BIOLOGICAL SITE ASSESSMENT

Lane Ranch Towne Center
Lancaster, California

Prepared For:

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1.0 INTRODUCTION

1.1 Project Site Location and General Description

The proposed Lane Ranch Towne Center (project site) is located in the City of Lancaster (City) on the Lancaster West U.S. Geological Survey (USGS) 7.5-minute quadrangle map, Township 7 North, Range 13 West and Sections 27 and 35 at an elevation of approximately 2,400 feet in the County of Los Angeles. The project site is approximately 35 acres and is located at the southeast corner of the intersection of 60th Street West and West Avenue L, bounded to the north by West Avenue L and single-family residential developments, to the south by a vacant parcel, to the east by 57th Street West and single-family residential developments and to the west by 60th Street West and Quartz Hill High School. Access to the project site is via the Antelope Valley Freeway (State Route 14) exit to Avenue L (see Figure 1). The project site is within the open flats of the Antelope Valley within the community of Quartz Hill in the City of Lancaster, southeast of the Antelope Valley Poppy Reserve, and southwest of the Prime Desert Woodland Preserve. Topography of the project site is generally flat with the soil series identified per the US Department of Agriculture Soil Survey of the Antelope Valley Area which are Hesperia fine sandy loam with 0 to 2 percent slopes and Ramona coarse sandy loam with 2 to 5 percent slopes.

The proposed project consists of a 407,000 square foot commercial development located on approximately 35 acres on the southeast corner of 60th Street West and Avenue L. The commercial development would include two anchor stores for a total of 284,341 square feet, a 14,820 square foot drug store, three retail stores totaling 35,000 square feet, 4 buildings with retail shops totaling 28,000 square feet, and two restaurants totaling 10,300 square feet. A total of 1,960 parking spaces are anticipated to be provided and access to the retail center would occur from West Avenue L, 60th Street West and 57th Street West.

1.2 Study Objectives

This biological study was requested by the City in order to help asses the potential impacts to biological resources from construction and occupancy of the proposed project, in compliance with the requirements of the California Environmental Quality Act (CEQA). The purpose of this study is to identify sensitive biological resources that are present or have the potential to occur within the project site. This biological assessment includes discussions of the methods of study, the biological resources occurring within the project site and a discussion of special status plant and wildlife species which may have the potential to occur within the project site.

2.0 METHODS

The following discusses the various reviews and field studies that were conducted to accurately describe the biological resources within the project site boundaries. The technical report associated with the results of the focused surveys for burrowing owls can be found in Appendix D.

2.1 Data Compilation

Christopher Joseph and Associates (CAJA) compiled and reviewed pertinent information regarding the project site. Information that was reviewed included:

- City of Lancaster, Master Environmental Assessment (accessed online on http://www.lancaster2030.info/archive.asp#general, June 2007)
- California Department of Fish and Game's (CDFG) California Natural Diversity Data Base (CNDDB) record search of the Lancaster West 7.5 minute USGS quadrangle and surrounding quadrangles (Rosamond, Rosamond Lake, Lancaster East, Little Buttes, Del Sur, Sleepy Valley, Ritter Ridge and Palmdale) (CDFG, June 2007);
- California Native Plant Society's (CNPS) Electronic Inventory search for the Lancaster West 7.5 minute USGS quadrangle and surrounding quadrangles (accessed online on http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi, June 2007);
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory Online Mapper (accessed online on http://www.fws.gov/nwi/, June 2007);
- US Department of Agriculture Natural Resources Conservation Service, Soil Survey Area: Antelope Valley Area, California (accessed online on http://websoilsurvey.nrcs.usda.gov/app/, June 2007)

A list of special status species and plant communities known from the region was compiled from reviewing the information above. A search was performed using the CNDDB and CNPS online species inventory of the project site and surrounding areas to determine if special-status species and/or natural communities have been documented within the vicinity of the project site.

2.2 Survey Dates and Survey Personnel

Surveys were conducted within and adjacent to the project site by CAJA Senior Biologist Shannon Lucas and Associate Biologist, Luz Torres on June 20, July 3, 5, 6 and 10, 2007.

2.3 Field Survey Methods

The field surveys included traversing the project site by foot and included two focused surveys, 1) to detect and record burrowing owls and 2) record any active nests of common or special status bird species and identify birds currently utilizing the project site.

Plant and animal species observed during the survey were recorded and are presented in Appendix A. Site photographs taken on June 20 during the surveys are presented in Appendix B.

2.4 Habitat Assessment

The field surveys were conducted to assess the potential of the project site to support special status plant and wildlife species known from the region. The site assessment focused on determining the presence or absence of suitable habitat for special status species by comparing the project site conditions to the habitat conditions known to support such species. In addition, the project site was evaluated to determine whether it contained features that might be considered wetlands or waters subject to federal or state jurisdiction.

For the purposes of this analysis, special-status species include those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the US Fish and Wildlife Services (USFWS) or National Oceanic & Atmospheric Administration (NOAA) Fisheries under the Federal Endangered Species Act (FESA); those listed or proposed for listing as rare, threatened, or endangered by the CDFG under the California Endangered Species Act (CESA); plants occurring on List 1A, List 1B, and Lists 1, 2, 3 and 4 of the California Native Species Society (CNPS) Inventory; plants and animals designated as "species of special concern" or "fully protected" by the CDFG.

The potential occurrence of special-status species in the project site was evaluated by first developing a list of special-status plants and animals that are known to or have the potential to occur in the vicinity of the project site as described in Section 2.1 above. A complete list of the species recorded as occurring in the vicinity of the project site is presented in Appendix C. Each species was then evaluated for its potential to occur in the project site according to the following criteria:

(1) **Not Expected**. Species listed as having "no" potential to occur in the project site are those species for which:

- There is no suitable habitat present in the project site (i.e., habitats in the project site are unsuitable for the species requirements (e.g., foraging, breeding, cover, substrate, elevation, hydrology, plant community, disturbance regime, etc.).
- The project site has been surveyed during the proper time of year with negative results for the species.

(2) **Low**. Species listed as having a "low" potential to occur in the project site are those species for which:

- There are no known records of occurrence in the vicinity of the project site/or
- There is marginal or very limited suitable habitat present in the project site;

(3) **Medium**. Species listed as having a "medium" potential to occur in the project site are those species for which:

- There are known records of occurrence in the vicinity of the project site; and/or
- There is marginal suitable habitat present in the project site.

(4) **High**. Species listed as having a "high" potential to occur in the project site are those species for which:

- There are known records of occurrence in the vicinity of the project site (there are many records and/or records in close proximity); and/or
- There is suitable habitat present in the project site.

(5) **Present**. Species listed as "present" in the project site are those species for which:

- The species was observed in the project site.

Appendix C presents the list of special-status plants and animals that are known to or have the potential to occur in the vicinity of the project site, their habitat requirements, and a rating of potential for occurrence in the project site.

2.5 Focused Surveys

Based on the initial habitat assessment it was determined the project site supports marginal nesting habitat for burrowing owls, as several suitably-sized burrows were observed on-site. Therefore it was determined that further study was needed to determine the presence or absence of burrowing owls within the project site.

2.5.1 Burrowing Owl Focused Survey

The project site was assessed and evaluated for burrowing owl habitat based on the proximity of the project site to recorded occurrences, onsite vegetation and habitat characteristics, topography, elevation, soils, surrounding land uses, and the suitability of known habitat preferences and geographic ranges of the burrowing owl. Focused surveys were conducted according to the April 1993 *Burrowing Owl Survey Protocol and Mitigation Guidelines* (Burrowing Owl Consortium 1993), prepared by the California Burrowing Owl Consortium and adopted by the California Department of Fish and Game for assessing whether a particular site supports burrowing owls. Focused burrowing owl surveys were conducted during the breeding season (February 1 through August 31). Phase I and II surveys were conducted on June 20, 2007 and Phase III surveys were conducted on July 3, 5, 6 and 10, 2007. A discussion of the methods and results of the focused burrowing owl surveys is found in the Burrowing Owl Survey Report provided in Appendix D.

3.0 RESULTS

The project site is currently an active ranch which supports primarily livestock, several irrigated fields and ranch equipment. The site is developed and landscaped with cottonwoods and fruit trees (see site photographs in Appendix B).

The southern portion of the project site contains bare areas which are devoid of vegetation and used for storing equipment. The western portion has irrigated pastures, stables, storage sheds, and other barn and residential buildings. The central portion supports ruderal vegetation and landscaped trees. Vegetation within the project site is primarily landscaped and fruit trees, except along the southern boundary areas outside the project site, which supports rabbitbrush scrub and is undeveloped. These areas of the project

site have been heavily impacted by continual use of the land for grazing fields, raising livestock and other ranch related activities. In addition, the areas outside the project site, although they support native vegetation, are also open to livestock for grazing.. Additionally the project site is nearly surrounded by suburban developments, which have also degraded the quality of the habitat and the area. The irrigated pastures along the southern and northern portions of the project site contain scattered ponded areas since these areas are watered regularly; however, these ponded areas do not support quality habitat for sensitive plant and wildlife species. The project site does not support or contain sensitive plant communities, hydrological features or riparian habitats.

