and generally would occur surrounding the perimeter of a subdivision, commercial development, or isolated development of a single-family dwelling. (LAFD 1998.)

The fuel modification plan identifies specific zones within a property, which are subject to fuel modification. A fuel modification zone is a strip of land where combustible native or ornamental vegetation has been modified and/or partially or totally replaced with drought-tolerant, low-fuel-volume plants. (LAFD 1998.)

The Fuel Modification Unit provides guidelines and reviews the landscape and irrigation plans submitted by the property owner for approval before construction of a structure. The fuel modification plans vary in complexity and reflect the fire history, the amount and type of vegetation, the arrangement of the fuels, topography, local weather patterns, and construction, design and placement of structures. (LAFD 1998.)

The size and type of the fuel modification zone(s) will be determined by the Fire Department upon review of a preliminary fuel modification plan. Fuel modification distances are designed for typical fire weather scenarios and are not intended to be a blanket requirement for all fuel modification plans. The fuel modification plan shall identify one or more of the following zones: A-Setback Zone; B-Irrigated Zone; C-Thinning Zone; and D-Interface Thinning Zone based upon preliminary plan review by the Forestry Division of the Fire Department. The actual width of zone(s) will depend on the ability to provide desirable clearance distances. The following summarizes the four zones, including their purpose and general requirements (Figure 23, Example of Los Angeles Fire Department Fuel Modification Unit Requirements):

- Zone A- Setback Zone
 - Purpose:
 - Provides defensible space for fire suppression forces.
 - Offers protection from intense flames and sparks or embers carried by strong winds common to a wildfire by reducing the probability of ignition through increased moisture content of existing vegetation and removal of fine fuels.
 - General Requirements:
 - Zone in closest proximity to the structure.
 - Minimum of 20 feet beyond the edge of combustible structures, attached accessory structures, or appendages and projections.
 - For purposes of the fuel modification plan, all combustible accessory structures, appendages, or projections within 20 feet of the combustible structure will be considered as attached.
 - Most vegetation in this zone is limited to ground covers, green lawns, and a limited number of selected ornamental plants.
- Zone B – Irrigation Zone
 - Purpose:
 - Provide defensible space for fire suppression forces.
 - Augment irrigation and planting required by the County Department of Public Works and City Public Works Departments relating to remanufactured slopes and landscape ordinances.
 - General Requirements:
 - May have isolated detached accessory structures such as patio covers, decks, carports, trellises, and other similar accessory structures provided they meet building code requirements.
 - Some native or existing vegetation may remain if spaced according to planting guidelines and maintained free of dead wood, and individual plants are thinned to a percentage as specified during the preliminary review to reduce the fuel load.
 - A large percentage of existing vegetation may be removed and replaced with appropriate irrigated fire resistant and drought tolerant plant material.
- Zone C-Thinning Zone
 - Purpose:
 - Designed to slow the rate of spread, reduce flame lengths, and intensities of the fire prior to reaching the irrigated area.
 - Designed to eliminate the spread of fire from one plant to another via ladder fuels and eliminate horizontal continuity by property spacing remaining vegetation and limiting large masses of unbroken vegetation.
 - Reduce the fuel load of a wildland area adjacent to a structure, thereby, reducing the radiant and convective heat of wildland fires.

- General Requirements:
 - Predominantly existing vegetation with removal of the majority of undesirable plant species including trees and tree-form shrubs.
 - Reduce fuel loading by reducing the fuel in each remaining shrub or tree without substantial decrease in the canopy cover or removal of soil holding root systems.
 - Some replacement planting with ornamental or less flammable native species to meet minimum slope coverage requirements of city or county public works landscape or hillside ordinances.
 - Natural vegetation is thinned by reduced amounts as the zone moves away from the development.
- Zone D- Interface Thinning Zone
 - Purpose:
 - Designed to slow the rate of spread, reduce flame lengths, and intensities of the fire prior to reaching the irrigated area.
 - Designed to eliminate the spread of fire from one plant to another via ladder fuels and eliminate horizontal continuity by properly spacing remaining vegetation and limiting large masses of unbroken vegetation.
 - Reduce the fuel load of a wildland area adjacent to a structure, thereby, reducing the radiant and convective heat of wildland fires.
 - General Requirements:
 - Area serving as the initial interface between wildland area and fuel modification zones.
 - Consists of native vegetation individually thinned to reduce foliage mass or fuel loading. This does not necessarily require removing plants, but thinning those that exist.
 - Proper thinning and spacing of remaining trees and tree-form native shrubs, reducing fuel load without overly exposing the soil to the threat of erosion.
 - Natural vegetation is thinned by reduced amounts as the zone moves away from the development. (LAFD 1998.)

Figures 24, 25, and 26, Impacts of Fuel Modification to Lyons Canyon Ranch Vegetation, Special-Status Species, and SEAs, respectively, show the effects of the proposed project and its associated fire clearance on the habitats and sensitive biological resources existing onsite. Since the exact location of each house is not yet known, the impact of the fuel modification zone was estimated by drawing a zone of approximately 200 feet from the proposed development envelope. This analysis excludes the impacts from the actual grading limits; however, those grading limits impacts are discussed above in the first paragraphs of this Project Impacts Section. Approximately 8.15 additional acres within Lyon Canyon SEA would be impacted as a result of the fuel modification zone, and no additional impacts would result in the Santa Susana SEA.

Table 22, Impact Area of Fuel Modification to Lyons Canyon Ranch Vegetation Alliances, lists the impacts of the fuel modification zone to each alliance observed onsite. These numbers represent additional impacts to natural vegetation; therefore, the areas listed in Table 20, Project Impact Area for Each Vegetation Type Onsite (above), do not include these impacts from fuel modification. Table 22 shows that in addition to the loss of 99.73 acres of natural vegetation onsite resulting from the proposed project, an additional 40.24 acres of natural vegetation will be lost or significantly degraded as a result of required fuel modification around structures constructed onsite. Table 22 also shows that of the 40.24 acres of additional vegetation to be cleared resulting from fuel modification, that 31.80 acres of vegetation clearing will occur within the Lyons Canyon Ranch property, and 8.44 acres of clearing will occur outside of the property.

Figure 24. Impacts of Fuel Modification to Lyons Canyon Ranch Vegetation

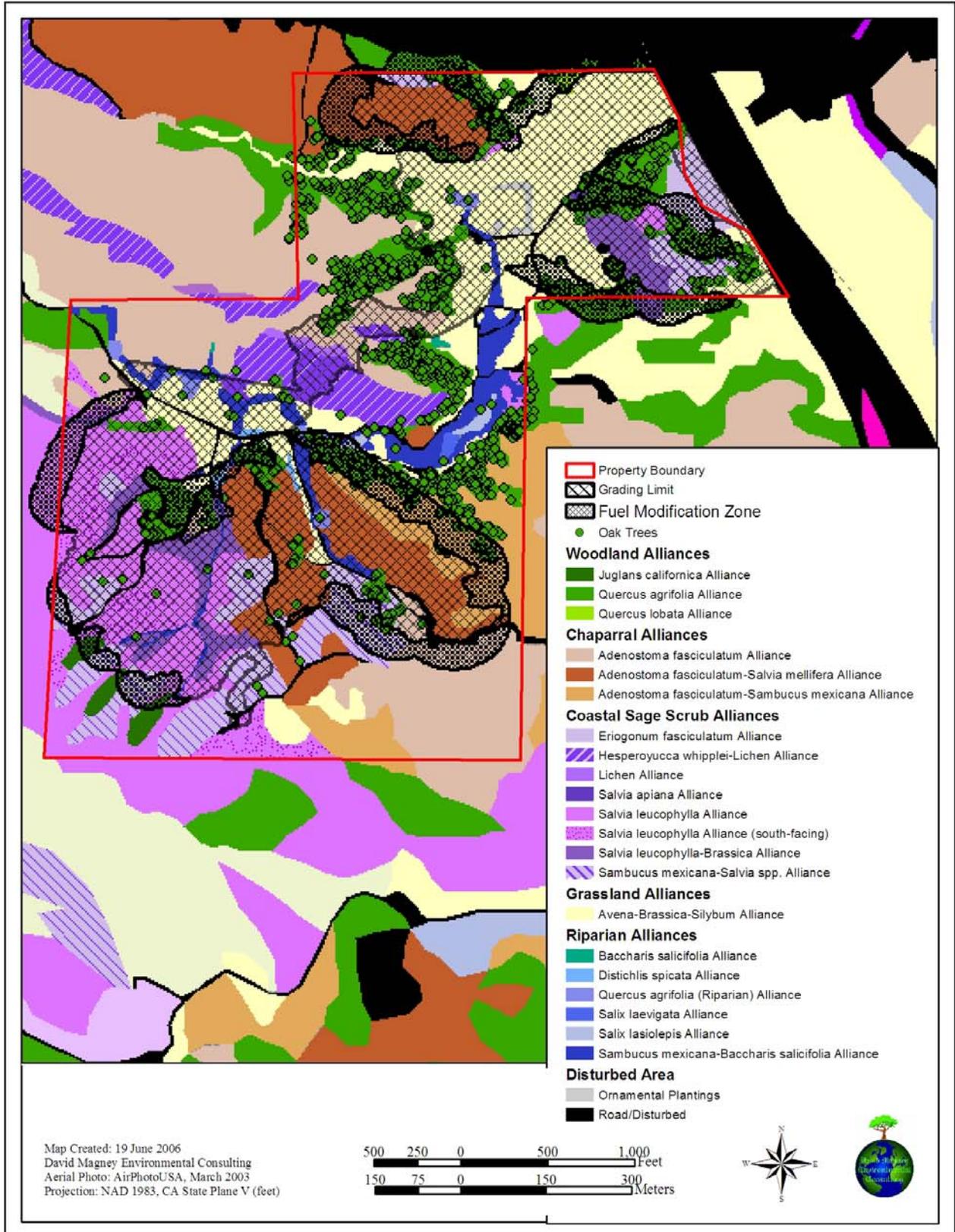


Figure 25. Impacts of Fuel Modification to Lyons Canyon Ranch Special-Status Species

