BIOLOGICAL RESOURCES ASSESSMENT

THE DIAMOND SPECIFIC PLAN

LAKE ELSINORE, CALIFORNIA

PCR

June 15, 2009
(Updated November 17, 2009)

BIOLOGICAL RESOURCES ASSESSMENT

The Diamond Specific Plan
Lake Elsinore, California

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Biological Resources Assessment

The Diamond Specific Plan
City of Lake Elsinore, Riverside County, California
(APNs: 363-150-006; 363-161-012, -029, -030, -031, -032, -033, -034, -035, -037; 365-280-022; 371-030-035; 373-210-014, -016, -019, -020, -021, -023, -026, -027, -030, -037, -038, -039, -040, -041, -042, and -043)

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Report Date:
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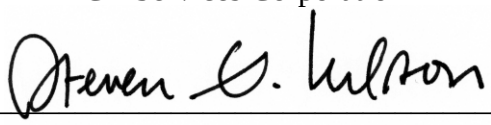
The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a biological resources assessment for the above-referenced project.

PCR Services Corporation



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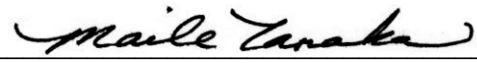

Maile Tanaka, Biologist

June 15, 2009 (Updated November 17, 2009)

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EXECUTIVE SUMMARY

BACKGROUND

JIC-CP Diamond Development, LLC (Applicant) is requesting administrative and discretionary approval from the City of Lake Elsinore for The Diamond Specific Plan (the "study area"), which will contain a mix of commercial, educational, entertainment, and residential uses that reflect the objectives of the General Plan's Ballpark District. The approximately 87-acre study area is located east and west of Diamond Drive, to the south of Lakeshore Drive and to the west of Mission Trail.

SCOPE AND METHODOLOGY

The scope of this assessment includes a description of all methods employed, survey results, and documentation of existing biological resources within the study area, as well as the determination of potential impacts associated with the proposed project for the purpose of complying with the California Environmental Quality Act (CEQA). Methods of study include a review of relevant literature, field surveys, and an impact analysis. This report is consistent with accepted scientific and technical standards and the requirements of the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). While general biological resources are discussed in a summary manner, the focus of this assessment is those resources considered to be sensitive.

EXISTING CONDITIONS

The approximately 87-acre study area is located east of Lake Elsinore. Currently, the study area consists of a developed commercial area within the northern portion, Lake Elsinore Diamond Stadium and a paved parking lot in the southern central portion, and vacant lots throughout the remainder of the study area. The vacant lots within the study area are primarily comprised of disturbed and ruderal areas. The western boundary of the study area also includes barren (lakebed) and tamarisk/willow scrub communities. The study area supports two small, ephemeral drainage features and a portion of one small, intermittent drainage feature which total 933.5 linear feet of streambed, 0.03 acre of U.S. Army Corps of Engineers (ACOE) and Regional Water Quality Control Board (RWQCB) jurisdictional "waters of the U.S."/"waters of the State," of which 0.02 acre is wetland, 0.03 acre of RWQCB jurisdictional non-wetland "waters of the State," and 0.44 acre of CDFG jurisdictional streambed. An additional 1.50 acres lies within the

ACOE jurisdictional Lake Elsinore elevation boundary and 11.00 acres lies within the CDFG jurisdictional Lake Elsinore elevation boundary.

In addition, nine seasonal ponds were identified during wet season presence/absence surveys which were conducted for fairy shrimp (*Branchinecta* spp. and *Streptocephalus* spp.); however, these seasonal ponds were not determined to be ACOE, CDFG, or RWQCB jurisdictional due to their ephemeral nature, lack of any channelized flows, and lack of a bed and bank. In addition, due to the lack of wetland or vernal pool soils, and because no listed fairy shrimp were found within any of the seasonal ponds, the seasonal ponds do not meet the parameters to qualify as MSHCP-regulated vernal pools and thus, are not jurisdictional under the MSHCP.

The study area is located within the Elsinore Area Plan of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Portions of the study area are located within the MSHCP Criteria Cells 4743 and 4846 (within Subunit 3 - Elsinore), Criteria Species Survey Area, Burrowing Owl Survey Area, and Narrow Endemic Plant Species (NEPS) Survey Area 2. The study area is also located within the East Lake Specific Plan (ELSP) with the exception of the northernmost portion of the study area, which is completely developed active commercial area. A small portion of the study area is located within the 770-acre ELSP Preservation Areas for the Back Basin (at the San Jacinto River's outlet into Lake Elsinore); however, the proposed project was designed to completely avoid the Preservation Areas. The western boundary of the study area lies within the Proposed Extension of Existing Core 3 of the MSHCP. In addition, a small portion of the northwesternmost corner of the study area, which currently exists as a commercial development, lies within Proposed Linkage 8 of the MSHCP. Proposed Linkage 8 follows the San Jacinto River, which is immediately adjacent to the west of the study area. The study area supports a total of 1.84 acres of Riparian/Riverine habitat as defined under the MSHCP.

Two sensitive plant species were observed within the study area, smooth tarplant (*Hemizonia pungens* ssp. *laevis*) and little mousetail (*Myosurus minimus* ssp. *apus*). Sensitive plant surveys were conducted in May and July 2009.

In addition, suitable habitat for several sensitive wildlife species was identified during the habitat assessment. Therefore, focused wet season surveys for the three federally-listed fairy shrimp species [vernal pool fairy shrimp (*Branchinecta lynchi*), Riverside fairy shrimp (*Streptocephalus woottoni*), and the San Diego fairy shrimp (*Branchinecta sandiegonensis*)] were conducted from December 2008 to March 2009 and a dry season survey was conducted in June 2009 following the end of the wet season survey. No sensitive fairy shrimp species were found on-site during the focused wet season survey, nor during the dry season survey. Cysts of the genus *Branchinecta* were found from those cysts collected during the dry season survey. However, due to the large number of the common versatile fairy shrimp (*Branchinecta lindahli*)

which were found during the wet season surveys, and due to the well-documented known distribution of the vernal pool fairy shrimp which does not occur within the vicinity of the study area, no vernal pool fairy shrimp are expected to occur on-site.

Focused surveys were also conducted for burrowing owl (*Athene cunicularia*) in March 2009 due to the presence of suitable habitat. No burrowing owls were found on-site during the focused surveys.

IMPACTS

The proposed project assumes impacts over the majority of the study area; however, the following will be avoided: barren (lakebed) community within Lake Elsinore; the tamarisk/willow scrub community within the San Jacinto River outlet to the lake, with the exception of 0.0058 acre (1.4 percent of the 0.4 acre on-site); an area along the western boundary of the study area which encompasses a portion of the densest areas of smooth tarplant (*Hemizonia pungens* ssp. *laevis*) on-site and will be used as a mitigation area; and the existing stadium.

Implementation of the proposed project would result in permanent impacts to approximately 838.5 linear feet of streambed, 0.02 acre of ACOE/RWQCB jurisdictional wetlands, 0.03 acre of RWQCB jurisdictional non-wetland "waters of the State," 0.33 acre of CDFG jurisdictional streambed, and an additional 11.00 acres of non-riparian CDFG jurisdictional lies within the CDFG Lake Elsinore elevation boundary. No ACOE jurisdictional elevation will be impacted. These impacts total 0.33 acre of Riparian/Riverine areas on-site.

The study area has the potential to support nesting birds protected by the Migratory Bird Treaty Act (MBTA) and State Fish and Game Code, Section 3503. Impacts to active nests are potentially significant.

MITIGATION

With the implementation of the appropriate mitigation measures, the proposed project will be consistent with the provisions provided for in the MSHCP. Because impacts will occur to Riparian/Riverine habitat, smooth tarplant, and little mousetail, a Determination of Biologically Equivalent or Superior Preservation (DBESP) shall be prepared to address proper mitigation to ensure the replacement of any lost functions and values. Upon approval of the DBESP, impacts to Riparian/Riverine habitat, smooth tarplant, and little mousetail would ensure the proposed project is consistent with the Goals and Objectives of the MSHCP.

Because smooth tarplant is a Riparian/Riverine and Criteria Area Species, the MSHCP requires that 90 percent of those portions of the property that provide for long-term conservation value for the identified species shall be avoided or, if the 90 percent threshold cannot be met, a DBESP is required. Approximately 680 individual smooth tarplant plants (5.6 percent) covering 0.08 acre will be avoided of the 1.46 acres which occur on-site. An additional 0.83 acre of smooth tarplant will be translocated on-site along the western boundary of the study area, contiguous to the existing populations of smooth tarplant which currently exist on-site. In addition, approximately 1.12 acres of smooth tarplant will also be translocated off-site along the western boundary of the study area.

Because little mousetail is a Criteria Area Species, the MSHCP requires that 90 percent of those portions of the property that provide for long-term conservation value for the identified species shall be avoided or, if the 90 percent threshold cannot be met, a DBESP is required. Mitigation for impacts to little mousetail will include one or more of the following measures:

- Off-site transplantation of individual plants to a site where suitable habitat conditions exist.
- On-site mitigation through translocation by collected seed and topsoil inoculum.
- Off-site mitigation through translocation by collected seed and topsoil inoculum.
- Payment into an agency-approved off-site mitigation bank or an in-lieu fee agreement.
- Off-site purchase and set aside (either in-kind or out-of-kind).

Impacts to jurisdictional features will be subject to the regulations set forth by the ACOE, RWQCB, and CDFG. The ACOE, RWQCB, and CDFG will require the project proponent to explore alternatives to reduce impacts and will require mitigation for all unavoidable impacts. Mitigation for impacts will include one or more of the following measures:

- Off-site replacement of ACOE and RWQCB "waters of the U.S." and"waters of the State" at no less than a 1:1 replacement to impact ratio, or as required by the agency. Off-site replacement will include the purchase of mitigation credits at an agency-approved off-site mitigation bank or payment into an in-lieu fee agreement (i.e., San Jacinto River invasive removal project through Santa Ana Watershed Authority).
- Off-site replacement of ACOE and RWQCB wetland at no less than a 1:1 replacement to impact ratio, or as required by the agency. Off-site replacement will include the purchase of mitigation credits at an agency-approved off-site mitigation

bank or payment into an in-lieu fee agreement (i.e., Barry Jones Wetland Mitigation Bank).

- Off-site replacement of CDFG streambed and associated riparian habitat at no less than a 1:1 replacement to impact ratio, or as required by the agency. Off-site replacement will include the purchase of mitigation credits at an agency-approved off-site mitigation bank or payment into an in-lieu fee agreement (i.e., San Jacinto River invasive removal project through Santa Ana Watershed Authority).

Mitigation for impacts to nesting birds shall include (1) Vegetation removal activities will be scheduled outside the nesting season (September 1 to February 14) to avoid potential impacts to nesting birds. This will ensure that no active nests will be disturbed and that habitat removal could proceed rapidly. (2) Any construction activities that occur during the nesting season (February 15 to August 31) will require that all suitable habitat be thoroughly surveyed for the presence of nesting birds by a qualified biologist before commencement of clearing. If any active nests are detected, a buffer of at least 300 feet (500 feet for raptors) will be delineated, flagged, and avoided until the nesting cycle is complete as determined by the biological monitor to minimize impacts.

To address impacts to sensitive plants and Riparian/Riverine areas, a DBESP document will be prepared and submitted for approval as required under Section 6.1.2, Riparian/Riverine and Vernal Pools and Section 6.3.2, Additional Survey Needs and Procedures policies of the MSHCP. Any unavoidable impacts to sensitive plants and/or Riparian/Riverine shall be mitigated such that the lost functions and values are replaced to an equivalent or superior value than what is being impacted.

UNAVOIDABLE SIGNIFICANT ADVERSE IMPACTS

The proposed project, inclusive of all mitigation measures, mitigates all significant impacts to sensitive plant species, sensitive wildlife species, jurisdictional features, Riparian/Riverine areas, nesting birds, and MSHCP species to a level of less than significant.

1.0 INTRODUCTION

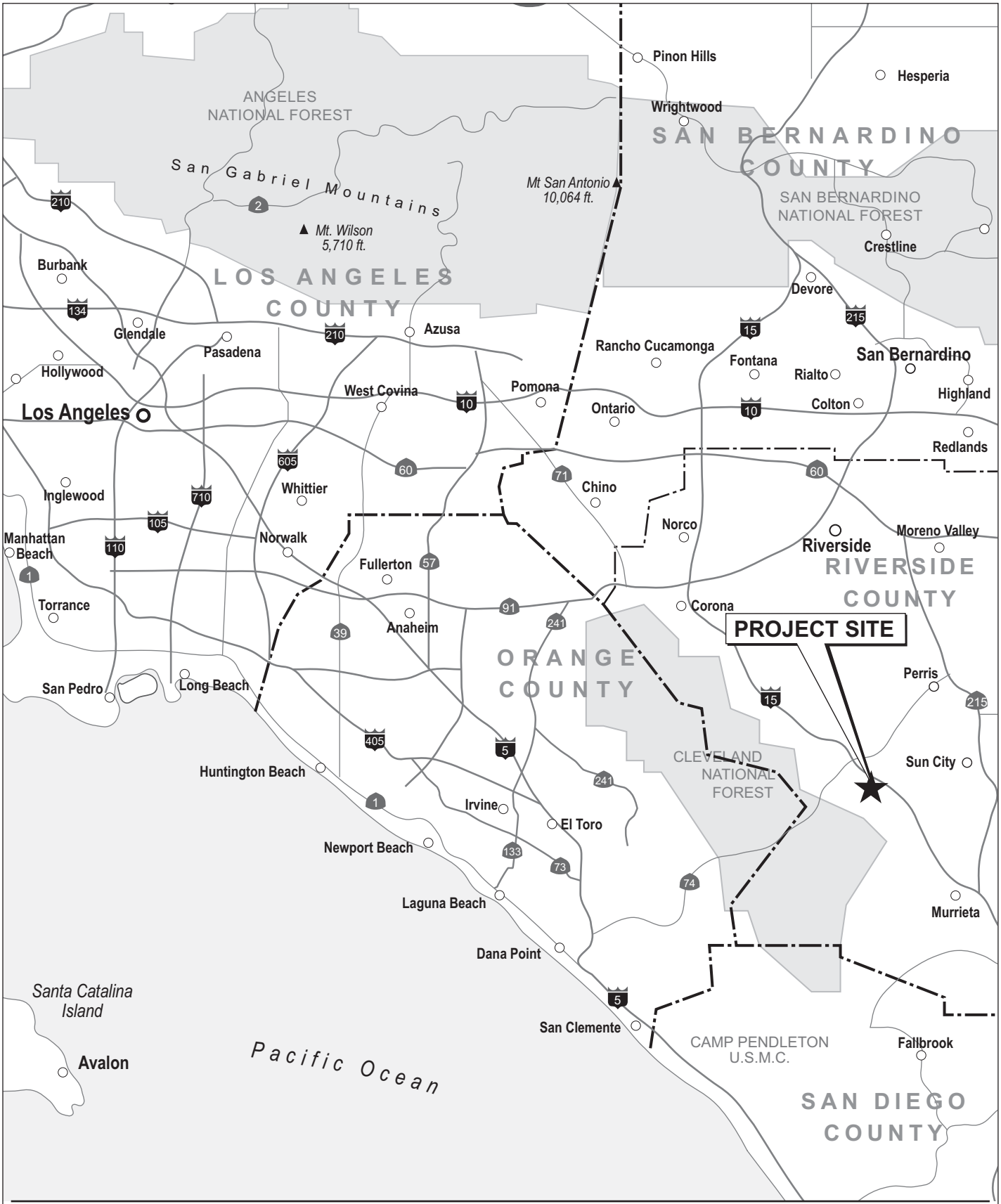
1.1 BACKGROUND AND PURPOSE

This report presents the findings of a biological resources assessment conducted by **PCR Services Corporation (PCR)** for the approximately 87-acre Diamond Specific Plan (the "study area") located in the City of Lake Elsinore (City), Riverside County (County), California. The submittal of this report is intended to satisfy the California Environmental Quality Act (CEQA) process and is consistent with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). JIC-CP Diamond Development, LLC (Applicant) is requesting administrative and discretionary approval from the City of Lake Elsinore for The Diamond Specific Plan.

1.2 STUDY AREA LOCATION

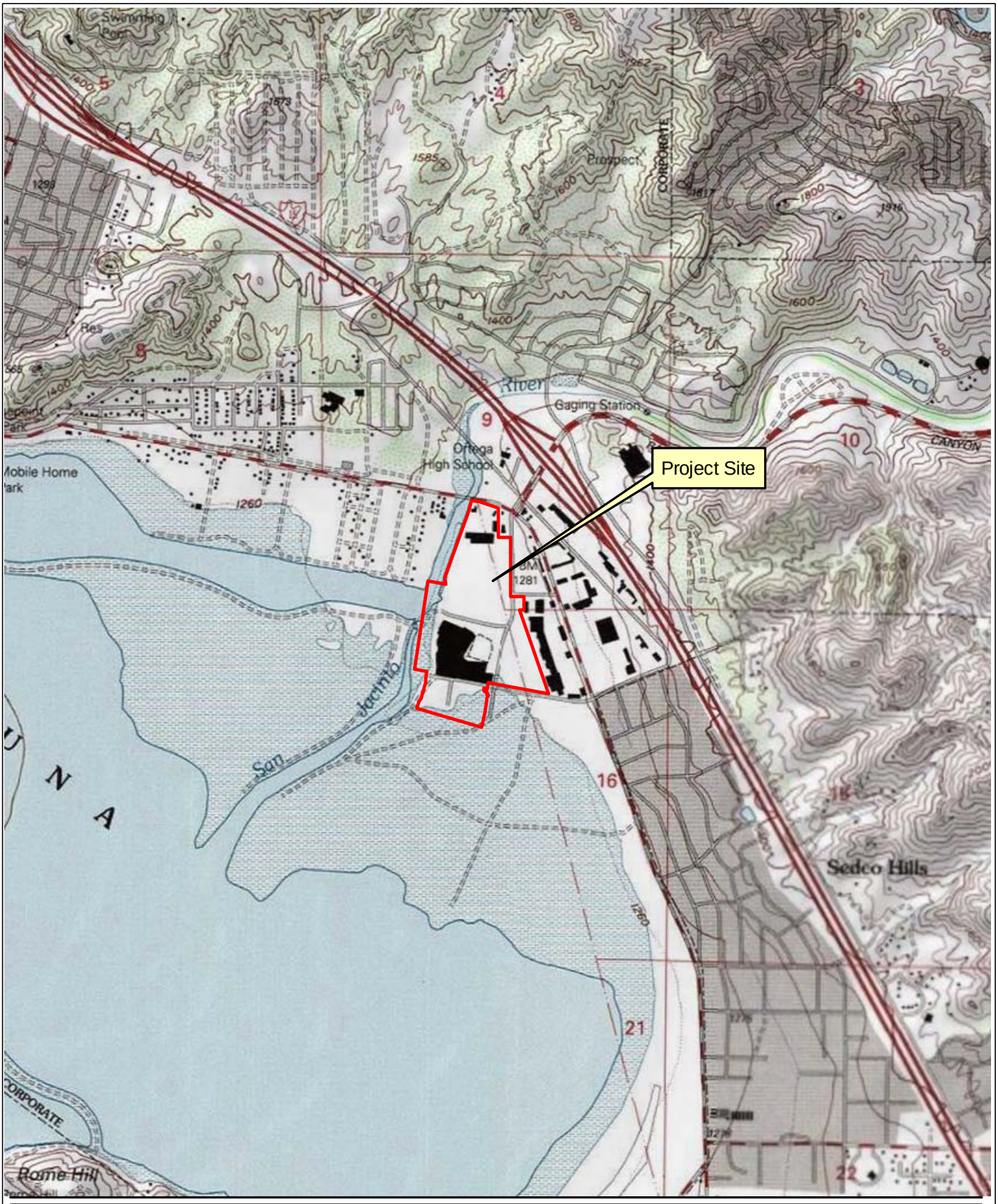
The approximately 87-acre study area[1] ("study area") is comprised of APNs: 363-150-006; 363-161-012, -029, -030, -031, -032, -033, -034, -035, -037; 365-280-022; 371-030-035; 373-210-014, -016, -019, -020, -021, -023, -026, -027, -030, -037, -038, -039, -040, -041, -042, and -043 within the City of Lake Elsinore ("the City"), Riverside County, California. The study area is southwest of Interstate 15 (I-15) and east of Lake Elsinore as shown in Figure 1, *Regional Map,* on page 2. Specifically, the study area is located east and west of Diamond Drive, to the south of Lakeshore Drive and to the west of Mission Trail. The study area is located within Section 16, T. 6 S., R. 4 W. of the U.S. Geological Survey (USGS) 7.5-minute Lake Elsinore, California topographic quadrangle as shown in Figure 2, *Vicinity Map,* on page 3. The elevation of the study area ranges from 1,238 to 1,279 feet (377 to 390 meters) above mean sea level (msl). Surrounding land uses include the San Jacinto River and Lake Elsinore ("the lake") to the west, mixed residential and commercial development associated with the City of Lake Elsinore to the north and east, and graded lots for residential development to the south. The longitude and latitude of the approximate center of the study area is 33° 39' 24.912" North and 117° 18' 6.768" West; UTM Zone 11 (X, Y) 472010, 3724158.

[1] *The study area boundary was updated from the original boundary (which utilized county APN boundaries) to the field survey data provided by the project engineer, Wilson Mikami Corporation, which is the legal boundary. There were only very minor discrepancies between the original and updated boundary. The updated boundary has been incorporated into the associated biological studies reports.*



Source: PCR Services Corporation, 2009.

Figure 1
The Diamond Specific Plan
Regional Map



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N

2,000 0 2,000 Feet

Figure 2
The Diamond Specific Plan
Vicinity Map

Source: USGS Topographic Series (Lake Elsinore,CA); PCR Services Corporation, 2009.

The study area is located within the Elsinore Area Plan of the MSHCP, as detailed in Section 3.8 of this report. Portions of the study area are located within MSHCP Criteria Cells 4743 and 4846 (within Subunit 3 of the Elsinore Area Plan), Criteria Species Survey Area, Burrowing Owl Survey Area, and Narrow Endemic Plant Species (NEPS) Survey Area. The study area is also located within the East Lake Specific Plan (ELSP) with the exception of the northernmost portion of the study area, which is an active developed commercial area. A small portion of the study area is located within the 770-acre ELSP Preservation Areas for the Back Basin (at the San Jacinto River's outlet into Lake Elsinore); however, the proposed project impacts were designed to completely avoid the Preservation Areas. In addition, portions of the study area are located within Proposed Extension of Existing Core 3 and Proposed Linkage 8 of the MSHCP.

1.3 SCOPE OF STUDY

The scope of this assessment encompasses the comprehensive documentation of existing biological resources within the approximately 87-acre study area. An extensive literature review initiated the study. The results of the literature review provided information on species and habitat occurrences within the vicinity, laws and regulations pertaining to these resources, and additional background information. A general biological survey and habitat assessment were conducted to assess the potential for the study area to support sensitive plant and wildlife species. As a result of the habitat assessment, focused surveys were conducted for several sensitive plant species, burrowing owl (*Athene cunicularia*), and three sensitive fairy shrimp species [vernal pool fairy shrimp (*Branchinecta lynchi*), Riverside fairy shrimp (*Streptocephalus woottoni*), and the San Diego fairy shrimp (*Branchinecta sandiegonensis*)]. In addition, a jurisdictional delineation of areas potentially regulated by the U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Game (CDFG) was conducted.

This document presents the existing biological conditions of the study area and also addresses project-related impacts and recommendations (i.e., mitigation measures) to alleviate any resulting potentially significant adverse impacts. This documentation is consistent with accepted scientific, technical, and professional standards pursuant to the CEQA, MSHCP, U.S. Fish and Wildlife Service (USFWS), CDFG, ACOE, and RWQCB where appropriate. While general biological resources are discussed in a comprehensive manner, the focus of this assessment is on those resources considered to be sensitive.

