Mr. Manuel Valencia
Paseo de Valencia
1253 Enterprise Court
Corona, CA 92882

July 21, 2009

Re: **MSHCP Biological Assessment for the Rancho Paseo de Valencia Project; TTM 34760 - Approximately 65 Acres in the City of Corona, Riverside County**

Dear Mr. Valencia

This document is an assessment of the potential for impact to sensitive biological resources resulting from the build out of the proposed Rancho Paseo de Valencia project. The proposed project (Project) (TTM 34760) is the construction of 34 single family residential homes on approximately 49.6 acres of a 64.9 acre property on the southwestern border of the City of Corona. The northeastern portion of the property lies within the city limits and is currently being used as an orchard. The southwestern portion is private property within the city sphere of influence just inside the boundaries of the Cleveland National Forest, is undeveloped, and naturally vegetated. The site is located in the southwestern quarter of Section 11 and the northwestern quarter of Section 14, Township 4 South and Range 7 West (San Bernardino Base and Meridian) (Figure 1). An approximately one acre private in-holding lies within the Project border and is not a part of the proposed project. Approximately 15.3 acres of the subject property will be left as open space (Figure 2). Land use in the proposed open space areas will not change from its current land use. Approximately 3 acres of the orchard will remain in the southeastern portion of the property and approximately 12 acres of the property along the western property border will remain naturally vegetated with a mix of chaparral, oak, and sycamore trees. An existing access road along the west side of the proposed project will be improved as part of the project to provide fire department access and marks the western edge of the proposed project. Entry to the subject property and proposed project is located at the south end of existing Malaga Street.

Regulatory Framework

In order for the proposed project to be approved it must first meet criteria set by the California Environmental Quality Act (CEQA). To receive CEQA approval, the project must demonstrate that it will not significantly impact sensitive biological resources as identified by State, Federal, and local resource agencies. If this is not possible, project proponents must provide mitigation in order to reduce the impact(s) to insignificance. Sensitive biological resources include rare, threatened, or endangered plants and animals and sensitive habitat types including, but not restricted to, riparian and wetland habitats. Additional sensitive resources include areas designated as Critical Habitat by the U.S. Fish and Wildlife Service (FWS) and wildlife movement or breeding areas used by native, resident, or migratory species. Projects must also show that they do not interfere with established local ordinances or policies protecting local biological resources or with the provisions of a local, regional, or state Habitat Conservation Plan or Natural Community Conservation Plan. The City of Corona is the Lead Agency for

this project and is responsible for reviewing the proposed project for CEQA compliance before granting project approval.

The Project site lies within the borders of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) and the proposed project must comply with MSHCP requirements to receive clearance. The MSHCP is the element of the Riverside County Integrated Plan (RCIP) which outlines the regulations dealing with development of sensitive biological resources within western Riverside County. The City of Corona is a signatory to the MSHCP.

In addition to complying with the MSHCP, there are various other biological resource issues that must be complied with in order to meet CEQA approval. These include an assessment for potential project impacts to Army Corps of Engineers and/or California Department of Fish and Game jurisdictional waters, drainages, wetlands, and other sensitive habitat types. Additionally, the project must comply with the Migratory Bird Treaty Act and other federal, state, and local regulations.

Methods

Riverside County approved biologist Michael Misenhelter initially conducted a survey of the project site on May 18, 2006 for the purpose of preparing the initial version of this report. In addition, Mr. Misenhelter has visited the site on March 28, March 30, April 4, April 6, April 9, and April 16, 2007 while conducting a jurisdictional delineation of the site; and on April 29, May 9, May 21, June 5, June 16, June 26, July 6 and July 16, 2009 while conducting a least Bell's vireo (*Vireo bellii pusillus*) survey of the project site. Observations made during these site visits are all incorporated into this report. During the initial site visit, the entire project area was closely examined during a walking survey that followed the dirt roads that wind across the site. Densely vegetated areas were viewed from nearby vantage points. Freely available online aerial photographs from the USGS and Riverside County were examined prior to and during the site visits and during report preparation. Maps, including the 7.5' USGS Corona South quad and Riverside County Flood Control maps were also examined. Habitat types and species observed during the visit were noted and photographs were taken of typical site conditions. Weather conditions during the site visits was suitable for making direct observations of site conditions. Cloud cover ranged from completely overcast to clear. Temperatures ranged from cool to warm. A list of all animal and plant species observed during the site visits is included with this report (Table 3).

A subsequent field visit was made on July 18, 2009 with Karen Kirtland of Natural Resources Assessment, Inc. to conduct focused evaluation of the drainages on site. The field team looked at all the channel areas of the property, surveying the length of each channel where accessible. They also evaluated the plant communities of the channels within the property limits and outside the property when possible.

Site Description

The subject property is an approximately 65 acre site made up of three parcels (APN 114-040-019, 114-040-020, & 275-100-003) on the southwestern edge of the City of Corona (Figure 1). Approximately 35 acres of the site is an active orchard consisting mostly of avocado and lemon trees (Figure 3). The orchard has existed since about

1989 (Pers. Comm. Manuel Valencia, Project Proponent/Owner). The balance of the subject property is private property located in the Cleveland National Forest and is vegetated primarily by dense chaparral with elements of coastal sage scrub vegetation (approximately 16.8 acres of which lies within the Project boundary). The southwestern corner of the property overlaps an old olive grove (Figure 3) and several small abandoned outbuildings exist there among the olive trees (*Olea europea*) and scrub. No sign of recent agricultural activity was observed in the olive tree area. Apart from the olive trees, vegetation in this portion of the site is a mix of chaparral and coastal scrub with annual grassland species dominating a disturbed area at the southern end of a dirt access road running along the western side of the Project site.

The subject property is surrounded mostly by undeveloped properties vegetated with chaparral (Figures 2 & 3). A single-family residential neighborhood lies north of the property across and adjacent to the opposite side of a narrow basin/park catching run off from the site and directing it into a debris basin to the northwest. Another debris basin lies to the northeast of the subject property. A small occupied rural residential property lies just off site at the south end of the existing western access road. A small 0.9 acre rural residential property lies within the western portion of the project footprint but is not a part (NAP) of the Project (APN 275-100-004).

Soils on the subject property are mapped by the USDA as consisting primarily of Cieneba sandy loam (see attached USDA soil survey report). A small amount of Perkins gravelly loam and Garretson gravelly very fine sandy loam are mapped along the northern property border. (Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/ accessed [May/20/2009])

Table 1. Habitat Acreage Values (acres)

	Property	Project	Open Space	NAP
Orchard/Grove	35.0	31.8	3.2	-
Chaparral	26.7	16.8	9.9	0.9
Old Olive Orchard	1.3	0.3	1.0	-
Annual Grassland	0.3	0.2	0.1	-
Riparian Vegetation	0.1	0.1	-	-
Pre-Basin	1.0	-	1.0	-
Landscaped Entry	0.4	0.4	-	-
TOTAL	64.8	49.6	15.2	0.9

The project site lies in a mountainous region of Corona, on the northeastern slopes of the Santa Ana Mountains. The natural topography in this area consists of well-defined ridges and folds (Figure 1). Elevation on the property ranges from approximately 1,250 to 1,600 feet above mean sea level.

Six drainages cross the Project site (Figure 3) and were delineated as part of this assessment (Misenhelter, M. Jurisdictional Delineation for TTM34760 in the City of Corona, Riverside County, California. May 27, 2009). All of these drainages appear to be intermittent (seasonal drainages that convey water only after precipitation events) but also convey orchard irrigation runoff.