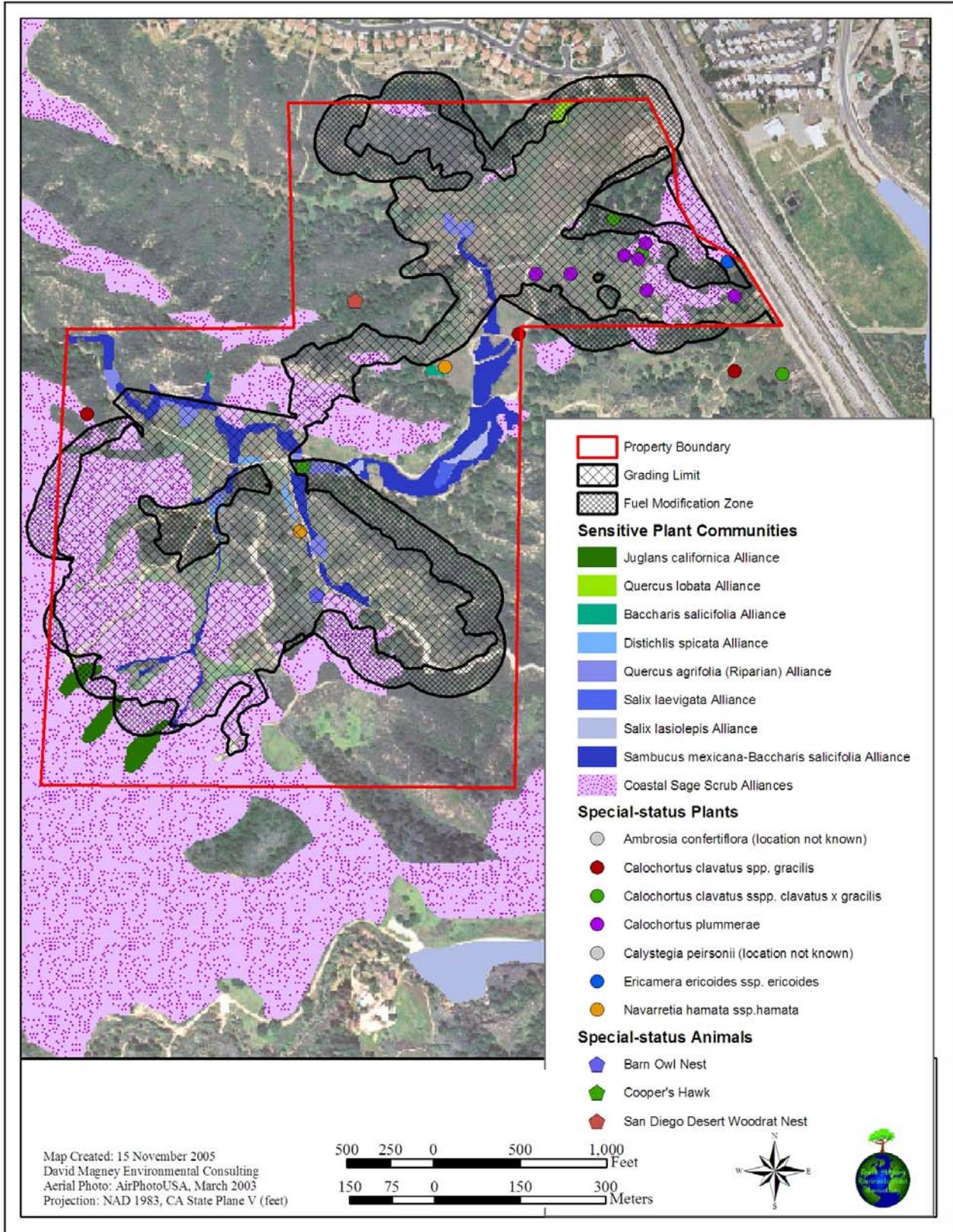


Figure 26. Impacts of Fuel Modification to Lyons Canyon Ranch SEAs

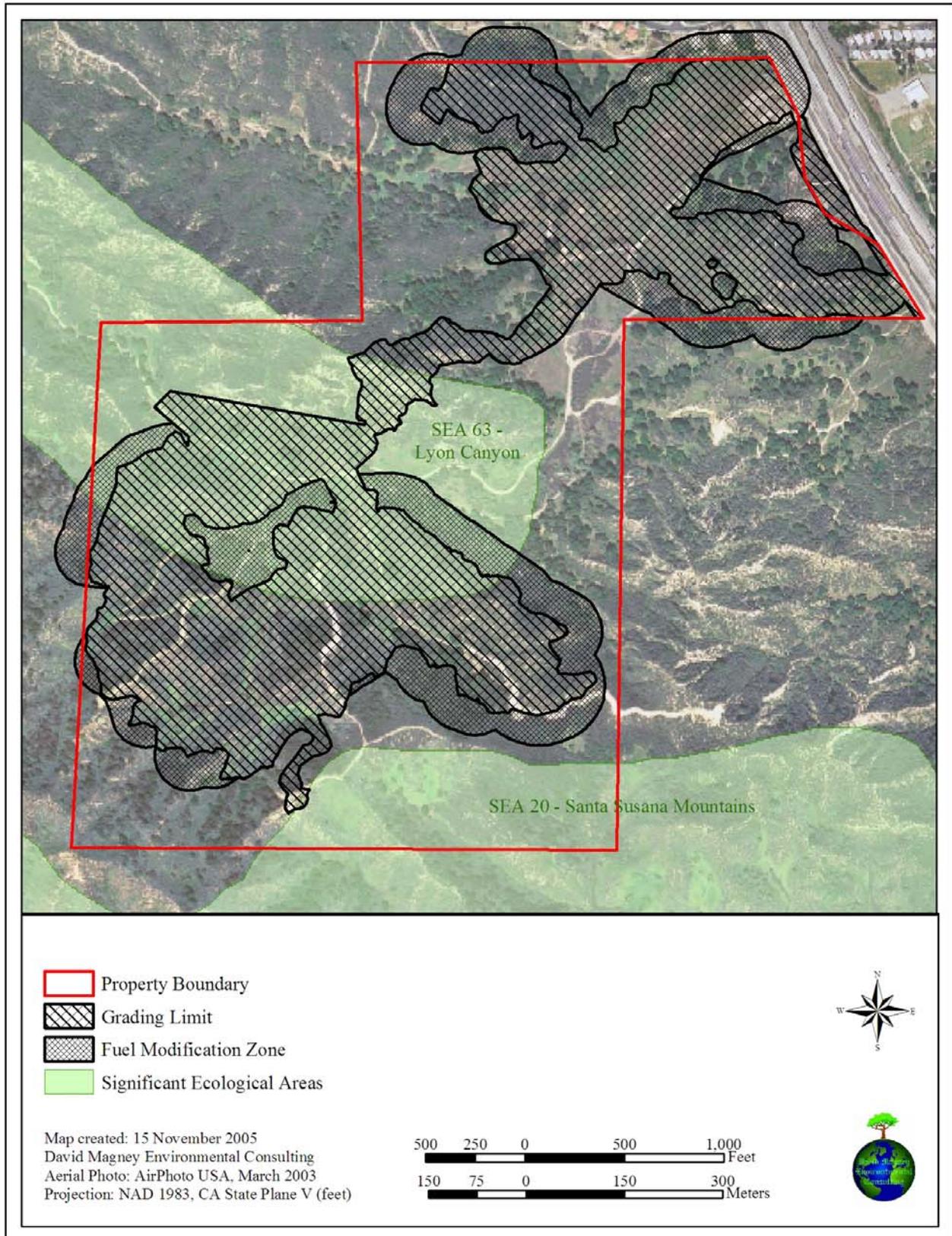


Table 22. Impact Area of Fuel Modification to Lyons Canyon Ranch Vegetation Alliances