3.1 Habitat Assessments

The project site was assessed for the potential to support sensitive plant communities and special status plant and wildlife species. This assessment was based on the literature review, CNPS and CNDDB databases, field visits and an evaluation of the quality of the onsite habitat.

3.1.1 Special Status Plants Species

Based on the initial database and background research, 11 special-status plant species were determined as potentially occurring on or within the vicinity of the project site, including: Alkali mariposa lily (*Calochortus striatus*), Lancaster milk-vetch (*Astragalus preussii var. laxiflorus*), Parry's spineflower (*Chorizanthe parryi var. parryi*), Sagebrush loeflingia (*Loeflingia squarrosa var. artemisiarum*, Pale-yellow layia (*Layia heterotricha*) and Short-joint beavertail cactus (*Opuntia basilaris var. brachyclada*).

None of these 11 special status plant species are expected to occur within the project site based on (1) a review of the onsite plant communities in relation to the special habitat requirements, (2) recorded regional occurrences according to the CNPS and CNDDB databases and (3) an assessment of the site conditions and disturbance, topography, elevation, soils and surrounding land uses. Certain special status plant species were not expected within the project site, such as those only occurring in specific habitats not present onsite (such as marshes, swamps, desert washes, ephemeral washes, riparian woodland and Joshua tree woodland), on specific soil types (such as alkaline clay, gravelly or sandy washes), or at elevations well above or below the site.

The project site is highly unlikely to support sensitive plant species, given the site is developed, lacks suitable habitat for sensitive plant species to thrive and is disturbed by the daily maintenance of the ranch. In addition, the project site does not contain sufficient open space within the ranch to support healthy populations of native plant or special status species. The open spaces within the project site are limited and supports mostly irrigated pastures and bare areas devoid of vegetation, (see Figure 2).

3.1.2 Special Status Wildlife Species

Based on the initial database and background research, 21 special-status wildlife species were determined as potentially occurring on or within the vicinity of the project site. The special status wildlife species specific habitat requirements were compared to the existing project site conditions to determine if these

special status wildlife species had the potential to occur within the project site. Based on the species specific habitat requirements it was determined the project site is not consistent with or does not support suitable specific habitat for these and they are not expected to occur on-site based on (1) a review of the onsite plant communities in relation to the species habitat requirements, (2) recorded regional occurrences according to the CNDDB databases, (3) an assessment of the on-site conditions and disturbance, topography, elevation, soils and surrounding land uses. The habitat assessment and focused surveys completed within the project site determined the project site does not support suitable quality habitat for these sensitive wildlife species. Additionally the project site is highly disturbed, supports minimal vegetation and lacks the species specific habitat requirements for certain sensitive birds and other wildlife, such as riparian woodlands, Joshua tree woodland and gravelly or sandy washes and along desert washes in gullied badlands. The results of the CNDDB database search and further analysis on specific special status wildlife species habitat requirements and determination of absence within the project site is listed in Appendix C.

3.2 Focused Surveys

The following presents the findings and determinations for burrowing owls.

3.2.1 Burrowing Owl Focused Surveys

The results of the focused burrowing owl surveys were negative; therefore, no burrowing owls are expected to be present on-site. The project site is developed and currently in use as a ranch and it is highly disturbed and supports mostly common urban wildlife species (feral cats, field mice, etc), non-native vegetation and a small number of ground squirrel and other animal burrows. During the Phase I focused surveys, it was determined the project site supported marginal suitable habitat. The Phase II survey observed potential burrows, which measured 5-8 inches in diameter along the western and eastern property fence line of the project site. Finally, the Phase III surveys did not observe burrowing owls or owl signs, such as white-wash, molted feathers or owl pellets near or the within the vicinity of the burrows.

A discussion of the methods and results of the focused burrowing owl surveys is found in the Burrowing Owl Survey Report provided in Appendix D.

4.0 DISCUSSION AND RECOMMENDATIONS

The project site is developed and serves as an active ranch, landscaped with cottonwood trees throughout and supports little to no native vegetation. The southern portion of the project site contains bare areas which are devoid of vegetation and are used for storing equipment, irrigated pastures are within the western portion and stables, storage sheds, and other buildings are within the central portion. These areas provide no quality habitat for native plant or wildlife species given that these areas are compacted regularly by livestock and maintained regularly by the ranch personnel. The project site is a developed site except along the southern boundary outside of the project site, which is undeveloped and supports minimal rabbitbrush scrub. This area has little to no native vegetation except for small isolated patches of

rabbitbrush scrub and does not provide suitable habitat for sensitive wildlife and plant species. In addition, the irrigated pastures along the southern and northern portions of the project site contain scattered ponded areas since these areas are watered regularly; however, these ponded areas do not support quality habitat for sensitive plant and wildlife species. The project site does not support or contain sensitive plant communities, hydrological features or riparian habitats.

The project site is bordered by suburban development, which disconnects the project site from the nearby natural areas including to the northwest, the Prime Desert Woodland Preserve. This detachment of contiguous natural environments creates a natural "island" which isolates the project site and does not allow for an adequate wildlife corridor or the needed connectivity for species to traverse between the off-site natural areas and the project site.

Special Status Plant Species

As indicated in Figure 2, the majority of the project site supports irrigated pastures and bare areas devoid of vegetation; therefore, special status plant species or plant communities are not expected to be present. Additionally the project site does not support designated sensitive plant communities according to the CDFG sensitive plant communities (CDGF 2003); therefore the development of the project site would not impact sensitive plants or communities.

Special Status Wildlife Species

The project site supports mostly irrigated pastures and bare areas devoid of vegetation, therefore the existing environmental site conditions are incompatible with special status wildlife species specific habitat requirements. In addition, the project site is developed, it is within close proximity to suburban development and supports ruderal and non-native vegetation; these site conditions have degraded the quality of the habitat and it is not likely special status wildlife species would nest or forage within the project site.

The project site does not support suitable habitat for sensitive species noted in Appendix C and therefore the development of the project site would not impact sensitive wildlife species. However, marginal habitat remains on-site for burrowing owls.

Focused surveys for burrowing owls were completed in June and July 2007 and determined the project site does support marginally suitable habitat for burrowing owls (see Burrowing Owl Survey Report Appendix D). While no burrowing owls were observed during the focused burrowing owls breeding season surveys conducted in 2007, owls could move onto the project site and nest within the limited number of ground squirrel burrows or within any new burrows that could be constructed by ground squirrels following the 2007 surveys. In addition, burrowing owls could use on-site ground-squirrel or other similar sized burrows for shelter during the non-breeding season. Should breeding or non-breeding burrowing owls occur after the 2007 surveys, construction related activities could result in the loss of individual owls that may be residing within the on-site burrows.

Although marginal suitable habitat is present, burrowing owls were not identified during the focused surveys; however it is possible that burrowing owls could colonize the site between the time of the July 2007 surveys and proposed site development. A Phase III pre-construction survey is recommended within 30 days prior to ground-disturbing activities (pursuant to CDFG protocols) to ensure that burrowing owls are not present within the construction areas.

Foraging Habitat and Nesting Birds

Bird species identified during these surveys included raptors such as American kestrels (*Falco sparverius*) and red-tailed hawks (*Buteo jamaicensis*) and several song birds such as lark sparrow (*Chondestes grammacus*), Anna's hummingbird (*Calypte anna*) and yellow-rumped warbler (*Dendroica coronata*). These bird species were observed utilizing the western portion of the project site for foraging, since this area provides several landscaped trees and irrigated pastures. In addition several native sparrows including white-crowned sparrows (*Zonotrichia leucophrys*) were observed utilizing the barn's rafters as a nesting area. Active nests were only observed on the barn's rafters, no additional active nests were recorded. The barn rafters and landscaped trees within the project site provides nesting habitat for a variety of common birds, which may include both local and wintering raptors. Given the mobility of most of these common wildlife species known to occur and potentially occurring within the vicinity of the project site, the relatively fragmented marginal habitat present onsite and the relative abundance of suitable foraging and nesting habitat in the region, the loss of these particular modified wildlife habitats would not be expected to have an impact on the common wildlife species occurring or potentially occurring within the project site.

To avoid impacting nesting birds, a qualified wildlife biologist shall conduct a pre-construction nest survey no more than 5 days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity (at least 300 feet around the project sites). If active nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with the CDFG and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of the nest shall be deferred until the young birds have fledged. A minimum exclusion buffer of 100 feet shall be maintained during construction, depending on the species and location. The perimeter of the nest-setback zone shall be fenced or adequately demarcated with staked flagging at 20-foot intervals, and construction personnel and activities restricted from the area. A survey report by the qualified biologist verifying that (1) no active nests are present, or (2) that the young have fledged, shall be submitted to the City prior to initiation of grading in the nest-setback zone. The qualified biologist shall serve as a construction monitor during those periods when construction activities will occur near active nest areas to ensure that no inadvertent impacts on these nests will occur.