Vegetation on site is dominated by two vegetative types (Figure 3). The orchard portion of the site is planted with a dense layer of avocado and lemon trees with an understory covered by a thick layer of leaves. Annual grasses (*Bromus madritensis rubens*, *Bromus hordaceus*, *Festuca myuros*, and *Hordeum murale*) and forbs (*Sonchus asper*, *S. oleraceous*, *Malva parviflora*, *Chenopodium* sp., *Conyza canadensis*, *Galium aparine*, *Melilotus indica*, and *Hirschfeldia incana*) grow along the edges of the orchard access roads. Remnants of an old olive orchard (*Olea europea*) exist in the southwestern portion of the site. The undeveloped scrub portion of the property is vegetated with a mix of mostly dense chaparral and coastal sage scrub species including toyon (*Heteromeles arbutifolia*), laurel sumac (*Malosma laurina*), bush monkeyflower (*Mimulus aurantiacus*), bush penstemon (*Keckiella antirrhinoides*), black sage (*Salvia mellifera*), California sagebrush (*Artemisia californica*), scrub oak (*Quercus berberidifolia*), and a few coast live oak trees (*Q. agrifolia*).

The main drainage crossing the property crosses the western side of the property but does not lie within the Project footprint. It is the only blueline drainage on the subject property (Figure 1). This drainage appears to be an intermittent drainage with no sign of recent flow. All of the drainages on site drain into either of two cleared flood debris basins adjacent to the property to the northwest and northeast.

Vegetation associated with all seven drainages is primarily either chaparral or orchard dominated vegetation (Figure 3). Riparian vegetation, consisting of mule fat (*Baccharis salicifolia*) and willows (*Salix gooddingii & S. lasiolepis*) was observed in three of these drainages. Scattered coast live oak (*Quercus agrifolia*) and sycamore (*Platanus racemosa*) trees also occur within the blue-line drainage. Small scattered patches of mule fat exist along the blue-line drainage and one large patch exists in the lower portion just before the drainage leaves the subject property and enters the debris basin off-site to the northwest. This large patch of mule fat is mixed with sage scrub (dominated by *Artemisia californica*) with chaparral growing on the banks of the drainage. Old pvc pipes cris-cross this area suggesting that it was irrigated at one time.

Within the project footprint, the drainages are vegetated with the same species of grasses and forbs described above plus rabbit's foot grass (*Polypogon monspeliensis*) and Mexican sprangletop (*Leptochloa uninervia*) in areas of excessive run-off. A single large black willow (*Salix gooddingii*) exists where the central drainage enters the orchard from the adjacent chaparral (Figure 3). A small flood control feature installed

here for orchard maintenance has provided a place for water to settle providing ground water for the willow tree and a small patch of mule fat. An arroyo willow (*Salix lasiolepis*) is located on the eastern property border where the eastern most of the drainages leaves the site. A small woodland of arroyo and black willows exists here adjacent to the site.

Animal life observed on site was dominated by bird species including California towhee (*Pipilo crisalis*), spotted towhee (*P. maculatus*), lesser goldfinch (*Carduelis psaltria*), and wrentit (*Chamaea fasciata*). A complete list of the plants and animals observed on site is included in the attached species list (Table 3).

RESULTS

SPECIES ACCOUNTS AND MSHCP ASSESSMENT

Western Riverside County Multiple Species Habitat Conservation Plan

A review of the RCIP Conservation Summary Report Generator and MSHCP maps show that the subject property is located within the Temescal Canyon MSHCP Area Plan. The site is not located in or adjacent to a MSHCP criteria area/cell. The property is located within an MSHCP survey area for the burrowing owl (*Athene cunicularia*) but not within a prescribed survey area for other criteria or narrow endemic species of interest under the MSHCP. However, all MSHCP assessments must also include an assessment for the presence of suitable habitat for listed riparian/riverine (least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo) and vernal pool species (Riverside fairy shrimp, Santa Rosa fairy shrimp, and vernal pool fairy shrimp).

Burrowing Owl (*Athene cunicularia*)

Federal Status: **None**
State Status: **Species of Concern**

The burrowing owl is a small brown owl that lives and nests in burrows in the ground made by other animals (typically ground squirrels) but will also use suitable manmade structures (such as small culverts or rock piles) as burrows. Primary habitat requirements for the burrowing owl in California are active ground squirrel colonies with large open grasslands for foraging (Trulio, Fall 1978 in Environmental Monitor). Burrowing owls are known to occur in shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial open areas as year-long residents (Haug, *et al*. 1993, In The Birds of North America, No. 130).

Threats to the burrowing owl include conversion of grassland to agriculture, habitat destruction, predators, collisions with vehicles, and pesticides/poisoning of ground squirrels (Grinnell and Miller, 1944, in The Distribution of the Birds of California; Zarn, 1974, in Burrowing Owl Report #11, BLM; Remsen, 1978, in Bird Species of Special Concern in California, CDFG). The loss of burrowing mammal colonies (due to rodenticides or other means) and the crushing of burrows by heavy equipment and ground maintenance machinery remain problematic.

Suitable habitat for the burrowing owl does not exist on site. There are no open, sparsely vegetated areas on site. Therefore, the proposed Project is expected to have no impacts on the burrowing owl or burrowing owl habitat. No mitigation is required.

Riparian/Riverine Habitat

An assessment of the site was made for the presence of drainages with riparian and riverine value. Riparian vegetation in the form of mule fat and willow trees occurs along the course of two of the drainages in the Project footprint (Figure 3) (referred to as the central and eastern drainages). Riparian vegetation also exists in two places off of but adjacent to the project site. One of these places is in the blueline drainage adjacent to the site to the west and the other is in the eastern most drainage after it leaves the site. The Project will not impact the blueline drainage. Impacts to the riparian vegetation off site to the east will be minimal due to a slight decrease in the amount of water that leaves the site through the eastern drainage. The riparian vegetation associated with the central and eastern drainages appears to be a result of irrigation runoff from the orchard.

Under the proposed project, the riparian vegetation associated with the central drainage (approximately 0.07 acres) would be completely removed. The onsite riparian vegetation associated with the eastern drainage would be removed (approximately 0.05 acres) for the construction of a flood control drain (rip-rap) but the bulk of the vegetation in that drainage (approximately 0.2 acres) is adjacent to the site and will not be removed.

The riverine value of a drainage is dependent on the contribution that the onsite drainage provides to off-site riparian habitat. Under this definition, only one (the eastern drainage) of the drainages on site has potential riverine value. The eastern drainage feeds directly into a small (approximately 0.2 acres) willow woodland adjacent to the Project site before draining into the debris basin off site to the northeast. Current plans are to channel the existing drainage but any natural flow and irrigation runoff in this drainage would continue to be available downstream.

Flow currently leaving the site through any of the drainages is largely runoff from on-site irrigation of the orchard. Elimination of irrigation runoff with the removal of the orchard will most likely greatly reduce the flow off site. However, orchard runoff into the eastern drainage will not be greatly reduced since that portion of the orchard will be left untouched as open space. Project engineers have calculated that the Project impact to flow leaving the site in this drainage during a 100 year flood event would be an approximately 8.3% reduction in flow (Armstrong and Brooks Consulting Engineers). Flow under non-flood conditions is expected to be similarly affected. No other runoff from the completed Project will be directed into this drainage under Project plans.

In review: The potential for Project impacts to Riparian/Riverine issues exists on site for two small areas of riparian vegetation and off site to a small riparian woodland adjacent to the eastern Project border. These impacts are minimal and will not be significant as long as it is determined that these areas are not used by covered species such as the least Bell's vireo (see Riparian Avian Species below). The impact to the riverine value of the eastern most drainage will not be significant as long as irrigation runoff is allowed to continue draining off site as currently planned. Project impacts to Riparian/Riverine function is therefore not expected to be significant. The only covered species potentially impacted by the Project is the least Bell's vireo. No vireo's were detected during the

vireo survey and the Project is therefore not expected to impact covered species (Misenhelter, M. *2009 Least Bell's Vireo Survey of the Rancho Valencia Project – TTM34760*. July 2009).