Alliance	Area Within Property (Acres)	Area Outside Property (Acres)	Total
<i>Adenostoma fasciculatum</i> Alliance	2.30	0.00	2.30
<i>Adenostoma fasciculatum-Salvia mellifera</i> Alliance	3.45	0.10	3.55
<i>Adenostoma fasciculatum-Sambucus mexicana</i> Alliance	3.34	0.00	3.34
<i>Avena-Brassica-Silybum</i> Alliance	2.68	0.40	3.08
<i>Distichlis spicata</i> Alliance	0.09	0.00	0.09
<i>Eriogonum fasciculatum</i> Alliance	0.84	0.00	0.84
<i>Juglans californica</i> var. <i>californica</i> Alliance	0.42	0.00	0.42
<i>Quercus agrifolia</i> (Riparian) Alliance	0.46	0.00	0.46
<i>Quercus agrifolia</i> Alliance	10.15	2.82	12.97
<i>Quercus lobata</i> Alliance	0.21	0.00	0.21
<i>Salix lasiolepis</i> Alliance	0.09	0.00	0.09
<i>Salvia apiana</i> Alliance	0.03	0.00	0.03
<i>Salvia leucophylla</i> Alliance	1.60	1.69	3.29
<i>Salvia leucophylla</i> Alliance (south-facing)	0.54	0.00	0.54
<i>Salvia leucophylla-Brassica</i> Alliance	0.68	0.43	1.11
<i>Sambucus mexicana-Baccharis salicifolia</i> Alliance	0.19	0.00	0.19
<i>Sambucus mexicana-Salvia</i> spp. Alliance	3.64	0.00	3.64
Road/Disturbed	1.09	0.05	1.13
Urban Developed	0.00	1.93	1.93
Paved Road	0.00	1.03	1.03
Totals:	31.80	8.44	40.24

IMPACTS FROM LANDSCAPING

The proposed project will include landscaping adjacent to the natural vegetation. The landscaping may include ornamental species that are known to be particularly invasive. Subsequent homeowners may also plant invasive plant species in their yards. Seeds or propagules from invasive planted species may escape to natural areas and degrade the native vegetation, particularly along downstream riparian areas. These impacts would be considered *adverse* and *potentially significant* considering the two SEAs on the project site.

Level of Significance Before Mitigation: Potentially Significant

IMPACTS TO SEA INTEGRITY

Santa Susana Mountains SEA 20 is approximately 18,410.5 acres total. Approximately 17.54 acres of SEA 20 exist onsite. SEA 20 includes the southernmost portion of the Lyons Canyon Ranch property. Of the 17.54 acres onsite, approximately 0.06 acre will be impacted by the proposed project.

Lyon Canyon SEA 63 is approximately 174.45 acres total. Approximately 58.48 acres of SEA 63 exist onsite. SEA 63 includes the middle portion of the creek with the eastern end of the SEA in the center of the Lyons Canyon Ranch, extending westward beyond the project site. This SEA focuses on Chamise Chaparral, riparian, and oak woodland habitats along Lyon Canyon Creek. Of the 58.48 acres onsite, approximately 26.35 acres (45%) would be directly impacted by the proposed project.

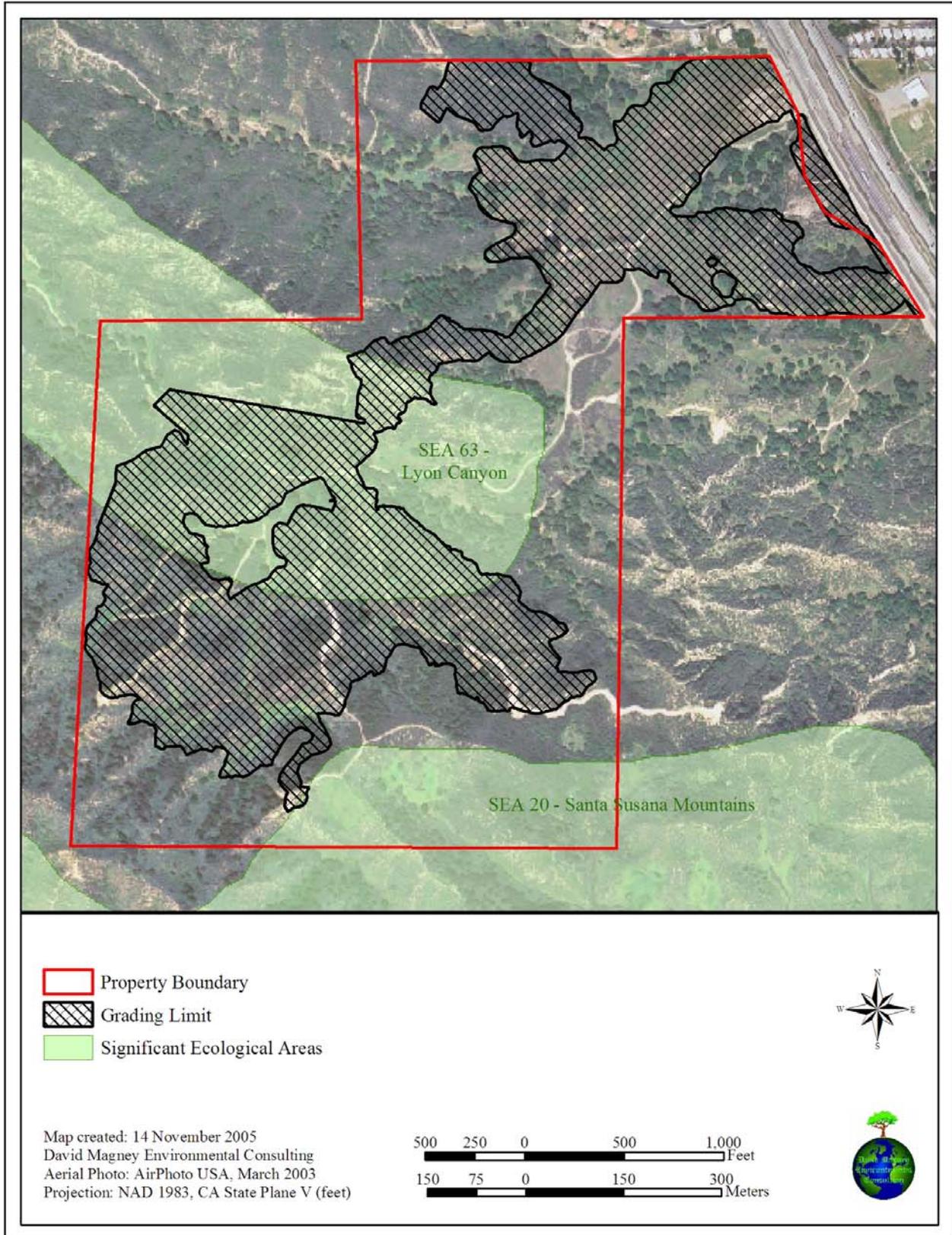
Figure 27, Grading Impacts to SEA Integrity, illustrates the impacts to SEA onsite.

Of the 26.35 acres of SEA 63 to be impacted, the area of *Adenostoma fasciculatum* Alliance (Chamise Chaparral) and *Quercus agrifolia* Alliance (Coast Live Oak Woodland) to be impacted is 7.34 and 2.17 acres, respectively. The impacts to wetland habitats within the SEA will be mitigated onsite.

The road is not necessarily incompatible, since wildlife movement will be facilitated by the installation of a large culvert under the road. The proposed project avoids impacts to approximately half of SEA 63; however, the primary access road would traverse the SEA. The drainage course will not be kept in a natural condition. Regardless, encroaching upon the SEA significantly reduces some of the wildlife functions and integrity of the SEA. The proposed project proposes to grade portions of Lyon Canyon Creek and adjacent lowland habitats within the bounds of SEA 63 in the area to the east of the middle portion of the SEA.

Level of Significance Before Mitigation: Potentially Significant

Figure 27. Grading Impacts to SEA Integrity



IMPACTS TO NATURAL OPEN AREA

The project site provides habitat similar to that in the undeveloped land to the west and south (Ed Davis Park in Towsley Canyon), including Riparian Scrub/Woodland, California Annual Grassland, Coastal Sage Scrub, Chaparral, and Coast Live Oak Woodland. The steep slopes and ridges combined with the canyon lowlands provide a diversity of habitats locally.

The project site contains more oaks and more riparian habitat, than the area surrounding it; however, the surrounding area has several communities with little to no representation in the project site Southern Sycamore-Alder Woodland, Southern Willow Scrub, and Riversidian Alluvial Fan Sage Scrub. This increase in habitat diversity probably reflects an increase in community diversity of the surrounding area, versus the project area.

The surrounding area provides relatively significant suitable connective habitats for species with large home ranges, such as Mountain Lion and Black Bear. There are more streams with less concrete in the surrounding area to the west and south, so the occurrence of special-status wildlife is more probable.

The 235-acre project site is currently natural open space, consisting of approximately 226.79 acres of natural vegetation and 8.71 acres of roads and disturbed areas. Of the 226.79 acres of natural vegetation onsite, approximately 99.73 acres of those habitats, including sensitive plant communities, will be impacted onsite (44.0%), and approximately 127.06 acres of natural habitats will be preserved onsite.