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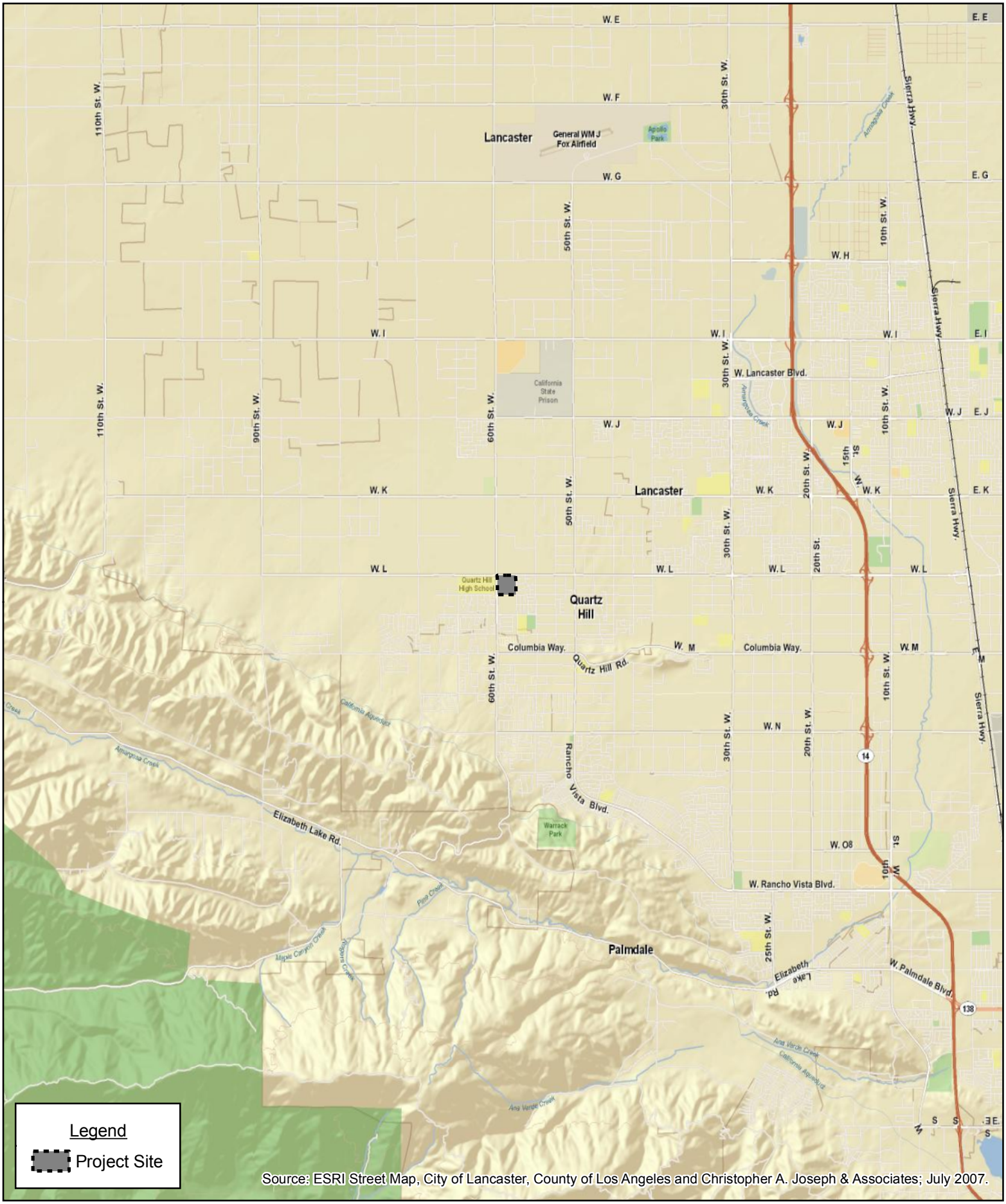
Figures



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NORTH

0 0.5 1 1.5 2
Miles

Figure 1: Project Vicinity

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0 100 200 300 400
Feet

Figure 2: Site Features

Appendix A : Plant and Wildlife Species Observed

Common Name	**Scientific Name**
Birds	
Western scrub jay	*Aphelocoma californica*
Red-winged blackbird	*Agelaius phoeniceus*
Red-tailed hawk	*Buteo jamaicensis*
Hermit thrush	*Catharus guttatus*
Lark sparrow	*Chondestes grammacus*
Turkey vulture	*Cathartes aura*
Anna's hummingbird	*Calypte anna*
House finch	*Carpodacus mexicanus*
Rock dove	*Columba livia*
Common raven	*Corvus corax*
Yellow-rumped warbler	*Dendroica coronata*
Horned lark	*Eremophila alpestris*
Brewer's blackbird	*Euphagus cyanocephalus*
American kestrel	*Falco sparverius*
Hooded oriole	*Iceterus cucullatus*
Song sparrow	*Melospiza melodia*
Northern mockingbird	*Mimus polyglottos*
House Sparrow	*Passer domesticus*
Great-tailed grackle	*Quiscalus mexicanus*
Starling	*Sturnus vulgaris*
Black phoebe	*Sayornis saya*
Say's Phoebe	*Sayornis saya*
European starling	*Sturnus vulgaris*
Western Kingbird	*Tyrannus verticalis*
Mourning dove	*Zenaida macroura*
White-crowned sparrow	*Zonotrichia leucophrys*
Mammals	
White-tailed antelope squirrel	*Ammospermophilus leucurus*
Field mouse	*Peromyscus sp.*
California Ground Squirrel	*Spermophilus beecheyi*
Audubon's cottontail	*Sylvilagus audubonii*
Reptiles and Insects	
California harvester ant	*Pogonmyrmex californicus*
Side-blotched lizard	*Uta stansburiana*
Western fence lizard	*Sceloporus occidentalis*
Plants	
Ragweed	*Ambrosia sp*
Black mustard	*Brassica nigra*
Cheatgrass	*Bromus tectorum*
Goosefoot	*Chenopodium sp.*
Rabbitbrush	*Crysothamnus nauseosus*
Bermuda grass	*Cynodon dactylon*
Willow herb	*Epilobium sp.*

Cut leaved geranium	*Geranium dissectum*
Rye grass	*Lolium sp.*
Bird's Foot	*Lotus corniculatus*
English plantain	*Plantago lanceolata*
Common plantin	*Plantago major*
Cottonwood	*Populus sp.*
Knotweed	*Polygonum arenastrum*
Curly dock	*Rumex crispus*
Russian thistle	*Salsola tragus*
London rocket	*Sisymbrium irio*

Appendix B Site Photographs taken on June 20, 2007

Entrance of the Ranch at West Avenue L

Stables along Eastern Portion of the Ranch

Grazing Fields on the Eastern Portion of the Ranch

Southern Portion of the Ranch

Irrigated Pastures on Southern Portion of the Ranch

South View from southern portion of project site

East View from southern portion of project site

West View from southern portion of project site

Appendix C: Special Status Plant and Wildlife Species Evaluated for Potential Occurrence within the Project Site and surrounding vicinity

Species	Status					Habitat/Blooming Period	Potential for Occurrence
	FESA	CESA	GLOBAL RANKING CNDDB	CNPS	CDFG/ STATE		
PLANTS							
Astragalus preussii var. laxiflorus Lancaster milk-vetch	---	---	G4T2T3	1B.1	S1.1	General habitat consists of Chenopod scrub. Microhabitat is alkaline clay in flat, gravelly or sandy washes and along desert washes in gullied badlands. **Blooming Period:** March to May at elevations from 0 to 2,300 feet.	**Not expected**, this plant species is not expected to occur on-site since suitable habitat is not present within the project site. Additionally, this plant species was last recorded in 1902 and is considered possibly extirpated.
Calochortus striatus Alkali mariposa lily	---	---	G2	1B.2	S2.2	General habitat consists of chaparral, Mojavean desert scrub Microhabitat is alkaline meadows and ephemeral washes. **Blooming Period:** April to June at an elevation range of 2,100-5,000 feet.	**Not expected,** the project site does not support suitable habitat of alkaline meadows and ephemeral washes.
Carex vulpinoidea Fox sedge	---	---	G5	2.2	S2.2	General habitat consists of wet places. Microhabitat is marshes, swamps and riparian woodland or in wet places. **Blooming Period:** May to June at an elevation range of 100- 4,000 feet.	**Not expected**, this plant species was last recorded in 1902. Furthermore, there is no suitable habitat present within the project site and it does not support marshes or riparian habitats.