2.0 METHODS OF STUDY

2.1 APPROACH

This assessment of biological resources is based on information compiled from available literature, field reconnaissance, and focused surveys. A general biological survey, vegetation mapping, and sensitive species habitat assessment were conducted by PCR on December 2 and 10, 2008 and a jurisdictional delineation was conducted on December 24, 2008. In addition, focused surveys were conducted for fairy shrimp wet season surveys from December 2008 through March 2009; a fairy shrimp dry season survey on June 2, 2009; burrowing owl surveys on March 4, 18, 25, and 31, 2009; and sensitive plant surveys on May 21 and July 1, 2009, as detailed below.

2.2 LITERATURE REVIEW

The study began with a review of previous biological documentation prepared for the study area and relevant literature on the biological resources of the study area and surrounding vicinity. Initially, the California Natural Diversity Database (CNDDB), a CDFG species account database; the MSHCP; and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants were reviewed for all pertinent information regarding the localities of known observations of sensitive species and habitats in the vicinity of the study area. Federal register listings, protocols, and species data provided by the USFWS and CDFG were reviewed in conjunction with anticipated federally- and state-listed species potentially occurring within the vicinity as necessary. In addition, regional flora and fauna field guides were utilized to assist in the identification of species and suitable habitats. A list of all relevant references reviewed is included in Section 6.0, *References*.

2.3 FIELD INVESTIGATIONS

A general biological survey, vegetation mapping, and sensitive species habitat assessments were conducted by PCR biologist Maile Tanaka and Crysta Dickson on December 2 and 10, 2008. A jurisdictional delineation was conducted by PCR wetland ecologist Richard Haywood on December 24, 2008. PCR biologists Ms. Dickson (TE067347-3), Linda Robb (TE093591-1), Ms. Tanaka, and Zeke Cooley conducted focused wet season surveys for federally-listed fairy shrimp species (Riverside fairy shrimp, San Diego fairy shrimp, and vernal pool fairy shrimp) which commenced on December 10, 2008 and concluded on March 31, 2009.

Wet season surveys were conducted for nine seasonal ponds every two weeks after initial inundation for 120 days or until the ponds dried up. In addition, Ms. Dickson, Ms. Robb, Ms. Tanaka, and Mr. Cooley conducted focused burrowing owl surveys on March 4, 18, 25, and 31, 2009. Ms. Dickson and Ms. Tanaka conducted a sensitive plant survey on May 21, 2009 and a fairy shrimp dry season survey on June 2, 2009. Ms. Robb and Ms. Tanaka conducted a second sensitive plant survey on July 1, 2009. Background information on PCR biologists contributing to the field studies are included in Appendix A, *Resumes of Contributors*.

During the course of the surveys, an inventory of all plant and wildlife species observed was compiled and is included in Appendix B, *Floral and Faunal Compendium.* Survey coverage of the entire study area, with special attention to sensitive habitats or those areas potentially supporting sensitive flora or fauna, was ensured using a current aerial photograph.

2.3.1 Plant Community Mapping

Plant communities were mapped with the aid of a current 1"=200' scale color aerial photograph and a 7.5-minute USGS topographic map. Plant community boundaries were delineated directly onto the aerial photograph while in the field and later digitized using Geographic Information System (GIS) technology to calculate acreage. Plant communities were identified according to descriptions contained in Sawyer and Keeler-Wolf (1995) and Holland (1986). Scientific names are employed upon initial mention of each species; common names are employed thereafter.

2.3.2 General Plant Inventory

All plant species observed during the survey were either identified in the field or collected and later identified using taxonomic keys. Plant taxonomy follows Hickman (1993). Common plant names, when not available from Hickman, were taken from Munz (1974) and McAuley (1996). Because common names vary significantly between references, scientific names are included upon initial mention of each species; common names consistent throughout the report are employed thereafter. All plant species observed are included in the Appendix B, *Floral and Faunal Compendium*. Sensitive plant species are discussed below in Section 2.3.4.

2.3.3 General Wildlife Inventory

All wildlife species observed within the study area, as well as diagnostic sign (i.e., call, tracks, nests, scat, remains, or other sign), were recorded in field notes. Binoculars and regional field guides were utilized for the identification of wildlife, as necessary. Wildlife taxonomy follows Stebbins (2003) for amphibians and reptiles, the American Ornithologists' Union (1998) for birds, and Jameson and Peeters (1988) for mammals. Scientific names are used during the first mention of a species; common names only are used in the remainder of the text. A list of all

wildlife species detected is included in Appendix B, *Floral and Faunal Compendium*. Sensitive wildlife species are discussed below in Section 2.3.5.

Amphibian Surveys

A general survey for amphibians was conducted in appropriate habitat during a diurnal activity period. The intent of the survey was not to extensively search for individual amphibians, but to ascertain the presence of potential amphibian habitat and the location of amphibians within the study area. The discussions in this document of amphibians potentially present within the study area are based on the habitats used by the species and their geographic ranges. The study area was examined for diagnostic amphibian sign, such as egg masses, larvae, vocalizations, and direct observations. Observed amphibian species, as well as diagnostic sign, were recorded in field notes.

Reptile Surveys

A general survey for reptiles was conducted in appropriate habitat during a diurnal activity period. The intent of the survey was not to extensively search for individual reptiles, but to ascertain the presence of potential reptile habitat and the location of reptiles within the study area. The discussions in this document of reptiles potentially present are based on the habitats used by the species and their geographic ranges. Habitats were examined for diagnostic reptile sign; such as eggs, shed skins, scat (fecal droppings), tracks, snake prints, lizard tail drag marks, and direct observations. All areas containing potentially suitable habitat were surveyed. While searching for resting reptiles, surface litter, stones, fallen bark, tree branches, and cracks in mud were examined. Observed reptile species, as well as diagnostic sign, were recorded in field notes.

Avian Surveys

A general survey for birds was conducted in appropriate habitat during a diurnal activity period. The intent of the survey was not to extensively search for individual birds, but to ascertain the presence of potential bird habitat and the location of birds within the study area. The discussions in this document of birds potentially present within the study area are based on the habitats used by the species and their geographic ranges. Birds were detected both by direct observations and by vocalizations. All areas containing potentially suitable habitat were surveyed. Bird species observed were recorded in field notes. Special attention was made to identify any bands or markings on avian species.

The general bird survey also focused on the presence of raptors within the study area and in the vicinity. Such efforts included directed and incidental observation of raptor nests, owl

pellets, and the identification of raptor species flying over the study area. Observed raptor species, as well as diagnostic sign, were recorded in field notes.

Mammal Surveys

A general survey for mammals was conducted in appropriate habitat during a diurnal activity period. The intent of the survey was not to extensively search for individual mammals, but to ascertain the presence of potential mammal habitat and the location of mammals within the study area. The discussions in this document of mammals potentially present are based on the habitats used by the species and their geographic ranges. Many mammals are nocturnal and secretive, making daytime observations difficult. Thus, the majority of the information on mammals comes from diagnostic sign. Habitats were examined for diagnostic mammal sign, such as scat, burrows, tracks, dens, browsed vegetation or other feeding sign, hair, nests, bones, vocalizations, and direct observations. All areas containing potentially suitable habitat were surveyed. Observed or expected mammal species, as well as diagnostic sign, were recorded in field notes.

2.3.4 Sensitive Plant Surveys

Sensitive plants include those listed by the USFWS, CDFG, and CNPS (particularly Lists 1A, 1B, and 2). A literature review was conducted to determine the sensitive plant species that have known locations within the vicinity of study area. Sources included the CNDDB, MSHCP, and CNPS Online Inventory of Rare and Endangered Plants. Habitat assessments were conducted for all potentially present sensitive plant species by PCR biologists Ms. Tanaka and Ms. Dickson on December 2 and 10, 2008.

A total of 45 sensitive plant species were reported in the CNDDB for the Lake Elsinore quadrangle and surrounding eight quadrangles (Lake Mathews, Steele Peak, Perris, Alberhill, Romoland, Sitton Peak, Wildomar, and Murrieta). A total of 22 of these species are not expected within the study area due to lack of suitable habitat, restricted ranges, or elevation ranges outside of the study area (with the exception of the MSHCP covered species), or are species covered by the MSHCP, and are not addressed further in this analysis. These 22 species include rainbow manzanita (*Arctostaphylos rainbowensis*), south coast saltscale (*Atriplex pacifica*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), foothill (intermediate) mariposa lily (*Calochortus weedii* var. *intermedius*) (MSHCP covered species), Payson's jewel-flower (*Caulanthus simulans*) (MSHCP covered species), summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), slender-horned spineflower (*Dodecahema leptoceras*), many-stemmed dudleya (*Dudleya multicaulis*), sticky dudleya (*Dudleya viscida*), Palmer's grapplinghook (*Harpagonella palmeri*) (MSHCP covered species), heart-leaved pitcher sage (*Lepechinia cardiophylla*), lemon lily (*Lilium parryi*), Parish's meadowfoam (*Limnanthes gracilis* ssp. *parishii*), felt-leaved monardella (*Monardella hypoleuca* ssp. *lanata*), Hall's monardella (*Monardella macrantha* ssp.

hallii), chaparral nolina (*Nolina cismontana*), white rabbit-tobacco (*Pseudognaphalium leucocephalum*), San Miguel savory (*Satureja chandleri*), southern mountains skullcap (*Scutellaria bolanderi* ssp. *austromontana*), Hammitt's clay-cress (*Sibaropsis hammittii*), Parry's tetracoccus (*Tetracoccus dioicus*), and California screw-moss (*Tortula californica*).

Based on the habitat present on-site, a total of 23 sensitive plant species have potential to occur. These 23 sensitive plant species include chaparral sand-verbena (*Abronia villosa* var. *aurita*), Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), Parish's brittlescale (*Atriplex parishii*), thread-leaved brodiaea (*Brodiaea filifolia*), Orcutt's brodiaea (*Brodiaea orcuttii*), round-leaved filaree (*Californica macrophylla*), smooth tarplant (*Hemizonia pungens* ssp. *laevis*), Parry's spineflower (*Chorizanthe parryi* var. *parryi*), long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), Campbell's liverwort (*Geothallus tuberosus*), mesa horkelia (*Horkelia cuneata* ssp. *puberula*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), little mousetail (*Myosurus minimus* ssp. *apus*), spreading navarretia (*Navarretia fossalis*), prostrate navarretia (*Navarretia prostrata*), California Orcutt grass (*Orcuttia californica*), bottle liverwort (*Sphaerocarpos drewei*), San Bernardino aster (*Symphyotrichum defoliatum*), Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*), and La Purisima viguiera (*Viguiera purisimae*).

In addition, because Riparian/Riverine habitat was found within the study area, a habitat assessment was conducted for Riparian/Riverine and Vernal Pool species protected under Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools* of the MSHCP. These species include Brand's phacelia (*Phacelia stellaris*), California Orcutt grass, Coulter's matilija poppy (*Romneya coulteri*), Engelmann oak (*Quercus engelmannii*), Fish's milkwort (*Polygala cornuta* var. *fishiae*), graceful tarplant (*Holocarpha virgata* ssp. *elongata*), lemon lily, Mojave tarplant (*Deinandra mohavensis*), mud nama (*Nama stenocarpum*), ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*), Orcutt's brodiaea, Parish's meadowfoam, prostrate navarretia, San Diego button-celery, San Jacinto Valley crownscale, San Miguel savory, Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*), slender-horned spineflower, smooth tarplant, southern California black walnut (*Juglans californica*), spreading navarretia, thread-leaved brodiaea, and vernal barley (*Hordeum intercedens*), as detailed in Section 3.8.3.

Furthermore, the study area is located within the NEPS and Criteria Area Plant Species Survey Areas of the MSHCP, as detailed in Section 3.8.4 and 3.8.5, respectively. Habitat assessments focused on the presence of suitable habitat for NEPS Species, which include Munz's onion, San Diego ambrosia, many-stemmed dudleya, spreading navarretia, California Orcutt grass, and Wright's trichocoronis, and Criteria Area Species, which include San Jacinto Valley crownscale, Parish's brittlescale, thread-leaved brodiaea, round-leaved filaree, smooth tarplant, Coulter's goldfields, and little mousetail.

2.3.5 Sensitive Wildlife Surveys

Sensitive wildlife species include those listed by the USFWS, CDFG, and MSHCP and CDFG Species of Special Concern (SSC species). Habitat assessments were conducted for all potentially present sensitive wildlife species by PCR biologists Maile Tanaka and Crysta Dickson on December 2 and 10, 2008.

A total of 47 sensitive wildlife species were reported in the CNDDB for the Lake Elsinore quadrangle and the eight surrounding quadrangles (Lake Mathews, Steele Peak, Perris, Alberhill, Romoland, Sitton Peak, Wildomar, and Murrieta). A total of 40 of these species are not expected within the study area due to lack of suitable habitat, restricted ranges, or elevation ranges outside of the study area (with the exception of the MSHCP covered species), or are species covered by the MSHCP, and are not addressed further in this analysis. These 40 species include the Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*), quino checkerspot butterfly (*Euphydryas editha quino*) (MSHCP covered), arroyo chub (*Gila orcuttii*) (MSHCP covered), steelhead (*Oncorhynchus mykiss irideus*), arroyo toad (*Bufo californicus*) (MSHCP covered), California red-legged frog (*Rana aurora draytonii*) (MSHCP covered), western spadefoot (*Spea hammondii*) (MSHCP covered), coast range newt (*Taricha torosa torosa*) (MSHCP covered), southwestern pond turtle (*Actinemys marmorata pallida*) (MSHCP covered), coastal western whiptail (*Aspidoscelis trigris stejnegeri*) (MSHCP covered), orange-throated whiptail (*Aspidoscelis hyperythrus*) (MSHCP covered), northern red-diamond rattlesnake (*Crotalus ruber ruber*) (MSHCP covered), San Bernardino ringneck snake (*Diadophis punctatus modestus*), rosy boa (*Lichanura trivirgata*), San Diego coast horned lizard (*Phrynosoma coronatum blainvillii*) (MSHCP covered), coast patch-nosed snake (*Salvadora hexalepis virgultea*), two-striped garter snake (*Thamnophis hammondii*), Cooper's hawk (*Accipiter cooperii*) (MSHCP covered), tricolored blackbird (*Agelaius tricolor*) (MSHCP covered), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) (MSHCP covered), Bell's sage sparrow (*Amphispiza belli belli*) (MSHCP covered), golden eagle (*Aquila chrysaetos*) (MSHCP covered), ferruginous hawk (*Buteo californicus*) (MSHCP covered), northern harrier (*Circus cyaneus*) (MSHCP covered), white-tailed kite (*Elanus leucurus*) (MSHCP covered), California horned lark (*Eremophila alpestris actia*) (MSHCP covered), bald eagle (*Haliaeetus leucocephalus*) (MSHCP covered), yellow-breasted chat (*Icteria virens*) (MSHCP covered), white-faced ibis (*Plegadis chihi*) (MSHCP covered), coastal California gnatcatcher (*Polioptila californica californica*) (MSHCP covered), least Bell's vireo (*Vireo bellii pusillus*), Dulzura pocket mouse (*Chaetodipus californicus femoralis*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) (MSHCP covered), Stephens' kangaroo rat (*Dipodomys stephensi*) (MSHCP covered), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) (MSHCP covered), San Diego desert woodrat (*Neotoma lepida intermedia*) (MSHCP covered), pocketed free-tailed bat (*Nyctinomops fermorosaccus*), southern grasshopper mouse (*Onychomys torridus ramona*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) (MSHCP covered), and American badger (*Taxidea taxus*).

Based on the habitat present on-site, a total of 7 sensitive wildlife species have potential to occur. These 7 sensitive wildlife species include the vernal pool fairy shrimp, Riverside fairy shrimp, San Diego fairy shrimp, long-eared owl (*Asio otus*), burrowing owl, western snowy plover (*Charadrius alexandrines nivosus*), and western mastiff bat (*Eumops perotis californicus*).

In addition, because Riparian/Riverine habitat was found within the study area, a habitat assessment was conducted for Riparian/Riverine and Vernal Pool species protected under Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools* of the MSHCP. These species are discussed in Section 2.3.5.1, below.

Futhermore, the study area is located within the MSHCP Burrowing Owl Survey Area, as detailed in Section 3.8.5; the habitat assessment focused on the presence of suitable habitat for burrowing owl.

2.3.5.1 Riparian/Riverine and Vernal Pool Species

The study area was surveyed for habitat suitable to support Riparian/Riverine and Vernal Pool species protected under Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools* of the MSHCP. These species included the arroyo toad, mountain yellow-legged frog (*Rana muscosa*), California red-legged frog, bald eagle, least Bell's vireo, American peregrine falcon (*Falco peregrinus anatum*), southwestern willow flycatcher (*Empidonax traillii extimus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), Santa Ana sucker (*Catostomus santaanae*), Riverside fairy shrimp, and vernal pool fairy shrimp, as detailed in Section 3.8.3.

Habitat assessments for Riparian/Riverine and Vernal Pool species were conducted by PCR biologists Ms. Tanaka and Ms. Dickson on December 10, 2008. Methods used included slowly walking over all portions of the study area and visually searching all substrates. These methods were intensified within suitable habitat areas. All accessible portions of the study area were surveyed to provide adequate coverage. If detected, the locations of Riparian/Riverine and/or Vernal Pool habitats were mapped onto an aerial photograph. Details on the fairy shrimp surveys are discussed below in Section 2.3.5.2.

2.3.5.2 Fairy Shrimp Surveys

Nine areas within the study area showed evidence of seasonal ponding. The seasonal ponds were found in depressional areas within the disturbed communities of the vacant lots on-site. Seasonal ponds were found just north of Pete Lehr Drive in the center of the study area, east of Diamond Drive in the eastern portion of the study area, just west of Diamond Circle in the western portion of the study area, and just north of Malaga Road within the southeastern

portion of the study area. These areas supported evidence of hydrology (i.e., water staining and cracking soils). Due to the known occurrences of fairy shrimp in such areas, focused surveys for the presence/absence of the federally-listed as endangered Riverside fairy shrimp and San Diego fairy shrimp, and federally-listed as threatened vernal pool fairy shrimp were conducted. In accordance with MSHCP compliance and the USFWS's 1996 *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods*, wet season surveys were completed as described below.

Focused wet season surveys were conducted by PCR biologists Ms. Dickson (TE067347-3), Ms. Robb (TE093591-1), Ms. Tanaka, and Mr. Cooley. Wet season surveys commenced on December 10, 2008 and concluded on March 31, 2009. In accordance with USFWS approved protocol, once the seasonal ponds were inundated, suveys were conducted once every two weeks until they were no longer inundated or until they have experienced 120 days of continuous inundation. For any seasonal ponds which dried up, then refilled during the same wet season, sampling was reinitiated within eight days of refilling if they ponds met the minimum requirement of three centimeters of standing water. The wet season sampling effort included representative sampling of various portions of the seasonal pond, water quality sampling (pH, total dissolved solids/electroconductivity, and temperature), and documenting empirical observations made at the ponded areas. In addition, physical characteristics (surface water length, width, depth, temperature, etc.) were recorded and photographs were taken of each seasonal pond. If fairy shrimp species were found within the ponds, a limited number of individuals (less than 20 individuals per pond per sampling visit or 10% of the population, whichever is the lesser amount) were collected for identification and voucher specimen accessioning.

Detailed methodology and results of the wet season surveys were submitted to the USFWS Carlsbad Office and are available under separate cover.

Following the wet season surveys, a dry season survey was conducted by Ms. Dickson and Ms. Tanaka on June 2, 2009 in accordance with the USFWS approved protocol. The dry season sampling effort included collecting soil samples from each seasonally ponded feature and documenting empirical observations as directed by established protocol. In accordance with USFWS approved protocol, two transects were established across the widest portions of each seasonal pond in north-south and east-west orientations ensuring that samples were collected from the deepest portions of the features. Soil samples were collected from the top centimeter (cm) or one cm below overburden. The ten soil samples were collected from each seasonal pond, except where removing such a quantity would have a detrimental effect on the habitat. Soil samples were sent out to Chuck Black of Ecological Restoration Service for analysis. The individually packaged approximately 100 ml dry soil samples were hydrated for approximately 2 hours in tap water then washed through a set of sieves. Material passing through a Number 45 (.0139") USA Standard Testing Sieve, A.S.T.M.E.-11 specification and caught on a Number 70

(.0083") Sieve, which was rinsed into a container with approximately 50 ml of a saturated brine solution to float organic material, including fairy shrimp cysts. The material floating on the brine was decanted onto a paper filter on a filter funnel, and water was removed through the filter paper by vacuum suction. The material left on the paper was examined under a 6.3-570x power Olympus SZX9 Zoom Stereo Microscope. Distinctive fairy shrimp cysts, if present, were counted. Numbers of ostracod shells and cladocern ephippia were estimated, if present.

Detailed methodology and results of the dry season surveys were submitted to the USFWS Carlsbad Office and are available under separate cover.

2.3.5.3 Burrowing Owl Surveys

The study area is located within the MSHCP's Burrowing Owl Survey Area (refer to Section 3.8.5 for more detail). As required by the MSHCP, PCR biologists Ms. Tanaka and Ms. Dickson conducted a Phase I, Habitat Assessment and Phase II, Burrow Survey for burrowing owl on December 10, 2008. To determine the presence/absence of suitable habitat, the study area, plus a 150-meter buffer zone, was thoroughly searched for areas containing suitable habitat indicators. Key indicators included the presence of low-growing vegetation within grassland, desert, and scrublands; small fossorial mammals and mammal burrows; and isolated, man-made features (e.g., cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement). Transects were utilized in all accessible areas, spaced no more than 100 feet apart, to allow for 100 percent visibility. Surveys were conducted in accordance with The Burrowing Owl Consortium's *Burrowing Owl Survey Protocol and Mitigation Guidelines* and County of Riverside's *Burrowing Owl Survey Instructions* (California Burrowing Owl Consortium 1993, County of Riverside 2006).

Due to the presence of suitable habitat within the study area and buffer zone, a Phase III Burrowing Owl Survey, Census, and Mapping was conducted by PCR biologists Ms. Tanaka, Mr. Cooley, Ms. Robb, and Ms. Dickson. The Phase III survey consisted of four site visits on four separate days. Transects were utilized in all accessible areas, spaced no more than 100 feet apart, to allow for 100 percent visibility. In addition, observations were made from fixed locations with the use of binoculars. All surveys were conducted one hour prior to two hours after sunrise during suitable weather conditions. Surveys were conducted on March 4, 18, 25, and 31. Weather conditions consisted of clear to relatively clear skies, with the exception of overcast conditions which occurred on March 4, 2009, with winds between 0 and 2 mph and air temperatures ranging from 40° to 60° Fahrenheit.

Detailed methodology and results of the burrowing owl surveys are available under separate cover.

2.3.6 Regional Connectivity/Wildlife Movement Corridor Assessment

The analysis of wildlife movement in preparation of this document is based on information compiled from the literature, analysis of aerial photographs and topographic maps, and direct observations made in the field during survey work. Relative to corridor issues, the focus of this assessment is to determine if the change of the existing land use within the study area will have significant impacts on the regional wildlife movement associated with the study area and the immediate vicinity.

This study did not include the use of track plates, camera stations, scent stations, or snares. Instead, notation was made during field visits of locations of animal sign and inspection of resource maps for the vicinity. These conclusions are based on the knowledge of desired topography and resource requirements for wildlife potentially utilizing the study area and vicinity.

2.3.7 Jurisdictional Delineation

A jurisdictional delineation was conducted by PCR ecologist Mr. Haywood on December 24, 2008. The assessment was conducted to determine if any portion of the study area is subject to the jurisdiction of the ACOE, RWQCB, and/or CDFG. The portion of Lake Elsinore and the San Jacinto River within the study area were not delineated because these features are being avoided by the proposed project.

Prior to visiting the study area, potential and/or historic drainages and aquatic features were located based on a review of the following: a USGS topographic quadrangle map for Lake Elsinore, California, aerial photographs, and soil survey maps (NRCS 1971).

Following the initial data collection, the entire study area was field evaluated and all areas that were identified as being potentially subject to the jurisdiction of the ACOE, RWQCB, and/or the CDFG were field verified and mapped. The potential for "waters of the U.S." and "waters of the State" was investigated based on the presence/absence of an "ordinary high water mark" (OHWM), or if not clearly visible, based on indicators of erosion, the deposition of sediments or debris, and/or changes in vegetation. If any of these criteria were met, a series of transects were run to determine the extent of jurisdictional non-wetland "waters of the U.S."/"waters of the State." Identified non-wetland "waters of the U.S."/"waters of the State" were traversed within or along the channel, and the OHWM was measured. The CDFG jurisdiction was delineated to the top of bank of the stream channel or to the limit of the adjacent riparian vegetation.