Level of Significance Before Mitigation: Significant

IMPACTS TO WILDLIFE TRAVEL ROUTES AND WILDLIFE CORRIDORS

Wildlife species routinely move between habitats and habitat areas to forage, mate, nest, and migrate seasonally. Interference in wildlife movement between habitats and core habitat areas decreases the ability of wildlife to survive locally or regionally, depending on the species' habitat requirements. Wildlife species such as the Mountain Lion require extremely large habitat areas to support a viable population. Blocking a species' ability to move within core habitats or between habitats may lead to local extirpation and extinction, even if a species is not threatened with extinction as a species globally. Creating barriers to wildlife movement can effectively eliminate adjacent, but otherwise suitable, habitat from the wildlife species range. In addition, these wildlife species would have an increased potential to interface with humans and their pets.

Development of the proposed project would result in the loss of approximately 99.73 acres of native habitat that provide valuable nesting, foraging, roosting, and denning opportunities for a wide variety of wildlife species. Implementation of the proposed project would further fragment existing wildlife habitat and wildlife travel routes on and in the vicinity of the project site, with preserved portions of the project site left with minimal or no habitat connection to core habitat areas. In addition, the proposed project would result in a reduction of open space habitats that support the regionally valuable wildlife corridor of East and Rice Canyons. Increased light and noise pollution and the concomitant increase in human activity after completion of the proposed development would likely further degrade the quality of this linkage in the vicinity of the proposed project.

Removing or altering habitats on the project site would result in the loss of small mammals, reptiles, amphibians, and other animals of low mobility that live within the project's direct impact area. More mobile wildlife species now using the project site would be forced to move into remaining areas of open space, consequently increasing competition for available resources in those areas. This would result in the loss of individuals that cannot successfully compete.

Since wildlife routes (movement paths within habitats) exist onsite, and since wildlife corridors (linking two separate core habitats) currently do not exist within the property boundaries, the following subsections discuss separately as the loss of wildlife travel routes onsite and the interference with wildlife corridors within Lyon canyon.

Loss of Wildlife Travel Routes Onsite

Most wildlife travel routes existing onsite represent local movement paths between onsite habitats. A loss of a large number of localized paths is expected due to the proposed project; however, habitat to be retained onsite will still be accessible to wildlife from adjacent habitats. The paths shown on Exhibit 5.6-27, Impacts to Wildlife Travel Routes on Lyons Canyon Ranch, illustrate the impacts to the paths as a result of the proposed project. Exhibit 5.6-27 includes known and observed paths as well as theoretical paths based on where wildlife typically move/travel. The actual number of paths impacted onsite can only be estimated. Wildlife will be able to use the remaining habitats within the periphery of the developed portion of the project site after construction; however, wildlife movement will be limited within the fuel modification zone since significant vegetation will be removed or thinned from that zone (up to 200 feet from all structures). Wildlife may be reluctant to use the fuel modification zones since much of the vegetation will be removed in these areas, with very little cover and/or shelter resources. This means that wildlife may only use the outside edge of the fuel modification zone, adjacent to intact natural vegetation.

Level of Significance Before Mitigation: Significant

Interference with Wildlife Corridors within Lyon Canyon

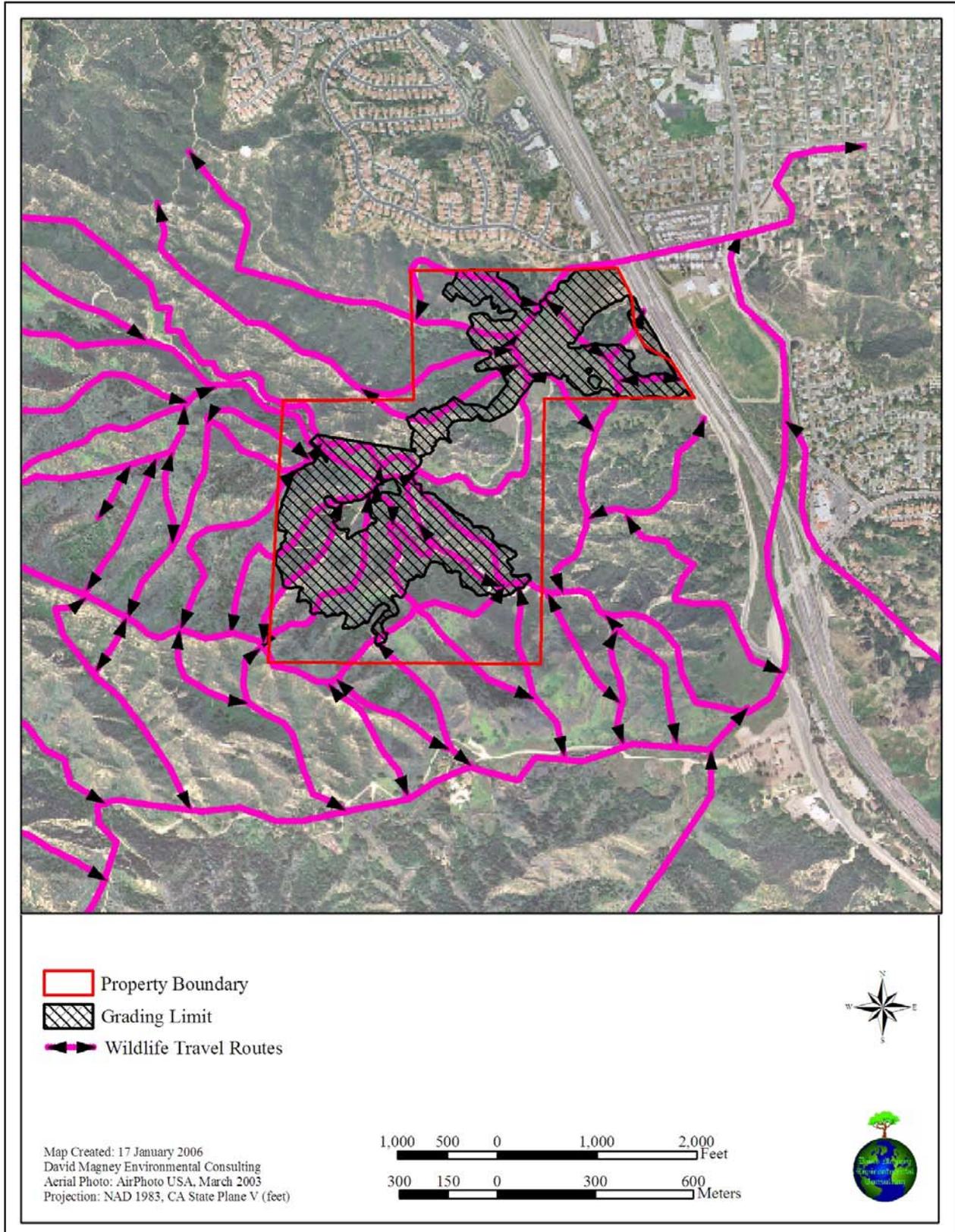
The proposed project is composed of two general development areas, which are connected by a road through the ridge on the north side of Lyon Canyon Creek. This road and development potentially creates an effective barrier to terrestrial wildlife movement to the east side of the project site and would interfere with movement within Lyon Canyon (Exhibit 5.6-27).

Lyon Canyon is currently the northernmost route of access from the Santa Susana Mountains to the I-5 over-crossing of Calgrove Boulevard. Although 57% of the project site would be preserved, portions of the remaining habitat will be isolated as relatively small islands surrounded by development. Connected areas will be reduced in value due to edge effects of the new adjacent land use. The impact associated with those adjacent land uses will vary depending on each species' habitat requirements. This loss of habitat would not represent a significant impact to the most common wildlife species that use the project site habitats. The use of these areas by special-status wildlife species would likely result in a significant adverse impact to wildlife by preventing or restricting movement onsite.

Established wildlife corridors occur in the region outside of the project site, where neither the east-west nor the north-south known wildlife corridors cross the project site. Regardless, it is possible the proposed project would result in significant impacts to existing offsite wildlife movement corridors and onsite travel paths, especially within Lyon Canyon.

Level of Significance Before Mitigation: Significant

Figure 28. Impacts to Wildlife Travel Routes on Lyons Canyon Ranch



CUMULATIVE IMPACTS TO BIOLOGICAL RESOURCES AND SEA INTEGRITY

The cumulative impacts to biological resources within and adjacent to Significant Ecological Areas are assessed below.

Cumulative Impacts to Oak Trees, Coast Live Oak Woodland, Coast Live Oak Riparian Woodland, and Valley Oak Woodland

Oak trees and oak woodlands throughout southern California have been decreasing in area and numbers since European colonization. Urban expansion in the Santa Clarita Valley region of Los Angeles County has significantly reduced oak trees and oak woodlands in the last 10 years, and currently proposed and permitted projects will further reduce them in the near future. The loss of 179 oak trees onsite and approximately 8.82 acres of oak woodland onsite, as a result of the proposed Lyons Canyon Ranch project, will contribute to this regional cumulative loss, and is considered a *cumulatively significant and unavoidable* impact. Proposed mitigation will reduce this cumulative loss onsite somewhat; however, a temporal loss of this habitat will occur for at least 10 decades until the planted trees reach maturity.