Species	Status					Habitat/Blooming Period	Potential for Occurrence
	FESA	**CESA**	**GLOBAL RANKING CNDDB**	**CNPS**	**CDFG/ STATE**		
Chorizanthe parryi var. parryi Parry's spineflower	---	---	G2T2	3.2	S2.1	General habitat consists of coastal scrub, chaparral and sandy soils. Microhabitat consists of dry slopes and flats; sometimes at interfaces of the two vegetation types, such as chaparral and oak woodland, areas with dry, sandy soils. **Blooming Period:** April to June at elevations from 120 to 5,000 feet.	**Not expected**, this plant species was last recorded in 1892 and is presumed extinct in Lancaster. Therefore, this species is not expected on-site due to the absence of suitable habitat.
Chorizanthe xanti var. leucotheca White-bracted spineflower	---	---	G4T3	1B.2	S1S2.2	Mojavean desert scrub, pinyon-juniper woodland. **Blooming Period:** April – June 1,500-3,600 feet	**Not expected**, this plant species was last recorded in 1902 and is presumed extinct in Lancaster. Therefore, this species is not expected on-site due to the absence of suitable habitat.
Cymopterus deserticola Desert cymopterus	---	---	G3	1B.2	S3.2	General habitat: Joshua tree woodland, Mojavean desert scrub, sandy soils.. Microhabitat: on fine to coarse, loose, sandy soil of flats in old dune areas with well-drained sand. **Blooming Period:** March-May 1,800-4,500 feet	**Not expected,** the plant species habitat requirements are incompatible with the project site, additionally the project site is disturbed which would preclude the plant species from being present.

Species	Status					Habitat/Blooming Period	Potential for Occurrence
	FESA	**CESA**	**GLOBAL RANKING CNDDB**	**CNPS**	**CDFG/ STATE**		
Eriophyllum mohavense Barstow wolly sunflower	---	---	G2	1B.2	S2.2	General habitat: desert chenopod scrub, Mojavean desert scrub, desert playas. Microhabitat: mostly in open, silty or sandy areas with Saltbush Scrub, or Creosote bush scrub within barren ridges or margins of playas. **Blooming period:** April-May 1,500-3,000 feet	**Not expected,** lack of CNDDB records, and high levels of disturbances onsite; additionally the project site does not support silty or sandy areas with Saltbush Scrub, or Creosote Bush Scrub at margins of playas which, would preclude the plant species from being present.
Eschscholzia minutiflora ssp. twisselmannii Red Rock poppy	---	---	G5T2	1B.2	S2.2	General habitat: Creosote Bush and Mojavean Desert Scrub areas. Microhabitat: Volcanic tuff with larrea, lycium, eriogonum, isomeris, hemizonia. **Blooming period:** March - May at elevations of 1,800-3,600 feet	**Not expected:** lack of CNDDB records, the project site is entirely developed and high levels of disturbances onsite; additionally the project site does not support suitable habitat which would preclude the plant species from being present.
Layia heterotricha Pale-yellow layia	---	---	G2G3	1B.1	S2S3.1	General habitat consists of cismontane woodland, Pinyon-juniper woodland and Valley. Microhabitat is foothill grassland in alkaline or clay soils. **Blooming Period** March to June at an elevation range from 900 to 5,100 feet.	**Not expected,** this plant species was last recorded in 1892 and is the only occurrence recorded for this species, it is presumed extinct. Therefore this species is not expected to occur on-site due to the absence of alkaline soil conditions and high levels of disturbance on-site.

Species	Status					Habitat/Blooming Period	Potential for Occurrence
	FESA	**CESA**	**GLOBAL RANKING CNDDB**	**CNPS**	**CDFG/ STATE**		
Loeflingia squarrosa var. artemisiarum Sagebrush loeflingia	---	---	G5T2T3	2.2	S2.2	General habitat consists of desert dunes. Microhabitat is Great Basin scrub and Sonoran desert scrub. **Blooming period** April to May at an elevation range of 2,100 to 4,800 feet.	**Not expected,** the project site has no suitable habitat since the project site does not support desert dunes or Sonoran desert scrub and the project site is highly disturbed by human activities.
Opuntia basilaris var. brachyclada Short-joint beavertail cactus	---	---	G5T1	1B.2	S1.2	General habitat consists of Joshua tree woodland, Mojavean desert scrub, Pinyon-juniper woodland. Microhabitat is riparian woodland in sandy soil or coarse granitic soils. **Blooming Period** April to June at elevations from 1,200 to 5,400 feet.	**Not expected**, suitable habitat is not present within the project site, and the species was not observed on-site.
WILDLIFE – Reptiles and Amphibians							
Anniella pulchra pulchra Silvery legless lizard	---	--	G3G4T3T4 Q	---	S3/CSC	Soil moisture is essential to this species and prefers soils with high moisture content and sandy or loose loamy soils under sparse vegetation. Microhabitat: prefer soils with a high moisture content.	**Not expected**, no suitable habitat is present on the project site. The species was detected in 2005 approximately two miles north of the project site at the intersection of Avenue K and 40th Street West; however, the project site does not support suitable habitat. Additionally, the project site does not exhibit soils with a high moisture content and it was not observed during field surveys.

Species	Status					Habitat/Blooming Period	Potential for Occurrence
	FESA	**CESA**	**GLOBAL RANKING CNDDB**	**CNPS**	**CDFG/ STATE**		
Emys (=Clemmys) marmorata pallida Southwestern pond turtle	---	---	G3G4T2T3	---	S2/CSC	Inhabits permanent or nearly permanent bodies of water in many habitat types; below 6,000 feet in elevation. Requires basking sites such as partially submerged logs, vegetation mats or open mud banks.	**Not expected** to occur on-site; suitable habitat is not present.
Gopherus agassizii Desert tortoise	T	T	G4	---	S2	General habitat: most common in desert scrub, desert wash, and Joshua tree habitats; occurs in almost every desert habitat. Microhabitat: require friable soil for burrow and nest construction. Creosote bush habitat with large annual wildflower blooms preferred.	**Not expected,** the study area is developed and not within close proximity of the recently recorded occurrences according to the CNDDB. In addition the project site does not provide suitable habitat for this species.
Phrynosoma coronatum (blainvillii population) Coast (San Diego) horned lizard	---	---	G4G5	---	S3S4/ CSC	General habitat consists of coastal sage scrub and chaparral in arid and semi-arid climate conditions. Prefers friable, rocky or shallow sandy soils.	**Not expected**, the project site is heavily disturbed and fragmented and does not support suitable habitat.
Phrynosoma coronatum (frontale population) Coast (California) horned lizard	---	---	G4G5	---	S3S4/ CSC	Species frequents a wide variety of habitats but most commonly found in lowlands along sandy washes with scattered low bushes. Prefers open areas for sunning, bushes for cover, patches of loose soil for burial and an abundant supply of ants and other insects for foraging.	**Not expected**, the project site is heavily disturbed and fragmented and does not support suitable habitat.

Species	Status					Habitat/Blooming Period	Potential for Occurrence
	FESA	**CESA**	**GLOBAL RANKING CNDDB**	**CNPS**	**CDFG/ STATE**		
Rana aurora draytonii California red-legged frog	T	---	G4T2T3	---	S2S3/ CSC	General habitat: lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Microhabitat: requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**Not expected,** lack of CNDDB occurrences and the project site does not support suitable habitat
Thamnophis hammondii Two-striped garter snake	---	---	G3	---	S2/CSC	Species frequents coastal California from Salinas to northwest Baja California. Prefers elevation ranges from sea to about 7,000 and is highly aquatic and found in or near permanent fresh water, often along streams with rocky beds and riparian growth.	**Not expected** to occur on-site; suitable habitat is not present. Additionally the project site does not support ephemeral streams or a permanent water source for the species to thrive.
WILDLIFE - Birds							
Accipiter cooperii Cooper's Hawk	----	----	G3	---	S3/CSC	General habitat: woodland, chiefly open, interrupted or marginal type. Microhabitat: nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	**Not Expected,** the project site does not support suitable habitat for the species to forage. Nesting sites within the project site are not likely given the project site does not support suitable nesting habitat for this species, such as riparian habitat or canyon bottoms on river flood-plains.

Species	Status					Habitat/Blooming Period	Potential for Occurrence
	FESA	**CESA**	**GLOBAL RANKING CNDDB**	**CNPS**	**CDFG/ STATE**		
Agelaius tricolor Tricolored blackbird	---	---	G2G3	---	S2/CSC	Nest colonies are highly colonial with most numerous in central valley & vicinity. Largely endemic to California Microhabitat: requires open water, protected nesting substrate and foraging area with insect prey within a few miles of the colony. Preferred habitats include annual grasslands, wet and dry vernal pools, and other seasonal wetlands.	**Not Expected,** the project site does not support suitable habitat for the species to nest or forage. Nesting sites within the project site are not likely given the project site does not support suitable nesting habitat for this species, such as dry vernal pools or seasonal wetlands.
Asio flammeus Short-eared owl	--	--	G5		S3/CSC	Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grasses needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	**Not Expected,** the project site does not support suitable habitat for the species to nest or forage.
Athene cunicularia Burrowing owl	---	---	G4	---	S2/CSC	General habitat is open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing cover. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**Low Potential**, the focused surveys conducted as part of this proposed project did not identify burrowing owls or their sign (such as pellets or egg shell fragments) . However, due to the presence of potential burrows the species may colonize the site in the future; pre-construction surveys are recommended. Please see Appendix D for the focused burrowing owl report.