ACOE jurisdictional wetlands are delineated using a routine determination according to the methods outlined in the ACOE's *Wetland Delineation Manual* (Environmental Laboratory

1987) and guidance provided in the Supplement (Environmental Laboratory 2008) based on hydrologic and edaphic features of the study area, and on the vegetation composition of each area being investigated.

3.0 EXISTING CONDITIONS

3.1 CHARACTERISTICS OF THE SITE AND SURROUNDING AREA

As mentioned previously, the study area consists of approximately 87 acres within the City of Lake Elsinore. The study area is comprised of an area of commercial development along a portion of its northern extent, Diamond Stadium and a paved parking lot within its center, and vacant lots which are predominately disturbed through routine discing activities and/or contain a dominance of introduced and ruderal plant species. The study area is bordered by commercial development to the north, south, and east. The San Jacinto River and Lake Elsinore are immediately adjacent to the study area to the west. The study area is located within the Elsinore Area Plan of the MSHCP, as shown in Figure 3, *Location within the Elsinore Area Plan of the MSHCP*, on page 17.

3.2 PLANT COMMUNITIES

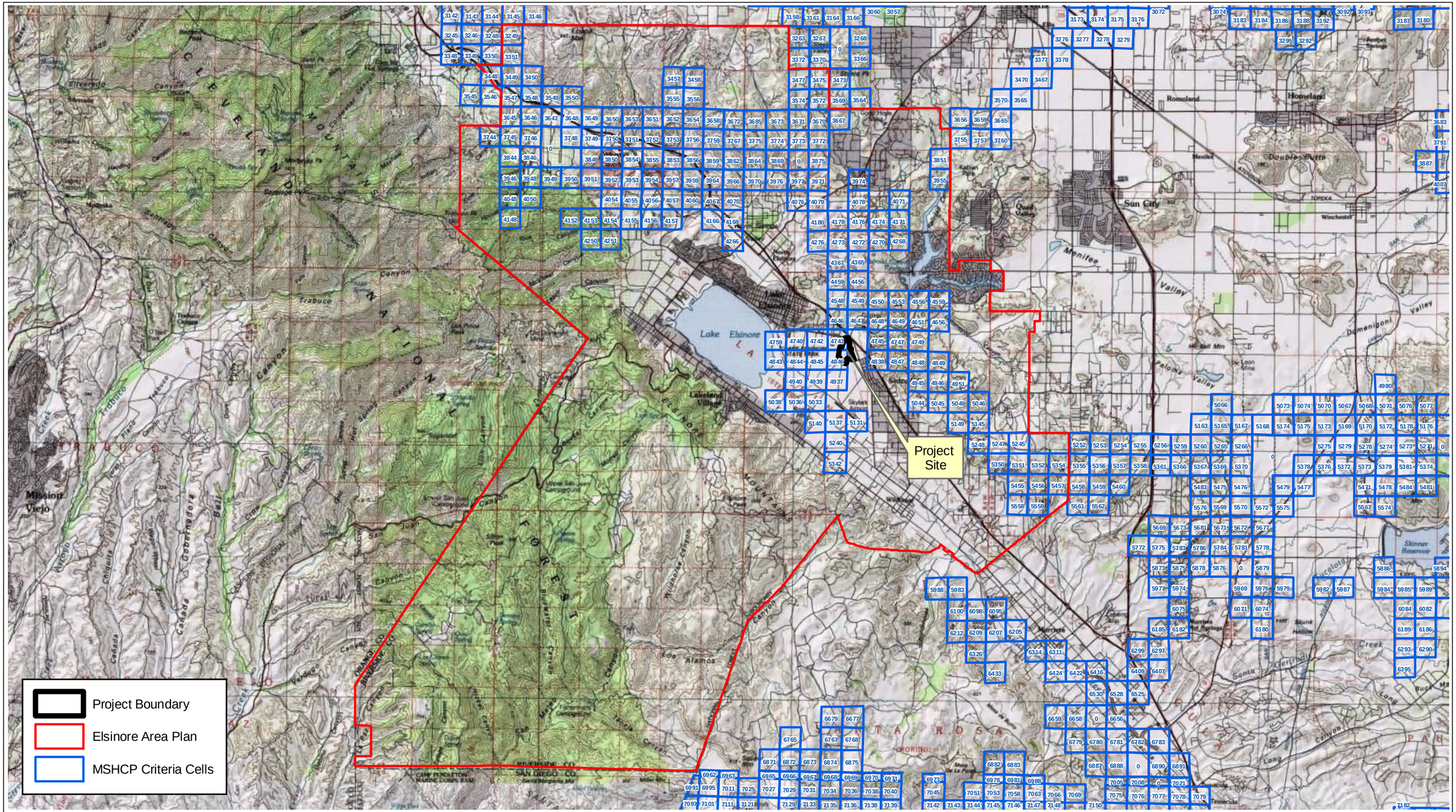
Locations of each of the plant communities are shown in Figure 4, *Plant Communities Map,* on page 18. Table 1, *Plant Communities*, on page 19 lists each of the plant communities observed as well as the acreage within the study area. Figure 5, *Site Photographs,* on page 20 and Figure 6, *Site Photographs,* on page 21 provide representative photographs of the plant communities mapped within the study area.

3.2.1 Developed

Developed areas consist of commercial development in the northern portion of the study area and the Lake Elsinore Diamond Stadium and paved parking lots in the central and southern portions of the study area. Developed areas comprise 44.2 acres of the study area.

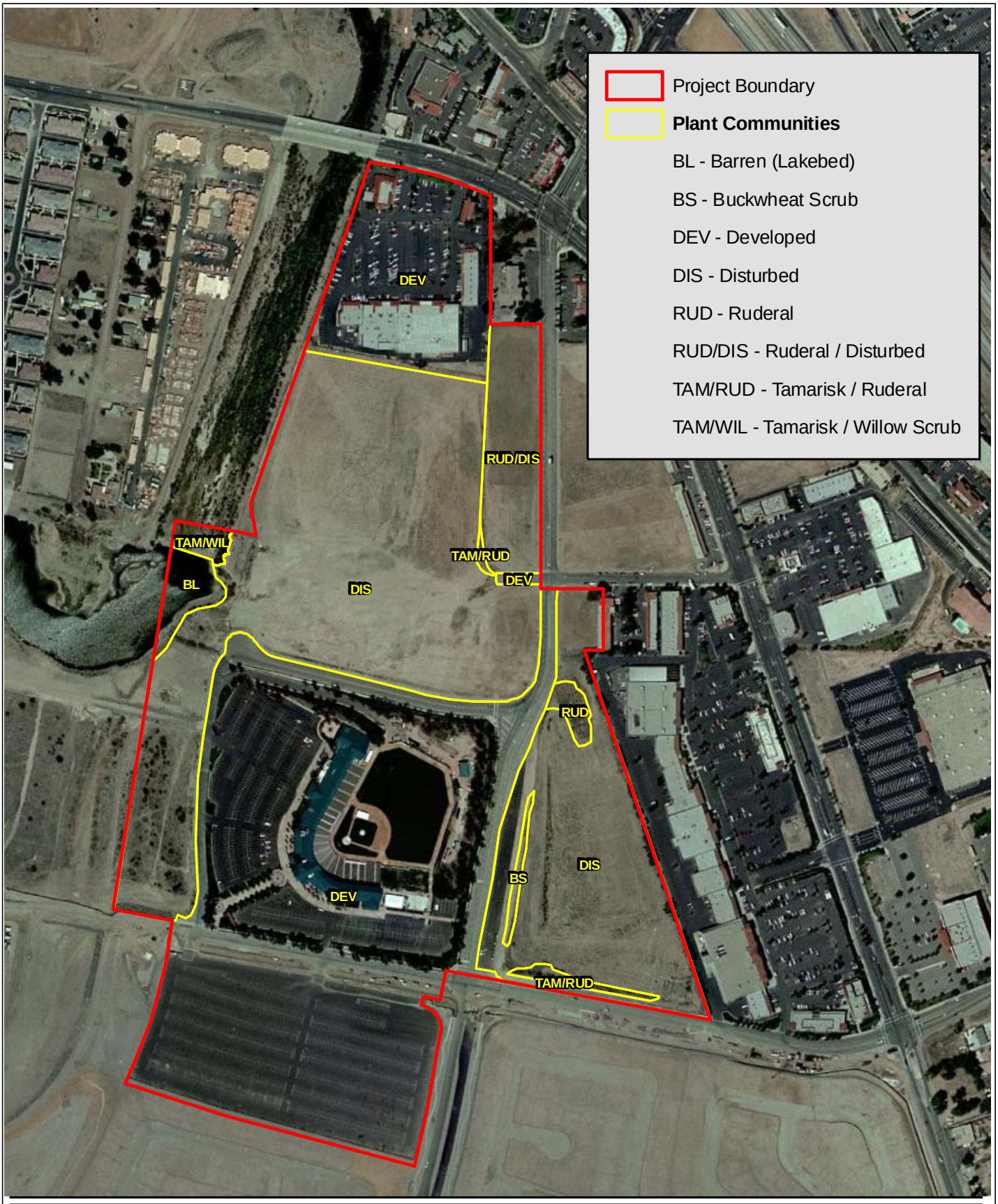
3.2.2 Disturbed

The majority of the study area is comprised of vacant, disced fields with little to no vegetation. Sparse, weedy species found within this community include black mustard (*Brassica nigra*), Russian thistle (*Salsola tragus*), saltmarsh heliotrope (*Heliotropium curassavicum*), little mousetail, woolly marbles (*Psilocarphus* sp.), fascicled tarweed (*Hemizonia fasciculata*), smooth tarplant, hairypod pepperweed (*Lepidium lasiocarpum*), barley (*Hordeum murinum* ssp. *leporinum*), alkali plagiobothrys (*Plagiobothrys leptocladus*), sand-spurrey (*Spergularia rubra*), coyote brush (*Baccharis pilularis*), jimson weed (*Datura wrightii*), giant reed (*Arundo donax*), common sunflower (*Helianthus annuus*), foxtail chess (*Bromus madritensis* ssp. *rubens*), California buckwheat (*Eriogonum fasciculatum*), vinegar weed (*Trichostema lanceolatum*),



Source: USGS 100K Topographic Series (Santa Ana, CA); RCIP, 2005; PCR Services Corporation, 2009.

Figure 3
The Diamond Specific Plan
Location within the Elsinore Area Plan of the MSHCP



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450 0 450 Feet

Source: Aerial Express, 2008; PCR Services Corporation, 2009.

Figure 4
The Diamond Specific Plan
Plant Communities Map

Table 1

Plant Communities

Plant Community	Acres
Developed	44.2
Disturbed	37.3
Ruderal	0.4
Ruderal/Disturbed	3.6
Barren (Lakebed)	1.0
Buckwheat Scrub	0.3
Tamarisk/Ruderal	0.4
Tamarisk/Willow Scrub	0.4
Total	**87.7**

Source: PCR Services Corporation, 2009.

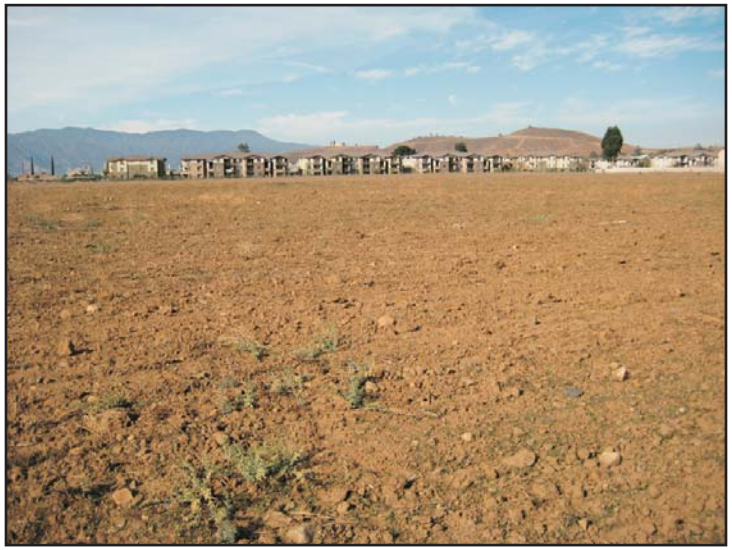
rattlesnake weed (*Chamaesyce albomarginata*), curly dock (*Rumex crispus*), saltgrass (*Distichlis spicata*), tamarisk (*Tamarix ramosissima*), mule fat (*Baccharis salicifolia*), deerweed (*Lotus scoparius*), five-hooked bassia (*Bassia hyssopifolia*), telegraph weed (*Heterotheca grandiflora*), big saltbush (*Atriplex lentiformes*), dove weed (*Eremocarpus setigerus*), common fiddleneck (*Amsinckia menziesii*), palo verde (*Cercidium* sp.), cocklebur (*Xanthium strumarium*), and brittlebush (*Encelia farinosa*). Disturbed areas comprise 37.3 acres of the study area.

3.2.3 Ruderal

Ruderal areas are dominated by non-native, weedy species. A small ruderal community is located within the eastern portion of the study area where piles of dirt had been previously mounded. Species found within this community include black mustard, Mexican fan palm (*Washingtonia robusta*), tamarisk, gum tree (*Eucalyptus* sp.), mule fat, California buckwheat, and vinegar weed. The ruderal area comprises 0.4 acre of the study area.

3.2.4 Ruderal/Disturbed

The area just west of Diamond Drive in the northeastern portion of the study area was previously disturbed, but currently has a fair amount of ruderal vegetation growing on it. Russian thistle is the dominant ruderal plant species observed within this community. Associated plant speices include black mustard, London rocket (*Sisymbrium irio*), and red-stemmed fialree (*Erodium cicutarium*). The ruderal/disturbed community comprises 3.6 acres of the study area.



Photograph 1: Western view across a disturbed field within the northern portion of the study area.

Photograph 2: Northern view of a ruderal/disturbed community along Diamond Drive.

Photograph 3: Northern view of the dry lakebed at the western edge of the study area, with a tamarisk/willow scrub community in the background.

PCR

Source: PCR Services Corporation, 2009.

Figure 5
The Diamond Specific Plan
Site Photographs

Photograph 4: View of the Lake Elsinore Diamond, which comprises a developed area within the center of the study area.

Photograph 5: View of the eastern portion of the study area with a strip of buckwheat scrub surrounded by disturbance in the foreground and background.

Photograph 6: View of a tamarisk/ruderal community within the southeastern portion of the study area along Malaga Road.

PCR

Figure 6
The Diamond Specific Plan
Site Photographs

Source: PCR Services Corporation, 2009.

3.2.5 Barren (Lakebed)

The western boundary of the study area overlaps with a portion of the Lake Elsinore lakebed. At the time of the site visits, the on-site portion of the lakebed was dry and contained no vegetation. The barren on-site portion of the lakebed comprises 1.0 acre of the study area.

3.2.6 Buckwheat Scrub

A thin strip of buckwheat scrub was observed along Diamond Drive within the southeastern portion of the study area. This community is dominated by California buckwheat. Deerweed and brittlebush are also present within this community. Buckwheat scrub comprises 0.3 acre of the study area.

3.2.7 Tamarisk/Ruderal

Two small patches of tamarisk/ruderal communities occur within the study area. One patch is located at the western end of Campbell Street. The other patch is located just north of Malaga Road in the southeastern portion of the study area. This community is dominated by tamarisk with a ruderal understory that is dominated by black mustard. Other species found within this community include Russian thistle, foxtail chess, mule fat, black willow (*Salix goodingii*), saltmarsh heliotrope, common sunflower, red-stemmed filaree, cocklebur, London rocket, tarplant, coastal goldenbush, and California buckwheat. The tamarisk/ruderal community comprises 0.4 acre of the study area.

3.2.8 Tamarisk/Willow Scrub

The western boundary of the study area overlaps with a small area of tamarisk/willow scrub. The majority of this community exists just off-site, adjacent to the northwestern boundary of the study area, along the San Jacinto River, which flows out into Lake Elsinore (as shown in Photograph 3 of Figure 6, *Site Photographs*). This community is dominated by tamarisk, and also includes black willow. Tamarisk/willow scrub comprises 0.4 acre of the study area.

3.3 GENERAL PLANT INVENTORY

The plant communities discussed above are composed of numerous plant species. Observations regarding the plant species present were made during all field visits to the study area. All plant species observed during surveys are included in Appendix B, *Floral and Faunal Compendium*. Sensitive plant species occurring or potentially occurring within the study area are discussed in Section 3.7.3, *Sensitive Plant Species*.

3.4 GENERAL WILDLIFE INVENTORY

The plant communities discussed above provide wildlife habitat. While a few wildlife species are entirely dependent on a single community, the entire mosaic of all the communities within the study area and adjoining areas constitutes a functional ecosystem for a variety of wildlife species, both within the study area and as part of the regional ecosystem. Following are discussions of wildlife populations within the study area, segregated by taxonomic group. Representative examples of each taxonomic group either observed or expected within the study area are provided. Wildlife species actually observed, as well as those expected to occur, within the study area are indicated in Appendix B, *Floral and Faunal Compendium*. Sensitive wildlife species occurring or potentially occurring are discussed further in Section 3.7.4, *Sensitive Wildlife Species*. MSHCP species are discussed further in Section 3.8.

3.4.1 Invertebrates

Focused surveys for common invertebrate species were not conducted; however, based on the disturbed nature of the study area, the study area would be expected to support a minimal assortment of invertebrates. All invertebrate species observed within the study area are included in Appendix B, *Floral and Faunal Compendium*.

3.4.2 Amphibians

Terrestrial amphibian species may or may not require standing water for reproduction. Terrestrial species avoid desiccation by burrowing underground; within crevices in trees, rocks, and logs; and under stones and surface litter during the day and dry seasons. Due to their secretive nature, terrestrial amphibians are rarely observed, but may be quite abundant if conditions are favorable. Aquatic amphibians are dependent on standing or flowing water for reproduction. Such habitats include fresh water marshes and open water (reservoirs, permanent and temporary pools and ponds, and perennial streams). Many aquatic amphibians will utilize vernal pools as nesting sites. These pools are temporary in duration and form following winter and spring rains common to southern California. Pacific treefrog (*Hyla regilla*) tadpoles were observed within the study area. Amphibian species observed within the study area are included in Appendix B, *Floral and Faunal Compendium*.

3.4.3 Reptiles

Reptilian diversity and abundance typically varies with habitat type and character. Some species prefer only one or two natural communities; however, most will forage in a variety of communities. A number of reptile species prefer open habitats that allow free movement and high visibility. Most species occurring in open habitats rely on the presence of small mammal burrows for cover and escape from predators and extreme weather. The side-blotched lizard

(*Uta stansburiana*) was observed within the study area. All reptile species observed or expected to occur within the study area are included in Appendix B, *Floral and Faunal Compendium*.

3.4.4 Birds

The study area provides foraging and cover habitat for year-round residents, seasonal residents, and migrating songbirds within disturbed and ruderal communities. Representative avian species observed within the study area include the great egret (*Ardea alba*), snowy egret (*Egretta thula*), killdeer (*Charadrius vociferus*), mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), northern flicker (*Colaptes auratus*), Say's phoebe (*Sayornis saya*), American crow (*Corvus brachyrhynchos*), yellow-rumped warbler (*Dendroica coronata*), white-crowned sparrow (*Zonotrichia leucophrys*), house finch (*Carpodacus mexicanus*), and lesser goldfinch (*Carduelis psaltria*). Sensitive avian species are discussed in Section 3.7.4, *Sensitive Wildlife Species*. All avian species observed or expected to occur within the study area are included in Appendix B, *Floral and Faunal Compendium*.

Raptor species observed within the study area include the northern harrier (*Circus cyaneus*) and red-tailed hawk (*Buteo jamaicensis*). Trees within and around the study area provide perches for roosting in the area. The ruderal/disturbed nature of the study area also provides habitat for reptiles, songbirds, and small mammals, which has the potential to result in a sizeable prey population for raptor foraging. Collectively, the availability of prey and perches would suggest that the study area has the potential to be used by a variety of raptor species. Sensitive raptor species are discussed in Section 3.7.4, *Sensitive Wildlife Species*. All raptor species observed or expected to occur within the study area are included in Appendix B, *Floral and Faunal Compendium*.

3.4.5 Mammals

Mammal species observed within the study area include the desert cottontail (*Sylvilagus audubonii*) and California ground squirrel (*Spermophilus beecheyi*). Sensitive mammal species are discussed in Section 3.7.4, *Sensitive Wildlife Species*. All mammal species observed or expected to occur within the study area are included in Appendix B, *Floral and Faunal Compendium*.

3.5 WILDLIFE MOVEMENT

3.5.1 Overview

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space

areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic material (MacArthur and Wilson 1967, Soulé 1987, Harris and Gallagher 1989, Bennet 1990).

Corridors effectively act as links between different populations of a species. A group of smaller populations (termed "demes") linked together via a system of corridors is termed a "metapopulation." The long-term health of each deme within the metapopulation is dependent upon its size and the frequency of interchange of individuals (immigration vs. emigration). The smaller the deme, the more important immigration becomes, because prolonged inbreeding with the same individuals can reduce genetic variability. Immigrant individuals that move into the deme from adjoining demes mate with individuals and supply that deme with new genes and gene combinations that increases overall genetic diversity. An increase in a population's genetic variability is generally associated with an increase in a population's health and long-term viability.

Corridors mitigate the effects of habitat fragmentation by: (1) allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Noss 1983, Fahrig and Merriam 1985, Simberloff and Cox 1987, Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and, (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A number of terms have been used in various wildlife movement studies, such as "wildlife corridor," "travel route," and "wildlife crossing" to refer to areas in which wildlife move from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this study, these terms are defined as follows:

Travel Route: A landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another; it contains adequate food, water, and/or cover while moving between habitat areas; and provides a relatively direct link between target habitat areas.

Wildlife Corridor: A piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat or landscape linkages") can provide both transitory and resident habitat for a variety of species.

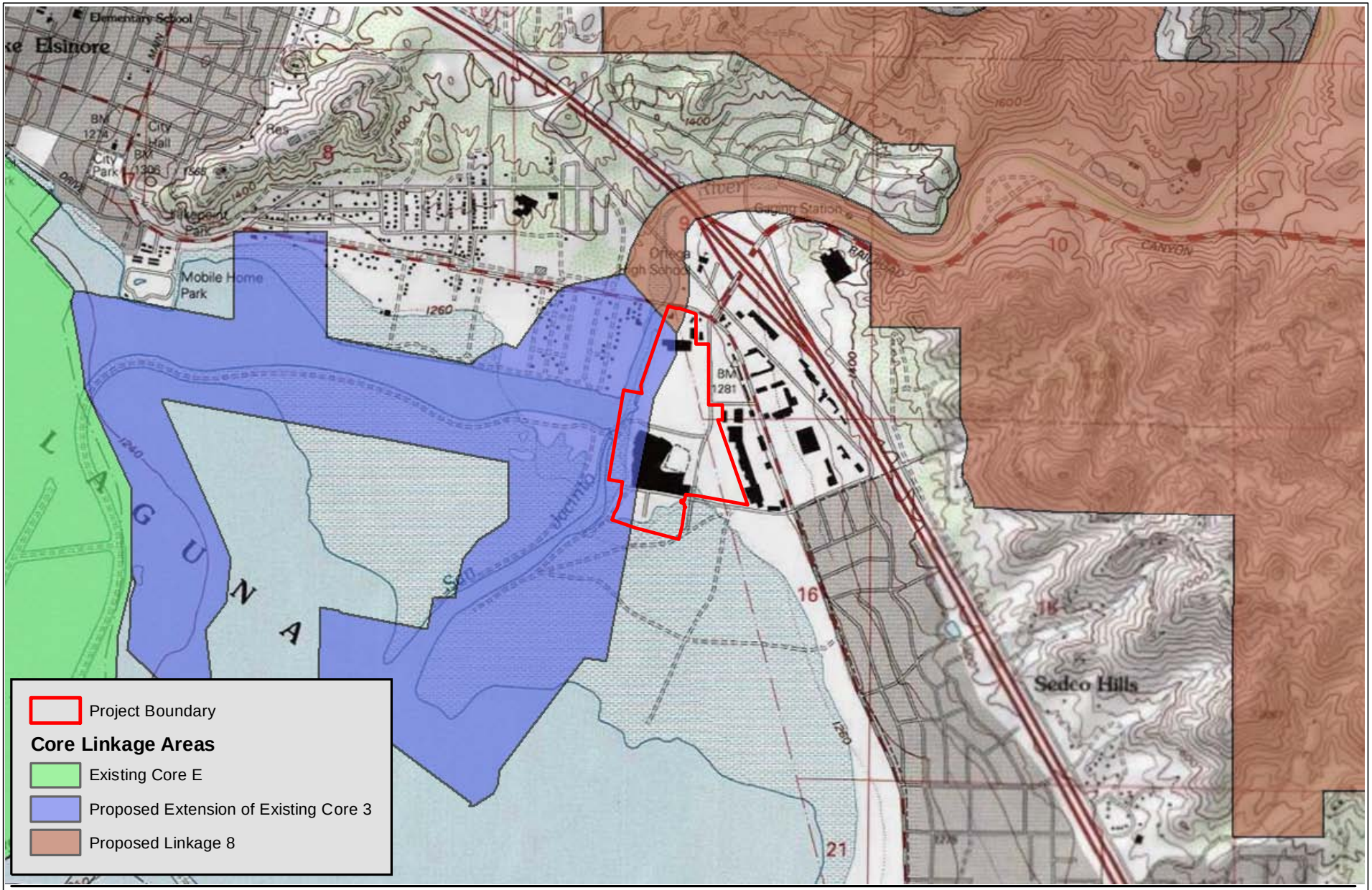
Wildlife Crossing: A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These are often "choke points" along a movement corridor.