Cumulative Impacts to Biological Life History

Cumulative Impacts to Special-Status Plant Species

CUMULATIVE IMPACTS TO SPECIAL-STATUS PLANT SPECIES KNOWN ONSITE

Populations of several special-status plant species will be directly impacted by the proposed project. Mitigation measures are proposed to compensate for direct and indirect impacts to each species impacted. Cumulative impacts should be *less than significant* if the proposed mitigation measures of translocation, avoidance, and preservation mitigation measures are successful.

CUMULATIVE IMPACTS TO RARE PLANTS POTENTIALLY OCCURRING ONSITE

The plant species with high potential to occur onsite include: *Aster greatae*, *Erodium macrophyllum*, *Horkelia cuneata* ssp. *puberula*, *Lepidium virginicum* var. *robinsonii*, *Malacothamnus davidsonii*, *Nolina cismontana*, and *Senecio aphanactis*. Continued losses of populations and individuals of these species contribute to the cumulative loss of rare species regionally and statewide. If these special-status plant species that are likely to occur onsite are indeed impacted by the proposed project, and mitigation fails, the loss of individuals and populations of these species would contribute to the cumulative impact to these special-status plants species and would represent a cumulative significant impact. Therefore, impacts to special-status plant species potentially onsite is considered *cumulatively potentially significant*.

Cumulative Impacts to General Wildlife Species

CUMULATIVE IMPACTS TO AQUATIC/SEMI-AQUATIC WILDLIFE

Wetland habitats impacted by the proposed project will be mitigated onsite through onsite habitat restoration and enhancement. Successful implementation of the recommended mitigation measures should avoid any cumulative project-related impacts to aquatic wildlife or degradation of instream habitats. Therefore, the cumulative loss of aquatic/semi-aquatic wildlife is considered a *cumulatively less than significant* impact.

CUMULATIVE IMPACTS TO AMPHIBIAN WILDLIFE

The cumulative loss of amphibians globally has been an issue of concern to biologists. Habitat for amphibians has decreased significantly in Los Angeles County since European colonization and urban development has increased in the last decade in the Santa Clarita Valley region. Currently proposed and permitted projects will further reduce habitat in the near future. The cumulative loss of amphibians and amphibian habitats would contribute to the incremental and cumulative loss of amphibian wildlife, and is considered a *cumulatively potentially significant* impact.

CUMULATIVE IMPACTS TO REPTILE WILDLIFE

Habitat for reptiles has decreased significantly in Los Angeles County since European colonization and urban development has increased in the last decade in the Santa Clarita Valley region. Currently proposed and permitted projects will further reduce habitat in the near future; however, since a majority of the land within the region is preserved, and a majority of the project site habitat will be preserved, the cumulative impact to common reptile wildlife is considered *less than significant*.

CUMULATIVE IMPACTS TO BREEDING AND NESTING BIRDS

Habitat for nesting birds has decreased significantly in Los Angeles County since European colonization and urban development has increased substantially in the last decade in the Santa Clarita Valley region. The loss of unoccupied individual bird nests (other than raptor nests) and nesting habitat is considered a less-than-significant impact; however, the loss of an occupied nest is considered a significant impact. Currently proposed and permitted projects will further reduce existing bird nests and habitat for nesting birds in the near future. The cumulative loss of bird nests and nesting habitat would contribute to the incremental and cumulative loss of such habitat, and is considered a *cumulatively potentially significant* impact.

CUMULATIVE IMPACTS TO MAMMAL WILDLIFE

Habitat for mammals has decreased significantly in Los Angeles County since European colonization and urban development has increased in the last decade in the Santa Clarita Valley region. Currently proposed and permitted projects will further reduce habitat in the near future; however, since a majority of the land within the region is preserved, and a majority of the project site habitat will be preserved, the cumulative impact to common mammal wildlife is considered *cumulatively less than significant*.

Cumulative Impacts to Special-Status Wildlife Species

The direct loss of foraging and nesting habitat for the special-status wildlife species at the Lyons Canyon Ranch project site contributes to the cumulative loss of habitat for all wildlife species. Currently proposed and permitted projects will further reduce habitat in the near future. Since occupied and suitable habitat onsite to be preserved will be improved through enhancement actions, the cumulative loss of habitat will be mitigated in part; however, an incremental loss of habitat will remain as a project-related cumulative impact, and is considered a *cumulatively significant and unavoidable impact* to any special-status wildlife species inhabiting the project site.

CUMULATIVE IMPACTS TO COOPER'S HAWK (*ACCIPITER COOPERII*) AND FORAGING AND NESTING HABITAT

The direct loss of foraging and nesting habitat for the Cooper's Hawk at the project site contributes to the cumulative loss of habitat for this raptor. Suitable habitat for Cooper's Hawk exists onsite, and since suitable habitat to be preserved will be improved through enhancement actions, the cumulative loss of habitat will be mitigated in part; however, an incremental loss of habitat will remain a project-related cumulative impact, and is considered *cumulatively significant and unavoidable*.

LOSS OF OAK TITMOUSE (*BAEOLOPHUS INORNATUS*) AND FORAGING AND NESTING HABITAT

The direct loss of foraging and nesting habitat for Oak Titmouse at the project site contributes to the cumulative loss of habitat for this bird species. Suitable oak woodland habitat for Oak Titmouse exists onsite, and since suitable habitat to be preserved will be improved through enhancement actions, the cumulative loss of habitat will be mitigated in part; however, an incremental loss of oak woodland habitat will remain a project-related cumulative impact, and is considered *cumulatively significant and unavoidable*.

LOSS OF NUTTALL'S WOODPECKER (*PICOIDES NUTTALLII*) AND FORAGING AND NESTING HABITAT

The direct loss of foraging and nesting habitat for Nuttall's Woodpecker at the project site contributes to the cumulative loss of habitat for this bird species. Suitable oak woodland and riparian scrub habitats for Nuttall's Woodpecker exists onsite, and since suitable habitat to be preserved will be improved through enhancement actions, the cumulative loss of habitat will be mitigated in part; however, an incremental loss of oak woodland and riparian scrub habitats will remain a project-related cumulative impact, and is considered *cumulatively significant and unavoidable*.

CUMULATIVE IMPACTS TO BARN OWL (*TYTO ALBA*) NESTING HABITAT

The significance after mitigation would be *less than significant* because this owl species is highly adaptable and routinely utilizes man-made structures, and is little affected by human activities as long as suitable foraging habitat remains nearby. The loss of natural habitat onsite for the Barn Owl does contribute to the cumulative loss of foraging habitat; however, this is considered a *cumulatively less than significant impact*.

CUMULATIVE IMPACTS TO SAN DIEGO DESERT WOODRAT (*NEOTOMA LEPIDA INTERMEDIA*) AND HABITAT

Habitat for the San Diego Desert Woodrat has decreased significantly in Los Angeles County since European colonization and urban development has increased substantially in the last decade in the Santa Clarita Valley region. The loss of habitat for this subspecies is considered a significant impact. Currently proposed and permitted projects will further reduce existing San Diego Desert Woodrat habitat in the near future. The cumulative loss of San Diego Desert Woodrat habitat contributes to the incremental and cumulative loss of such habitat, and is considered a *cumulatively significant and unavoidable* impact.

CUMULATIVE IMPACTS TO SPECIAL-STATUS REPTILES POTENTIALLY PRESENT

The direct loss of up to 99.73 acres of foraging and breeding habitat for the six special-status reptile species, that are *likely* to occur at the project site (based on the presence of suitable habitat and the species are tracked nearby), contributes to the cumulative loss of habitat for these reptiles. The proposed project would result in the loss of:

- 7.84 acres of potentially occupied Coast Live Oak Woodland habitat, and loss of over 4 acres of potentially occupied riparian habitat for Silvery Legless Lizard.
- 7.84 acres of potentially occupied Coast Live Oak Woodland habitat, and loss of over 4 acres of potentially occupied riparian habitat for Coastal Western Whiptail.
- up to 23.57 acres of potentially occupied suitable Chaparral habitat for Rosy Boa.
- 2.66 acres of potentially occupied Rock Outcrops, 33.93 acres of Coastal Sage Scrub, and 23.57 acres of Chaparral habitat for San Diego Banded Gecko.
- 33.93 acres of potentially occupied foraging and breeding habitat (Coastal Sage Scrub) for San Diego Horned Lizard at the project site contributes to the cumulative loss of habitat for this reptile. Furthermore, urbanization adjacent to suitable habitat results in the introduction of the invasive Argentine Ant, which extirpates populations of native ants that the San Diego Horned Lizard feeds upon, resulting in an indirect impact.
- 7.87 acres of potentially occupied Coast Live Oak Woodland, 2.66 acres of Lichen Rock Outcrop, and 26.85 acres of Grassland for Coast Patch-nosed Snake. The direct loss of these foraging and breeding habitats for the Coast Patch-nosed Snake onsite contributes to the cumulative loss of habitat for this reptile.

Since preserved habitat onsite will be improved through enhancement actions, the cumulative loss of habitats for these six species will be mitigated in part; however, an incremental loss of habitat will remain as a project-related cumulative impact, and would be considered *cumulatively potentially significant and unavoidable* for each of the six reptile species likely to occur onsite.