Species	Status					Habitat/Blooming Period	Potential for Occurrence
	FESA	**CESA**	**GLOBAL RANKING CNDDB**	**CNPS**	**CDFG/ STATE**		
Buteo regalis Ferruginous hawk	---	---	G4	---	S3S4/ CSC	General habitat consists of open grasslands, sagebrush flats, desert scrub, low foothills & fringes of Pinyon-juniper woodlands.	**Not Expected,** the project site does not support suitable habitat for the species to forage. Nesting sites within the project site are not likely given the project site is developed.
Buteo swainsoni Swainson's hawk	---	T	G5	---	S2	Nesting and breeds in stands with few trees in juniper-sage flats, riparian areas and in oak savannah. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Not Expected**, the project site does not support suitable habitat for the species to forage. Further, the species would not use the project site as nesting sites since it does not support suitable nesting habitat for this species, such as oak savannah and riparian habitat.
Charadrius alexandrinus nivosus Western snowy plover	T	---	G4T3	---	S2	General habitat: sandy beaches, salt pond levees and shores of large alkali lakes. Microhabitat: needs sandy, gravelly or friable soils for nesting.	**Not expected** to nest or forage on-site; suitable habitat is not present.
Charadrius montanus Mountain plover	---	---	G2	---	S2/CSC	General habitat consists of short grasslands, freshly plowed fields, newly sprouting grain fields and sometimes sod farms with short vegetation and bare ground & flat topography. Prefers grazed areas and areas with burrowing rodents.	**Not Expected,** the project site does not support suitable habitat for the species to forage. Nesting sites within the project site are not likely given the project site is developed, fragmented and it does not support suitable nesting habitat for this species.

Species	Status					Habitat/Blooming Period	Potential for Occurrence
	FESA	**CESA**	**GLOBAL RANKING CNDDB**	**CNPS**	**CDFG/ STATE**		
Falco columbarius Merlin	---	---	G5	---	S3/CSC	General habitat consists of tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts. Prefers clumps of trees or windbreaks are required for roosting in open country.	**Not expected,** to nest or forage on-site; suitable habitat is not present.
Plegadis chihi White-faced ibis	---	---	G5	---	S1/CSC	General habitat includes shallow fresh-water marsh and dense tule thickets for nesting; prefers areas interspersed with shallow water for foraging.	**Not expected,** since the habitat is not present within the project site or within the surrounding vicinity. Additionally the project site does not support shallow fresh-water marshes or tule thickets.
Toxostoma lecontei Le Conte's thrasher	---	---	G3	---	S3/CSC	Primarily a desert resident which lives in open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Commonly nests in dense, spiny shrub or densely branched cactus in desert wash habitat usually 2-8 feet above ground.	**Not expected,** The last recorded occurrence in the vicinity was in 1920 (this occurrence is presumed extinct in the CNDDB). The project site does not support suitable habitat for the species to forage area given the project site is developed, fragmented and it does not support suitable nesting habitat for this species to thrive
WILDLIFE – Mammals							

Species	Status					Habitat/Blooming Period	Potential for Occurrence
	FESA	**CESA**	**GLOBAL RANKING CNDDB**	**CNPS**	**CDFG/ STATE**		
Onychomys torridus ramona Southern grasshopper mouse	---	---	G5T3	---	CSC	General habitat: desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover. Microhabitat: feeds almost exclusively on arthropods, especially scorpions & insects.	**Not expected** to occur on-site; lack of CNNDB records in the area and was last sighted in 1930.
Perognathus inornatus inornatus San Joaquin pocket mouse	--	---	G4T2T3	---	S2S3	Typically found in grasslands and blue oak savannas, associated with flat to steep terrain with friable soils as well as in areas of alluvial sand soils and wind drifted sands	**Not expected**, since the project site does not contain suitable habitat and the last recorded occurrence was recorded in 1931(this occurrence is presumed extinct in the CNDDB).
Spermophilus mohavensis Mohave ground squirrel	---	T	G2G3	---	S2S3	General habitat consists of open desert scrub, alkali scrub and Joshua tree woodland. Also feeds in annual grasslands and is restricted to the Mojave desert. Prefers sandy to gravelly soils, avoids rocky areas and uses burrows at base of shrubs for cover.	**Not expected**, no suitable habitat is present on the project site and it is heavily disturbed. Also, the nearest occurrence was last recorded 10 miles south of the project site in 1984 and has not been detected recently in the vicinity. CDFG and Mohave ground squirrel working group range maps do not include the area of Lancaster west of Highway 14. In addition according to the Mohave ground squirrel survey protocol, areas which are five miles outside the known range do not require surveys to be completed.

Species	Status					Habitat/Blooming Period	Potential for Occurrence
	FESA	CESA	GLOBAL RANKING CNDDB	CNPS	CDFG/ STATE		
Taxidea taxus American badger	---	---	G5	---	S4/CSC	General habitat: most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Microhabitat: need sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents and digs burrow.	**Not Expected,** the project site lacks the species specific habitat requirements and lacks large burrows for the species to nest.
PLANT COMMUNITIES							
Southern Coast Live Oak Riparian Forest			G4	---	S4		**Not Present**
Southern Cottonwood Willow Riparian Forest			G3	---	S3.2		**Not Present**
Southern Riparian Scrub			G3	---	S3.2		**Not Present**
Southern Willow Scrub			G3	---	S2.1		**Not Present**
Wildflower Field			G2	---	S2.2		**Not Present**
Valley Neddlegrass Grassland			G1	---	S2.2		**Not Present**

Species	Status					Habitat/Blooming Period	Potential for Occurrence
	FESA	CESA	GLOBAL RANKING CNDDB	CNPS	CDFG/ STATE		

Status Codes:

Federal FESA: Endangered Species Act of 1972, as amended

E Federally listed as Endangered
T Federally listed as Threatened
PD Federally proposed for delisting
C Federal candidate species (former Category 1 candidates)
-- No designation.

State CESA: California Endangered Species Act

R State listed as Rare
E State listed as Endangered
T State listed as Threatened
-- No designation

Global Ranking/CNDDB: California Natural Diversity Database

Global Rank: The global rank is a reflection of the overall condition (rarity and endangerment) of an element throughout its range. Some global ranks for endemic species are assigned by the CNDDB biological staff following review of all available information. The global rank (G-rank) is a reflection of the overall condition of an element throughout its global range, with G1 being the most rare and G5 the least rare. Subspecies receive a T-rank attached to the G-rank. The state rank (S-rank) is a reflection of the overall condition of an element throughout California, sometimes with a threat designation attached, with S1being the most rare and S5 the least rare.

California Native Plant Society

1B Plants listed as rare, threatened, or endangered in California and elsewhere
2 Plants rare, threatened, or endangered in California, but more common elsewhere
3 Plants about which more information is needed
-- No designation

Recently, CNPS added a decimal threat rank to the List rank to parallel that used by the CNDDB. This extension replaces the E (Endangerment) value from the R-E-D Code. CNPS ranks therefore read like this: 1B.1, 1B.2, etc.

State and CDFG

CSC Indicates whether the species is a Department of Fish and Game Species of Special Concern (terrestrial vertebrate animals only).

STATE RANKS: Statewide status of a full species or a subspecies: S1 to S5

Same general definitions as CNDDB rankings, but just for the range of the taxa within California. The *state rank* is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank.

S1 = Less than 6 EOs OR less than 1,000 individuals OR less than 2,000 acres
S1.1 = very threatened
S1.2 = threatened
S1.3 = no current threats known
S2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres

Species	Status					Habitat/Blooming Period	Potential for Occurrence
	FESA	CESA	GLOBAL RANKING CNDDB	CNPS	CDFG/ STATE		
S2.1 = very threatened S2.2 = threatened S2.3 = no current threats known S3 = 21-100 EOs or 3,000-10,000 individuals OR 10,000-50,000 acres S3.1 = very threatened S3.2 = threatened S3.3 = no current threats known S4 - Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat. No threat rank. S5 - Demonstrably secure to ineradicable in California. No threat rank.							

Appendix E

Burrowing Owl Survey Report

BURROWING OWL SURVEY REPORT

Lane Ranch Towne Center
Lancaster, California

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1.0 INTRODUCTION

The purpose of this study is to determine the suitability of the study area to support burrowing owls (*Athene cunicularia*) and to determine if any burrows on-site are occupied by burrowing owls. This report includes discussions of the study methods, the biological resources occurring within the study area, results of the habitat assessment and focused burrowing owl surveys and recommendations.

1.1 Study Area and Project Description

The proposed Lane Ranch Towne Center (project site) is located in the City of Lancaster (City) on the Lancaster West U.S. Geological Survey (USGS) 7.5-minute quadrangle map, Township 7 North, Range 13, West and Sections 27 and 35 at an elevation of approximately 2,400 feet (732 meters) in the County of Los Angeles. The project site is approximately 35 acres and is located at the southeast corner of the intersection of 60th Street West and Avenue L, bounded to the north by Avenue L and single-family residential developments, to the south by a vacant parcel, to the east by 57th Street West and single-family residential developments and to the west by 60th Street West and Quartz Hill High School. Access to the project site is via the Antelope Valley Freeway (State Route 14) to Avenue L exit. The study area encompasses the project site and the 500 foot (150 meter) buffer surrounding the project site, (see Figure 1). The study area is within the open flats of the Antelope Valley within the community of Quartz Hill, southeast of the Antelope Valley Poppy Reserve, and southwest of the Prime Desert Woodland Preserve.