3.5.2 Wildlife Movement within the Study Area

As previously described, wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, or individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). Although the nature of each of these types of movement is species specific, large open spaces will generally support a diverse wildlife community representing all types of movement. Each type of movement may also be represented at a variety of scales from non-migratory movement of amphibians, reptiles, and some birds on a "local" level to home ranges encompassing many square-miles for large mammals moving at a "regional" level.

From a regional perspective, the study area is located east of the Santa Ana Mountains and the Cleveland National Forest, west of the Badlands and San Jacinto Mountains, and south of Estelle Mountain and Steele Peak. The study area is directly east of the San Jacinto River and Lake Elsinore. The western border of the study area lies within the Proposed Extension of Existing Core 3 of the MSHCP, as shown in Figure 7, *Location within MSHCP Cores and Linkages*, on page 27. In addition, a small portion of the northwesternmost corner of the study area, which currently exists as a commercial development, lies within Proposed Linkage 8 of the MSHCP. Proposed Linkage 8 follows the San Jacinto River, which is immediately adjacent to the study area to the west.

The barren (lakebed) and tamarisk/willow scrub communities mapped along the western border of the study area are expected to support regional movement for species utilizing the San Jacinto River as a movement corridor. The remainder of the study area is either developed or disturbed and routinely disced, with some of the disturbed areas supporting a dominance of ruderal plant species. These portions of the study area would not be expected to support regional



Source: USGS Topographic Series (Lake Elsinore, CA); PCR Services Corporation, 2009.

Figure 7
The Diamond Specific Plan
Location within MSHCP
Cores and Linkages

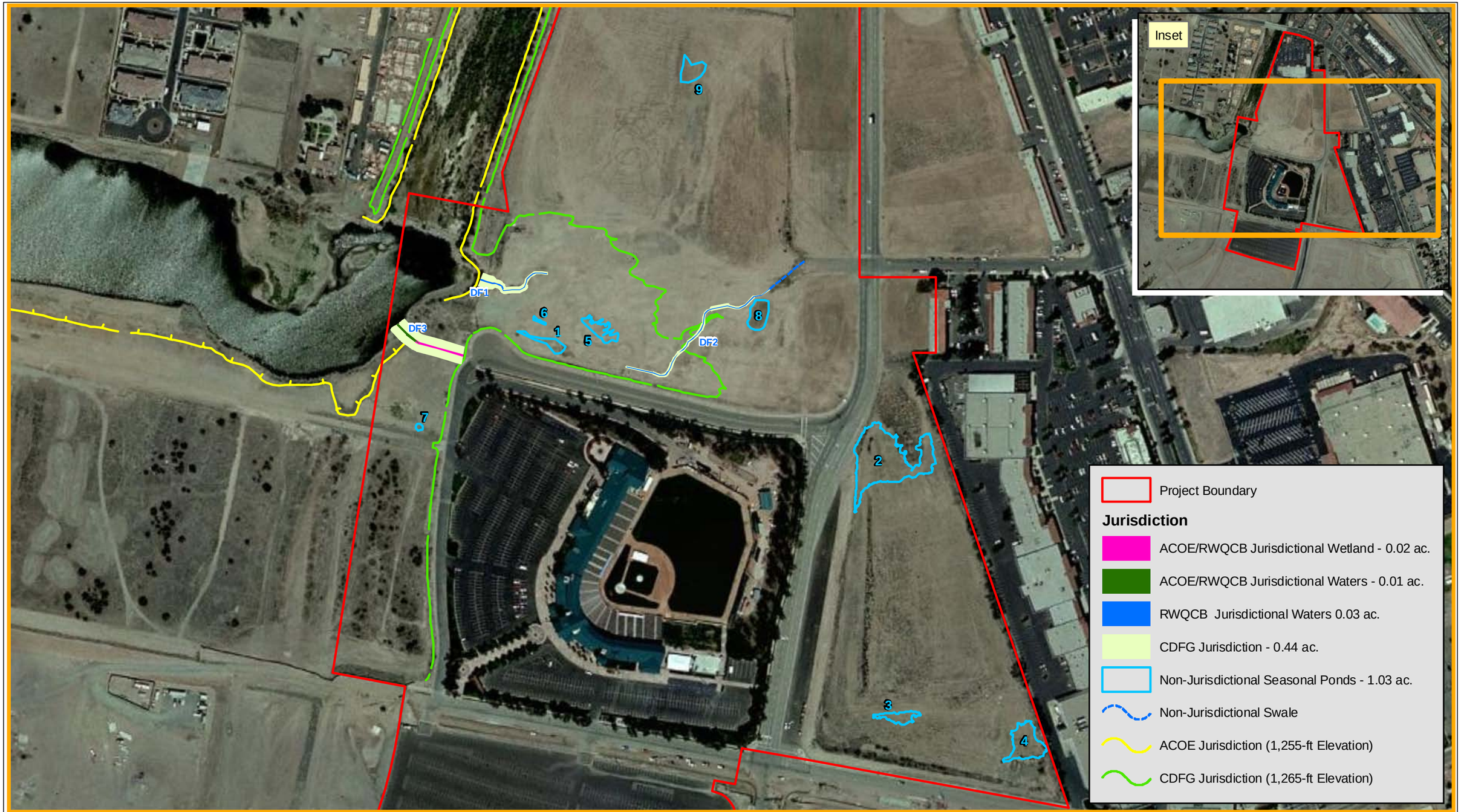
movement for large mammals with extensive home ranges due to the lack of suitable movement habitat within the study area, as well as from the surrounding development. However, regional movement may be provided in the form of stepping-stone habitat for birds and several reptile and small- to medium-sized mammal species that are more adapted to disturbance.

Because Proposed Linkage 8 focuses on the conservation of riparian scrub, woodland, forest, and grassland habitat associated with the San Jacinto River (as mentioned under Criteria Cells 4743 and 4846 in Table 3-4, *Criteria for Elsinore Area Plan* of the MSHCP), the barren (lakebed) and tamarisk/willow scrub communities in the western portion of the study area are important to maintaining the functions of this proposed linkage. In addition, due to the immediate adjacency of the study area to the San Jacinto River, some of the species may be observed flying over the study area as they move through Proposed Linkage 8 to and from the Proposed Extension of Existing Core 3, however, with the exception of the barren (lakebed) and tamarisk/willow scrub communities, these species are not expected to breed or forage within the remainder of the study area due to its disturbed nature.

3.6 JURISDICTIONAL DELINEATION

The study area was assessed for the presence of aquatic features potentially subject to the jurisdiction of the ACOE, CDFG, and/or RWQCB, as described previously in Section 2.3.7. The study area supports two small, ephemeral drainage features (i.e., they carry flows only during and immediately following storm events and are typically only supported by precipitation and stormwater runoff), and one intermittent feature (i.e., it supports flows for more prolonged periods throughout the year). Combined, these three features total 933.5 linear feet of streambed, 0.03 acre of ACOE/RWQCB jurisdictional "waters of the U.S."/"waters of the State," of which 0.02 acre is wetland, 0.03 acre of RWQCB jurisdictional non-wetland "waters of the State," 0.44 acre of CDFG jurisdictional streambed, as shown in Figure 8, *Jurisdictional Features and Locations of Seasonal Ponds,* on page 29. Please note, the acreage of the total ACOE and RWQCB jurisdictional areas are included within the total CDFG jurisdictional area, and are not additive. In addition, 1.50 acres lies within the ACOE jurisdictional Lake Elsinore elevation boundary and 11.00 acres of within CDFG jurisdictional elevation.

Although a final Jurisdictional Determination must be issued by the ACOE for concurrence with this delineation, the two ephemeral features have been delineated as non-Federal waters. This delineation is supported by information contained within guidance documents issued jointly by the ACOE and the U.S. Environmental Protection Agency following the U.S. Supreme Court's ruling on the consolidated cases *Rapanos v. the United States* and *Carabell v. United States*. These guidance documents identify "*swales and erosional features (e.g. gullies, small washes characterized by low volume, infrequent, or short duration flow)*" as non-jurisdictional. One feature has been formed entirely through gully erosion, and the other is a



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250 0 250 Feet

Source: Aerial Express, 2008; PCR Services Corporation, 2009.

Figure 8
The Diamond Specific Plan
Jurisdictional Features and Locations of Seasonal Ponds

small wash formed from runoff discharging from adjacent street gutters which quickly diffuses into surface sheet flow once on-site. In addition, neither of these two features have a direct connection to the lake, although hydrologically both eventually drain into the lake. Therefore, these two features should not be considered jurisdictional under Sections 404 of the Clean Water Act (CWA). However, both features are still regulated under California Fish and Game Code 1600 et seq. and the Porter-Cologne Water Quality Control Act (Water Code § 13050 (e)) and should be considered jurisdictional "waters of the State." The third feature is a stormwater channel that is a direct tributary to the lake, has intermittent hydrololgy which supports a small wetland system within its bed. This feature is jurisdictional under Sections 404 and 401 of the CWA as well as the State regulations noted above.

In addition, the study area supports nine seasonal ponds totaling approximately 1.03 acres, as previously mentioned in Section 2.3.5.2. However, these ponds appear to have been created by past and recent earth moving activities and are all very disturbed. These conditions suggest that although they do collect and hold standing water for short periods following adequately sized rain events, they should not be considered jurisdictional due to their extremely limited hydrology, lack of any channelized flows, and lack of a bed and bank.[2]

A jurisdictional delineation was not conducted on the portions of Lake Elsinore or the San Jacinto River within the study area, which will not be impacted by the proposed project and thus is not included within the scope of the jurisdictional delineation.

3.7 SENSITIVE BIOLOGICAL RESOURCES

The following discussion describes the plant and wildlife species present, or potentially present, within the study area that have been afforded special recognition by federal, State, or local resource conservation agencies and organizations, principally due to the species' declining or limited population sizes, usually resulting from habitat loss. Also discussed are habitats that are unique, of relatively limited distribution, or of particular value to wildlife. Protected sensitive species are classified by either State or Federal resource management agencies, or both, as threatened or endangered, under provisions of the California and Federal Endangered Species Acts (CESA and FESA, respectively).

[2] *Please note, the jurisdictional and non jurisdictional status of the on-site features described in this section is based on PCR's professional opinion. However, a final determination of jurisdiction will be issued by the appropriate regulatory agencies following their review of the features in question.*

3.7.1 Sensitive Resource Classification

Federal Protection and Classifications

The FESA of 1973 defines an endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species which is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA, unless properly permitted, it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a Federal agency for an action which could affect a federally-listed plant and animal species, the property owner and agency are required to consult with USFWS to obtain appropriate permits. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

The USFWS instituted changes in the listing status of candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing. Former C2 species (for which the USFWS had insufficient evidence to warrant listing) and C3 species (either extinct, no longer a valid taxon, or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected.

Some USFWS field offices have issued memoranda stating that former C2 species are henceforth to be considered Federal Species of Concern (FSC). FSC are sensitive species that have not been listed, proposed for listing, placed in candidate status, nor receive any legal protection. The USFWS uses this designation to monitor the health of a species and its habitat; FSC also will not necessarily be proposed for listing as a threatened or endangered species. The Carlsbad Fish and Wildlife Office does not maintain such a list for their jurisdiction, which includes Los Angeles, Orange, Riverside, San Bernardino, Imperial, and San Diego Counties. All references to federally-protected species in this report (whether listed, proposed for listing, or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS.

For purposes of this assessment the following acronyms are used for Federal status species:

- FE Federally-listed as Endangered;

- FT Federally-listed as Threatened;
- FPE Federally proposed for listing as Endangered;
- FPT Federally proposed for listing as Threatened;
- FPD Federally proposed for delisting;
- FC Federal candidate species (former C1 species).

State of California Protection and Classifications

The CESA defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The State defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a Threatened species." Candidate species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of Endangered species or the list of Threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as Threatened or Endangered at the discretion of the Fish and Game Commission. Unlike the FESA, CESA does not include listing provisions for invertebrate species.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of Threatened or Endangered species by stating "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided." Under the CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the State to allow "take" require permits or memoranda of understanding and can be authorized for "Endangered species, Threatened species, or candidate species for scientific, educational, or management purposes." Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

Additionally, some sensitive mammals and birds are protected by the State as Fully Protected Mammals or Fully Protected Birds, as described in the California Fish and Game

Code, Sections 4700 and 3511, respectively. California Species of Special Concern are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFG's CNDDB project. Informally listed taxa are not protected per se, but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites.

For the purposes of this assessment, the following acronyms are used for State status species:

- SE State-listed as Endangered;
- ST State-listed as Threatened;
- SR State-listed as Rare;
- SCE State candidate for listing as Endangered;
- SCT State candidate for listing as Threatened;
- SFP State Fully Protected;
- SSC California Special Concern Species.

California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California (CNPS 2001). The list serves as the candidate list for listing as Threatened and Endangered by CDFG. CNPS has developed five categories of rarity:

- List 1A Presumed extinct in California;
- List 1B Rare or Endangered in California and elsewhere;
- List 2 Rare or Endangered in California, more common elsewhere;
- List 3 Plants for which we need more information – Review list;
- List 4 Plants of limited distribution – Watch list.

The CNPS recently added "threat ranks" which parallel the ranks used by the CNDDB. These ranks are added as a decimal code after the CNPS List (e.g., List 1B.1). The threat codes are as follows:

- .1 – Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat);
- .2 – Fairly endangered in California (20-80 percent occurrences threatened);
- .3 – Not very endangered in California (<20 percent of occurrences threatened or no current threats known).

Sensitive species that occur or potentially could occur within the study area are based on one or more of the following: (1) the direct observation of the species on the property during one of the biological surveys; (2) a record reported in the CNDDB; and (3) the study area is within known distribution of a species and contains appropriate habitat.

Western Riverside County Multiple Species Habitat Conservation Plan/Natural Community Conservation Plan

The study area is within the Western Riverside County MSHCP/Natural Community Conservation Plan (NCCP), which was adopted by the Riverside County Board of Supervisors (June 17, 2003). The MSHCP functions as an Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of the FESA and as an NCCP under the NCCP Act of 2001. The USFWS and CDFG have authorized the take of a number sensitive plant and wildlife species within the MSHCP Plan Area in exchange for the assembly and management of a coordinated MSHCP Conservation Area. Many of the sensitive plant and wildlife species discussed herein will provide information on the status of the species within the study area.

3.7.2 Sensitive Plant Communities/Habitat

A majority of the study area is highly disturbed due to routine discing, and dominated by sparse, ruderal plant species. A small portion of the study area consists of tamarisk/willow scrub (0.4 acre). Due to the disturbed nature of this community, it is not considered a high inventory priority community by the CNDDB, however is considered Riparian/Riverine habitat under the definitions of Section 6.1.2, *Protection of Riparian/Riverine Areas and Vernal Pools* under the MSHCP. The Riparian/Riverine analysis is discussed further in Section 3.8.3.

3.7.3 Sensitive Plant Species

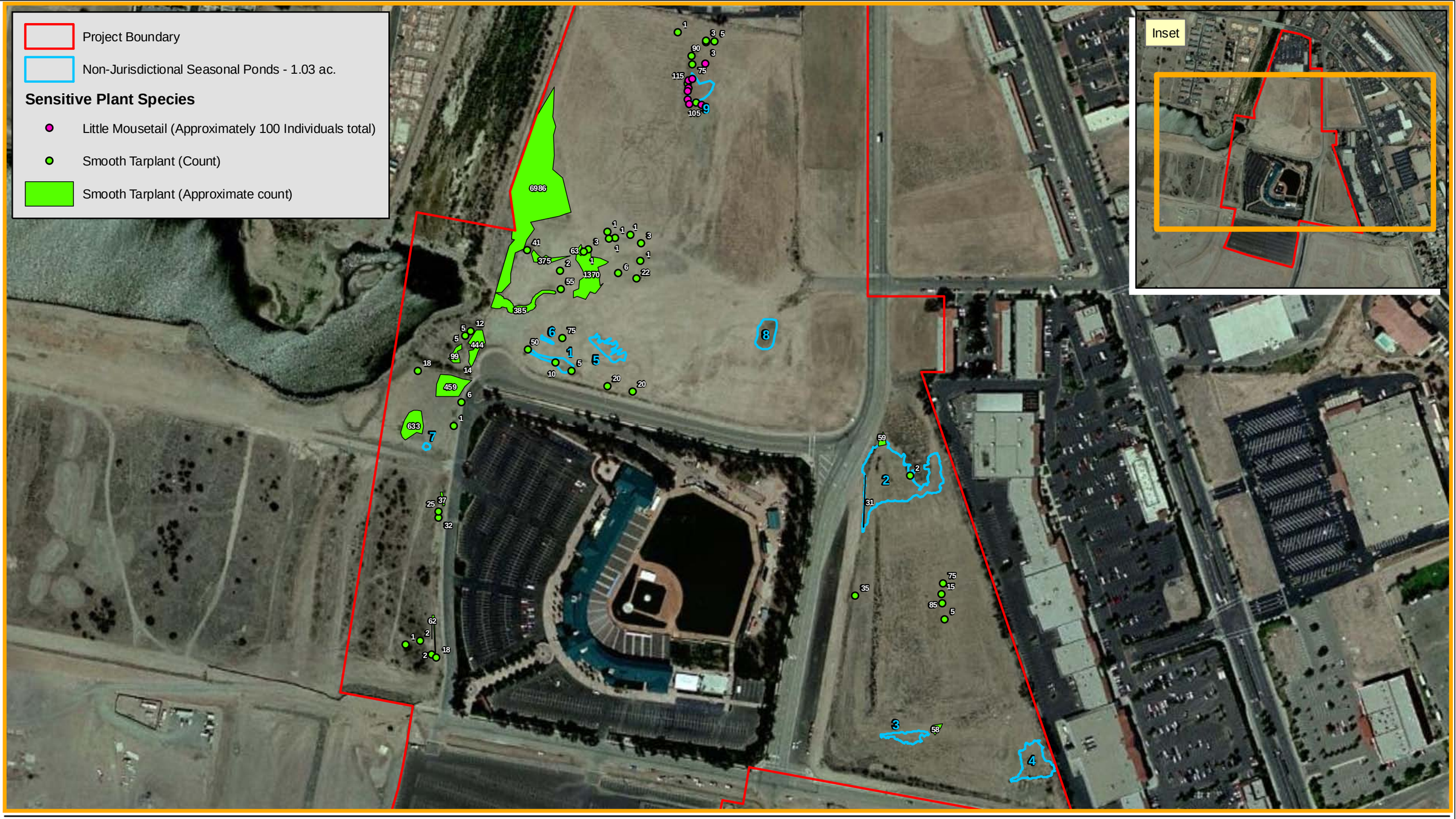
Sensitive plants include those listed, or candidates for listing, by the USFWS and CDFG, and species considered sensitive by the CNPS (particularly Lists 1A, 1B, and 2). Two sensitive plant species, smooth tarplant and little mousetail, were observed within the study area as shown in Figure 9, *Locations of Sensitive Plant Species*, on page 36. Smooth tarplant is a CNPS List 1B.1 species and a Riparian/Riverine and Criteria Area Species under the MSHCP (Sections 6.1.2 and 6.3.2, respectively). Approximately 12,100 smooth tarplant plants were estimated on-site, the majority of which are in the western portion of the study area. Little mousetail is a CNPS List 3.1 species and a Criteria Area Species under the MSHCP (Section 6.3.2). Approximately 100 little mousetail plants were estimated on-site within Seasonal Pond 9. Sensitive plant species and their potential to occur within the study area are analyzed and summarized in Table 2, *Sensitive Plant Species*, on page 37. A list of all plant species observed within the study area is included in Appendix B, *Floral and Faunal Compendium*.

3.7.4 Sensitive Wildlife Species

Sensitive wildlife species include those species listed as endangered or threatened under the FESA or CESA, candidates for listing by the USFWS or CDFG, and species of special concern to the CDFG. As described in Section 2.3.5, several sensitive wildlife species have the potential to occur on-site.

Focused wet season surveys for fairy shrimp were conducted from December 2008 through March 2009. A dry season survey was conducted in June 2009 following the end of the wet season survey. No sensitive fairy shrimp species were found on-site during the focused wet season survey, nor during the dry season survey. Cysts of the genus *Branchinecta* were found from those cysts collected during the dry season survey. However, due to the large number of the common versatile fairy shrimp (*Branchinecta lindahli*) which were found during the wet season surveys, and due to the well-documented known distribution of the vernal pool fairy shrimp which does not occur within the vicinity of the study area, no vernal pool fairy shrimp are expected to occur on-site. Phase III focused burrowing owl surveys were conducted in March 2009. No burrowing owls were found on-site during the focused surveys.

One sensitive wildlife species was observed within the study area: northern harrier (*Circus cyaneus*). Ten additional sensitive wildlife species have the potential to occur within the study area due to the presence of suitable habitat. These include: western spadefoot (*Spea hammondii*), white-faced ibis (*Plegadis chihi*), golden eagle (*Aquila chrysaetos*), white-tailed kite (*Elanus leucurus*), American peregrine falcon (*Falco peregrinus anatum*), western snowy plover (*Charadrius alexandrines nivosus*), long-eared owl (*Asio otus*), California horned lark (*Eremophila alpestris actia*), western mastiff bat (*Eumops perotis californicus*), and Stephens' kangaroo rat (*Dipodomys stephensi*).



PCR

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250 0 250 Feet

Source: Aerial Express, 2008; PCR Services Corporation, 2009.