CUMULATIVE IMPACTS TO SPECIAL-STATUS BIRDS POTENTIALLY PRESENT

The direct loss of up to 99.73 acres of foraging and nesting habitats for the ten special-status bird species, that are *likely* to occur at the project site (based on the presence of suitable habitat and the species are tracked nearby), contributes to the cumulative loss of habitat for these birds. The proposed project would result in the loss of:

- 33.93 acres of potentially occupied Coastal Sage Scrub, 23.57 acres of potentially occupied Chaparral, and 2.66 acres of potentially occupied Rock Outcrops for Southern California Rufous-crowned Sparrow.
- 26.85 acres of potentially occupied Grassland habitat for Grasshopper Sparrow.

- 33.93 acres of potentially occupied Coastal Sage Scrub, and 23.57 acres of potentially occupied Chaparral for Bell's Sage Sparrow.
- 3.56 acres of potentially occupied Southern Riparian Scrub, and 0.92 acre of potentially occupied Coast Live Oak Riparian Woodland for Long-eared Owl.
- 33.93 acres of potentially occupied Coastal Sage Scrub and 3.56 acres of potentially occupied Southern Riparian Scrub for Costa's Hummingbird.
- 7.98 acres of potentially occupied Coast Live Oak, Valley Oak, and Southern California Black Walnut Woodlands; 23.57 acres of potentially occupied Chaparral; and 26.85 acres of potentially occupied Grassland habitat for Lawrence's Goldfinch.
- 26.85 acres of potentially occupied Grassland habitat, 7.87 acres of potentially occupied Coast Live Oak Woodland, and 33.93 acres of potentially occupied Coastal Sage Scrub habitat for Lark Sparrow.
- 99.73 acres of a variety of potentially occupied habitats for Northern Harrier.
- 7.98 acres of potentially occupied Coast Live Oak, Valley Oak, and Southern California Black Walnut Woodlands; 3.56 acres of potentially occupied Southern Riparian Scrub, and 0.92 acre of potentially occupied Coast Live Oak Riparian Woodland for Loggerhead Shrike.
- 23.57 acres of potentially occupied Chaparral habitat for California Thrasher.

Since preserved habitat onsite will be improved through enhancement actions, the cumulative loss of habitat will be mitigated in part; however, an incremental loss of habitat would remain as a project-related cumulative impact, and would be considered *cumulatively potentially significant and unavoidable* for each of the ten bird species likely to occur onsite.

CUMULATIVE IMPACTS TO MOUNTAIN LION (*PUMA CONCOLOR*) & HABITAT

The direct loss of approximately 99.73 acres of foraging habitat for the Mountain Lion at the Lyons Canyon Ranch project site contributes to the cumulative loss of habitat for this top predator species. Currently proposed and permitted projects will further reduce habitat in the near future. Since occupied and suitable habitat onsite to be preserved will be improved through enhancement actions, the cumulative loss of habitat will be mitigated in part; however, an incremental loss of habitat will remain a project-related cumulative impact, and is considered *cumulatively significant and unavoidable*.

CUMULATIVE IMPACTS TO RING-TAILED CAT (*BASSARISCUS ASTUTUS*) AND HABITAT

The direct loss of approximately 99.73 acres of foraging habitat for the Ring-tailed Cat at the Lyons Canyon Ranch project site contributes to the cumulative loss of habitat for this wildlife species. Currently proposed and permitted projects will further reduce habitat in the near future. Since occupied and suitable habitat onsite to be preserved will be improved through enhancement actions, the cumulative loss of habitat will be mitigated in part; however, an incremental loss of habitat will remain a project-related cumulative impact, and is considered *cumulatively significant and unavoidable*.

CUMULATIVE IMPACTS TO WESTERN MASTIFF BAT (*EUMOPS PEROTIS CALIFORNICUS*) AND HABITAT

The loss of up to 99.73 acres of foraging and nesting habitat contributes to the cumulative loss of such habitat for bats. Currently proposed and permitted projects will further reduce habitat in the near future. The cumulative loss of foraging and nesting habitat for bats is considered *cumulatively significant and unavoidable*.

Cumulative Impacts to Natural Vegetation, Including Sensitive Habitats

Cumulative Impacts to Grassland Habitat

Grasslands were once extensive and wide-ranging in California; however, the extent of grassland habitat has been reduced substantially, by up to 90 percent, since European colonization. Grassland habitats are the first to be developed for agriculture and urban uses. While the grassland habitats present at Lyons Canyon Ranch are dominated primarily by invasive exotic plant species, the value of the existing grasslands to wildlife for foraging is nearly equal to native grasslands. Furthermore, degraded grassland habitats retain potential for restoration.

The direct loss of approximately 26.85 acres of grassland habitat for wildlife at the Lyons Canyon Ranch project site contributes to the cumulative loss of grassland habitat. Currently proposed and permitted projects will further reduce grassland habitats in the near future. Since grassland habitat onsite to be preserved will be improved through enhancement actions, the cumulative loss of grassland will be mitigated in part; however, an incremental loss of grasslands will remain a project-related cumulative impact, and is considered *significant and unavoidable*.

Cumulative Impacts to Lichen-Rock Outcrop Habitat

Impacts to 2.66 acres of Lichen-Rock Outcrop habitat will contribute to the cumulative impacts on this habitat. Currently proposed and permitted projects will further reduce habitat in the near future. Since there is no mitigation for this impact, this impact is a *cumulatively significant and unavoidable*.

Cumulative Impacts to Coastal Sage Scrub Habitat

Coastal Sage Scrub was once extensive and wide-ranging in coastal California; however, the extent of Coastal Sage Scrub habitat has been reduced substantially, by up to 70 percent, since European colonization. Coastal Sage Scrub has been reduced as a result of agriculture (orchards) and urban development.

The direct loss of approximately 33.93 acres of Coastal Sage Scrub habitat for wildlife at the Lyons Canyon Ranch project site contributes to the cumulative loss of Coastal Sage Scrub habitat. Currently proposed and permitted projects will further reduce Coastal Sage Scrub habitats in the near future. Since Coastal Sage Scrub habitat onsite to be preserved will be improved through enhancement actions, the cumulative loss of Coastal Sage Scrub will be mitigated in part; however, an incremental loss of Coastal Sage Scrub will remain a project-related cumulative impact, and is considered *significant and unavoidable*.

Cumulative Impacts to Chaparral Habitat

The direct loss of approximately 23.57 acres of Chaparral habitat for wildlife at the Lyons Canyon Ranch project site contributes to the cumulative loss of Chaparral habitat throughout the region. Currently proposed and permitted projects will further reduce Chaparral habitats in the near future. An incremental loss of Chaparral will remain a project-related cumulative impact, and is considered *significant and unavoidable*.

Cumulative Impacts to Coast Live Oak Woodland and Coast Live Oak Riparian Woodland Habitats

Coast Live Oak trees and Coast Live Oak Woodland throughout southern California have been decreasing in area and numbers since European colonization. Urban expansion in the Santa Clarita Valley region of Los Angeles County has significantly reduced oak trees and oak woodlands in the last 10 years, and currently proposed and permitted projects will further reduce them in the near future. The loss of 168 Coast Live Oak trees onsite (and the encroachment of 69 Coast Live Oak trees onsite) and approximately 8.79 acres of Coast Live Oak Woodland onsite, as a result of the proposed Lyons Canyon Ranch project, will contribute to this regional cumulative loss, and is considered a *cumulatively significant and unavoidable* impact. Proposed mitigation will reduce this cumulative loss onsite somewhat; however, a temporal loss of this habitat will occur for at least 10 decades until the planted trees reach maturity.

Cumulative Impacts to Valley Oak Habitats

Currently proposed and permitted projects will further reduce the number of Valley Oak trees and Valley Oak Woodland in the near future. The loss of 6 Valley Oak trees onsite (and the encroachment of 5 Valley Oak trees onsite) and approximately 0.03 acre of Valley Oak Woodland onsite, as a result of the proposed Lyons Canyon Ranch project, will contribute to this regional cumulative loss, and is considered a *cumulatively significant and unavoidable* impact. Proposed mitigation will reduce this cumulative loss onsite somewhat; however, a temporal loss of this habitat will occur for at least 10 decades until the planted trees reach maturity.

Cumulative Impacts to Wetland Habitats and Plant Communities

Since no areas exist onsite to create the 7.02 additional acres of wetland mitigation, impacts to wetland habitats would be considered a *cumulatively significant and unavoidable impact*.

Cumulative Impacts to Wildlife Foraging and Cover Habitats

The wildlife habitats observed onsite include those sensitive habitats discussed, including Grassland, Coastal Sage Scrub, Chaparral, Coast Live Oak-California Black Walnut Woodland, and Southern Riparian Scrub. These habitats observed at Lyons Canyon Ranch are used for nesting and foraging habitat for several species of birds, and cover and foraging habitat for small and large mammals. Several wildlife species use the habitats onsite as a movement corridor where the site vegetation provides cover from predators and food and water resources. The function of the wetland habitat onsite is improved by the presence of natural upland vegetation and habitats creating cumulative high species richness for the Lyon Canyon area.