Riparian Avian Species
Least Bell's vireo (*Vireo bellii pusillus*) (vireo), southwestern willow flycatcher (*Empidonax traillii extimus*) (flycatcher), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) are avian species of concern in the MSHCP and all proposed projects must be evaluated for potential impacts to them. All three require riparian habitat and are found in areas of riparian scrub (least Bell's vireo), moderately large riparian woodlands (southwestern willow fly-catcher), and perennial rivers with mature riparian forest (western yellow-billed cuckoo). The only species for which suitable habitat exists on the property is the least Bells vireo. Marginally suitable habitat exists for the vireo in the thicker patches of mule fat along the blue line stream, at the mule fat scrub and willow tree in the center of the site, and in the willow woodland on and off site to the east. This woodland habitat is too small to be of use by the flycatcher. The probability of the vireo occurring there is low to moderate.

A USFWS protocol least Bell's vireo survey was conducted during the 2009 survey season and no Vireos were detected. (Misenhelter, M. 2009 *Least Bell's Vireo Survey of the Rancho Valencia Project – TTM34760*. July 2009) The Project will not impact the least Bell's vireo. No mitigation is required.

Fairy Shrimp
Fairy shrimp are associated with vernal pool habitats and common species of fairy shrimp are found in water filled depressions throughout the region. Because their cysts (eggs) get carried around on the legs of birds and mammals as they move from one wet spot to another they are easily spread. The listed species are typically found in vernal pools under specialized conditions not found in the large majority of pools and ponds that develop after periods of rain. The listed species in our area (vernal pool fairy shrimp, Riverside fairy shrimp, and Santa Rosa Plateau fairy shrimp) are found in pools that form on Murrieta stony clay loams, Las Posas soils, Wyman clay loams, Willows soils, and on basalt bedrock.

Suitable habitat for these species does not exist on site. Sign of vernal pools (shallow depressions or pools of water with vernal pool plant species) was not observed on site during the site visits and are not expected to occur on site. The soils mapped for the project vicinity (see Site Description above) are not associated with vernal pools and vernal pools are not known to occur in the site vicinity. Therefore, the Project will not impact listed fairy shrimp or fairy shrimp habitat. No mitigation is required.

Criteria Area and Conservation Lands
(Urban/Wildlands Interface Guidelines)
The proposed project does not exist within or adjacent to an MSHCP Criteria Area. However, the southeastern portion of the property is located adjacent to the Cleveland National Forest and care must be taken to avoid impacts to national forest lands as they are considered to be conserved lands under the MSHCP. Plans to develop the property to the east include a provision to set aside as open space the area between that project

site and the Rancho Paseo de Valencia site. Project plans include the establishment of open space along the west side of the Project footprint and in the southeast corner adjacent to the National Forest. Open space areas are also considered to be conserved lands under the MSHCP

Riverside County has prepared seven general project guidelines (Urban/Wildlands Interface Guidelines) for proposed projects located within 1,000 feet of Public/Quasi-Public conserved lands in order to minimize indirect impacts to conserved resources (Western Riverside County MSHCP Section 6.1.4). The entire Project lies within 1,000 feet of the National Forest or open space areas (Figure 4). Therefore, the entire Project should adhere to the County guidelines.

The seven guidelines for projects located near conserved lands are as follows:

1. Drainages. The proposed development shall incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged to conserved lands (including the riparian habitat in the open space area east of the Project) is not altered in an adverse way when compared with existing conditions.

2. Toxics. Adequate and appropriate measures to control chemicals or bioproducts that are potentially toxic or may adversely affect wildlife species, habitat or water quality shall be developed to avoid impacting adjacent conserved areas. Such measures shall include but are not limited to:

a. Avoidance of aerial application on days with winds exceeding two miles per hour.
b. Containment of all pollutants on the project site.
c. All pollutants and runoff will be conveyed offsite and disposed off according to standard procedures.
d. Any spillage into conserved areas shall be immediately cleaned up.
e. Permanent adequate control measures for manure and similar pollutants resulting from human use of the site will be incorporated into the requirements for the development of such facilities as horse stables, pesticide and insecticide storage facilities and landscaping sheds.

3. Lighting. Night lighting shall be directed away and toward the ground from conserved lands to protect species within the conserved land from direct night lighting. Shielding shall be incorporated in project designs to ensure ambient lighting in the conserved land is not increased.

4. Noise. Proposed noise generating land uses affecting the conserved lands shall incorporate setbacks, berms or walls to minimize the effects of noise on conserved lands pursuant to applicable rules, regulations and guidelines related to land use noise standards. Wildlife within the conserved lands should not be subject to noise that would exceed residential noise standards.

5. Invasive Species. Landscaping plans shall avoid use of all invasive, non-native species listed in Table 2 below (taken from *Table 6-2* of the MSHCP). No plants producing windblown seed will be used in the landscape palette. Other species listed in the table may be used provided adequate barriers to plant and seed dispersal exist, such as walls, topography and other features.

6. Barriers. Proposed land uses adjacent to the conserved lands shall incorporate barriers to prohibit and/or minimize unauthorized public access, domestic animal predation, illegal trespass and dumping of trash, landscaping material and other non-native items in the conserved land. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage and/or other appropriate mechanisms.

7. Grading. Manufactured slopes associated with proposed site development shall not extend into Conservation Areas. Dust and runoff resulting from the creation of manufactured slopes will be controlled to avoid conserved lands.

Table 2. List of invasive, non-native plant species to avoid.

BOTANICAL NAME	**COMMON NAME**
Acacia spp. (all species)	acacia
Achillea millefolium	var. *millefolium* common yarrow
Ailanthus altissima	tree of heaven
Aptenia cordifolia	red apple
Arctotheca calendula	cape weed
Arctotis spp. (all species & hybrids)	African daisy
Arundo donax	giant reed or arundo grass
Asphodelus fistulosus	asphodel
Atriplex glauca	white saltbush
Atriplex semibaccata	Australian saltbush
Carex spp. (all species*)	sedge
Carpobrotus chilensis	ice plant
Carpobrotus edulis	sea fig
Centranthus ruber	red valerian
Chrysanthemum coronarium	annual chrysanthemum

Table 2. List of invasive, non-native plant species to avoid.

BOTANICAL NAME	COMMON NAME
Cistus ladanifer	(incl. hybrids/varieties) gum rockrose
Cortaderia jubata [*syn.C. Atacamensis*]	jubata grass, pampas grass
Cortaderia dioica [syn. *C. sellowana*]	pampas grass
Cotoneaster spp. (all species)	cotoneaster
Cynodon dactylon	(incl. hybrids varieties) Bermuda grass
Cyperus spp. (all species*)	nutsedge, umbrella plant
Cytisus spp. (all species)	broom
Delosperma 'Alba'	white trailing ice plant
Dimorphotheca spp. (all species)	African daisy, Cape marigold
Drosanthemum floribundum	rosea ice plant
Drosanthemum hispidum	purple ice plant
Eichhornia crassipes	water hyacinth
Elaegnus angustifolia	Russian olive
Eucalyptus spp. (all species)	eucalyptus or gum tree
Eupatorium coelestinum [syn. Ageratina sp.]	mist flower
Festuca arundinacea	tall fescue
Festuca rubra	creeping red fescue
Foeniculum vulgare	sweet fennel
Fraxinus uhdei	(and cultivars) evergreen ash, shamel ash
Gaura (spp.) (all species)	gaura
Gazania spp. (all species & hybrids)	gazania
Genista spp. (all species)	broom
Hedera canariensis	Algerian ivy
Hedera helix	English ivy
Hypericum spp. (all species)	St. John's Wort

Table 2. List of invasive, non-native plant species to avoid.