Figure 9
The Diamond Specific Plan
Locations of Sensitive Plant Species

Table 2

Sensitive Plant Species

NON-VASCULAR PLANTS									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On the Site**
BRYOPHYTES (LIVERWORTS, HORNWORTS, AND MOSSES)									
Sphaerocarpaceae	**Liverworts**								
Geothallus tuberosus	Campbell's liverwort	N/A	None	None	1B.1	None	Coastal scrub, vernal pools; mesic soil. 10 - 600 meters.	Riverside and San Diego Cos.	NE
Comments: Campbell's liverwort has potential to occur within the study area. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									
Sphaerocarpos drewei	bottle liverwort	N/A	None	None	1B.1	None	Chaparral, coastal scrub within openings on soil. 90 - 600 meters.	Riverside and San Diego Cos.	NE
Comments: Bottle liverwort has potential to occur within the study area. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									
Pottiaceae	**Mosses**								
Tortula californica	California screw-moss	N/A	None	None	1B.2	None	Chenopod scrub, valley and foothill grassland; sandy soil. 10 - 1460 meters.	Kern, Monterey, Modoc, Riverside, Santa Barbara Cos., and Santa Rosa Isl.	NE
Comments: Due to the lack of suitable habitat, California screw-moss is not expected to occur within the study area.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
ANGIOSPERMS (DICOTYLEDONS)									
Apiaceae	**Parsley Family**								
Eryngium aristulatum var. *parishii*	San Diego button-celery	Apr-Jun	FE	SE	1B.1	MSHCP****	Coastal scrub, valley and foothill grassland, and vernal pools. Mesic soils. 20 - 620 meters.	Riverside, San Diego Cos, and Baja Ca.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment was conducted by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									
Asteraceae	**Sunflower Family**								
Ambrosia pumila	San Diego ambrosia	Apr-Oct	FE	None	1B.1	MSHCP*/ MSHCP****	Chaparral, coastal scrub, valley and foothill grassland, vernal pools, often in disturbed areas, sometimes alkaline. 20 - 415 meters	Riverside, San Diego Cos, and Baja Ca.	NE
Comments: Portions of the study area is located within the MSHCP NEPS Survey Area 2 and this species is protected under Section 6.1.2 of the MSHCP. Therefore, a habitat assessment for San Diego ambrosia was conducted by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									
Deinandra mohavensis	Mojave tarplant	Jul-Oct	None	SE	1B.3	MSHCP****	Chaparral, coastal scrub, riparian scrub/mesic; elevation ranges from 640-1600 meters.	Kern, Riverside, San Bernardino, San Diego Cos.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for Mojave tarplant was conducted by PCR in December 2008. This species is not expected to occur due to the lack of suitable habitat. In addition, within Riverside County, this species is restricted to the San Jacinto Mountains.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Holocarpha virgata ssp. *elongata*	graceful tarplant	May-Nov	None	None	4.2	MSHCP****	Chaparral, cismontane woodland, coastal sage scrub, and valley and foothill grasslands below 600 meters. Generally, shrub cover is not well developed with a heavy incidence of non-native grasses and invasive herbs. Usually occurs on level, mildly disturbed terrain.	Orange, Riverside, San Diego Cos.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for graceful tarplant was conducted by PCR in December 2008. This species is known from the Santa Rosa Plateau and San Mateo wilderness in the western portion of Riverside County. Due to its known distribution, it is not expected to occur within the study area.									
Hemizonia pungens ssp. *laevis*	smooth tarplant	Apr.-Sept.	None	None	1B	MSHCP**/ MSHCP****	Valley and foothill grasslands with poorly drained alkaline soil conditions at low elevations. 0 - 480 meters	Riverside, San Bernardino, and San Diego Cos.	OB
Comments: Portions of the study area are located within the Criteria Area Species Survey Area, and this species is protected under Section 6.1.2 of the MSHCP. Therefore, a habitat assessment was conducted for this species by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. Approximately 12,100 smooth tarplant plants were estimated on-site, with the majority occurring within the western portion of the study area.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	Feb-Jun	None	None	1B.1	MSHCP**	Marshes and swamps (coastal salt), playas, and vernal pools. 1 - 1220 meters.	Colusa, Kern, Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, Santa Rosa Isl., Tulare, Ventura Cos., and Baja Ca.	NE
Comments: Portions of the study area are located within the Criteria Area Species Survey Area. Therefore, a habitat assessment was conducted for this species by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									
Pseudognaphalium leucocephalum	white rabbit-tobacco	Aug.-Nov.	None	None	2.2	None	Chaparral, cismontane woodland, coastal scrub, riparian woodland, sandy, gravelly soils. This species is found only in alluvial situations, sometimes on benches, often by the stream course, but always on sand and frequently in open cobble. 0 - 2100 meters.	Orange, Riverside, Los Angeles, and San Diego Cos.	NE
Comments: White rabbit-tobacco is not expected to occur within the study area due to the lack of suitable habitat.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Symphyotrichum defoliatum	San Bernardino aster	Jul-Nov	None	None	1B.2	None	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic), near ditches, streams, and springs. 2 - 2040 meters.	Kern , Los Angeles, Orange, Riverside, San Bernardino, San Diego, and San Luis Obispo Cos.	NE
Comments: San Bernardino aster has potential to occur within the study area. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in July 2009. This species was not found on-site.									
Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	May-Sept.	None	None	2.1	MSHCP*	Meadows and seeps, marshes and swamps, riparian scrub, vernal pools/alkaline. 5 - 435 meters.	Riverside County	NE
Comments: Portions of the study area are located within the MSHCP NEPS Survey Area 1. Therefore, a habitat assessment for Wright's trichocoronis was conducted by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									
Viguiera purisimae	La Purisima viguiera	Apr-Sep	None	None	2.3	None	Coastal sage scrub, chaparral. 365 - 425 meters.	San Diego Co. and Baja Ca.	NE
Comments: La Purisima viguiera has potential to occur within the study area. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Boraginaceae	**Borage Family**								
Harpagonella palmeri	Palmer's grapplinghook	Mar.-May	None	None	4.2	MSHCP	Chaparral, coastal scrub, valley and foothill grasslands/clay. 20 - 955 meters.	Los Angeles, Orange, Riverside and San Diego Cos.	NE
Comments: Palmer's grapplinghook is not expected to occur within the study area due to the lack of suitable habitat. In addition, this species is covered by the MSHCP.									
Brassicaceae	**Mustard Family**								
Caulanthus simulans	Payson's jewel-flower	Mar.-Jun.	None	None	4.2	MSHCP	Chaparral, coastal scrub, frequently in burned areas, streambeds, and rocky, steep slopes. 90 - 2200 meters.	Riverside and San Diego Cos.	NE
Comments: Payson's jewel-flower is not expected to occur within the study area due to the lack of suitable habitat. In addition, this species is covered by the MSHCP.									
Sibaropsis hammittii	Hammitt's clay-cress	Mar.-Apr.	None	None	1B.2	MSHCP*	Chaparral, valley and foothill grassland; clay. 720 - 1065 meters.	Riverside and San Diego Cos.	NE
Comments: Portions of the study area are located within the MSHCP NEPS Survey Area 1. Therefore, a habitat assessment for Hammitt's clay-cress was conducted by PCR in December 2008. This species is not expected to occur within the study area due to the lack of suitable habitat and disturbed nature of the study area.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Chenopodiaceae	**Goosefoot Family**								
Atriplex coronata var. *notatior*	San Jacinto Valley crownscale	Apr-Aug	FE	None	1B.1	MSHCP****	Playas, valley and foothill grassland (mesic), vernal pools; alkaline soils. 139 - 500 meters.	Kern and Riverside Cos.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for San Jacinto Valley crownscale was conducted by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									
Atriplex pacifica	south coast saltscale	Mar-Oct	None	None	1B.2	None	Coastal bluff scrub, coastal dunes, coastal scrub, playas. 0 - 140 meters	Anacapa Isl., Los Angeles, Orange, Riverside, Santa Barbara, San Clemente Isl., Santa Catalina Isl., Santa Cruz Isl., San Diego, San Nicolas Isl., Santa Rosa Isl., Ventura Cos., AZ, Baja Ca., and Sonora Mx.	NE
Comments: South coast saltscale is not expected to occur within the study area due to the lack of suitable habitat.									
Atriplex parishii	Parish's brittlescale	Jun-Oct	None	None	1B.1	MSHCP**	Chenopod scrub, playas, vernal pools; alkaline soils. 25 – 1900 meters.	Los Angeles, Orange, Riverside, San Bernardino, and San Diego Cos., and Baja Ca.	NE
Comments: Portions of the study area are located within the Criteria Area Species Survey Area. Therefore, a habitat assessment was conducted for this species by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in July 2009. This species was not found on-site.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Atriplex serenana var. *davidsonii*	Davidson's saltscale	Apr-Oct	None	None	1B.2	MSHCP**	Coastal bluff scrub, coastal scrub; alkaline soils. 10 - 200 meters.	Los Angeles, Orange, Riverside, Santa Barbara, Santa Catalina Isl., Santa Cruz Isl., San Diego, San Luis Obispo, Santa Rosa Isl., Ventura Cos, and Baja Ca.	NE
Comments: Portions of the study area are located within the Criteria Area Species Survey Area. Therefore, a habitat assessment was conducted for this species by PCR in December 2008. This species is not expected to occur within the study area due to a lack of suitable habitat.									
Crassulaceae	**Stonecrop Family**								
Dudleya multicaulis	many-stemmed dudleya	Apr.-Jul.	None	None	1B.2	MSHCP*	Coastal scrub, chaparral, valley and foothill grassland; heavy clay soils or rock outcrops; below 2,000 feet.	Los Angeles Co. to San Onofre Mt. in San Diego Co.	NE
Comments: Portions of the study area are located within the MSHCP NEPS Survey Area 2. Therefore, a habitat assessment for many-stemmed dudleya was conducted by PCR in December 2008. This species is not expected to occur within the study area due to the lack of suitable habitat.									
Dudleya viscida	sticky dudleya	May-Jun.	None	None	1B.2	MSHCP***	Coastal scrub, coastal bluff scrub, chaparral on north- and south-facing cliffs and banks; below 1,800 feet.	Orange, Riverside, and San Diego Cos.	NE
Comments: Sticky dudleya is not expected to occur within the study area due to the lack of suitable habitat.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Ericaceae	**Heath Family**								
Arctostaphylos rainbowensis	rainbow manzanita	Jan.-Feb.	None	None	1B.1	MSHCP***	Chaparral. 225 - 640 meters.	Riverside and San Diego Cos.	NE
Comments: Due to the lack of suitable habitat, rainbow manzanita is not expected to occur within the study area. In addition, this is a conspicuous shrub species and would have been observed on-site.									
Comarostaphylis diversifolia ssp. *diversifolia*	summer holly	Apr.-Jun.	None	None	1B.2	None	Chaparral. 30 - 550 meters.	Orange, Riverside, and San Diego Cos.; Baja CA.	NE
Comments: Due to the lack of suitable habitat, summer holly is not expected to occur within the study area. In addition, this is a conspicuous shrub species and would have been observed on-site.									
Euphorbiaceae	**Spurge Family**								
Tetracoccus dioicus	Parry's tetracoccus	Apr.-May	None	None	1B.2	None	Chaparral, coastal scrub. 165 - 1000 meters.	Orange, Riverside, and San Diego Cos.; Baja CA.	NE
Comments: Due to the lack of suitable habitat, Parry's tetracoccus is not expected to occur within the study area. In addition, this is a conspicuous shrub species and would have been observed on-site.									
Fagaceae	**Oak Family**								
Quercus engelmannii	Engelmann oak	Mar-Jun	None	None	4.2	MSHCP****	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland; elevation ranges from 120-1300 meters.	Los Angeles, Orange, Riverside, San Diego Cos.; Santa Catalina Island; Baja CA.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for Engelmann oak was conducted by PCR in December 2008. This species is not expected to occur due to the lack of suitable habitat. In addition, this is a conspicuous tree species and would have been observed during the habitat assessment if present.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Geraniaceae	**Geranium Family**								
Californica macrophylla	round-leaved filaree	Mar.-May	None	None	1B.1	MSHCP**	Cismontane woodland, valley and foothill grassland, clay soils. 15 - 1200 meters.	Los Angeles, Riverside, and San Diego Cos.	NE
Comments: Portions of the study area are located within the Criteria Area Species Survey Area. Therefore, a habitat assessment was conducted for this species by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									
Hydrophyllaceae	**Waterleaf Family**								
Phacelia stellaris	Brand's phacelia	Mar-Jun	FC	None	1B.1	MSHCP****	Coastal dunes, coastal scrub; elevation ranges from 1-400 meters.	Los Angeles, San Diego Cos.; Baja Ca.	NE
This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for Brand's phacelia was conducted by PCR in December 2008. This species is not expected to occur due to the lack of suitable habitat.									
Nama stenocarpum	mud nama	Jan-Jul	None	None	2.2	MSHCP****	Marshes and swamps (lake margins, riverbanks); elevation ranges from 5-500 meters.	Imperial, Los Angeles, Orange, Riverside, San Diego Cos.; San Clemente Island; Baja CA, AZ.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for mud nama was conducted by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Juglandaceae	**Walnut Family**								
Juglans californica var. californica	Southern California black walnut	Mar-Aug	None	None	4.2	MSHCP****	Chaparral, cismontane woodland, coastal scrub/alluvial; elevation ranges from 50-900 meters.	Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, Ventura Cos.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for Southern California black walnut was conducted by PCR in December 2008. This species is not expected to occur due to the lack of suitable habitat. In addition, this is a conspicuous tree species and would have been observed during the habitat assessment if present.									
Lamiaceae	**Mint Family**								
Lepechinia cardiophylla	heart-leaved pitcher sage	Apr.-Jul.	None	None	1B.2	MSHCP	Open areas (esp. slopes) in chaparral, sage scrub, valley and foothill grasslands; vernal pools, topographic depressions; heavy clay soils; 2,000 – 4,200 ft.	Orange, Riverside, and San Diego Cos., Baja CA.	NE
Comments: Because the study area is outside of its typical elevational range, heart-leaved pitcher sage is not expected to occur within the study area. In addition, this species is covered by the MSHCP.									
Monardella hypoleuca ssp. *lanata*	felt-leaved monardella	Jun.-Aug.	None	None	1B.2	None	Chaparral, cismontane woodland. 300 - 1575 meters.	Orange and San Diego Cos.; Baja CA.	NE
Comments: Due to the lack of suitable habitat, felt-leaved monardella is not expected to occur within the study area.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Monardella macrantha ssp. *hallii*	Hall's monardella	Jun.-Aug.	None	None	1B.3	MSHCP	Lower montane coniferous forest, valley and foothill grassland, broadleaf upland forest, chaparral, cismontane woodland. Typically occurs at elevations between 1,800 and 6,200 ft.	Orange, Riverside, San Bernardino, and San Diego Cos.	NE
Comments: Due to the lack of suitable habitat and because the study area is outside of its typical elevational range, Hall's monardella is not expected to occur within the study area. In addition, this species is covered by the MSHCP.									
Satureja chandleri	San Miguel savory	Mar.-Jul.	None	None	1B.2	MSHCP*/ MSHCP****	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Rocky, gabbroic, or metavolcanic.	Orange, Riverside, and San Diego Cos.; Baja CA.	NE
Comments: Portions of the study area are located within the MSHCP NEPS Survey Area 2, and this species is protected under Section 6.1.2 of the MSHCP. Therefore, a habitat assessment for San Miguel savory was conducted by PCR in December 2008. This species is not expected to occur within the study area due to the lack of suitable habitat.									
Scutellaria bolanderi ssp. *austromontana*	southern mountains skullcap	Jun-Aug	None	None	1B.2	None	Chaparral, cismontane woodland, lower montane coniferous forest; mesic. 425 - 2000 meters.	Los Angeles, Riverside, San Bernardino, and San Diego Cos.	NE
Comments: Due to the lack of suitable habitat, southern mountains skullcap is not expected to occur within the study area.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Limnanthaceae	**Meadowfoam Family**								
Limnanthes gracilis ssp. *parishii*	Parish's meadowfoam	Apr-Jun	None	SE	1B.2	MSHCP****	Lower montane coniferous forest, meadows and seeps, vernal pools; vernally mesic. 600 - 2000 meters.	Riverside and San Diego Cos.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for Parish's meadowfoam was conducted by PCR in December 2008. Because the study area is outside of the typical elevational range for this species, Parish's meadowfoam is not expected to occur within the study area. In addition, this species is restricted to the Santa Rosa Plateau within the MSHCP Plan Area.									
Nyctaginaceae	**Four O'Clock Family**								
Abronia villosa var. *aurita*	chaparral sand-verbena	Jan.-Aug.	None	None	1B	None	Coastal scrub and chaparral habitats. 80 - 1600 meters.	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Ventura Cos., AZ, and Baja Ca.	NE
Comments: Chaparral sand-verbena has potential to occur within the study area. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Papaveraceae	**Poppy Family**								
Romneya coulteri	Coulter's matilija poppy	Mar-July	None	None	4.2	MSHCP****	Dry washes and canyons in sage scrub and chaparral; below 4,000 ft.	Santa Ana Mtns. to San Diego Co.	NE
Comments: Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for Coulter's matilija poppy was conducted by PCR in December 2008. Due to the lack of suitable habitat, Coulter's matilija poppy is not expected to occur within the study area.									
Polemoniaceae	**Phlox Family**								
Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	May-Sep	FE	SE	1B.1	MSHCP****	Chaparral, coastal scrub (alluvial fan)/sandy or gravelly; elevation ranges from 91-610 meters.	Orange, Riverside, San Bernardino Cos.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for Santa Ana River woollystar was conducted by PCR in December 2008. Due to the lack of suitable habitat, this species is not expected to occur within the study area.									
Navarretia fossalis	spreading navarretia	Apr.-Jun.	FT	None	1B.1	MSHCP****	Chenopod scrub, marshes and swamps, playas, vernal pools. 30 - 1300 meters.	Los Angeles, Riverside, and San Diego Cos.; Baja CA.	NE
Comments: Portions of the study area are located within the MSHCP NEPS Survey Area 2 and this species is protected under Section 6.1.2 of the MSHCP. Therefore, a habitat assessment for spreading navarretia was conducted by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Navarretia prostrata	prostrate navarretia	Apr-Jul	None	None	1B.1	MSHCP****	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools; mesic. 15 - 700 meters.	Alameda, Los Angeles, Merced, Monterey, Orange, Riverside, San Bernardino, San Benito, San Diego, and San Luis Obispo Cos.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for prostrate navarretia was conducted by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									
Polygonaceae	**Buckwheat Family**								
Polygala cornuta var. *fishiae*	Fish's milkwort	May-Aug.	None	None	4.3	MSHCP****	Chaparral, cismontane woodland, riparian woodland.	Los Angeles, Orange, Riverside, Santa Barbara, San Diego, and Ventura counties, Baja CA.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for Fish's milkwort was conducted by PCR in December 2008. Due to the lack of suitable habitat, the study area is not expected to support Fish's milkwort.									
Chorizanthe parryi var. *parryi*	Parry's spineflower	Apr.-Jun.	None	None	3	MSHCP***	Openings/clearings in coastal or desert sage scrub, chaparral or interface; dry slopes or flat ground; sandy soils. 40 - 1705 meters.	Los Angeles, Riverside, and San Bernardino Cos.	NE
Comments: A habitat assessment for Parry's spineflower was conducted by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	Apr.-Jun.	None	None	1B	MSHCP	Primarily associated with clay soils but also found on sandy or gravelly soils within open areas of chaparral, sage scrub, or needlegrass grassland. 30 - 1530 meters.	Orange, Riverside, Santa Barbara, San Diego Cos., and Baja CA.	NE
Comments: A habitat assessment for long-spined spineflower was conducted by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									
Dodecahema leptoceras	slender-horned spineflower	Apr.-Jun.	FE	SE	1B	MSHCP*/ MSHCP****	Associated with chaparral, cismontane woodland and coastal scrub in alluvial fan areas. 200 - 760 meters.	Los Angeles, Riverside, and San Bernardino Cos.	NE
Comments: Portions of the study area are located within the MSHCP NEPS Survey Area 2 and this species is protected under Section 6.1.2 of the MSHCP. Therefore, a habitat assessment for slender-horned spineflower was conducted by PCR in December 2008. This species is not expected to occur within the study area due to the lack of suitable habitat.									
Ranunculaceae	**Buttercup Family**								
Myosurus minimus ssp. *apus*	little mousetail	Mar-Jun	None	None	3.1	MSHCP**	Valley and foothill grassland, vernal pools; alkaline soils. 20 - 640 meters.	Alameda, Contra Costa, Colusa, Lake, Merced, Riverside, San Bernardino, San Diego, Solano, Tulare Cos., Baja CA, and OR	OB
Comments: Portions of the study area are located within the Criteria Area Species Survey Area. Therefore, a habitat assessment was conducted for this species by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. Approximately 100 little mousetail plants were estimated on-site within Seasonal Pond 9.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Rosaceae	**Rose Family**								
Horkelia cuneata ssp. *puberula*	mesa horkelia	Feb.-Sep.	None	None	1B.1	None	Chaparral, cismontane woodland, coast scrub: sandy or gravelly. 70 - 810 meters.	Los Angeles and Orange Cos. May be extirpated from Riverside and San Diego Cos.	NE
Comments: A habitat assessment for mesa horkelia was conducted by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									
ANGIOSPERMS (MONOCOTYLEDONS)									
Liliaceae	**Lily Family**								
Allium munzii	Munz's onion	Mar.-May	FE	ST	1B.1	MSHCP*	Chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland/mesic, clay. 297 - 1070 meters.	Riverside Co.	NE
Comments: Portions of the study area are located within the MSHCP NEPS Survey Area 2. Therefore, a habitat assessment for Munz's onion was conducted by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									
Brodiaea filifolia	thread-leaved brodiaea	Mar.-Jun.	FT	SE	1B.1	MSHCP**	Sage scrub, valley and foothill grassland, cismontane woodland; vernal pools (clay soils). 25 - 1219 meters.	Los Angeles, Orange, Riverside, San Bernardino, San Diego Cos.	NE
Comments: Portions of the study area are located within the Criteria Area Species Survey Area. Therefore, a habitat assessment was conducted for this species by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									

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Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Brodiaea orcuttii	Orcutt's brodiaea	May-Jul.	None	None	1B.1	MSHCP****	Mesic, clay habitats; sometimes serpentine; usually in vernal pools and small drainages. 30 - 1692 meters.	Riverside and San Diego Cos; Baja CA.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore a habitat assessment for the Orcutt's brodiaea was conducted by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									
Calochortus weedii var. *intermedius*	foothill mariposa lily	May-Jul.	None	None	1B.2	MSHCP	Chaparral, coastal scrub, valley and foothill grasslands below 2,000 ft.	Los Angeles, Orange, and Riverside Cos.	NE
Comments: Due to the lack of suitable habitat, foothill mariposa lily is not expected to occur within the study area.									
Lilium humboldtii ssp. ocellatum	ocellated Humboldt lily	Mar.-Jul.	None	None	4.2	MSHCP***	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, openings.	Los Angeles, San Bernardino, Riverside, Orange, and San Diego Cos.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for the ocellated Humboldt lily was conducted by PCR in December 2008. Due to the lack of suitable habitat, this species is not expected to occur within the study area.									

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Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Lilium parryi	lemon lily	Jul-Aug	None	None	1B.2	MSHCP****	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest. 1220 – 2745 meters.	Los Angeles, Riverside, San Bernardino, San Diego Cos., AZ, and Sonora MX.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for the lemon lily was conducted by PCR in December 2008. Due to the lack of suitable habitat, lemon lily is not expected to occur within the study area. In addition, within Riverside County, this species is restricted to the San Jacinto Mountains.									
Nolina cismontana	chaparral nolina	May-Jul.	None	None	1B.2	None	Chaparral, coastal sage scrub, sandstone or gabbro.	Ventura, Orange, and San Diego Cos.	NE
Comments: Due to the lack of suitable habitat, chaparral nolina is not expected to occur within the study area. In addition, this species is a conspicuous shrub and would have been observed on-site.									
Poaceae	**Grass Family**								
Hordeum intercedens	vernal barley	Mar-Jun	None	None	3.2	MSHCP****	Coastal dunes, coastal scrub valley and foothill grassland (saline flats and depressions), vernal pools. 5 - 1000 meters.	Anacapa Isl., Fresno, Kings, Los Angeles, Mono, Orange, Riverside, Santa Barbara, Santa Barbara Isl., San Benito, San Clemente Isl., Santa Catalina Isl., Santa Cruz Isl., San Diego, San Miguel Isl., San Mateo, San Nicolas Isl., Santa Rosa Isl., Ventura Cos., and Baja CA.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP. Therefore, a habitat assessment for vernal barley was conducted by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.									

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
Orcuttia californica	California Orcutt grass	Apr.-Aug.	FE	SE	1B.1	MSHCP*/ MSHCP****	Vernal pools. 15 - 660 meters.	Los Angeles, Riverside, San Diego Cos.; Baja CA.	NE

Comments: Portions of the study area are located within the MSHCP NEPS Survey Area 2. In addition, this species is protected under Section 6.1.2 of the MSHCP. Therefore, a habitat assessment for California Orcutt grass was conducted by PCR in December 2008. Suitable habitat for this species occurs on-site; therefore, focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.