The project site is comprised of a working ranch primarily utilized for keeping livestock; irrigated pastures used as grazing fields, barns and residential dwellings. The study area contains no riparian habitat or hydrological resources. Topography of the study area is generally flat with no geographical features. Currently the project site is developed and surrounded on the northern and eastern boundaries by residential developments and a high school to the west. Vegetation within the study area is primarily ruderal vegetation due to the several irrigated pastures throughout the project site and the southern study area within the 150 meter (500-foot) buffer is dominated with rabbitbrush scrub.

The proposed project consists of a 407,000 square foot commercial development which will include two anchor stores for a total of 284,341 square feet, a 14,820 square foot drug store, three retail stores totaling 35,000 square feet, 4 buildings with retail shops totaling 28,000 square feet, and two restaurants totaling 10,300 square feet. A total of 1,960 parking spaces are anticipated to be provided and access to the retail center would occur from Avenue L, 60th Street West and 57th Street West.

1.2 Background

The burrowing owl is considered a California Species of Special Concern and a U.S. Fish and Wildlife Service Bird of Conservation Concern. In Southern California, burrowing owls typically inhabit annual and perennial grasslands, deserts and scrublands characterized by low-growing vegetation.

Suitable owl habitat may also include trees and shrubs if the canopy covers less than 30 percent of the ground surface (Klute, et al 2003). Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels or badgers, but also may use man-made structures, such as cement culverts, cement, asphalt, or wood debris piles, or openings beneath cement or asphalt pavement. Burrowing owls can forage up to 3,280 feet (1,000 meters) from the burrow, but generally stay within 1,968 feet (600 meters). Evidence of owl use of a burrow includes sign such as molted feathers, cast pellets, prey remains, eggshell fragments or excrement at or near a burrow entrance (California Burrowing Owl Consortium 1993).

2.0 METHODS

The April 1993 *Burrowing Owl Survey Protocol and Mitigation Guidelines* (Burrowing Owl Consortium 1993), prepared by the California Burrowing Owl Consortium (CBOC) and adopted by the California Department of Fish and Game (CDFG), includes a three-phase methodology for assessing whether a particular site supports burrowing owl. Phase I involves an assessment of the site to determine whether burrowing owl habitat is present. If habitat is determined to be present on site, a Phase II burrow survey is conducted. The Phase II survey entails walking parallel transects at a maximum spacing of approximately 100 feet (30 meters) over the entire study area and recording any burrows suitable for owls. If the study area is determined during Phase II to contain burrows that could be used for owl nesting or shelter, a Phase III survey is conducted. Phase III involves four separate survey sessions during the breeding season (February 1 through August 31) and non-breeding season (December 1 through January 31), at dusk or dawn, to determine whether burrows are actively in use as breeding, shelter, or over-wintering habitat. Phase III requires that four separate site visits are conducted from two hours before sunset to one hour after or from one hour before to two hours after sunrise, conduct surveys during weather that is conducive to observing burrowing owls outside their burrows and avoid surveys during heavy rain, high winds (> 20 mph), or dense fog. If no burrowing owls are observed using burrows during either the winter or breeding season surveys and suitable habitat occurs, a pre-construction survey should be conducted within 30 days of grading to confirm that no owls have moved onto the site since the previous surveys. Although, if burrows or burrowing owls are recorded on the site, a map should be prepared of the burrow concentration areas and a census of the burrowing owl population should be recorded. Pursuant to the *Burrowing Owl Survey Protocol and Mitigation Guidelines*, surveys for burrows and owls should be conducted by walking through suitable habitat over the entire study area and also should include areas within 500 feet (150 meters) of the project impact zone. This 500-foot (150-meter) buffer zone is included to account for adjacent burrows and foraging habitat outside the project area and impacts from factors such as noise and vibration due to heavy equipment which could impact resources outside the project area. The final step in completing the protocol burrowing owl surveys requires preparation of a report documenting the results and mitigation measures per CBOC guidelines.

Surveys were conducted pursuant to the CBOC survey protocols guidelines to determine if the potential for burrowing owls occurs within the study area. These guidelines are generally recognized by CDFG and biologists familiar with burrowing owls as acceptable for both detection and mitigation purposes.

The study area for these burrowing owl surveys included the proposed project site boundaries and the required additional survey areas within a 500 foot (150 meters) buffer of the project impact zone. The study area is surrounded to the north, east and west by suburban development. A small northeast portion within the 500 foot (150 meters) buffer contains a detention basin and a vacant parcel dominated mostly with non-native grasses. The southern boundary of the study area supports native vegetation and potential suitable habitat for burrowing owls. The study area was accessed and evaluated for burrowing owl habitat based on the proximity of the study area to recorded occurrences, onsite vegetation and habitat characteristics, topography, elevation, soils, surrounding land uses, and the suitability of known habitat preferences and geographic ranges of the burrowing owl.

2.1 Field Visits

Christopher Joseph & Associates (CAJA) Senior Biologist, Shannon Lucas and Associate Biologist, Luz Torres conducted the Phase I Habitat Assessment and Phase II Burrow Survey on June 20, 2007. Phase III Owl Surveys were conducted during the breeding season on July 3, 5, 6, and 10, 2007 (see Table 1). These surveys were conducted to assess the study area for burrowing owl habitat, to determine the number of individual burrowing owls utilizing the study area, and investigate all suitable burrows for burrowing owl signs. The study area was walked by foot and signs of burrowing owls, such as molted feathers, cast pellets, prey remains, eggshell fragments or excrement ("whitewash") at or near a burrow entrance were recorded if observed. All surveys were conducted within the time constraints of one hour before sunrise and two hours after sunrise, or two hours before sunset and one hour after sunset.

Shannon Lucas, Senior Biologist and Associate Biologist, Luz Torres for CAJA conducted an initial Phase I habitat assessment on June 20, 2007. The habitat assessment focused on determining the presence or absence of suitable habitat for burrowing owls by comparing the study area conditions to the habitat conditions known to support such species. The Phase II survey was conducted by Shannon Lucas, Senior Biologist and Associate Biologist, Luz Torres for suitable owl burrows by walking the site in transects at spaced a maximum of approximately 100 feet (30 meters) apart. In accordance with the CBOC Phase II burrow survey protocols, transects were walked across areas of suitable burrowing owl habitat, which included the entire study area. Areas within approximately 500 feet (150 meters) of the proposed project impact zone were surveyed, since suitable burrowing owl habitat was present. Potential perching locations (i.e., mounds near ground squirrel burrows, trees, fences, wood stockpiles, abandoned farm equipment, etc.) within the survey area were assessed for signs of burrowing owl (i.e., excrement, food remains, feathers, etc.). Phase III surveys were conducted during the breeding season to identify and quantify the number of owls potentially occurring on the site. Surveys for this project site were conducted per CBOC protocol time constraints (within one hour before to two hours after sunrise or within two hours before and one hour after sunset). Site conditions recorded during each survey are presented in Table 1. According to the protocol potential burrows were monitored from fixed points to allow sufficient direct visual time for each identified burrow and while minimizing potential disturbance to the burrowing animals. Any owl presence would subsequently be recorded along with accounts of its behavior.

2.2 California Natural Diversity Database Query

The California Department of Fish and Game maintains the Natural Diversity Data Base (CNDDB), which is a computerized inventory of information on the reported locations of California's rare, threatened, endangered and otherwise sensitive plants, animals, and natural communities, this species database is updated monthly. Valuable information regarding the species occurrence, population numbers, observers, occurrence dates and potential threats to the plant or wildlife species are included for each occurrence record. A record search of the Lancaster West 7.5 minute USGS quadrangle and surrounding quadrangles (Rosamond, Lancaster East, Ritter Ridge and Palmdale) was conducted for burrowing owls to determine the occurrences recorded within the study area and surrounding vicinity.

2.3 Soil Analysis

Descriptions of the soils within the study area were researched to determine if the soils are compatible for burrowing owls. The United States Department of Agriculture Natural Resource Conservation Services has mapped soils within the study area. These soils were analyzed during the habitat assessment to determine if the appropriate soils for burrowing owls are present within the study area.

3.0 RESULTS

Surveys were conducted in accordance to CBOC guidelines and resulted in no observed burrowing owls or owl signs such as molted feathers, cast pellets, prey remains, eggshell fragments or excrement. The study area supports marginal habitat within the project site and within the southern portion of the 500 foot buffer, several burrows were observed along the western and eastern property fence line, although no burrowing owls or signs were recorded.