BOTANICAL NAME	COMMON NAME
Ipomoea acuminata	Mexican morning glory
Lampranthus spectabilis	trailing ice plant
Lantana camara	common garden lantana
Lantana montevidensis [syn. *L. sellowiana*]	lantana
Limonium perezii	sea lavender
Linaria bipartita	toadflax
Lolium multiflorum	Italian ryegrass
Lolium perenne	perennial ryegrass
Lonicera japonica	(incl. 'Halliana') Japanese honeysuckle
Lotus corniculatus	birdsfoot trefoil
Lupinus arboreus	yellow bush lupine
Lupinus texanus	Texas blue bonnets
Malephora crocea	ice plant
Malephora luteola	ice plant
Mesembryanthemum nodiflorum	little ice plant
Myoporum laetum	myoporum
Myoporum pacificum	shiny myoproum
Myoporum parvifolium	(incl. 'Prostratum') ground cover myoporum
Oenothera berlandieri	Mexican evening primrose
Olea europea	European olive tree
Opuntia ficus-indica	Indian fig
Osteospermum spp. (all species)	trailing African daisy, African daisy,
Oxalis pes-caprae	Bermuda buttercup
Parkinsonia aculeata	Mexican palo verde
Pennisetum clandestinum	Kikuyu grass

Table 2. List of invasive, non-native plant species to avoid.	
BOTANICAL NAME	**COMMON NAME**
Pennisetum setaceum	fountain grass
Phoenix canariensis	Canary Island date palm
Phoenix dactylifera	date palm
Plumbago auriculata	cape plumbago
Polygonum spp. (all species)	knotweed
Populus nigra 'italica	' Lombardy poplar
Prosopis spp. (all species*)	mesquite
Ricinus communis	castorbean
Robinia pseudoacacia	black locust
Rubus procerus	Himalayan blackberry
Sapium sebiferum	Chinese tallow tree
Saponaria officinalis	bouncing bet, soapwart
Schinus molle	Peruvian pepper tree, California pepper
Schinus terebinthifolius	Brazilian pepper tree
Spartium junceum	Spanish broom
Tamarix spp. (all species)	tamarisk, salt cedar
Trifolium tragiferum	strawberry clover
Tropaelolum majus	garden nasturtium
Ulex europaeus	prickly broom
Vinca major	periwinkle
Yucca gloriosa	Spanish dagger

Stephens' Kangaroo Rat (*Dipodomys stephensii*)

The County of Riverside created a specific Habitat Conservation Plan in 1996 to help preserve Stephens' kangaroo rat (SKR) a species listed as endangered by the U.S. Fish and Wildlife Service in 1988. Aa part of the plan, the County designated a Stephens' Kangaroo Rat Fee Area within which all development projects would pay a fee for mitigation for impacts to Stephens' kangaroo rat throughout the western portion of the

county. The proposed project site is not located within the fee area. Payment of the SKR fee is not required.

Nesting Birds

Under the Migratory Bird Treaty Act (MBTA) nearly all birds are protected from harassment and take. The MBTA makes it illegal to "pursue, hunt, take, capture, or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not." California Department of Fish and Game regulations provide State protection for native birds of prey (FGC Section 3503.5) and all non-game birds (FGC Section 3800). For development projects, these rules are typically focused on avoiding the disturbance of nesting birds in order to avoid the loss of eggs or young in the nest.

Compliance with these laws is usually accomplished by either avoiding grubbing/vegetation removal during the period in which these species nest (approximately February through August) or by conducting nest surveys prior to habitat disturbance if such work begins during the breeding season in order to determine if nesting birds are present.

Abundant nesting habitat for passerines exists on site in the trees of the orchard and in the chaparral scrub. Potential raptor nesting habitat exists in the taller olive, oak, willow, and sycamore trees. A survey for nesting birds should be conducted prior to site disturbance (vegetation removal) if site disturbance is scheduled to begin any time from February through August. All work within 300 feet of an active non-raptor nest or 500 feet of a raptor nest will be halted until that nesting effort is finished. Work can resume when no other active nests are found.

Jurisdictional Assessment

The Army Corps of Engineers (Corps) is tasked with maintaining clean water in Waters of the U.S. Six drainages cross the proposed project area and leave the site draining into debris basins adjacent to the site (Figure 3). Under current regulations, drainages showing an ordinary high water mark (evidence of regular flow) that are tributary (connected) to Corps jurisdictional waters downstream are considered to also fall under the jurisdiction of the Corps. The connection to jurisdictional drainages must be clear and significant.

The California Department of Fish and Game (Department) regulates the fill and alteration of streambeds in the State in order to prevent the loss of associated wildlife habitat. Department jurisdiction extends to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state. Individuals, groups, and/or agencies must notify the Department before beginning any activity that will do one or more of the following:

1. Substantially divert or obstruct the natural flow of any river, stream or lake.
2. Substantially change or use any material from the bed, channel, or bank of any river, stream, or lake.
3. Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

Field Findings

All of the channels found on site, both within the orchard and in the chaparral habitat area lack true bed and banks. The bed and banks observed are completely artificial and are clearly intended to convey excess runoff from the citrus orchard. Inspections of the uphill portions of these artificial channels show the dry folds representative of this topography, and clearly definable bed and banks are not present.

The channels or folds found on the native habitat portions of the property typically convey water during rain events, but are otherwise dry and generally do not support riparian plant species

The eastern channel proposed for preservation in the open space currently supports a stand of willows and mulefat along portions of its length (Figure 3). However, the section of the channel above the orchard limit shows the typical dry fold, with no definable bed and banks and supporting only chaparral habitat.

From the narrow fold found on at the uphill side of the orchard, the proposed open space channel is wider, and probably has been widened and flattened for citriculture purposes. However, the widening of the channel may be more natural than appears. It is possible that there may have historically been riparian plant species along this section of the channel, but that cannot now be established.

A few of the other channels support individuals of riparian species such as mulefat (*Baccharis salicifolia*) and cattails (*Typha* sp.) but none of these other channels support substantial stands of these or other riparian species. It is clear that the riparian species present in these channels have grown solely in response to the artificial presence of water from orchard irrigation, and would disappear if the orchard were abandoned. Vegetation in the lower portions of the drainages in the orchard is much more dense where runoff irrigation water from the upper portions of the orchard has inundated the soil. These conditions were not observed in drainages in the naturally vegetated portions of the property or in natural drainages observed off site.

The channel located just outside the property line to the west lies in a well defined wash. This channel supports individual western sycamore (*Platanus racemosa*) and California walnut (*Juglans californica*) trees that appear to have persisted over time. The presence of these trees might indicate a high water table and therefore may represent a native stand of riparian habitat. However, even the finding of “native stand” is questionable given the past history of the site and the lack of riparian habitat upstream and on adjacent properties.

All of the channels drain into a debris basin that was constructed in the past to hold runoff. The debris basin has an outlet structure to allow for the draining of floodwaters that exceed the basin’s capacity, but otherwise retains local flows.

There is no significant nexus to the Santa Ana River. Because all flows are stopped by the debris basin, any material in the flows is also stopped by the basin, and would only reach the Santa Ana River during extreme flood events that overwhelmed the basin and all subsequent catchments downstream. In our professional judgment, none of the channels come under the jurisdiction of the Corps.

It is also our judgment that none of the channels on site would fall under the jurisdiction of the CDFG due to a lack of bed and banks. Only the off-site channel would meet that definition.