Key to Species Listing Status Codes

FE	*Federally Listed as Endangered*	FC	*Federal Candidate Species*	SCT	*State Candidate for Threatened*
FT	*Federally Listed as Threatened*	SE	*State Listed as Endangered*	SFP	*State Fully Protected*
FPE	*Federally Proposed as Endangered*	ST	*State Listed as Threatened*	SR	*State Rare*
FPT	*Federally Proposed as Threatened*	SCE	*State Candidate for Endangered*	SSC	*California Species of Special Concern*
FPD	*Federally Proposed for Delisting*				

California Native Plant Society (CNPS)

List 1A: *Presumed extinct in California.*
List 1B: *Rare, threatened, or endangered throughout their range.*
List 2: *Rare, threatened, or endangered in California, but more common in other states.*
List 3: *Plant species for which additional information is needed before rarity can be determined.*
List 4: *Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat.*

CNPS Threat Codes:

.1 *Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)*
.2 *Fairly endangered in California (20-80% occurrences threatened)*
.3 *Not very endangered in California (<20% of occurrences threatened or no current threats known)*

Western Riverside County, Multiple Species Habitat Conservation Plan (MSHCP)

MSHCP *Covered species under the Western Riverside County Multiple Species Habitat Conservation Plan.*
MSHCP* *Covered species under the Western Riverside County Multiple Species Habitat Conservation Plan, but additional habitat assessments/surveys are required within Narrow Endemic Plant Species Survey Areas on-site.*
MSHCP** *Covered species under the Western Riverside County Multiple Species Habitat Conservation Plan, but additional habitat assessments/surveys are required within Criteria Area Species Survey areas on-site.*

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

Table 2 (Continued)

Sensitive Plant Species

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On the Site
MSHCP***	*These covered species will be considered to be covered species adequately conserved when conservation requirements identified in species-specific conservation objectives have been met.*								
MSHCP****	*Additional habitat assessments/surveys are required for these species pursuant toMSHCP Section 6.1.2, Protection of Species Associated with Riparian/Riverine and Vernal Pools.*								

Source: PCR Services Corporation, 2009.

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or negative results of focused surveys.

All of these wildlife species, with the exception of the American peregrine falcon, western snowy plover, long-eared owl, and western mastiff bat, are covered under the MSHCP and do not require surveys. The long-eared owl and western mastiff bat are SSC species and do not require surveys. The American peregrine falcon is a State Endangered and State Fully Protected species that is conditionally covered under the MSHCP. Although the study area may provide foraging habitat, this species is not expected to breed on-site due to the lack of suitable habitat, therefore no impacts to nesting habitat for this species are expected. The western snowy plover is a Federally Threatened and SSC species. The western snowy plover historically occurred at Lake Elsinore, however, the last known occurrence was documented in 1974 in the CNDDB; therefore, this species only has a low potential to occur within the study area. Furthermore, no impacts to habitat for this species are anticipated.

Sensitive wildlife species and their potential to occur within the study area are analyzed and summarized in Table 3, *Sensitive Wildlife Species*, on page 59. A list of all wildlife species observed and expected to occur within the study area is included in Appendix B, *Floral and Faunal Compendium*.

3.8 STUDY AREA RELATIONSHIP TO THE WESTERN RIVERSIDE COUNTY MULTIPLE SPECIES HABITAT CONSERVATION PLAN (MSHCP)

A discussion of the study area's relationship to the MSHCP policies is provided below.

3.8.1 Location within the MSHCP Area Plan and Criteria Cells

As mentioned previously, the study area is located within the Elsinore Area Plan of the MSHCP (refer to Figure 3, *Locations within the Elsinore Area Plan of the MSHCP*). Portions of the study area are located within Criteria Cells 4743 and 4846 (within Subunit 3 - Elsinore), the Criteria Species Survey Area, the Burrowing Owl Survey Area, and NEPS Survey Area 2 of the MSHCP (Figure 10, *Location within MSHCP Criteria Cells and Survey Areas,* on page 73).

With the exception of the northernmost portion which is completely developed as an active commercial area, the study area is also located within the ELSP which was approved for development in 1993, prior to the adoption of the MSHCP. Because the ELSP was not originally part of the MSHCP, the City worked in concert with Vandermost Consulting, Riverside Conservation Authority (RCA), and the Wildlife Agencies to approve an agreement to preserve a 770-acre area within the ELSP (referred to herein as the "Back Basin 770 Agreement") to meet their Reserve Assembly requirements. It should be noted that a small portion of the study area is located within the 770-acre ELSP Preservation Areas for the Back Basin (at the San Jacinto River's outlet into Lake Elsinore), as shown in Figure 11, *Back Basin 770 Agreement*, on page 74; however, the proposed project impacts were designed to completely avoid the Preservation Areas.

Table 3

Sensitive Wildlife Species

INVERTEBRATES							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
CRUSTACEA	**CRUSTACEANS**						
Anostraca	**Fairy Shrimp**						
Branchinecta lynchi	vernal pool fairy shrimp	FT	None	MSHCP*	Vernal pools in areas of shallow depressions that have a clay hardpan soil layer that inhibits percolation.	Riverside, Santa Barbara, San Luis Obispo, Monterey, Tulare, Fresno, Madera, San Benito, Merced, Stanislaus, Santa Clara, San Mateo, Alameda, San Joaquin, Contra Costa, Solano, Marin, Sacramento, Placer, Sutter, Yuba, Butte, Napa, Sonoma, Lake, Mendocino, Tehama, and Shasta Cos.	NE
Comments: Due to the potential for the vernal pool fairy shrimp to occur on-site, focused wet and dry season suveys were conducted in 2009. No vernal pool fairy shrimp were found on-site during the focused wet season survey. Cysts of the genus *Branchinecta* were found from those cysts collected during the dry season survey. However, due to the large number of the common versatile fairy shrimp (*Branchinecta lindahli*), which were found during the wet season surveys, and due to the well-documented known distribution of the vernal pool fairy shrimp, which does not occur within the vicinity of the study area, no vernal pool fairy shrimp are expected to occur on-site.							
Branchinecta sandiegonensis	San Diego fairy shrimp	FE	None	None	Vernal pools in areas of shallow depressions that have a clay hardpan soil layer that inhibits percolation.	Known populations in Santa Barbara and San Diego Cos. and nw Baja CA.	NE
Comments: Due to the potential for the vernal pool fairy shrimp to occur on-site, focused wet season and suveys were conducted in 2009. No San Diego fairy shrimp were found on-site and because the study area is outside of the known range for this species, this species is not expected to occur on-site.							

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 3 (Continued)

Sensitive Wildlife Species

INVERTEBRATES							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Linderiella santarosae	Santa Rosa Plateau fairy shrimp	None	None	MSHCP*	Found only in the vernal pools on Santa Rosa Plateau.	Riverside Co.	NE
Comments: This species is not expected to occur because the study area is outside of the known range for this species.							
Streptocephalus woottoni	Riverside fairy shrimp	FE	None	MSHCP*	Vernal pools/swales; prefers deeper pools through the warm weather of late Apr. and May.	Riverside, Orange and San Diego Cos. and n Baja CA.	NE
Comments: Due to the potential for the vernal pool fairy shrimp to occur on-site, focused wet and dry season suveys were conducted in 2009. Nearest known USFWS occurance is documented approximately 800' west of the study area. However, no Riverside fairy shrimp were found during the focused surveys; therefore, this species is not expected to occur on-site.							
INSECTA	**GRASSHOPPERS, KATYDIDS, CRICKETS, BEETLES, FLIES, BUTTERFLIES, MOTHS**						
Lepidoptera	**Butterflies and Moths**						
Euphydryas editha quino	quino checkerspot butterfly	FE	None	MSHCP	Grassland and open areas in sage scrub, chaparral, and sparse native woodlands. Low levels of invasive, non-native vegetation and soil with a cryptogamic crust. Associated with host plant species dwarf plantain (*Plantago erecta*) and purple owl's clover (*Castilleja exserta*).	Orange, San Diego and w Riverside Cos. extending south into n Baja CA.	NE
Comments: Although the nearest known USFWS occurance is approximately 1.6 miles from the study area, the quino checkerspot butterfly is not expected to occur within the study area due to the lack of suitable habitat. In addition, this species is covered under the MSHCP.							

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 3 (Continued)

Sensitive Wildlife Species

Scientific Name	Common Name	Federal	State	Other	Preferred Habitat	Distribution	Occurrence On-site
VERTEBRATES							
FISHES							
Salmonidae	**Salmon and Trout Family**						
Oncorhynchus mykiss irideus	steelhead - southern California Evolutionary Significant Unit (ESU)	FE	SSC	None	Cool, clear, well-oxygenated streams with coastal mouths.	Santa Maria River south to the Pauma watershed.	NE
Comments: The steelhead is not expected to occur within the study area due to the lack of suitable habitat.							
Castostomidae	**Suckers**						
Catostomus santaanae	Santa Ana sucker	FT	SSC	MSHCP*	Permanent, small, shallow, cool, and clear streams, less than 7 meters in width; substrates are generally coarse and consist of gravel, rubble, and boulders with growths of filamentous algae.	San Gabriel (east, north and west forks), Los Angeles, and Santa Ana River drainages.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for the Santa Ana sucker was conducted by PCR in December 2008. This species is not expected to occur due to the lack of suitable habitat and because the study area is outside of the known range for this species.							
Cyprinidae	**Minnows and Carp**						
Gila orcuttii	arroyo chub	None	SSC	MSHCP	South coastal streams. Slow water with mud or sandy bottoms.	Los Angeles basin.	NE
Comments: The arroyo chub is not expected to occur within the study area due to the lack of suitable habitat and because the study area is outside of the known range for this species. In addition, this species is covered under the MSHCP.							

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 3 (Continued)

Sensitive Wildlife Species

AMPHIBIANS							
Salamandridae	**Newts**						
Taricha torosa torosa	coast range newt	None	SSC	MSHCP	Lives in terrestrial habitats and migrates to breed in ponds, reservoirs, and slow-moving streams.	Mendocino Co. to San Diego Co.	NE
Comments: The coast range newt is not expected to occur within the study area because it is outside of the known range for this species. In addition, this species is covered under the MSHCP.							
Pelobatidae	**Spadefoot Toads**						
Spea hammondii	western spadefoot	None	SSC	MSHCP	Prefer burrow sites within relatively open areas in lowland grasslands, chaparral, and pine-oak woodlands, areas of sandy or gravelly soil in alluvial fans, washes, and floodplains. Requires temporary pools for reproduction.	Coastal ranges from Point Conception, Santa Barbara Co., south to the Mexican border throughout Central Valley and adjacent foothills.	P
Comments: Western spadefoot has potential to occur within the study area; however, this species is covered under the MSHCP.							
Bufonidae	**True Toads**						
Bufo californicus	arroyo toad	FE	SSC	MSHCP*	Washes and streams with sandy banks, willows, cottonwoods, or sycamores; riparian habitats of semiarid areas, small cobbly streambeds. Requires clear, standing water for reproduction.	Southern part of the Coast Range from n San Luis Obispo Co. south to Baja CA.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment was conducted by PCR in December 2008. This species is not expected within the study area due to the lack of suitable habitat.							

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 3 (Continued)

Sensitive Wildlife Species

AMPHIBIANS							
Ranidae	**True Frogs**						
Rana muscosa	mountain yellow-legged frog	FE	SSC	MSHCP*	Streams, lakes, and ponds in montane riparian, lodgepole pine, subalpine conifer, and wet meadow habitats; ponderosa pine and montane hardwood-conifer habitats.	Sierra Nevada from Plumas County in the north to Tulare County in the south at elevations ranging from 1370 m to 3650 m. Isolated clusters occur in the San Bernardino and San Jacinto Mtns.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment was conducted by PCR in December 2008. This species is not expected to occur due to the lack of suitable habitat. In addition, the study area is outside of the known range as this species is restricted to the San Jacinto Mountains within Riverside County.							
Rana aurora draytonii	California red-legged frog	FT	SSC	MSHCP*	Variety of habitat types; aquatic, riparian, and upland. Requires a perennial water source free of exotic predators.	West of the Sierra-Cascade crest and along the Coast Ranges the entire length of the State.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment was conducted by PCR in December 2008. This species is not expected to occur due to the lack of suitable habitat.							
REPTILES							
Emydidae	**Box and Water Turtles**						
Actinemys marmorata pallida	southwestern pond turtle	None	SSC	MSHCP	Ponds, marshes, rivers, streams, irrigation ditches.	San Francisco Bay south to Baja California and west of the Sierra-Cascade crest.	NE
Comments: The southwestern pond turtle is not expected to occur within the study area due to the lack of suitable habitat. In addition, this species is covered under the MSHCP.							

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 3 (Continued)

Sensitive Wildlife Species

REPTILES							
Phryonosomatidae	**Iguanid Lizards**						
Phrynosoma coronatum (blainvillii)	coast (San Diego) horned lizard	None	SSC	MSHCP	Valley-foothill hardwood, conifer, and riparian habitats, pine-cypress, juniper and annual grassland habitats below 6,000 ft., open country, especially sandy areas, washes, flood plains, and windblown deposits.	Coastal ranges and foothills of Sierra Nevada from San Francisco Bay Area and northern Central Valley south to San Diego and Baja CA.	NE
Comments: The coast horned lizard is not expected to occur within the study area due to the lack of suitable habitat. In addition, this species is covered under the MSHCP.							
Teiidae	**Whiptails and Relatives**						
Aspidoscelis hyperythrus	orange-throated whiptail	None	SSC	MSHCP	Gently sloping hillsides, ridges, and valleys supporting open coastal sage scrub, open chaparral, or sparse grasslands.	Extreme s Los Angeles Co., sw San Bernardino Co., Orange, Riverside, and San Diego Cos. west of the crest of the peninsular Ranges, and Baja CA.	NE
Comments: The orange-throated whiptail is not expected to occur within the study area due to the disturbed nature of the site. In addition, this species is covered under the MSHCP.							
Salvadora hexalepis virgultea	coast patch-nosed snake	None	SSC	None	Coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Point Conception south through Baja CA.	NE
Comments: The coast patch-nosed snake is not expected to occur within the study area due to the lack of suitable habitat.							
Thamnophis hammondii	two-striped garter snake	None	SSC	None	Riparian and freshwater marshes with perennial water.	Ranges throughout much of CA and is absent only from the desert areas of s CA, the s San Joaquin Valley, and nw CA.	NE
Comments: The two-striped garter snake is not expected to occur within the study area due to the lack of suitable habitat.							

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 3 (Continued)

Sensitive Wildlife Species

Viperidae	**Vipers**						
Crotalus ruber ruber	northern red-diamond rattlesnake	None	SSC	MSHCP	Chaparral, woodland, and arid desert habitats in rocky areas with dense vegetation.	San Bernardino Co. to tip of Baja CA.	NE
Comments: The northern red-diamond rattlesnake has potential to occur within the study area; however, this species is covered under the MSHCP.							
BIRDS							
Threskiornithidae	**Ibises and Spoonbills**						
Plegadis chihi	white-faced ibis	None	SSC	MSHCP	Feeds in fresh emergent wetland, shallow lacustrine waters, muddy ground of wet meadows, and irrigated or flooded pastures and croplands. Nests in dense, fresh emergent wetland.	Salton Sea, Buena Vista lagoon, San Diego Co., Honey Lake, Klammoth Basin, and Central Valley, CA.	P
Comments: The white-faced ibis has potential to occur within the study area; however, this species is covered under the MSHCP.							
Accipitridae	**Hawks, Kites, Harriers, and Eagles**						
Aquila chrysaetos	golden eagle	None	SFP	MSHCP	Mountains, deserts, and open country; prefer to forage over grasslands, deserts, savannahs and early successional stages of forest and shrub habitats.	Locally throughout much of western Riverside Co. in suitable habitats.	P,F
Comments: The golden eagle has the potential to forage within the study area; however, this species is not expected to nest within the study area. In addition, this species is covered under the MSHCP.							
Elanus leucurus	white-tailed kite	None	SFP	MSHCP	Grasslands with scattered trees, near marshes, along highways.	Length of State; breeding in lowlands from Sacramento to San Diego Cos.	P,B
Comments: The white-tailed kite has the potential to forage within the study area; however, this species is not expected to nest within the study area. In addition, this species is covered under the MSHCP.							

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 3 (Continued)

Sensitive Wildlife Species

BIRDS							
Circus cyaneus	northern harrier	None	SSC	MSHCP	Coastal salt marshes, freshwater marshes, grasslands, and agricultural fields; occasionally forages over open desert and brushlands.	Alaska, Canada, to So. U.S.	OB,B
Comments: The northern harrier was observed within the study area; however, this species is not expected to nest within the study area. In addition, this species is covered under the MSHCP.							
Haliaeetus leucocephalus	bald eagle	FD	SE,SFP	MSHCP*	Requires large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches.	Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity Cos. Winter migrant to Big Bear Lake, Cachuma Lake, Lake Mathews, Nacimiento Reservoir, and along the Co. River.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment for the bald eagle was conducted by PCR in December 2008. Although suitable habitat occurs within the study area, this species is not known to occur within Lake Elsinore.							
Cuculidae	**Cuckoo and Roadrunner Family**						
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FC	SE	MSHCP*	Deciduous riparian thickets or forests with dense, low-level or understory foliage; abut on slow-moving watercourses, backwaters, or seeps; willows are a dominant component of the vegetation.	Summer and nesting resident from interior CA. east to New Brunswick; sporadically southward to so MX. Winters primarily from northern to central So. America.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment was conducted by PCR in December 2008. The western yellow-billed cuckoo is not expected to occur due to the lack of suitable habitat.							

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 3 (Continued)

Sensitive Wildlife Species

BIRDS							
Falconidae	**Falcons**						
Falco peregrinus anatum	American peregrine falcon	Delisted	SE,SFP	MSHCP*	Open country, cliffs (mountains to coasts).	Occurs uncommonly throughout CA with the exception of the se deserts.	P,F
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment was conducted by PCR in December 2008. The American peregrine falcon may forage over the study area; however, this species is not expected to breed on-site due to the lack of suitable habitat.							
Charadriidae	**Plovers**						
Charadrius alexandrines nivosus	western snowy plover	FT	SSC	None	Coastal beaches, sand pits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries.	Coastline from southern WA to southern Baja CA.	P
Comments: The western snowy plover historically occurred at Lake Elsinore, however, the last known occurance was documented in 1974 in the CNDDB; therefore, this species has a low potential to occur within the study area. No impacts to habitat for this species are anticipated.							
Strigidae	**Owls**						
Asio otus	long-eared owl	None	SSC	None	Dense riparian areas, thickets, woodlands, and forest; riparian bottomlands grown to tall cottonwoods and willows; also belts of live oak which parallel stream courses. Require adjacent open land productive of mice for foraging and the presence of old nests of crows, hawks, or magpies for breeding.	Local resident throughout CA. Some seasonal movement away from nesting areas.	P,F
Comments: The long-eared owl has the potential to forage within the study area; however, this species is not expected to nest within the study area.							

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 3 (Continued)

Sensitive Wildlife Species

BIRDS							
Athene cunicularia	burrowing owl	None	SSC	None	Dry grasslands, desert habitats, and open pinyon-juniper and ponderosa pine woodlands below 5,300 feet elevation. Prefers berms, ditches, and grasslands adjacent to rivers, agricultural, and scrub areas.	Year-round resident of lowlands of s CA.	P
Comments: The study area is located within the burrowing owl survey area; therefore, Phase I and II surveys were conducted by PCR in December 2008 in accordance with MSHCP survey guidelines. Because suitable habitat was found within the study area, Phase III surveys were conducted in March 2009. No burrowing owls were found on-site. A 30-day pre-construction survey is warranted prior to ground disturbing activities.							
Tyrannidae	**Tyrant Flycatchers**						
Empidonax traillii extimus	southwestern willow flycatcher	FE	SE	MSHCP*	Low brushy vegetation in wet areas, especially riparian willow thickets and woodlands in s CA.	S. CA from the Santa Ynez River south.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment was conducted by PCR in December 2008. Due to the lack of suitable habitat, the southwestern willow flycatcher is not expected to occur within the study area.							
Vireonidae	**Vireos**						
Vireo bellii pusillus	least Bell's vireo	FE	SE	MSHCP*	Perennial and intermittent streams with low, dense riparian scrub and riparian woodland habitats below 2,000 feet elevation; nests primarily in willows and forages in the riparian and occasionally in adjoining upland habitats. Associated with willow, cottonwood, and mule fat.	A patchily distributed summer resident across s CA.	NE
Comments: This species is protected under Section 6.1.2 of the MSHCP; therefore, a habitat assessment was conducted by PCR in December 2008 and verified in August 2009. Due to lack of suitable on-site habitat, least Bell's vireo is not expected to occur within the study area.							

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 3 (Continued)

Sensitive Wildlife Species

BIRDS							
Alaudidae	**Larks**						
Eremophila alpestris actia	California horned lark	None	None	MSHCP	Open habitats, grasslands.	Throughout CA.	P
Comments: The California horned lark has potential to occur within the study area; however, this species is covered by the MSHCP.							
Sylviidae	**Gnatcatchers**						
Polioptila californica californica	coastal California gnatcatcher	FT	SSC	MSHCP	Coastal sage scrub vegetation below 2,500 feet elevation in Riverside County and generally below 1,000 feet elevation along the coastal slope; generally avoids steep slopes and dense vegetation for nesting.	S Ventura Co., southward through Los Angeles, Orange, Riverside, San Bernardino Cos., and south through the coastal foothills of San Diego Co.	NE
Comments: The coastal California gnatcatcher is not expected to occur within the study area due to the lack of suitable habitat.							
Embirizidae	**Sparrows, Buntings, Warblers, and Relatives**						
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	None	None	MSHCP	Generally, steep, rocky areas within coastal sage scrub and chaparral, often with scattered bunches of grass; prefers relatively recently burned areas.	Cismontane south CA.	NE
Comments: The southern California rufous-crowned sparrow is not expected to occur within the study area due to the lack of suitable habitat.							
Amphispiza belli belli	Bell's sage sparrow	None	None	MSHCP	Chamise chaparral and coastal sage scrub.	Trinity Co. south to Baja CA, west of the deserts.	NE
Comments: The Bell's sage sparrow is not expected to occur within the study area due to the lack of suitable habitat.							

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 3 (Continued)

Sensitive Wildlife Species

MAMMALS							
Molossidae	**Free-tailed Bats**						
Eumops perotis californicus	western mastiff bat	None	SSC	None	Primarily arid lowlands, especially deserts. Open, semiarid to arid habitats including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Uncommon resident of lower elevations in se San Joaquin Valley and Coastal Ranges from Monterey Co. southward through s CA from the coast eastward to the Colorado desert.	P
Comments: The western mastiff bat has potential to occur within the study area.							
Leporidae	**Rabbits and Hares**						
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None	SSC	MSHCP	Open brushlands and scrub habitats between sea level and 4,000 feet elevation.	Coastal s CA from Ventura Co. into n Baja CA.	NE
Comments: The San Diego black-tailed jackrabbit is not expected to occur within the study area due to the lack of suitable habitat. In addition, this species is covered by the MSHCP.							
Heteromyidae	**Kangaroo Rats, Pocket Mice, and Kangaroo Mice**						
Chaetodipus californicus femoralis	Dulzura pocket mouse	None	SSC	None	Costal scrub, chamise-redshank and montane chaparral, sagebrush, annual grassland, valley foothill hardwood, valley foothill hardwood-conifer, and montane hardwood habitats.	CA.	NE
Comments: The Dulzura pocket mouse is not expected to occur within the study area due to the lack of suitable habitat.							