Onsite vegetation was not characterized since the entire project site is developed and contains no areas which represent natural plant communities as defined by the *CDFG's List of California Terrestrial Natural Communities* (2003) or the *A Manual of California Vegetation* (1995). In addition, the *City of Lancaster General Plan, Master Environmental* Assessment (1997), Biological Resources section was consulted to help determine the existing natural plant communities within the study area and it identified the project site as ruderal plant species and a developed site. Common plant names were taken from *The Jepson Manual* (1993) and *A Flora of Southern California* (1974).

3.1 Phase I Habitat Assessment

The project site is developed and serves as an active ranch, landscaped with cottonwood trees (*Populus sp.*) throughout and supports little to no native vegetation. The southern portion of the project site contains bare areas which are devoid of vegetation and are used for storing equipment. Irrigated pastures are located within the western portion and stables, storage sheds, and other buildings are located within the central portion. These areas support marginal habitat for burrowing owls and several potential burrows were located along the western and eastern portions of the project site.

The southern portion within the 500 foot (150 meters) buffer supports marginal habitat mostly dominated with rabbitbrush scrub and non-native grasses. Additionally, the northern portion within the 500 foot (150 meters) buffer contains single family residential homes, a detention basin and a vacant parcel; this area does not support suitable habitat for burrowing owls given the area is built and the vacant parcel is graded and under construction with new housing developments. Site photographs were taken on June 20, 2007 and are presented in Appendix A. Please note that the aerial utilized in the Figure 2 was taken in 2006 and significant changes in the landscape have occurred. Please view the site photos for the current site conditions.

The CNDDB search of the Lancaster West USGS Quadrangle and surrounding quadrangles resulted in four (4) recorded sightings of burrowing owls within the vicinity of the study area. The most recent occurrence was recorded in January 2006 at the northwest corner of the intersection of 40th Street West and Avenue K. One nesting pair was recorded using pipes for nesting; this occurrence is approximately two miles north of the study area. Additional observations were recorded on May and July 2006 at the intersections of 40th Street West/Lancaster Boulevard and 80th Street West/Avenue I respectively; several breeding pairs and juveniles were observed on both sites. These occurrences were all sighted in open natural environments consistent with optimal burrowing owl habitat, which differs from the habitat within the study area.

The study area is developed and surrounded by suburban development and supports mostly irrigated pastures for livestock and bare areas which are devoid of vegetation and used for equipment storage and other uses. The study area has been heavily impacted by continual use of the land as grazing fields, and for raising livestock and other ranch related activities. The plant communities within the study area were not characterized, although the southern boundary within the 500 foot (150 meter) buffer supports native vegetation and can be categorized as rabbitbrush scrub. Although the southern boundary of the study area supports native vegetation, it is also open to livestock for grazing. This area is heavily disturbed due to the continual use of the land as grazing fields, unpaved roads for ranch personnel to use and continual weed abatement and maintenance. A complete list of plant and animal species observed during the site visits is provided in Appendix B.

Since the study area is bordered by suburban development, this disconnects it from the nearby natural areas and creates a natural “island” isolating the study area. In addition, the study area does not support sufficient foraging or nesting areas as burrowing owls usually require a minimum foraging area of 1,800 feet (600 meters) from the nest location and a home range of 100 acres (Haley and Rosenberg, 2004). Based on the habitat assessment, it was concluded the habitat present within the study area is marginally suitable for burrowing owls, specifically the southern boundary of the study area.

Soils within the study area were mapped by the United States Department of Agriculture, Natural Resource Conservation Services as Hesperia fine sandy loam with 0 to 2 percent slopes and Ramona coarse sandy loam with 2 to 5 percent slopes. These particular soil types are considered structurally suitable for burrowing owl occupation.

Suitable soils are present and the topography and elevation is suitable for the burrowing owl. In addition, California ground squirrel (*Spermophilus beecheyi*) and other unidentified mammal burrows were observed within the study area, potentially suitable for burrowing owl use. From these findings it was determined a Phase II burrow survey was necessary.

3.2 Phase II Burrow Location Surveys

During the Phase II survey, nine potential burrows were observed within the project site and the southern portion of the study area measuring 5-8 inches in diameter. GPS points were taken at the potential burrows and the locations mapped on an aerial photograph of the study area (see Figure 2). The burrows within the 500 foot (150-meter) buffer survey area along the southern boundary of the study area were determined to have been used by California ground squirrels due to direct visual observations of several individuals utilizing the burrows throughout the Phase III surveys. The burrows within the project site along the eastern boundary may not be currently used by burrowing animals since no signs or animal tracks were observed; in addition, cobwebs and debris were covering the entrance to the burrows. The burrows located on the western boundary were observed to be in use by California ground squirrel (*Spermophilus beecheyi*). Appendix A contains photos of the burrows observed within the study area.

3.3 Phase III Burrowing Owl Surveys

During the Phase III surveys potential burrows were monitored from fixed points to allow sufficient direct visual time for each identified burrow, while minimizing potential disturbance to the burrowing animals. No burrowing owls or owl signs were observed during the four surveys. The surveys were conducted at the optimal breeding season for burrowing owls and during the surveys; no heavy rains or high winds were measured (see Table 1).

Table 1 – Field Survey Meteorological Data

Surveys	Date	Time of Survey	Sunrise and Sunset Times	Temperature Fahrenheit	Cloud Cover %	Wind Speed
Phase III Site Visit #1	7/3/07	6:45-7:00	Sunrise: 5:43 Sunset: 20:09	75-88	Clear with mild winds	5-10 mph
Phase III Site Visit #2	7/5/07	18:00-19:00	Sunrise: 5:44 Sunset: 20:09	98-110	Clear with mild winds	5-10 mph
Phase III Site Visit #3	7/6/07	6:00-6:30	Sunrise: 5:45 Sunset: 20:09	75-83	Clear with mild winds	5-10 mph
Phase III Site Visit #4	7/10/07	6:30-6:55	Sunrise: 5:47 Sunset: 20:08	75-83	Overcast with mild winds	5-10 mph

4.0 CONCLUSION AND RECOMMEDATIONS

The focused surveys for burrowing owls were conducted in accordance to CBOC guidelines and resulted in no observed burrowing owls or owl signs such as molted feathers, cast pellets, prey remains, eggshell fragments or excrement. The study area surveyed included the project site and the additional 500-foot (150 meter) buffer surrounding the project site. It was determined through the focused surveys that the project site and the southern portion within the 500 foot (150 meter) buffer of the study area supports marginal habitat for burrowing owls. The northern portion within the 500-foot (150 meter) buffer of the study area does not support suitable habitat for burrowing owls, given the area is developed, contains a concrete detention basin and the vacant parcel has been graded and under construction for a housing development.

The Phase I habitat assessment survey determined suitable but marginal habitat present within the project site and the southern boundary within the 500 foot (150 meters) buffer of the study area. Due to the project site being a working ranch, most of the study area is dominated with bare fields which are devoid of vegetation, and contain irrigated pastures and ruderal vegetation throughout. The Phase II survey observed potential burrows, which measured 5-8 inches in diameter along the western and eastern property fence line of the study area. The Phase III surveys did not observe burrowing owls or owl signs, such as white-wash, molted feathers or owl pellets near or within the vicinity of the burrows. Although burrowing owls were not present during the focused surveys, it is possible burrowing owls could colonize the site between the time of the July 2007 surveys and the proposed site development. A Phase III pre-construction survey is recommended within 30 days prior to ground-disturbing activities (pursuant to CDFG protocols) to ensure burrowing owls do not occur within construction areas.