The western open space drainage will not be impacted by the Project. The Project is not expected to significantly impact the natural flow of any drainages (see Riparian/Riverine Habitat above). A USFWS protocol least Bell's vireo survey of these drainages in 2009 found no Vireos on site. Because of the absence of any listed species on site, there will not be any substantial Project impacts to wildlife resources on site associated with the drainages.

Designated Critical Habitat

The US Fish and Wildlife Service designates critical habitat for many of the species that have been listed by the federal government. Designated Critical Habitat exists in the region for the California gnatcatcher, least Bell's vireo, Quino checkerspot butterfly, and others. Projects located within Designated Critical Habitat that have a federal nexus (usually through funding or permitting) need to consult with the US Fish and Wildlife Service prior to site development.

The Project site does not lie within Designated Critical Habitat. The southwestern parcel of the subject property (APN 275-100-003) is located within "Excluded Essential Habitat." These are lands that would have been designated as Critical Habitat if the Service had not determined that the Western Riverside County MSHCP provided adequate protection. Designated Critical Habitat for the coastal California gnatcatcher exists adjacent to the subject property in the Cleveland National Forest but this has no legal implications for the Project.

No impacts to Designated Critical Habitat will occur as a result of the proposed Project.

Determination of Biologically Equivalent or Superior Preservation

Projects approved under the Western Riverside County MSHCP guidelines must prepare a Determination of Biologically Equivalent or Superior Preservation (DBESP) if the Project cannot avoid impacts to Riparian/Riverine, vernal pool, fairy shrimp habitat, and/or habitat for County identified narrow endemic plants. A DBESP is undertaken to ensure replacement of any lost functions and values of habitat as it relates to covered species. A small amount of minimally suitable riparian habitat for the least Bell's vireo was identified on and adjacent to the Project site but no Vireos were detected during a focused survey (see **Riparian Avian Species** above). The Project will not impact covered species.

However, the MSHCP does not cover man-made habitat. It is our professional opinion that the willows observed on and adjacent to the site are the result of irrigation runoff in the orchard. Runoff from the pumps and drip irrigation enter the natural drainages via erosional features and settle in flat areas where riparian vegetation can develop in the inundated soils. To corroborate this observation, no similar habitat was observed in naturally vegetated drainages upstream from the property and adjacent to the property in drainages not connected to the site. Earlier surveys recorded less of this incidental growth than is currently present.

We believe the willow habitat observed on and adjacent to the site would eventually cease to exist if irrigation to the orchard were cut off. Ironically, it is likely that this is exactly what would happen if the proposed Project were not approved. There is no guarantee that the orchard would continue to be maintained even if the Project did not go forward. Financial pressures make it unlikely that the orchard could be maintained and the current level of runoff from irrigation would end.

If the Project is approved, the small amount of willow habitat within the Project footprint would be removed but the willow woodland off site in the eastern drainage would persist because of continued irrigation in the portion of the orchard preserved as Open Space.

It is our professional judgment that a DBESP is not needed for this Project because the riparian habitat present is man-made and would eventually die off without the existing irrigation runoff.

CONCLUSIONS

An assessment was made of the potential impacts to sensitive biological resources resulting from development of the subject property.

- Impacts to general biological resources on site are not significant: mitigation is not necessary.

- Impacts to the burrowing owl, least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, vernal pool fairy shrimp, Riverside fairy shrimp, and Santa Rosa Plateau fairy shrimp are non-existent and therefore not significant: no mitigation is required.

- Impacts to conserved lands are possible due to the presence of the Cleveland National Forest and open space conserved lands adjacent to the Project site. No MSHCP conserved lands exist on or near the Project site. Mitigation for potential impacts to public/quasi-public conserved lands should follow those outlined above under **Criteria Area and Conservation Lands** for drainages, toxics, lighting, noise, invasive species, barriers, and grading.

- The site does not lie within the County Stephens Kangaroo Rat fee area and payment of the SKR fee is not required.

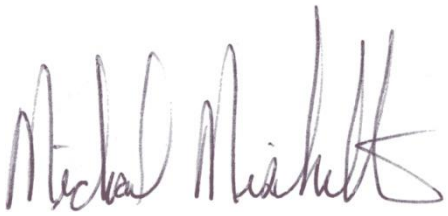
- Impacts to nesting birds is potentially significant: mitigation for impacts to nesting birds should follow that outline above under **Nesting Birds**. Mitigation should either avoid vegetation/nesting habitat removal during the nesting season (February through August) or conduct nesting surveys to determine if any nesting is occurring first.

- Impacts to Corps and Department of Fish and Game jurisdictional drainages do not exist: no mitigation is required.

- Impacts to Designated Critical Habitat do not exist: mitigation is not required.

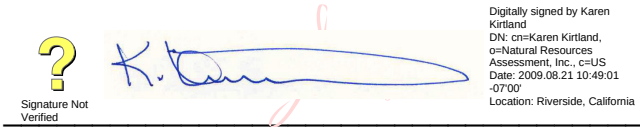
- The riparian/riverine value of the drainages on site is a result of orchard irrigation runoff and is not natural: a DBESP is not required.

"*CERTIFICATION*: *I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.*"



21 August 2009

DATE: SIGNED: Michael Misenhelter
Principal Report Author
Principal Biologist



21 August 2009

DATE: SIGNED: Karen Kirtland
Natural Resources Assessment, Inc.
Report Coauthor

attachment: species list, site photos, and maps

Table 3. Species Observed On Site	
Scientific Name	**Common Name**
PLANTS	
Amaranthaceae	**Amaranth Family**
*Amaranthus albus**	White tumbleweed
Anacardiaceae	**Sumac Family**
Malosma laurina	Laurel sumac
Rhus ovata	Sugar bush
*Schinus molle**	Peruvian pepper tree
Toxicodendron diversilobum	Western poison oak
Apiaceae	**Carrot Family**
*Foeniculum vulgare**	Fennel
Asteraceae	**Aster Family**
Artemisia californica	California sagebrush
Artemisia douglasiana	Mugwort
Baccharis salicifolia	Mule fat
*Centaurea melitensis**	Tocalote
*Cnicus benedictus**	Blessed thistle
Conyza canadensis	Horseweed
Encelia californica	Encelia
Eriophyllum confertiflorum	Golden-yarrow
Gnaphalium californicum	California everlasting
Gnaphalium canescens beneolens	White everlasting
Helianthus gracilentus	Slender sunflower
*Lactuca serriola**	Prickly lettuce
*Senecio vulgaris**	None
*Sonchus asper**	Prickly sow thistle
*Sonchus oleraceus**	Common sow thistle
Brassicaceae	**Mustard Family**
*Brassica tournefortii**	Sahara mustard
Hirschfeldia incana (Brassica geniculata)*	Short-pod mustard
*Raphanus sativus**	Wild radish
*Sisymbrium irio**	London rocket
*Sisymbrium orientale**	Mustard weed
Caprifoliaceae	**Honeysuckle Family**
Lonicera subspicata	Honeysuckle
Sambucus mexicana	Blue elderberry
Caryophyllaceae	**Carnation (Pink) Family**
Spergularia marine	Sand-spurrey
Chenopodiaceae	**Goosefoot Family**
Chenopodium sp.	Goosefoot
Convolvulaceae	**Morning-glory Family**
Calystegia macrostegia	Finger-leaf morning-glory
Cucurbitaceae	**Gourd Family**
Cucurbita palmata	Coyote melon
Marah macrocarpus	Wild cucumber
Fabaceae	**Pea Family**
Lotus scoparius	Desert deerweed
Lotus strigosis	Lotus
Lupinus truncatus	Chaparral lupine