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 3 (Continued)

Sensitive Wildlife Species

MAMMALS							
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None	SSC	MSHCP	Sandy herbaceous areas, usually in association with rocks or coarse gravel, sagebrush, scrub, annual grassland, chaparral and desert scrubs.	Common resident in sw CA; arid coastal areas of Orange, San Bernardino, and Riverside Cos. extending south into Baja CA.	NE
Comments: The northwestern San Diego pocket mouse is not expected to occur on-site due to the lack of suitable habitat. In addition, this species is covered by the MSHCP.							
Dipodomys stephensi	Stephens' kangaroo rat	FE	ST	MSHCP	Annual and perennial grasslands and coastal sage scrub with sparse canopy cover.	San Jacinto Valley from Riverisde Co. to the vicinity of Vista, San Doego Co.	P
Comments: The Stephens' kangaroo rat has a low potential to occur on-site due to the disturbed nature of the study area; however, this species is covered by the MSHCP.							
Perognathus longimembris brevinasus	Los Angeles pocket mouse	NONE	SSC	MSHCP	Coastal sage scrub, and grasslands, desert cactus, creosote bush and sagebrush habitats.	CA	NE
Comments: The Los Angeles pocket mouse is not expected to occur within the study area due to the lack of suitable habitat and disturbed nature of the study area. In addition, this species is covered by the MSHCP.							
Cricetidae	**Mice, rats, and voles**						
Neotoma lepida intermedia	San Diego desert woodrat	None	SSC	MSHCP	Chaparral, coastal sage scrub, and pinyon – juniper woodland.	S CA.	NE
Comments: The San Diego desert woodrat is not expected to occur within the study area due to the lack of suitable habitat and disturbed nature of the study area. In addition, this species is covered by the MSHCP.							
Onychomys torridus ramona	southern grasshopper mouse	None	SSC	None	Low arid and semi-scrub vegetation.	Coastal s CA.	NE
Comments: The southern grasshopper mouse is not expected to occur within the study area due to the lack of suitable habitat and disturbed nature of the study area.							

OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; B = For raptor species: if present, would utilize the site for both foraging and nesting.

Table 3 (Continued)

Sensitive Wildlife Species

MAMMALS							
Mustelidae	**Weasels and Relatives**						
Taxidea taxus	American badger	None	SSC	None	Dry, open, treeless regions; prairies, parklands, or cold desert areas.	Throughout CA. except No. coast area.	NE

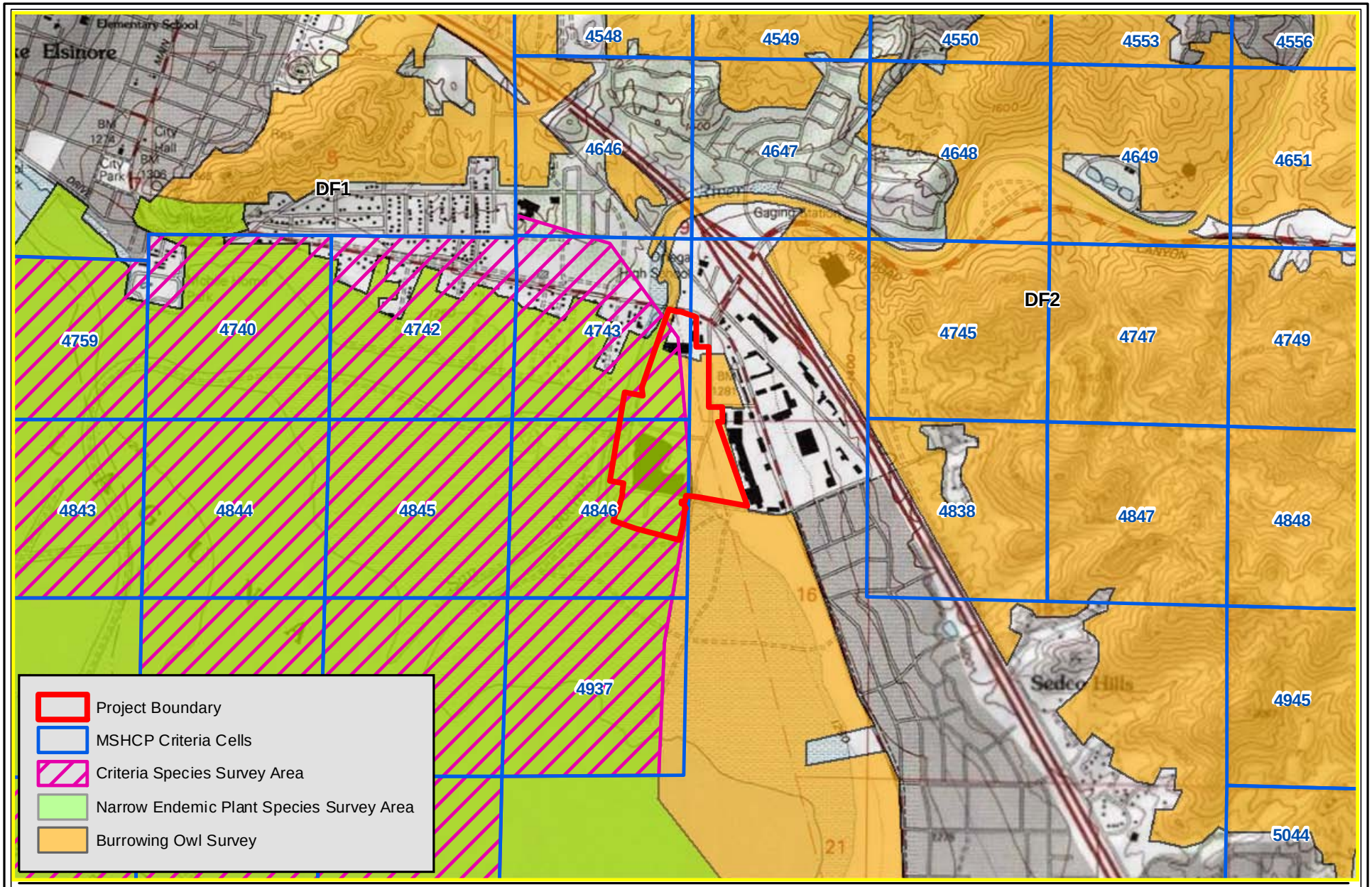
Comments: The American badger is not expected to occur within the study area due to the lack of suitable habitat.

Key to Species Listing status Codes

FE	*Federally Listed as Endangered*	SE	*State Listed as Endangered*
FT	*Federally Listed as Threatened*	ST	*State Listed as Threatened*
FPE	*Federally Proposed as Endangered*	SCE	*State Candidate for Endangered*
FPT	*Federally Proposed as Threatened*	SCT	*State Candidate for Threatened*
FPD	*Federally Proposed for Delisting*	SR	*State Rare*
FC	*Federal Candidate Species*	SFP	*State Fully Protected*
		SSC	*California Special Concern Species*

MSHCP *Western Riverside County Multiple Species Habitat Conservation Plan – Covered Species*
MSHCP* *Western Riverside County Multiple Species Habitat Conservation Plan – Riparian/Riverine or Vernal Pool Species*

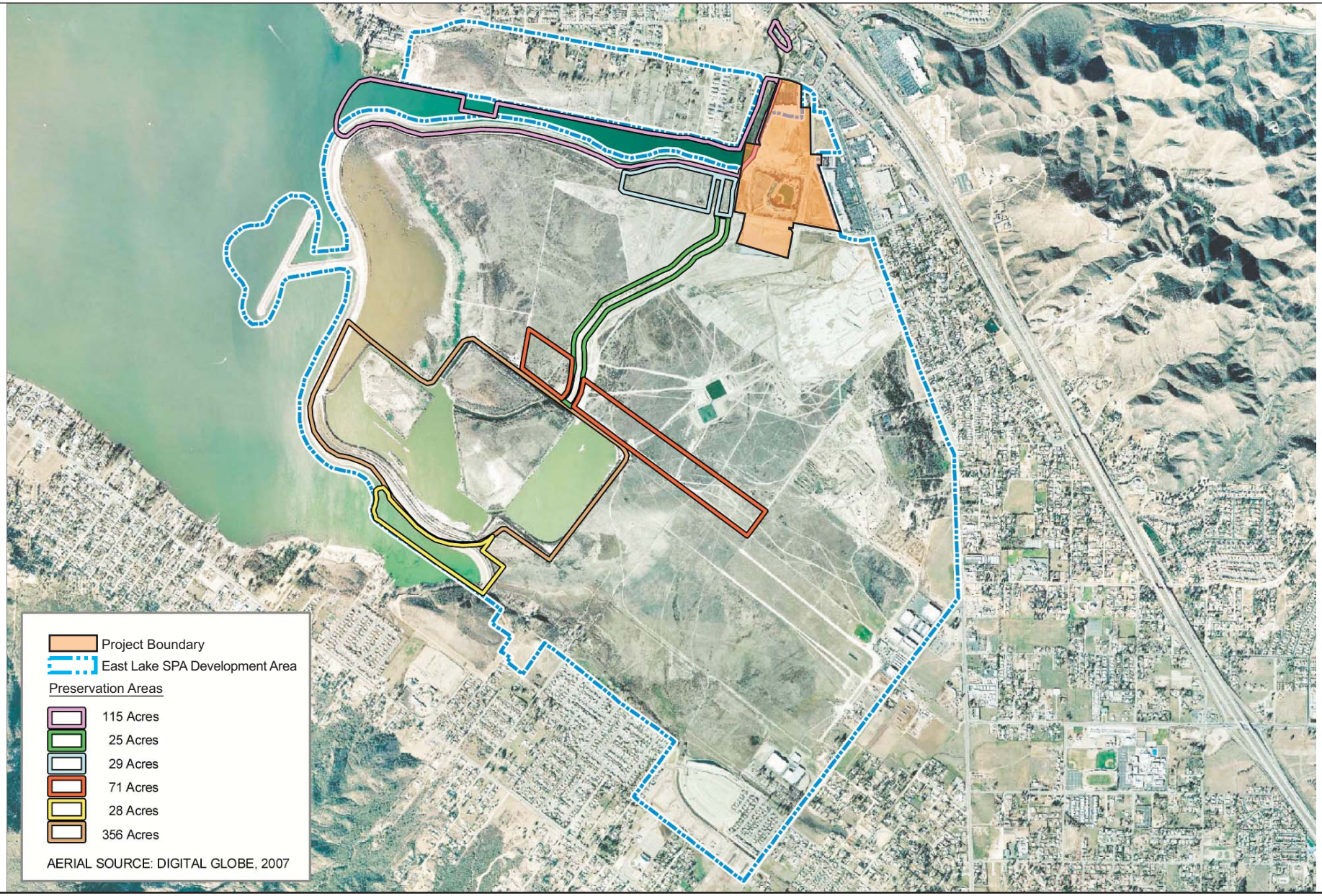
OB = Observed; P = Species has the potential to occur on-site; NE = Species not expected to occur on-site due to the lack of suitable habitat; F = For raptor species: if present, would utilize the site for foraging only; B = For raptor species: if present, would utilize the site for both foraging and nesting.



PCR

Source: USGS Topographic Series (Lake Elsinore, CA); PCR Services Corporation, 2009.

Figure 10
The Diamond Specific Plan
Location within MSHCP
Criteria Cells and Survey Areas



PCR

N

0 .5 1 Mile

Source: Dudek, 2008.

Figure 11
The Diamond Specific Plan
Back Basin 770 Agreement

3.8.2 Location within MSHCP Cores and Linkages

The western border of the study area lies within the Proposed Extension of Existing Core 3 of the MSHCP. Proposed Extension of Existing Core 3 provides for movement of species along the lower San Jacinto River to Proposed Linkage 8, and habitat for shorebird use together with Existing Core E. In addition, a small portion of the northwesternmost corner of the study area, which currently exists as an active commercial development, lies within Proposed Linkage 8 of the MSHCP. Proposed Linkage 8 follows the San Jacinto River, which is immediately adjacent to the study area to the west (refer to Figure 7, *Location within MSHCP Cores and Linkages*).

3.8.3 Riparian/Riverine Areas and Vernal Pools

Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools* of the MSHCP provides for the protection of Riparian/Riverine Areas and Vernal Pools within the MSHCP Plan Area. Riparian/Riverine areas are defined in the MSHCP as "lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year." Vernal pools are defined in the MSHCP as "seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season."

The study area supports a total of 1.84 acres of Riparian/Riverine habitat. Riparian/Riverine habitat on-site is comprised of two small, ephemeral drainage features (i.e., they carry flows only during and immediately following storm events and are typically only supported by precipitation and stormwater runoff) and a portion of one small, intermittent drainage feature (i.e., it receives periodic flows from adjacent man-made sources), which flow in a western direction towards Lake Elsinore. Combined, these three small drainage features comprise 0.44 acre of Riparian/Riverine habitat (refer to Figure 8, *Jurisdictional Features and Locations of Seasonal Ponds*).

The study area also supports Riparian/Riverine habitat comprised of 1.0 acre of a barren (lakebed) community within Lake Elsinore which will be completely avoided by the proposed project, and 0.4 acre of tamarisk/willow scrub community within the San Jacinto River outlet to Lake Elsinore which all but 0.0058 acre will be avoided (refer to Figure 4, *Plant Communities Map*).

The study area also supports nine seasonal ponds comprising approximately 1.03 acres. The seasonal ponds were analyzed against MSHCP Vernal Pool requirements. Although these

ponds collect and hold standing water for short periods following adequately sized rain events, they appear to have been created by past and recent earth moving activities and are all very disturbed. Although the seasonal ponds identified within the study area support seasonal hydrology and some plant indicator species, they do not support vernal pool soils (i.e., Travers, Willows, or clay soils). Thus, these seasonal ponds do not meet the three parameters (soils, vegetation, and hydrology) required to qualify as MSHCP-regulated vernal pools.

Two small tamarisk/ruderal communities comprising a total of 0.4 acre were observed within the study area. The community located at the western end of Campbell Street supported sparse tamarisk with a single black willow. The other patch is located just north of Malaga Road in the southeastern portion of the study area and supports a dominance of tamarisk with some mule fat. Because these two areas are dominated by tamarisk, a non-native, invasive species; are not contiguous to Riparian/Riverine habitat; and these communities are fed by street runoff and are not characterized by natural drainages, they are not considered to be Riparian/Riverine habitat as defined by the MSHCP.

Riparian/Riverine Plant Species

A habitat assessment was conducted for plant species listed in Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools* of the MSHCP. The results are presented in Table 4, *MSHCP Riparian/Riverine Plant Species*, on page 77.

Riparian/Riverine Wildlife Species

Habitat assessments were conducted for wildlife species listed in Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools* of the MSHCP. The results of all other Riparian/Riverine species potentially occurring within the study area are presented in Table 5, *MSHCP Riparian/Riverine Wildlife Species*, on page 79. Based on the known occurrences of fairy shrimp within depressional areas that seasonally pond, fairy shrimp surveys were conducted in accordance with MSHCP and USFWS guidelines.

3.8.4 Narrow Endemic Plant Species Survey Area

The study area is within Area 2 of the MSHCP's Narrow Endemic Plant Species Survey Area; therefore, a habitat assessment was conducted for Munz's onion, San Diego ambrosia, many-stemmed dudleya, spreading navarretia, California Orcutt grass, Hammitt's clay-cress, and Wright's trichocoronis. The results are presented in Table 6, *MSHCP Narrow Endemic Plant Species*, on page 80.

Table 4

MSHCP Riparian/Riverine Plant Species

Species	Potential to Occur within the Study Area
Brand's phacelia *Phacelia stellaris*	Not expected to occur within the study area due to the lack of suitable habitat.
California Orcutt grass *Orcuttia californica*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
Coulter's matilija poppy *Romneya coulteri*	Not expected to occur within the study area due to the lack of suitable habitat.
Engelmann oak *Quercus engelmannii*	Not observed and not expected to occur. This is a conspicuous tree species that would have been detected if present.
Fish's milkwort *Polygala cornuta* var. *fishiae*	Not expected to occur within the study area due to the lack of suitable habitat.
graceful tarplant *Holocarpha virgata* ssp. *elongata*	This species is known from the Santa Rosa Plateau and San Mateo wilderness in the western portion of Riverside County. Because the study area is outside of the known distribution for this species, it is not expected to occur.
lemon lily *Lilium parryi*	Not expected to occur due to the lack of suitable habitat. Within Riverside County, this species is restricted to the San Jacinto Mountains.
Mojave tarplant *Deinandra mohavensis*	Not expected to occur due to the lack of suitable habitat. Within Riverside County, this species is restricted to the San Jacinto Mountains.
mud nama *Nama stenocarpum*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
ocellated Humboldt lily *Lilium humboldtii* ssp. *ocellatum*	Not expected to occur due to the lack of suitable habitat.
Orcutt's brodiaea *Brodiaea orcuttii*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
Parish's meadowfoam *Limnanthes gracilis* ssp. *parishii*	Not expected to occur because the study area is outside of the typical elevational range for this species. In addition, this species is restricted to the Santa Rosa Plateau within the MSHCP Plan Area.
prostrate navarretia *Navarretia prostrata*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
San Diego button-celery *Eryngium aristulatum* var. *parishii*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
San Jacinto Valley crownscale *Atriplex coronata* var. *notatior*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.

Table 4 (Continued)

MSHCP Riparian/Riverine Plant Species

Species	Potential to Occur within the Study Area
San Miguel savory *Satureja chandleri*	Not expected to occur within the study area due to the lack of suitable habitat.
Santa Ana River woollystar *Eriastrum densifolium* ssp. *sanctorum*	Not expected to occur. This species is restricted to the Santa Ana River and alluvial fan sage scrub habitat which does not occur within the study area.
slender-horned spineflower *Dodecahema leptoceras*	Not expected to occur within the study area due to the lack of suitable habitat.
smooth tarplant *Hemizonia pungens* ssp. *laevis*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. Approximately 12,100 smooth tarplant plants were estimated on-site.
southern California black walnut *Juglans californica*	Not observed and not expected to occur. This is a conspicuous tree species that would have been detected if present.
spreading navarretia *Navarretia fossalis*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
thread-leaved brodiaea *Brodiaea filifolia*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
vernal barley *Hordeum intercedens*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.

Source: PCR Services Corporation, 2009.

3.8.5 Additional Survey Needs and Procedures

Section 6.3.2, *Additional Survey Needs and Procedures* of the MSHCP provides for additional survey needs for the burrowing owl, as well as a number of sensitive plant, amphibian, and mammal species of conservation concern.

Criteria Area Species Survey Area

The study area is within Area 2 of the MSHCP's Criteria Area Species Survey Area; therefore a habitat assessment was conducted for the San Jacinto Valley crownscale, Parish's brittlescale, Davidson's saltscale, thread-leaved brodiaea, round-leaved filaree, smooth tarplant, Coulter's goldfields, and little mousetail. The results are presented in Table 7, *MSHCP Criteria Area Species,* on page 81.

Table 5

MSHCP Riparian/Riverine Wildlife Species

Species	Potential to Occur within the Study Area
arroyo toad *Bufo californicus*	Not expected to occur due to the lack of suitable habitat.
mountain yellow-legged frog *Rana muscosa*	Within Riverside County, this species is restricted to the San Jacinto Mountains. Because the study area is outside of the known distribution for this species, it is not expected to occur.
California red-legged frog *Rana aurora draytonii*	Not expected to occur due to the lack of suitable habitat.
bald eagle *Haliaeetus leucocephalus*	Although suitable habitat occurs within the study area, this species is not known to occur within Lake Elsinore.
least Bell's vireo *Vireo bellii pusillus*	Not expected to occur due to the lack of suitable habitat.
American peregrine falcon *Falco peregrinus anatum*	Not observed but may potentially occur on-site for foraging. No suitable breeding habitat occurs within the study area.
southwestern willow flycatcher *Empidonax traillii extimus*	Not expected to occur due to the lack of suitable habitat.
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	Not expected to occur due to the lack of suitable habitat.
Santa Ana sucker *Catostomus santaanae*	Because the study area is outside of the known distribution for this species, it is not expected to occur.
Riverside fairy shrimp *Streptocephalus woottoni*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused wet and dry season surveys were conducted. This species was not found on-site.
vernal pool fairy shrimp *Branchinecta lynchi*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused wet and dry season surveys were conducted. This species was not found on-site.

Source: PCR Services Corporation, 2009.

Amphibian Species Survey Area

The study area is not within the Amphibian Species Survey Area; therefore, no surveys are required.

Burrowing Owl Survey Area

The study area is located within the Burrowing Owl Survey Area; therefore, PCR conducted a Phase I, Habitat Assessment and Phase II, Burrow Survey as described above in Section 2.3.5.3. Due to the presence of suitable habitat, a burrowing owl, a Phase III Burrowing

Table 6

MSHCP Narrow Endemic Plant Species

Species	Potential to Occur within the Study Area
Munz's onion *Allium munzii*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
San Diego ambrosia *Ambrosia pumila*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
many-stemmed dudleya *Dudleya multicaulis*	This species is not expected to occur within the study area due to the lack of suitable habitat.
spreading navarretia *Navarretia fossalis*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
California Orcutt grass *Orcuttia californica*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
Hammitt's clay-cress *Sibaropsis hammittii*	This species is not expected to occur within the study area due to the lack of suitable habitat.
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.

Source: PCR Services Corporation, 2009.

Owl Survey, Census, and Mapping was conducted in March 2009 in accordance with The Burrowing Owl Consortium's *Burrowing Owl Survey Protocol and Mitigation Guidelines* and County of Riverside's *Burrowing Owl Survey Instructions* (California Burrowing Owl Consortium 1993, County of Riverside 2006). No burrowing owls were found on-site. A 30-day pre-construction survey is warranted prior to ground disturbing activities.

Mammal Species Survey Area

The study area is not within the Mammal Species Survey Area; therefore, no surveys are required.

3.8.6 Urban/Wildlands Interface

Section 6.1.4, *Guidelines Pertaining to the Urban/Wildlands Interface* presents a number of guidelines that are intended to address indirect effects associated with locating developments in proximity to a MSHCP Conservation Area. Portions of the study area are adjacent to the

Table 7

MSHCP Criteria Area Species

Species	Potential to Occur within the Study Area
San Jacinto Valley crownscale *Atriplex coronata* var. *notatior*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
Parish's brittlescale *Atriplex parishii*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in July 2009. This species was not found on-site.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	This species is not expected to occur within the study area due to the lack of suitable habitat.
thread-leaved brodiaea *Brodiaea filifolia*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
round-leaved filaree *Californica macrophylla*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
smooth tarplant *Hemizonia pungens*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. Approximately 12,100 smooth tarplant plants were estimated on-site.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. This species was not found on-site.
little mousetail *Myosurus minimus* ssp. *apus*	Suitable habitat for this species occurs within the study area; therefore this species has the potential to occur on-site. Focused sensitive plant surveys were conducted in May 2009. Approximately 100 little mousetail plants were estimated on-site.

Source: PCR Services Corporation, 2009.

Preservation Areas conserved under the Back Basin 770 Agreement. Therefore, the potential for indirect impacts related to the urban edge were analyzed. These include the quantity and quality of any runoff generated by the development, night lighting, and noise-generating land uses. Project design features and best management practices incorporated into the proposed project to minimize these edge effects are discussed in detail in Section 4.3.3.

4.0 PROJECT RELATED IMPACTS

4.1 APPROACH TO THE ANALYSIS

The following discussion examines the potential impacts to plant and wildlife resources that may occur as a result of implementation of the proposed project. For the purposes of this assessment, project-related impacts take two forms, direct and indirect. Direct impacts are considered to be those that involve the loss, modification, or disturbance of natural habitats (i.e., vegetation or plant communities), which in turn, directly affect plant and wildlife species dependent on that habitat. Direct impacts also include the destruction of individual plants or wildlife, which is typically the case in species of low mobility (i.e., plants, amphibians, reptiles, and small mammals). The collective loss of individuals in these manners may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and, hence, population stability. Indirect impacts include temporary, construction-related effects such as noise, vibration, dust, and startle effects to wildlife.

The determination of impacts in this analysis is based on both the features of the proposed project and the biological values of the habitat and/or sensitivity of plant and wildlife species to be affected. Project design features that avoid, preserve, or restore biological resources are taken into consideration and specifically described below prior to the assessment of potential adverse impacts.

The biological values of resources within, adjacent to, and outside the area to be affected by the proposed project were determined by consideration of several factors. These included the overall size of habitats to be affected, the study area's previous land uses and disturbance history, the study area's surrounding environment and regional context, the on-site biological diversity and abundance, the presence of sensitive and special status plant and wildlife species, the study area's importance to regional populations of these species, and the degree to which on-site habitats are limited or restricted in distribution on a regional basis and, therefore, are considered sensitive in themselves. Whereas this assessment is comprehensive, the focus is on sensitive plant communities/habitats, resources that play an important role in the regional biological systems, and special status species.