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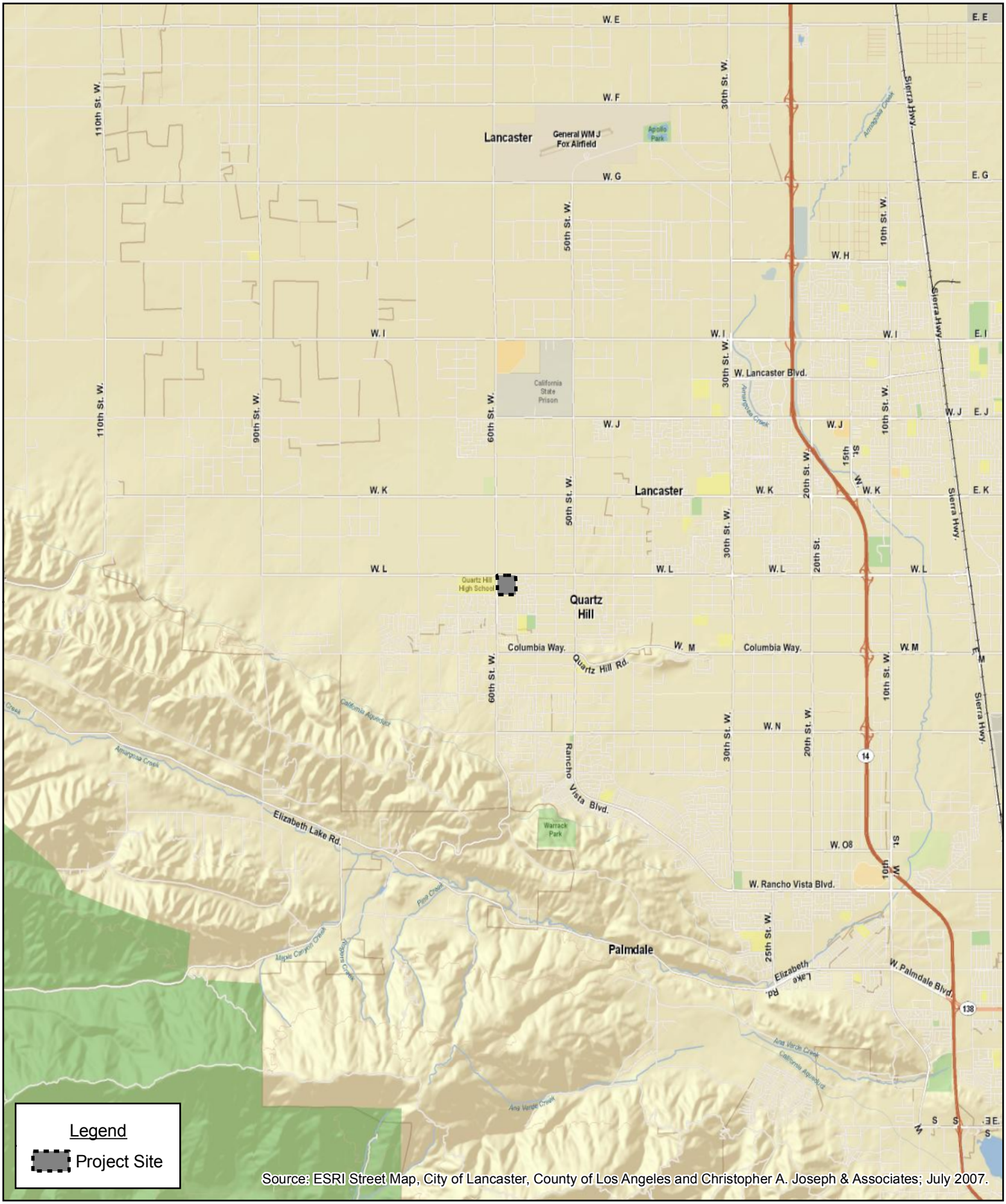
Figures



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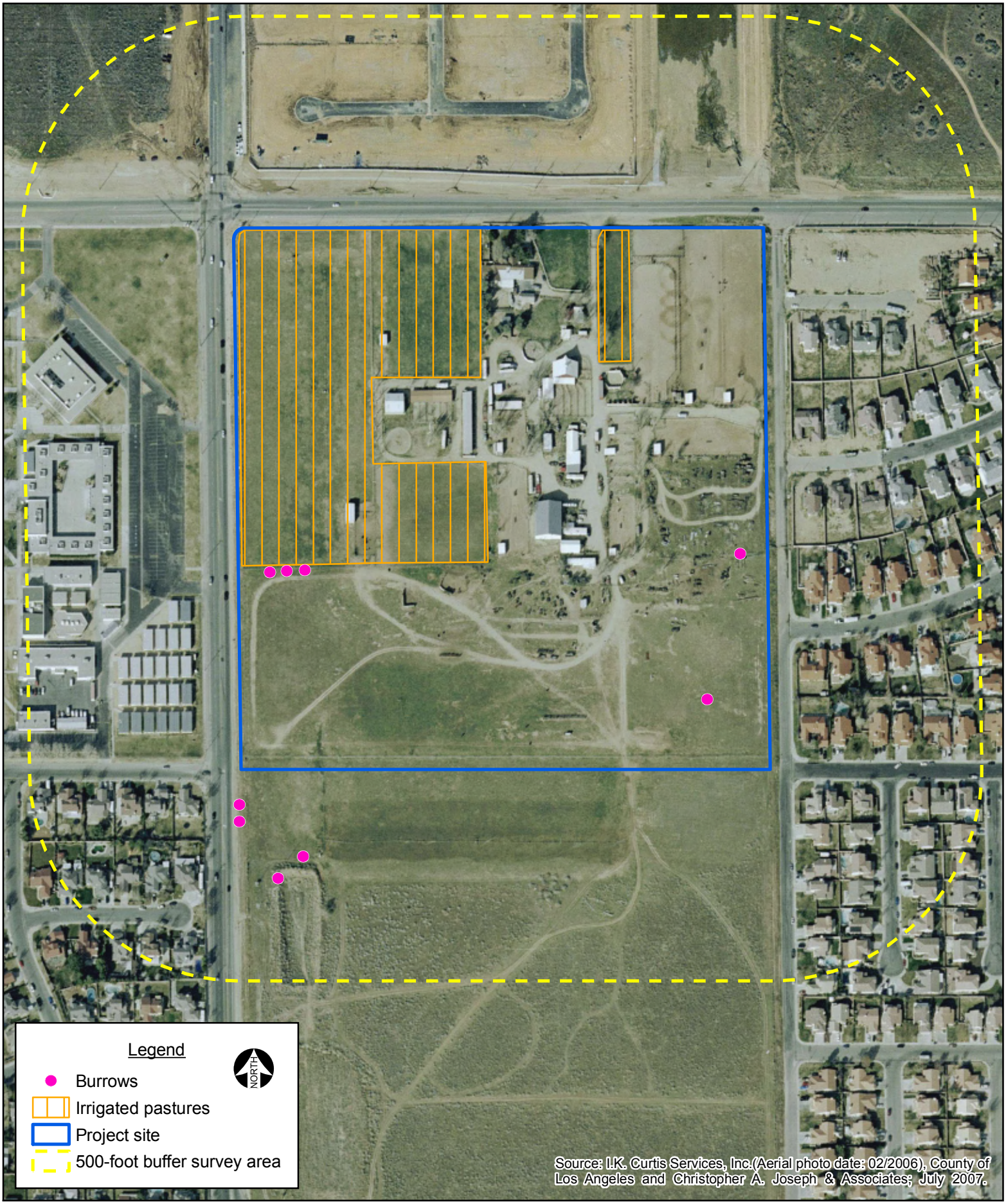
NORTH

0 0.5 1 1.5 2
Miles

Figure 1: Project Vicinity



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0 150 300 450 600
Feet

Figure 2: Potentially Suitable Burrow Locations

Appendix A: Project Site Photographs taken on June 20, 2007

Burrows Located along the western property fence line

Irrigated Pastures along the eastern and southern portions of the study area

Appendix B : Plant and Wildlife Species Observed

Common Name	Scientific Name
Birds	
Western scrub jay	*Aphelocoma californica*
Red-winged blackbird	*Agelaius phoeniceus*
Red-tailed hawk	*Buteo jamaicensis*
Hermit thrush	*Catharus guttatus*
Lark sparrow	*Chondestes grammacus*
Turkey vulture	*Cathartes aura*
Anna's hummingbird	*Calypte anna*
House finch	*Carpodacus mexicanus*
Rock dove	*Columba livia*
Common raven	*Corvus corax*
Yellow-rumped warbler	*Dendroica coronata*
Horned lark	*Eremophila alpestris*
Brewer's blackbird	*Euphagus cyanocephalus*
American kestrel	*Falco sparverius*
Hooded oriole	*Iceterus cucullatus*
Song sparrow	*Melospiza melodia*
Northern mockingbird	*Mimus polyglottos*
House Sparrow	*Passer domesticus*
Great-tailed grackle	*Quiscalus mexicanus*
Starling	*Sturnus vulgaris*
Black phoebe	*Sayornis saya*
Say's Phoebe	*Sayornis saya*
European starling	*Sturnus vulgaris*
Western Kingbird	*Tyrannus verticalis*
Mourning dove	*Zenaida macroura*
White-crowned sparrow	*Zonotrichia leucophrys*
Mammals	
White-tailed antelope squirrel	*Ammospermophilus leucurus*
Field mouse	*Peromyscus sp.*
California Ground Squirrel	*Spermophilus beecheyi*
Audubon's cottontail	*Sylvilagus audubonii*
Reptiles and Insects	
California harvester ant	*Pogonmyrmex californicus*
Side-blotched lizard	*Uta stansburiana*
Western fence lizard	*Sceloporus occidentalis*
Plants	
Ragweed	*Ambrosia sp*
Black mustard	*Brassica nigra*
Cheatgrass	*Bromus tectorum*
Goosefoot	*Chenopodium sp.*
Rabbitbrush	*Crysothamnus nauseosus*
Bermuda grass	*Cynodon dactylon*
Willow herb	*Epilobium sp.*

Common Name	**Scientific Name**
Cut leaved geranium	*Geranium dissectum*
Rye grass	*Lolium sp.*
Bird's Foot	*Lotus corniculatus*
English plantain	*Plantago lanceolata*
Common plantin	*Plantago major*
Cottonwood	*Populus sp.*
Knotweed	*Polygonum arenastrum*
Curly dock	*Rumex crispus*
Russian thistle	*Salsola tragus*
London rocket	*Sisymbrium irio*