Table 3. Species Observed On Site	
Scientific Name	**Common Name**
*Medicago polymorpha**	California burclover
*Melilotus indica**	Sour clover
*Spartium junceum**	Spanish broom
*Vicia villosa**	Winter vetch
Fagaceae	**Oak Family**
Quercus agrifolia	Coast live oak
Quercus berberidifolia	Scrub oak
Geraniaceae	**Geranium Family**
*Erodium cicutarium**	Red-stemmed filaree
Grossulariaceae	**Gooseberry Family**
Ribes californicum?	Hillside gooseberry
Ribes indecorum?	White-flowering currant
Hydrophyllaceae	**Waterleaf Family**
Eriodictyon trichocalyx	Yerba santa
Eucrypta chrysanthemifolia	None
Juglandaceae	**Walnut Family**
Juglans californica	California black walnut
Lamiaceae	**Mint Family**
*Marrubium vulgare**	Horehound
Salvia mellifera	Black sage
Liliaceae	**Lily Family**
Yucca whipplei	Our Lord's candle
Malvaceae	**Mallow Family**
*Malva parviflora**	Cheeseweed
Moraceae	**Mulberry Family**
*Ficus carica**	Edible fig
Oleaceae	**Olive Family**
*Olea europea**	Olive tree
Onagraceae	**Evening Primrose Family**
Camissonia bistorta	California sun cup
Camissonia californica	Mustard-like evening prim rose
Camissonia hirtella	None
Platanaceae	**Sycamore Family**
Platanus racemosa	Western sycamore
Poaceae	**Grass Family**
*Avena barbata**	Slender wild oats
*Avena fatua**	Wild oats
*Bromus diandrus**	Common ripgutgrass
*Bromus hordeaceus**	Soft chess
*Bromus madritensis rubens**	Foxtail chess
Festuca myuros	Foxtail fescue
*Hordeum murinum**	Mouse barley
Leptochloa uninervia	Mexican sprangle-top
Leymus condensatus	Giant wild ryegrass
*Phalaris minor**	None
*Polypogon monspeliensis**	Rabbit's foot grass
*Schismus barbatus**	Mediterranean schismus
Polygonaceae	**Buckwheat Family**

Table 3. Species Observed On Site	
Scientific Name	**Common Name**
Eriogonum fasciculatum	California buckwheat
Portulacaceae	**Purslane Family**
Claytonia perfoliata	Miner's lettuce
Primulaceaeae	**Primrose Family**
*Anagallis arvensis**	Scarlet pimpernel
Rhamnaceae	**Buckthorn Family**
Rhamnus ilicifolia	Holly-leaf redberry
Rosaceae	**Rose Family**
Adenostoma fasciculatum	Chamise
Heteromeles arbutifolia	Toyon
Rubiaceae	**Madder Family**
Galium aparine	Goose grass
Rutaceae	**Citrus Family**
*Citrus limon**	Lemon tree
Salicaceae	**Willow Family**
Salix gooddingii	Goodding's black willow
Salix lasiolepis	Arroyo willow
Scrophulariaceae	**Figwort Family**
Keckiella antirrhinoides	Bush penstemon
Mimulus aurantiacus	Bush monkeyflower
Solanaceae	**Nightshade Family**
*Nicotiana glauca**	Tree tobacco
Solanum douglasii	White nightshade
Solanum xanti	Purple nightshade
Tamaricaceae	**Tamarisk Salt cedar Family**
*Tamarisk spp.**	Salt cedar spp.
Typhaceae	**Cattail Family**
Typha sp.	Cattails sp.
ARTHRPODS	
Anthophoridae	**Digger Bee Family**
Xylocopa varipuncta	Valley carpenter bee
Apidae	**Bee Family**
*Apis mellifera**	Honey bee
Bombus sonorus	Sonoran bumble bee
Bombus vosnesenskii	Yellow-faced bumble bee
Coccinellidae	**Ladybird Beetle Family**
Adalia bipunctata	Two-spotted ladybird beetle
Hippodamia convergens	Convergent ladybird beetle
Hesperiidae	**Skipper (butterfly) Family**
Pyrgus albescens	Western checkered skipper
Lycaenidae	**Blue and Hairstreak Butterfly Family**
Strymon melinus	Common hairstreak
Mutillidae	**Velvet Ant Family**
Dasymutilla sp.	Velvet ant
Papilionidae	**Swallowtail Butterfly Family**
Papillio eurymedon	Pale swallowtail
Papillio rutulus	Western tiger swallowtail

Table 3. Species Observed On Site	
Scientific Name	**Common Name**
Pieridae	**White and Sulfur Butterfly Family**
Anthocaris sara	Sara orange-tip
*Artogeia rapae**	Cabbage butterfly
Pontia protodice	Common white
Sphecidae	**Thread-waisted Wasp Family**
Chalybion californiccum	Blue mud wasp
REPTILES	
Phrynosomatidae	**none**
Sceloporus occidentalis	Western Fence Lizard
Uta stansburiana	Side-blotched Lizard
Colubridae	**Colubrids**
Pituophis melanoleucus	Gopher Snake
BIRDS	
Cathartidae	**New World Vultures**
Cathartes aura	Turkey Vulture
Accipitriidae	**Hawks, Old World Vultures, and Harriers**
Accipiter cooperi	Cooper's Hawk
Buteo jamaicensis	Red-tailed Hawk
Odontophoridae	**New World Quail**
Callipepla californica	California Quail
Columbidae	**Pigeons and Doves**
Zenaida macroura	Mourning Dove
Cuculidae	**Typical Cuckoos**
Geococcyx californianus	Greater Roadrunner
Trochilidae	**Hummingbirds**
Archilochus alexandri	Black-chinned Hummingbird
Calypte anna	Anna's Hummingbird
Calypte costae	Costa's Hummingbird
Selasphorus sasin	Allen's Hummingbird
Selasphorus spp.	Unidentified selasphorus hummingbird
Picidae	**Woodpeckers and Wrynecks**
Picoides nuttallii	Nuttall's Woodpecker
Tyrannidae	**Tyrant Flycatchers**
Empidonax difficilis	Pacific-Slope Flycatcher
Sayornis nigricans	Black Phoebe
Myiarchus cinerascens	Ash-throated Flycatcher
Vireonidae	**Typical Vireos**
Vireo gilvus	Warbling Vireo
Corvidae	**Jays, Magpies, and Crows**
Aphelocoma californica	Western Scrub-Jay
Corvus corax	Common Raven
Hirundinidae	**Swallows**
Stelgidopteryx serripennis	Northern Rough-winged Swallow
Aegithalidae	**Bushtit**
Psaltriparus minimus	Bushtit
Troglodytidae	**Wrens**

Table 3. Species Observed On Site	
Scientific Name	**Common Name**
Thryomanes bewickii	Bewick's Wren
Troglodytes aedon	House Wren
Sylviidae	**Old World Warblers**
Polioptila caerulea	Blue-gray Gnatcatcher
Timaliidae	**Babblers**
Chamaea fasciata	Wrentit
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	Northern Mockingbird
Toxostoma redivivum	California Thrasher
Ptilogonatidae	**Silky Flycatchers**
Phainopepla nitens	Phainopepla
Parulidae	**Wood Warblers and relatives**
Wilsonia pusilla	Wilson's Warbler
Icteria virens	Yellow-breasted Chat
Thraupidae	**Tanagers**
Piranga ludoviciana	Western Tanager
Emberizidae	**Emberizines**
Pipilo maculatus	Spotted Towhee
Pipilo crissalis	California Towhee
Spizella atrogularis	Black-chinned Sparrow
Melospiza melodia	Song Sparrow
Cardinalidae	**Cardinals, Grosbeaks & Allies**
Pheucticus melanocephalus	Black-headed Grosbeak
Icteridae	**Blackbirds, Orioles & Allies**
Molothrus ater	Brown-headed Cowbird
Icterus cucullatus	Hooded Oriole
Fringillidae	**Finches**
Carpodacus mexicanus	House Finch
Carduelis psaltria	Lesser Goldfinch
MAMMALS	
Leporidae	**Rabbits and Hares**
Sylvilagus audubonii	Audubon's Desert Cottontail
Sciuridae	**Squirrels, Chipmunks, and Marmots**
Spermophilus beecheyi	California Ground Squirrel
Canidae	**Foxes, Wolves, and relatives**
Canis latrans	Coyote
Cervidae	**Deer, Elk, and relatives**
Odocoileus hemionus	Mule Deer

*non-native or introduced species

SITE PHOTOS

This photo was taken looking toward the northeastern corner of the property from one of the orchard access roads. Orchard trees are visible in the foreground and the mid distance to the right. The debris basin adjacent to the northeastern corner of the property is visible as the cleared area in the background.