A total of approximately 99.73 acres of natural vegetation will be impacted onsite, including sensitive plant communities and wetlands. Collectively, impacts to these wildlife habitats, including impacts that break their connectivity and increase habitat fragmentation, are considered a *cumulatively significant and unavoidable impact*.

Cumulative Impacts of Fuel Modification

In addition to the proposed project resulting in the loss of 99.73 acres of natural vegetation, fuel modification, required by the County of Los Angeles Fire Department Fuel Modification Unit, will also result in the loss of, or significant degradation to, an additional 40.24 acres of natural vegetation. More specifically, the implementation of the required 200-foot-wide structure protection zone around each building constructed at the project site will result in the additional loss of up to 40.24 acres of natural vegetation. The 40.24 acres is the portion of the fuel modification zone that extends beyond the project grading limits, which will contribute additionally to the cumulative loss of natural vegetation in the region. Currently proposed and permitted projects in the region will further reduce the total area of natural vegetation in the near future. This will contribute to the cumulative loss of natural vegetation and is considered *cumulatively significant and unavoidable*.

Cumulative Impacts to SEA Integrity

Ed Davis Park in Towsley Canyon (otherwise known as Towsley Canyon Park) is a subset of the Santa Clarita Woodlands Park, and is an open space reserve located immediately to the south of Lyons Canyon Ranch. Other than Ed Davis Park, Lyon Canyon includes the majority of the remaining open space, including SEAs.

The Lyon Canyon SEA does not coincide with the canyon's watershed boundary; however, it is a relatively narrow canyon that contains both an oak woodland community and a substantial Chamise Chaparral community. The oak woodland, found in the southern portion of the Lyon Canyon SEA, contains both *Quercus agrifolia* (Coast Live Oak) and *Quercus lobata* (Valley Oak) trees. The northern portion of the SEA contains the Chamise Chaparral community consisting of *Rhus ovata* (Sugarbush), *Ceanothus crassifolius* (Snowball Ceanothus), *Salvia mellifera*, *Baccharis salicifolia*, and *Adenostoma fasciculatum*, which is the dominant shrub.

The uses surrounding the project site are I-5 on the east, Ed Davis Park in Towsley Canyon to the south, vacant land to the west, residential uses on Sagecrest Circle and the Stevenson Ranch development, opposite of Sagecrest Circle, to the north. Due to the I-5 and the Stevenson Ranch development, there is no vegetation bordering the project site to the east or to the north, respectively. South of the project site lies Ed Davis Park in Towsley Canyon, which contains habitat similar to that found onsite, including the following: riparian scrub/woodland, California Annual Grassland, Coastal Sage Scrub, chaparral (primarily Chamise Chaparral), and Coast Live Oak Woodland. The undeveloped land to the west of the project site contains similar general vegetation types, with fewer oaks than encountered on the project site, and less riparian habitat, concentrated in narrow corridors.

Wildlife within the Santa Clarita Valley-Santa Susana Mountains is extremely diverse with a special abundance in undeveloped high quality habitats. The river channels and open upland areas are ideal habitat for movement and foraging by wildlife species. The nearby Angeles National Forest also offers habitat and movement corridors for larger species. Native mammal diversity is extensive and abundant. Bird diversity within the region is related to habitat opportunities for resident, migrant, and seasonal species that occupy the area. Amphibians and reptiles are also abundant and relatively diverse within certain segments of the region.

The surrounding area has some communities with little to no representation in the project site, including Bigcone Spruce-Canyon Oak Forest, Coast Live Oak Riparian Woodland, California Juniper Woodland, Pinyon-Juniper Woodland, Southern Sycamore-Alder Woodland, Southern Willow Scrub, vernal pools, and Riversidian Alluvial Fan Sage Scrub, most of which are more than a half mile from the project site. This increase in habitat diversity probably reflects an increase in community diversity of the surrounding area, versus the project area. The land to the north and east is developed and provides little to no habitat.

The surrounding area allows for species with large home ranges, such as Mountain Lion and Black Bear. There are more streams with less concrete in the surrounding area to the west and south, so the occurrence of special-status aquatic wildlife is more probable. Several special-status plant and wildlife species occupy habitat within the surrounding area.

The potential for effects on the natural resources and integrity of SEAs 20 and 63 are limited. The limiting factors include:

- 1) The size of SEA 63 within the project site and the neighboring property to the west. Because no development is currently proposed for the property to the west of the Lyons Canyon Ranch property, no cumulative impact potential currently exists. This parcel may develop in the future; however, the current General Plan land use and zoning designations permit only low-density residential development.
- 2) The Taylor-Prentice property immediately southeast of the project site, adjacent to SEA 20, has similarly no development application before the County of Los Angeles. The majority of land within SEA 20 is held in trust for the public by land conservancies or other legal jurisdictions. This parcel may be developed sometime in the future; however, the current General Plan land use and zoning designations permit only low-density residential development.

The potential impact to the SEAs is considered a *cumulatively less than significant impact* because no other projects are proposed that would degrade them.

Cumulative Impacts to Natural Open Areas

Tables 23, Cumulative Projects List (City of Santa Clarita), and 24, Cumulative Projects List (Unincorporated Area of Los Angeles County), identify related projects and other possible development in the area determined as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur. Information integral to the identification process was obtained from the City of Santa Clarita and County of Los Angeles. The resulting related projects include primarily only those determined to be at least indirectly capable of interacting with the proposed project.

Based on the following tables, the total of future projects is approximately 10,180 acres of residential and approximately 802 acres of commercial; therefore, approximately 10,982 acres of natural habitats will be impacted by future developments. The 99.73 acres of impact to natural vegetation resulting from the Lyons Canyon Ranch development is relatively insignificant compared to the total of all future projects. However, 99.73 acres ultimately contribute to the cumulative impacts to natural open areas, and is considered a *cumulatively significant and unavoidable* impact.

Cumulative Impacts to Wildlife Travel Routes Onsite

Most wildlife travel routes existing onsite represent local movement paths between onsite habitats. A loss of a large number of localized paths is expected due to the proposed project; however, habitat to be retained onsite will still be accessible to wildlife from adjacent habitats. The paths shown on Exhibit 5.6-27, Impacts to Wildlife Travel Routes on Lyons Canyon Ranch, illustrate the impacts to the paths as a result of the proposed project. Exhibit 5.6-27 includes known and observed paths as well as theoretical paths based on where wildlife typically move/travel. The actual number of paths impacted onsite can only be estimated. Wildlife will be able to use the remaining habitats within the periphery of the developed portion of the project site after construction; however, wildlife movement will be limited within the fuel modification zone since significant vegetation will be removed or thinned from that zone (up to 200 feet from all structures). Wildlife may be reluctant to use the fuel modification zones since much of the vegetation will be removed in these areas, with very little cover and/or shelter resources. This means that wildlife will most likely use only the outside edge of the fuel modification zone, adjacent to intact natural vegetation. Therefore, the project will contribute to the cumulative impacts to wildlife paths within Lyons Canyon Ranch, and is considered a *cumulatively significant and unavoidable* impact.

Table 23. Cumulative Projects List (City of Santa Clarita)

Name and/or Location	Description
1) South of Pico Canyon Road/West of The Old Road	74 Single Family Residential DU 83,000 sq. ft. Commercial Retail 221,0000 sq. ft. Commercial Office
2) South of Pico Canyon Road/West of Stevenson Ranch Parkway	18-Acre Park
3) Stevenson Ranch Phase III: North of Pico Canyon Road/West of The Old Road	94 Single Family Residential DU 100 Condominium/Townhouse DU 567 Apartment DU 5-acre Park
4) Westridge: North and South of Valencia Boulevard/West of The Old Road	254 Single Family Residential DU 80 Condominium/Townhouse DU 378 Apartment DU Elementary School and 5-acre Park
5) North of Valencia Boulevard/East of The Old Road	20,000 sq. ft. Commercial Retail
6) South of Valencia Boulevard/East of The Old Road	72,000 sq. ft. Commercial Office
7) North of McBean Parkway/West of Rockwell Cyn Rd.	250,000 sq. ft. Commercial Office
8) South of Valencia Boulevard/West of Rockwell Canyon Road	28,000 sq. ft. Commercial Office 6,500 Additional Students (College of the Canyons)
9) Gate-King Industrial Park: South of San Fernando Road/West of Sierra Highway	4,200,000 sq. ft. Industrial Park
10) Tract No. 61811: North side of Golden Valley Road at Robert E. Lee Parkway	167 Single-family Residential DU on 33 total acres.
11) Las Lomas: Northeast side of Interstate 5, immediately north of Interstate 5/State Route 14 Interchange	5,800 Residential DU, 2.3 million square feet of office uses, 225,000 square feet of retail uses, and 3 public schools (K-12) totaling 250,000 square feet on a total of 555 acres.
12) Porta Bella or Whittaker-Bermite (partial): South of Soledad Canyon Road, east of Circle J Ranch area	Approximately 50% of the project land use is included in the Interim Year Database. 100% of the project land use is included in the long-range database. Includes 1,244 single-family dwelling units, 1,667 multi-family residential units, 2,911,000 square feet of commercial uses, and 448.7 acres of open space.