Photo taken from one of the orchard access roads looking toward the southeastern corner of the property with orchard trees in the foreground and chaparral in the background. This part of the orchard will be preserved as open space.

Photo taken from the high spot of the property looking to the north. Natural scrub vegetation is visible in the foreground, the orchard in the mid-distance, and homes in the City of Corona in the back.

Photo taken from the same place as the previous photo but looking to the northwest near the City border. Chaparral vegetation is seen on the left and orchard trees on the right.

This photo shows the willow tree in the "central" drainage. This willow and the one in the following photo are the only ones to be removed for the project. This willow is located on the edge of the orchard. A citrus tree is visible on the left side of the road and chaparral scrub on the right side.

This photo was taken looking south along the existing eastern access road. The eastern property border lies a few feet to the left of the road. The willow tree at the edge of the left side of the road will likely be removed for construction of the rip-rap portion the "eastern" drainage where it leaves the site. The proposed open space portion of the orchard is visible in the gap between the willow on the left and lemon trees on the right.

Photo looking south along the existing western access road where that road passes through the old olive orchard.

Photo looking south along the western access road showing the oaks and sycamores next to it in the blueline drainage (on the right side of the picture). The road provides access to the existing home within the borders of the property. The top of the house is just visible to the right of the telephone pole on the left side of the picture. The area to the right of the road will be left as open space.

MAPS

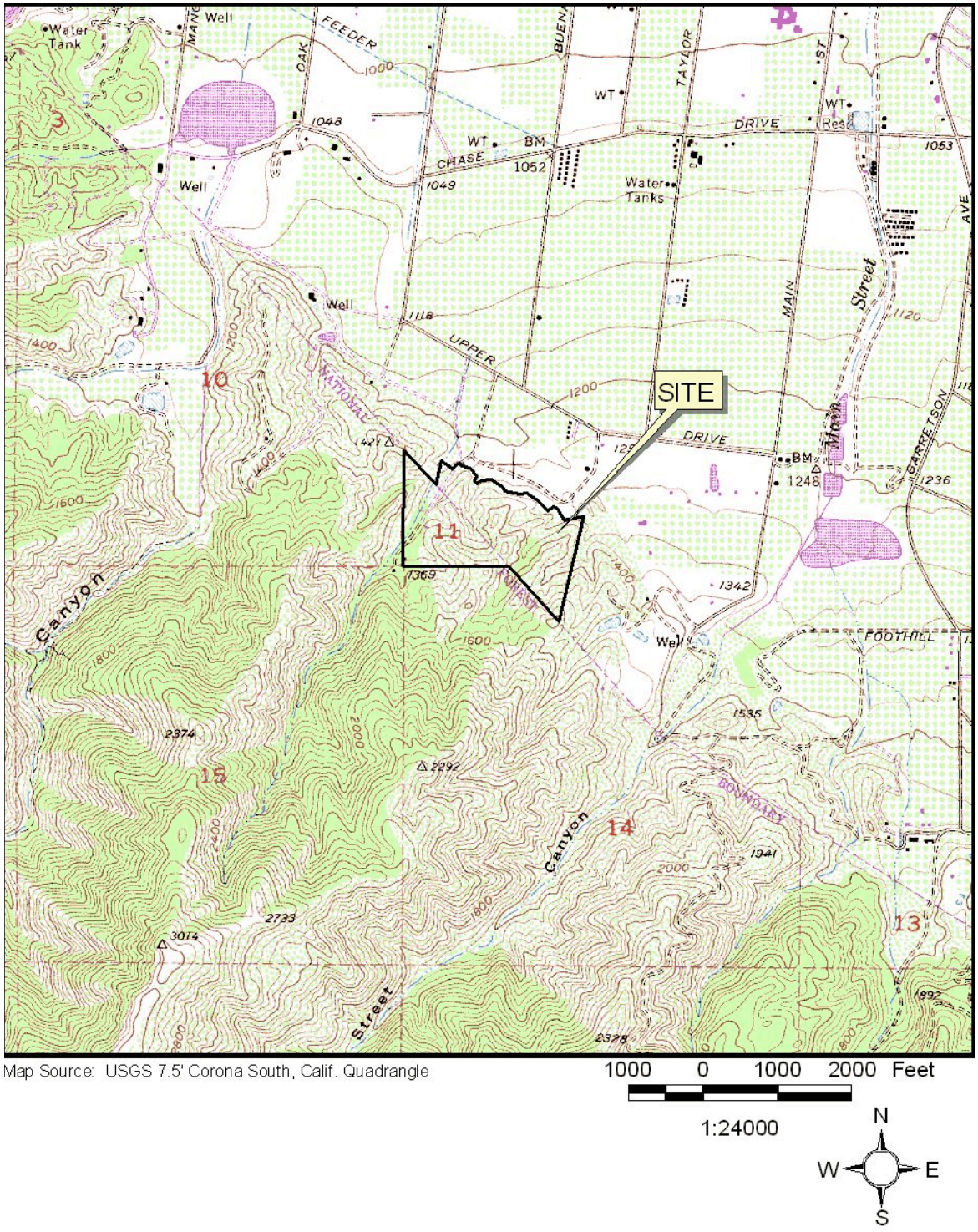
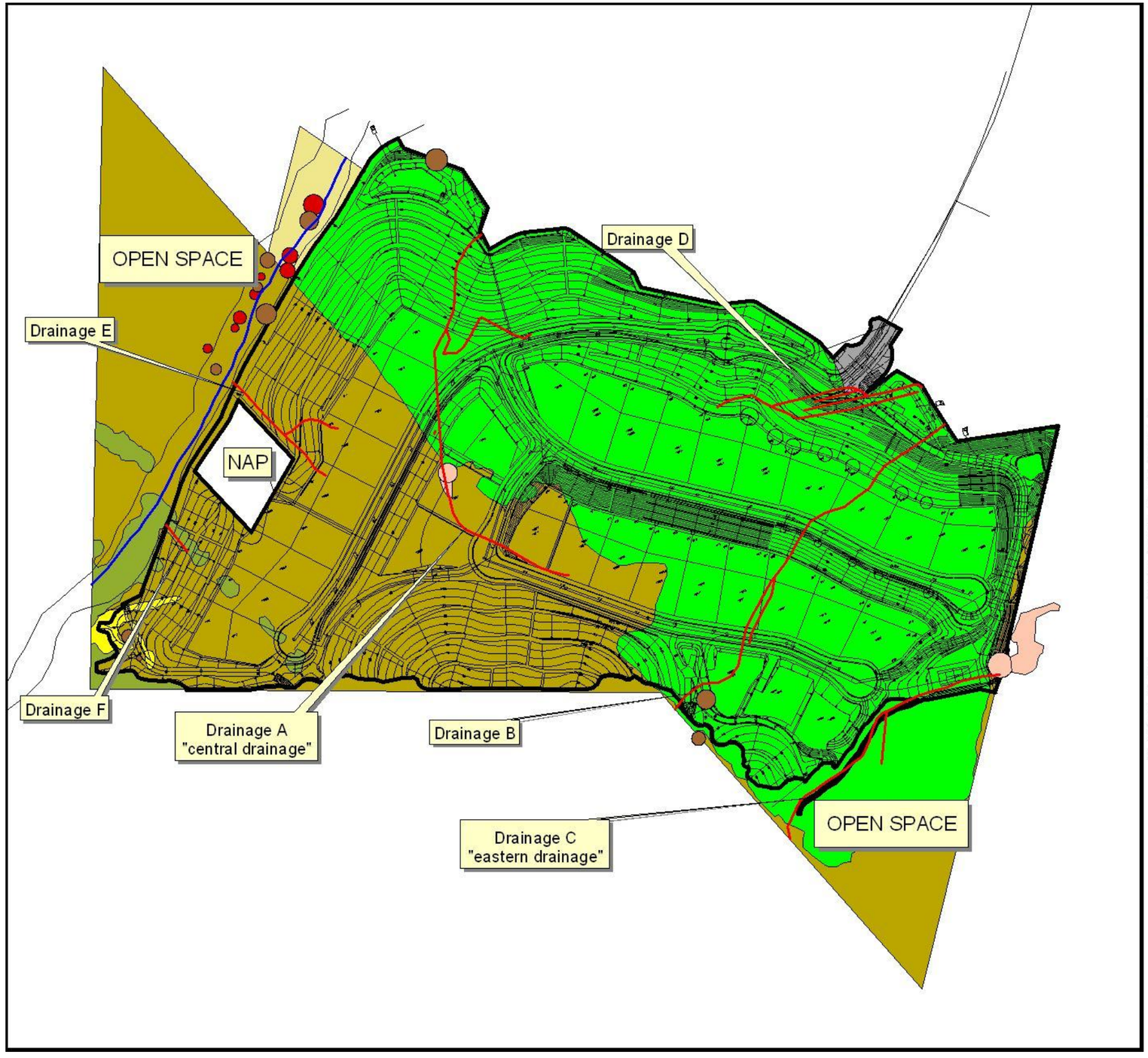


Figure 1. Site Location

Project Acreages
Project ---------- 49.6 acres
Open Space -------- 15.3 acres
NAP (not a part) ----0.9 acres

Figure 2. Proposed Project



blue line drain
delineated drainages
project footprint
TTM34760
NAP
chaparral
entry way - landscape plants
grassland
existing lemon/avocado orchard
old olive orchard
pre-basin
riparian vegetation
oak
sycamore
willow

Project Habitat Acreages
Chaparral = 16.8 acres (9.9 in open space area)
Project Entry = 0.4 acres
Grassland = 0.2 acres (0.1 in open space)
Avocado/Citrus Orchard = 31.8 acres (3.2 in open space)
Old Olive Grove = 0.3 acres (1.6 in open space area)
Pre-Basin = 1.0 acres in open space area
Riparian Vegetation = 0.1 acres
NAP = 0.9 acres: not a part of project (single family residence on property vegetated with chaparral and ornamental plants)

Habitat map showing the distribution of habitat types, mature trees, and drainages on site. The site is vegetatively divided into two portions. The northeastern portion of the site is dominated by a citrus grove and the southwestern portion is dominated by a mix of chaparral and coastal sage scrub vegetation dominated by chaparral.

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Figure 3. Habitat Map
Tentative Tract Map: Armstrong & Brooks

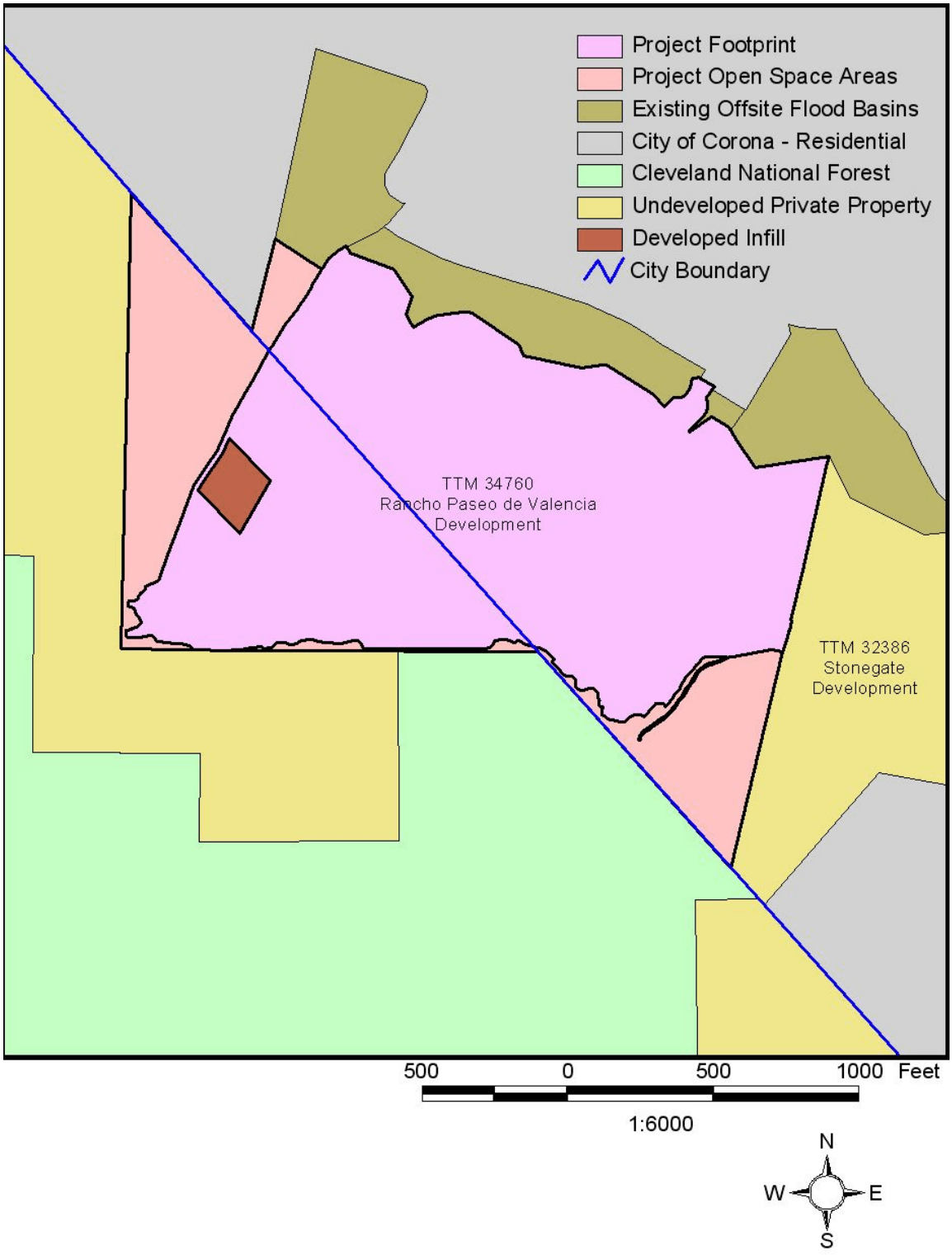

Figure 4. Site Vicinity Existing and Proposed Land Uses