Name and/or Location	Description
13) Valencia Town Center: East of McBean Parkway, north of Valencia Boulevard, south of Magic Mountain Parkway, and west of Citrus Street	Expansion of the existing shopping mall to consist of an additional 600,000 square feet of retail and office uses, including a new 171,000-square-foot department store.
14) Tentative Parcel Map 20838: North of Bouquet Canyon Road and south of the Santa Clara River	Development of 168 multi-family apartment dwelling units.
15) Facey Medical: Southwest corner of McBean Parkway and Valencia Boulevard	79,000 square feet of medical office uses
16) Tract No. 53419: North of Golden Valley Road and Northwest of Sierra Highway	111 Multi-family Residential DU
17) Tract No. 53074: Northeast corner of Sierra Highway and Sand Canyon Road	24 Single-family Residential DU, 100,000 square feet of commercial uses, and 2 open space lots on 55 total acres.
18) Tract No. 52355: North of Sierra Highway and east of Sand Canyon Road, just north of Tract No. 53074	63 Single-family Residential DU and 64 open space lots on 34.3 total acres.
19) Golden Valley Ranch (Tract No. 52414): South of SR-14, north of Placerita Canyon Road, and west of Sand Canyon Road	498 Single-family Residential DU, 618,759 square feet of commercial uses, open space, a school, and fire station on 1,289 total acres.
20) Tract No. 47787: South of Placerita Canyon Road and east of Sand Canyon Road	7 Single-family Residential DU
21) Tract No. 47785: Immediately east of Sand Canyon Road, south of SR-14, and north of Placerita Cyn Rd.	20 Single-family Residential DU on 23.44 total acres.
22) Henry Mayo Newhall Memorial Hospital Master Plan: North side of McBean Parkway at Orchard Village Road.	Net addition of 601,639 square feet of medical office and administration buildings, patient towers.

Table 24. Cumulative Projects List (Unincorporated Area of Los Angeles County)

Name and/or Location	Description
1) PM062134; North of Vasquez Canyon between Burton Way and Far Hills Rd; 4 lot subdivision/hillside cup	4 Single Family Lots on 37.63 acres
2) PM27121; 30501 Bouquet Canyon Road	4 Single Family Lots on 28.69 acres
3) TR53189; HNM: 279M117; west of San Francisquito Canyon Road between Lowridge Place & Cherokee Canyon Lane	66 Lots: 60 Single Family, 3 Open Space, 3 Public Facility Lots on 185.8 acres
4) PM060030; HNM: 273H089, 273H093, 276H093; South of Hasley Canyon between Camino Del Valle & Avenue Penn., Val Verde	Major land division to create 24 Industrial Lots on 119.2 acres
5) PM060734	Subdivision of 5 parcels into 10
6) PM060792; HNM: 240H121, 240H125, 237H125, 237H129, 234H129, 234H133; Northeasterly of the I-5 Fwy. and The Old Road; APN: 2827028004	Reversion to acreage of 14 lots to one lot
7) PM062336; West side of southerly Gibraltar Lance Driveway Extension	11 Industrial Condo Lots 10 Buildings 1 Parking Lot on 9.10 acres
8) PM062615; Avenue Penn approx. 500 ft southerly of Witherspoon Parkway	Major land division: 1 industrial lot with 6 attached condominiums in 3 buildings on 2.81 acres
9) PM26574; located off of The Old Rd between Turnberry & Muirfield in Santa Clarita	Amendment to approved map (16 industrial lots on 11.2 acres) to reconfigure lots 1-8, buildings and parking area
10) TR060257; HNM: 276H089, 276H093, 273H093, 273H089; West of Camino Del Valle, easterly of Van Buren Street, Val Verde	257 Lots: 244 Single Family 3 MF (109 NC), 1 C, 1 PK 8 Open Space on 218 acres

Name and/or Location	Description
11) TR060319; HNM: 282H101, 279H101; west side of The Old Road between Sedona Way & Hillcrest Parkway	One multi-family lot with 35 new single family detached condominiums on 5.7 gross acres
12) TR060665; HNM: 276H089, 276H093, 279H089, 279H093; Southerly of Hasley Canyon Road	Proposed development of 10 lots
13) TR060678; Newhall Ranch Heritage	5,464 units 3 schools, 3 parks, fire station, private recreation, open space, spineflower preserve, and natural open space on 2,699.1 acres
14) TR061996; 2826009103	1381 single family, 20 mf (2086 nc), 1 lot w/ 342 beds for assisted living, 8 c lots, 11 rec lots, 62 private street lots, 47 utility lots, 367 open space lots, 75 trail lots on 1750 ac
15) TR52905; HNM: 249H105, 249H109; south of Pico Canyon Road, approx. 1.25 mile west of I-5 Fwy; APN: 2826-020-015	37 sf lots on 94.83 ac
16) TR53295; 27254 Saugus Ventura Rd	638 lots, including 3,230 dwelling units and 3,085,007 single family commercial space on 812.8 acres (Previously 27 industrial lots on 114 acres)
17) TR53653	100 single family, 1 mf, 5 open space, 6 pf lots on 232 acres. Concurrent oak tree permit, cup-sea, hm, density bonus
18) TR060359; HNM: 276H165; Wistaria Valley Road between Doug Road and terminus	55 lots: 50 single family, 2 public facility lots, 3 open space) on 81.6 acres
19) TR060922; HNM: 270H145, 270H149, 267H145, 276H149, 273H149, 153H270, 282H153, 279H153, 276H153, 267H149, 279H149; west of Sierra Hwy., south of Vasquez Canyon Road; APN: 2839002017	1,251 single-family lots, 1 school, 7 park, 30 open space and 12 debris basin lots on 2,206 acres
20) TR060999; HNM: 273-141, 270-141; South of Whites Canyon Road; APN: 2812009032	45 Single Family 1 Open Space Lot on 12.50 acres
21) TR062389; southeast of the Plum Canyon Road and Golden Valley Road intersection	6 lots; 81 units 9.9 acres
22) TR52833; 27342 Woodfall Road	751 Single Family 140 NC 155 Apartments on 602.1 acres
23) 061976; 0 VAC/Haskett Rd/VIC	4 single family lots on 22.3 ac
24) PM061748; 0 VAC/Escondido Canyon Road/Vic Hubba Road	4 Single Family Parcels with Hillside CUP on 19.00 acres
25) PM062192; 9100 Sierra Hwy	4 single family lots on 20.52
26) PM062890; Located off Shannondale near Clayvale, Acton	4 Single Family Lots on 20 gross acres
27) PM062944; 0 VAC/ Hypotenuse Rd/VIC	4 single family lots on 20 acres
28) PM11641; 3862 Roberts Road	(RA) 4 Single Family Lots on 4.89 acres in A1-10K (TN)
29) PM26478; 0 VAC/WESTCOATT/VIC; located at 31st Street West, north of Bandell Street, south of Westcoatt Street	Four single family lots on 20 acres
30) PM26508; 0 VAC/Crown Valley Rd/Vic Banson T	4 single family lots on 5 acres
31) TR060259; 0 VAC/TICK CYN RD/1 1/2 MI N SOL ED; at the northeasterly extension of Shadow Pines Blvd east of Snow Drop Court and Jasmine Valley Dr	492 Single-family, 1 Park, 28 Open Space, 1 Water Tank, 7 Bio Basin and 1 Sewer Pump Station lots on 500 acres
32) TR060464; 0 VAC/CEDRAL ST/VIC ACKLINS AV	56 single family lots on 83.96 acres

Name and/or Location	Description
33) TR061708; 0 VAC/COR SIERRA HWY/LISTIE AV	10 single family lots on 11.71 acres
34) TR062320; 0 VAC/Sierra Hwy/VIC Johnson Road; Located 2,360 feet west of Caprock Road between Caprock Road and Johnson Road, Agua Dulce	19 Single Family Lots on 98.6 acres
35) TR062921	20 single family lots on 52.6 acres
36) TR060024; HNM: 291H097, 291H101; east & west of Van Gorder Way between Lake Hughes & Violin Canyon, Castaic	1 multi-family lot with 84 new single family detached condominiums
37) TR060543	28 single family, 1 pf, 1 open space lots on 40 ac
38) TR062351	Subdivide into 6 lots: 4 commercial lots, 1 industrial lot, 1 remainder parcel
39) TR062401; 28718 San Francisquito Canyon Rd; located east of San Francisquito Canyon Rd between Lowridge Place and Copperhill Drive	194 lots (161 single-family, 5 multi-family (422 units), 26 open space, 2 bio basin on 154.4 acres
40) TR062985; 0 VAC/COR Crown Valley Rd/Banson	16 single family lots on 19 acres
41) TR43196-2; 0 VAC/Sierra Hwy/VIC Desert Rd; at North Sierra Hwy and East McEnery Cyn Rd, Acton	Reactivation: 22 Single Family Lots on 22.6 acres
42) TR54237; 0 VAC/Sierra Hwy/Vic Ward Rd	4 single family lots and 1 remainder parcel on 32.4 acres
43) TR54337; 0 VAC/VIC Calmgarden Rd/Silverset; Located at Cedarcroft Road/south of Y-8	(TN) 5 Single Family Lots on 79.22 acres