4.2 THRESHOLDS OF SIGNIFICANCE

The environmental impacts relative to biological resources are assessed using impact significance threshold criteria which mirror the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State to:

> *"Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities..."*

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7, Thresholds of Significance, each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative, or performance level of a particular environmental effect; non-compliance means the effect will normally be determined to be significant by the agency and compliance means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources, CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, *Environmental Checklist Form.* Section 15065(a) states that a project may have a significant effect where:

> *"The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species..."*

Appendix G of the CEQA Guidelines is more specific in addressing biological resources and encompasses a broader range of resources to be considered, including: candidate, sensitive, or special status species; riparian habitat or other sensitive natural communities; federally-protected wetlands; fish and wildlife movement corridors; local policies or ordinances protecting biological resources; and, adopted HCPs. This is done in the form of a checklist of questions to be answered during the Initial Study leading to the preparation of the appropriate environmental documentation for a project (i.e., Negative Declaration, Mitigated Negative Declaration, or EIR). Because these questions are derived from standards in other laws, regulations, and other commonly used thresholds, it is reasonable to use these standards as a basis for defining

significance thresholds in an EIR. Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering off-setting with mitigation measures) if one or more of the following conditions would result from implementation of the proposed project.

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

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U. S. Fish and Wildlife Service.

- Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

For the purposes of this impact analysis the following definitions apply:

- "Substantial adverse effect" means loss or harm of a magnitude which, based on current scientific data and knowledge would: (1) substantially reduce population numbers of a listed, candidate, sensitive, rare, or otherwise special status species; (2) substantially reduce the distribution of a sensitive natural community/habitat type; or (3) eliminate or substantially impair the functions and values of a biological resource (e.g., streams, wetlands, or woodlands) in a geographical area defined by interrelated biological components and systems.

- "Conflict" means contradiction of a magnitude, which based on foreseeable circumstances would preclude or prevent substantial compliance.

- "Rare" means: (1) the species exists in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or (2) the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is defined in the FESA.

4.3 PROJECT DESCRIPTION

4.3.1 Proposed Project

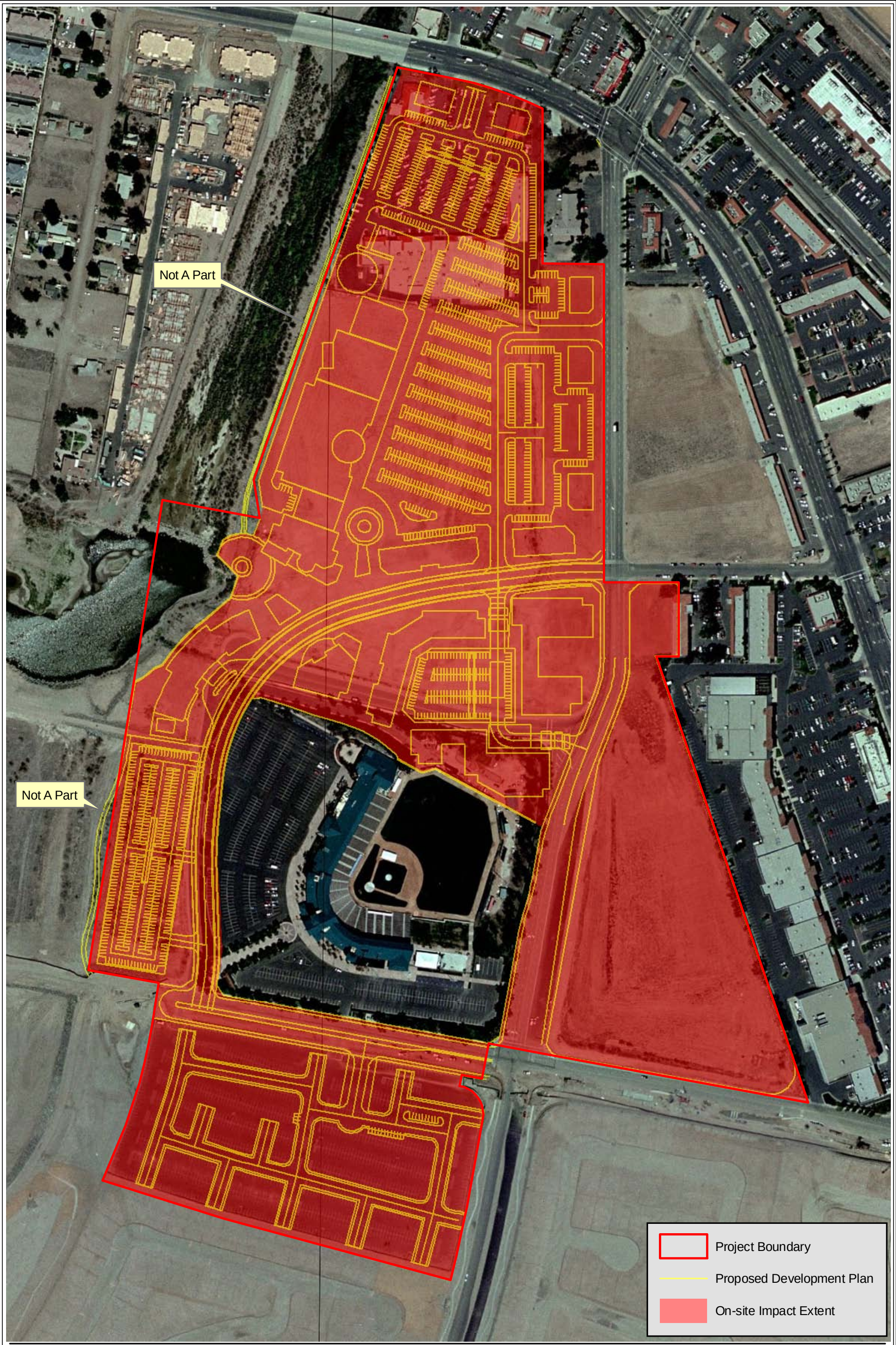
The Diamond Specific Plan is a proposed mixed-use development which will reflect the objectives of the City of Lake Elsinore General Plan's Ball Park District. Mixed uses will include commercial, office, educational, entertainment, residential uses, and stadium (which currently exists), and the project will be developed over five phases.

4.3.2 Proposed Project Design Features

As shown in Figure 12, *Proposed Development Plan,* on page 86, the proposed project assumes impacts over the majority of the study area; however, the following will be avoided: barren (lakebed) community within Lake Elsinore; the tamarisk/willow scrub community within the San Jacinto River outlet to the lake, with the exception of 0.0058 acre (1.4 percent of the 0.4 acre on-site); an area along the western boundary of the study area which encompasses a portion of the densest areas of smooth tarplant (*Hemizonia pungens* ssp. *laevis*) on-site and will be used as a mitigation area for smooth tarplant; and the existing stadium. In addition, the proposed project completely avoids ACOE jurisdiction within the 1,255 feet elevation above msl. The proposed project also aims to avoid impacts to a portion of the densest areas of smooth tarplant (*Hemizonia pungens* ssp. *laevis*) along the western boundary of the study area. This project design feature will also place the smooth tarplant mitigation areas adjacent to the San Jacinto River and Lake Elsinore, thus consolidating resources to be conserved whereby long-term protection is facilitated. Although off-site trails are included within the proposed development plan to indicate the location where future city trails will be placed, the trails are not a part of the proposed project, and therefore have been labeled as 'Not A Part' in Figure 12, *Proposed Development Plan*.

4.3.3 Protection Elements

A number of mitigation measures and project design features have been included to address indirect impacts of the proposed project and to minimize edge effects beyond the limits of grading at the urban/wildlands interface.



PCR

N

250 0 250 Feet

Source: Aerial Express, 2008; PCR Services Corporation, 2009.

Figure 12
The Diamond Specific Plan
Proposed Development Plan

Drainage: Within the northern portion of the study area, the project proposes to treat project flows in a grass swale which outlets into the San Jacinto River. The location and discharge rate of the drainage within this area is similar to the existing pre-project conditions. For the remainder of the study area, the project proposes to re-route flows from directly entering the lake (untreated) to treating project-generated flows in an off-site grass swale, a water quality pond (infiltration basin), and detention basin to the southwest of the study area, downstream of the drainage area. The project's flow rate, volume, and duration for the post-development discharge condition will not exceed the pre-development condition for the 2-year, 24-hour and 10-year, 24-hour rainfall events, as described in the *Draft – Project Specific Water Quality Management Plan for The Diamond, Lake Elsinore* (Wilson Mikami Corporation 2009a).

Post-construction drainage quantities will be similar to the existing conditions. The proposed project will result in an approximate ten percent increase in peak discharge values (existing discharge = 205.7 cfs, developed condition discharge = 226.7 cfs), as detailed in the *Conceptual Hydrology Study for The Diamond* (Wilson Mikami Corporation 2009). In addition, the existing flood storage volume within the study area is approximately 39 acre-feet. The proposed project provides for 22 acre-feet of flood storage with the additional 17 acre-feet of flood storage being provided within the open space to the southwest of the project (i.e., within the public open space and golf course area of the adjacent Summerly project) (Wilson Mikami Corporation 2009b).

In addition, the grass swales, water quality pond (infiltration basin), and detention basin will serve as the project's treatment control best management practices (BMPs), which will address water quality. The project will re-route flows which once eroded areas within the study area to the treatment control BMPs. These treatment control BMPs will protect against flooding, prevent downstream erosion, and improve water quality by filtering pollutants from previously untreated flows. Thus, all water leaving the study area will be of a higher quality compared to existing site conditions and the overall water quality of flows entering the Back Basin and Preservation Areas will be improved.

Although the project will reduce the amount of runoff which currently flows directly into the San Jacinto River and Lake Elsinore, these flows are minimal and will remain within the watershed, eventually recharging into the lake after undergoing a more extensive filtration process through the project's treatment control BMPs. Flows treated through the treatment control BMPs will eventually reach the 25-acre Preservation Area (within the southern portion of the Back Basin Preservation Areas) (refer to Figure 11, *Back Basin 770 Agreement*). The flow rate would be similar to existing conditions, however this would increase the duration over which the flows occur downstream, which would be beneficial to the 25-acre Preservation Area by providing hydrology over a longer duration and of improved water quality.

Toxics: Construction of the proposed project will incorporate erosion control measures (i.e., sand bags and/or straw wattles) around the perimeter of the development area to ensure all water leaving the site is filtered and an increase in siltation does not occur. In addition, for the long-term operation of the project, the above mentioned water quality features will treat project-generated flows and remove pollutants. Standard construction-related BMPs, such as dust control, will be provided in the project-specific Storm Water Pollution Prevention Plan.

Trash/Debris: A number of non-structural BMPs are listed below that will minimize the amount of trash/debris created by the proposed project. These include activity restrictions placed on the tenants, the distribution of educational materials to the tenants, the placement of trash receptacles in common areas, street sweeping, and the placement and maintenance of inlet trash racks.

Lighting: The project has been designed to minimize night lighting while remaining compliant with City of Lake Elsinore's ordinances related to street lighting. Any necessary lighting will be shielded or directed away from Preservation Areas to protect species from direct night lighting.

Noise: The City of Lake Elsinore's General Plan requires that the projected increases in noise be reduced through implementation of County Codes and General Plan Policies. Short-term construction-related noise impacts will be reduced by the implementation of a number of measures including the following:

- During all excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards to reduce construction equipment noise to the maximum extent possible. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the study area.

- The construction contractor shall stage equipment in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the study area during all project construction.

- All construction work shall occur during the daylight hours. The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours to be determined by the City.

- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass through sensitive land uses or residential dwellings.

In addition, to address short-term indirect impacts from construction-related activities, a temporary sound wall will be erected during construction activities between the project's development footprint and the Preservation Areas to ensure that wildlife are not subject to noise that would exceed residential noise standards.

Invasives: To the maximum extent practicable, native plants will be used in the landscape plans for the common areas of the project. Native plant species shall be used in the water quality basins and other restoration and enhancement areas. The plant palette will be consistent with the MSHCP and will be careful to avoid the invasive, non-native plant species listed in Table 6-2 of the MSHCP, particularly within landscape plans for portions of the development that are adjacent to Preservation Areas.

Due to the project's proximity to Preservation Areas, construction of the development shall abide by an integrated pest management plan, which will include, but is not necessarily limited to the following weed prevention and control measures: (1) preventive practices to avoid the transport and spread of weeds and weed seed during project development and operation; (2) use of only certified weed-free hay, straw, and other organic mulches to control erosion; and (3) a plan to control noxious weeds and weeds of local concern within designated open space areas.

Barriers: The MSHCP requires the incorporation of barriers, such as native landscaping, rocks/boulders, fencing, walls, and/or signage, for proposed land uses adjacent to Preservation Areas to minimize unauthorized public access, introduction of urban wildlife, and/or illegal dumping within the Preservation Areas. The proposed project will incorporate appropriate barriers.

Grading/Land Development and/or Fuel Modification Activities: Manufactured slopes associated with the proposed project shall not extend into Preservation Areas. In addition, brush management, as well as all ground disturbing activities associated with construction and operation of the project, shall be contained within the project's impact footprint and shall not encroach into the Preservation Areas in accordance with Section 6.4 of the MSHCP.

4.4 IMPACT ANALYSIS

4.4.1 Impacts to Special Status Species

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

Less than Significant with Mitigation Incorporated

Special Status Plant Species

As mentioned in Section 3.7.3, *Sensitive Plant Species*, several sensitive plant species have the potential to occur within the study area. Focused sensitive plant surveys were conducted and two sensitive plant species, smooth tarplant and little mousetail, were observed within the study area. Smooth tarplant is a CNPS List 1B.1 species and a Riparian/Riverine and Criteria Area Species under MSHCP Sections 6.1.2 and 6.3.2, respectively. Approximately 12,100 smooth tarplant plants encompassing approximately 1.39 acres were estimated on-site, the majority of which are in the western portion of the study area. Approximately 11,420 smooth tarplant plants (94.4 percent) covering 1.38 acres would be impacted by the proposed development. Figure 13, *Impacts to Plant Communities and Sensitive Plants,* on page 91, identifies the locations of the smooth tarplant that is anticipated to be impacted. Due to the large number of smooth tarplant which will be impacted and because this species is a Riparian/Riverine and Criteria Area Species, impacts to smooth tarplant are considered potentially significant. Mitigation provided below in Section 5.2.1 would reduce this impact to a less than significant level.

Little mousetail is a CNPS List 3.1 species and a Criteria Area Species under MSHCP Section 6.3.2. Approximately 100 little mousetail plants were estimated along the edges of the approximately 0.07 acre Seasonal Pond 9 on-site. Although impacts would only occur to approximately 100 individuals, this species is a Criteria Area Species under the MSHCP. Therefore, impacts to little mousetail are considered potentially significant. Figure 13, *Impacts to Plant Communities and Sensitive Plants*, identifies the locations of the little mousetail that is anticipated to be impacted. Mitigation provided below in Section 5.2.1 would reduce this impact to a less than significant level.

Special Status Wildlife Species

As mentioned in Section 3.7.4, *Sensitive Wildlife Species*, several sensitive wildlife species have the potential to occur within the study area. One sensitive wildlife species, the northern harrier, was observed flying over the study area; however, this species is covered under

Project Boundary

On-site Impact Extent

Plant Communities

BL - Barren (Lakebed)

BS - Buckwheat Scrub

DEV - Developed

DIS - Disturbed

RUD - Ruderal

RUD/DIS - Ruderal / Disturbed

TAM/RUD - Tamarisk / Ruderal

TAM/WIL - Tamarisk / Willow Scrub

Sensitive Plant Species

Little Mousetail (Approximately 100 Individuals total)

Smooth Tarplant (Count)

Smooth Tarplant (Approximate count)

PCR

N

275 0 275 Feet

Source: Aerial Express, 2008; PCR Services Corporation, 2009.

Figure 13
The Diamond Specific Plan
Impacts to Plant Communities and Sensitive Plants

the MSHCP. Three SSC species, the long-eared owl, western snowy plover, and western mastiff bat, have potential to occur within the study area and are not covered by the MSHCP. The long-eared owl has a low potential to occur within the tamarisk/willow scrub, which will be avoided with the exception of 0.0058 acre, and the western snowy plover has a low potential to occur within the barren (lakebed) community, which will be completely avoided. Long-eared owl may potentially utilize the remainder of the study area for foraging habitat. The western mastiff bat may potentially occur within the study area; however, if this species roosts on-site, it would utilize high buildings and trees and not utilize the disturbed areas of the study area. As these are SSC species and do not carry a federal or State listing as threatened or endangered, impacts are not expected to threaten the regional populations of these species and impacts are considered less than significant.

Focused surveys for the three federally-listed fairy shrimp (vernal pool, San Diego, and Riverside) were conducted. No sensitive fairy shrimp species were found on-site during the focused wet season survey, nor during the dry season survey. Cysts of the genus *Branchinecta* were found from those cysts collected during the dry season survey. However, due to the large number of the common versatile fairy shrimp (*Branchinecta lindahli*), which were found during the wet season surveys, and due to the well-documented known distribution of the vernal pool fairy shrimp, which does not occur within the vicinity of the study area, no vernal pool fairy shrimp are expected to occur on-site.

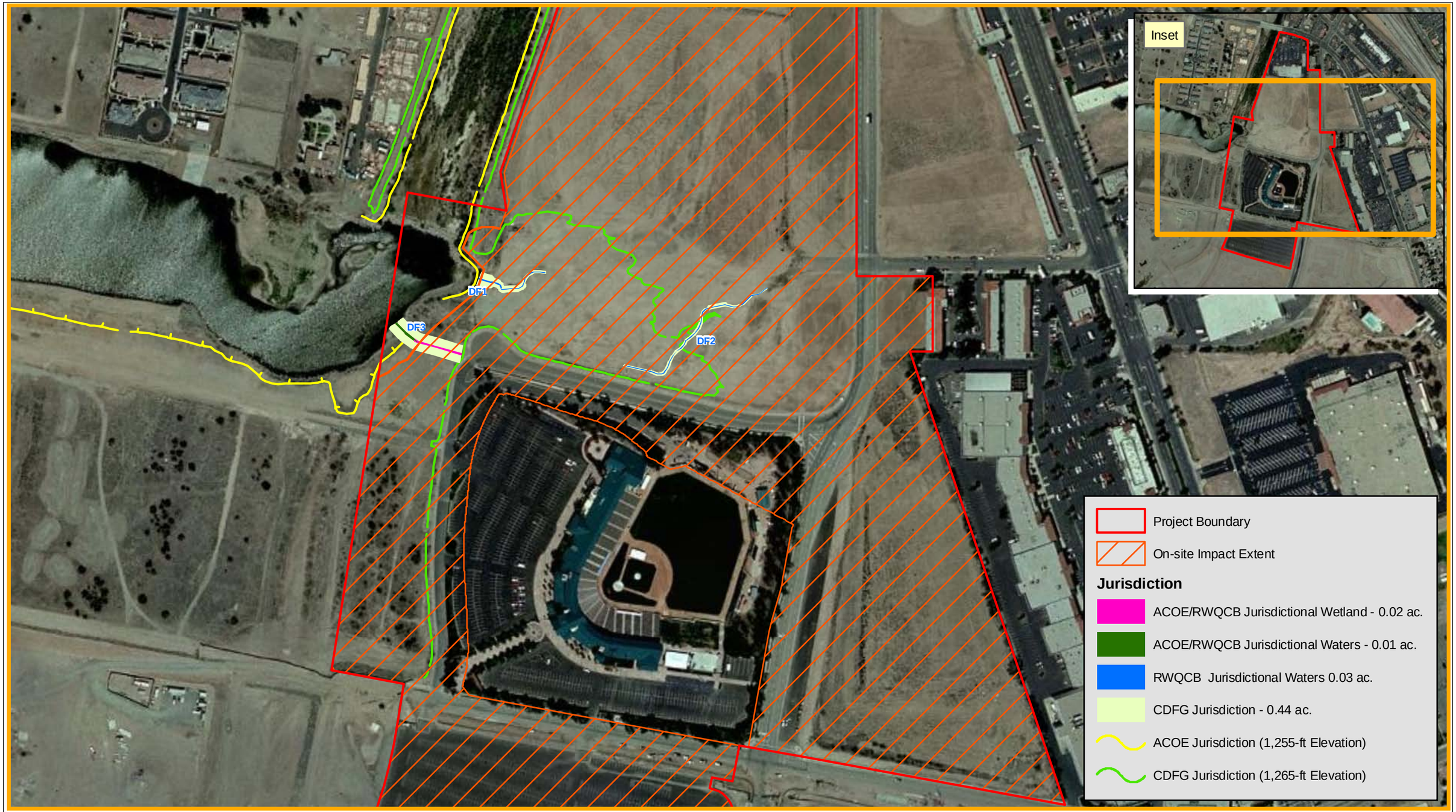
In addition, focused surveys for burrowing owl were conducted in March 2009. No burrowing owls were found on-site during the focused surveys. A pre-construction presence/absence surveys for burrowing owl shall be conducted within 30 days prior to disturbance to ensure that take of active burrows are avoided.

4.4.2 Impacts to Riparian Habitat or Other Sensitive Plant Communities

Will the proposed project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U. S. Fish and Wildlife Service?

Less Than Significant Impact with Mitigation Incorporated

Implementation of the proposed project would result in permanent impacts to approximately 838.5 linear feet of streambed, 0.02 acre of ACOE/RWQCB jurisdictional wetland, 0.03 acre of RWQCB jurisdictional non-wetland "waters of the State," 0.33 acre of CDFG jurisdictional streambed, and 11.00 acres of CDFG jurisdictional elevation. No ACOE jurisdictional elevation will be impacted. Figure 14, *Impacts to Jurisdictional* , on page 93, identifies the locations of these impacts. The ACOE, RWQCB, and CDFG jurisdictions are



PCR

N

250 0 250 Feet

Source: Aerial Express, 2008; PCR Services Corporation, 2009.

Figure 14
The Diamond Specific Plan
Impacts to Jurisdictional Resources

considered Riparian/Riverine habitat (for a total of 0.33 acre) under Section 6.1.2 of the MSHCP because of the plant species dependency on water and the potential to support the Riparian/Riverine plant and wildlife species. Therefore, impacts to these resources are considered potentially significant. Mitigation provided below in Section 5.2.3 would reduce this impact to a less than significant level.

As discussed in Sections 3.7.2 and 3.8.3, the study area supports a small area of tamarisk/willow scrub (0.4 acre). Due to the disturbed nature of this community, it is not considered a high inventory priority community by the CNDDB, however, it is considered Riparian/Riverine habitat under Section 6.1.2 of the MSHCP. With the exception of 0.0058 acre,[3] this tamarisk/willow scrub community will be avoided. In addition, the study area supports 1.0 acre of barren (lakebed) community, which is also considered Riparian/Riverine

habitat under Section 6.1.2 of the MSHCP. No impacts will occur to the barren (lakebed) community, as this community will be completely avoided.

4.4.3 Impacts to Wetlands

Will the proposed project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant Impact with Mitigation Incorporated

Implementation of the proposed project would result in permanent impacts to 0.02 acre of ACOE/RWQCB jurisdictional wetland. Because of the "no net loss" policy for wetlands, impacts to this resource are considered potentially significant. Mitigation provided below in Section 5.2.3 would reduce this impact to a less than significant level.

Although seasonal ponds were identified within the study area, these seasonal ponds were not determined to be ACOE, CDFG, or RWQCB jurisdictional due to their ephemeral nature, lack of any channelized flows, and lack of a bed and bank. In addition, these features do not meet the three parameters (soils, vegetation, and hydrology) required to qualify as MSHCP-regulated vernal pools. Although the seasonal ponds identified within the study area support seasonal hydrology and some plant indicator species (Seasonal Pond 9 which supports little mousetail, woolly marbles, and alkali plagiobothrys, and Seasonal Ponds 1, 3, 5, and 6 which

[3] *Although not delineated, based on the vegetation mapping and the most recent development plan, 0.0058 acre of the tamarisk/willow scrub community at the extreme edge of the river, which is subject to the jurisdiction of CDFG, will be impacted by the proposed project.*

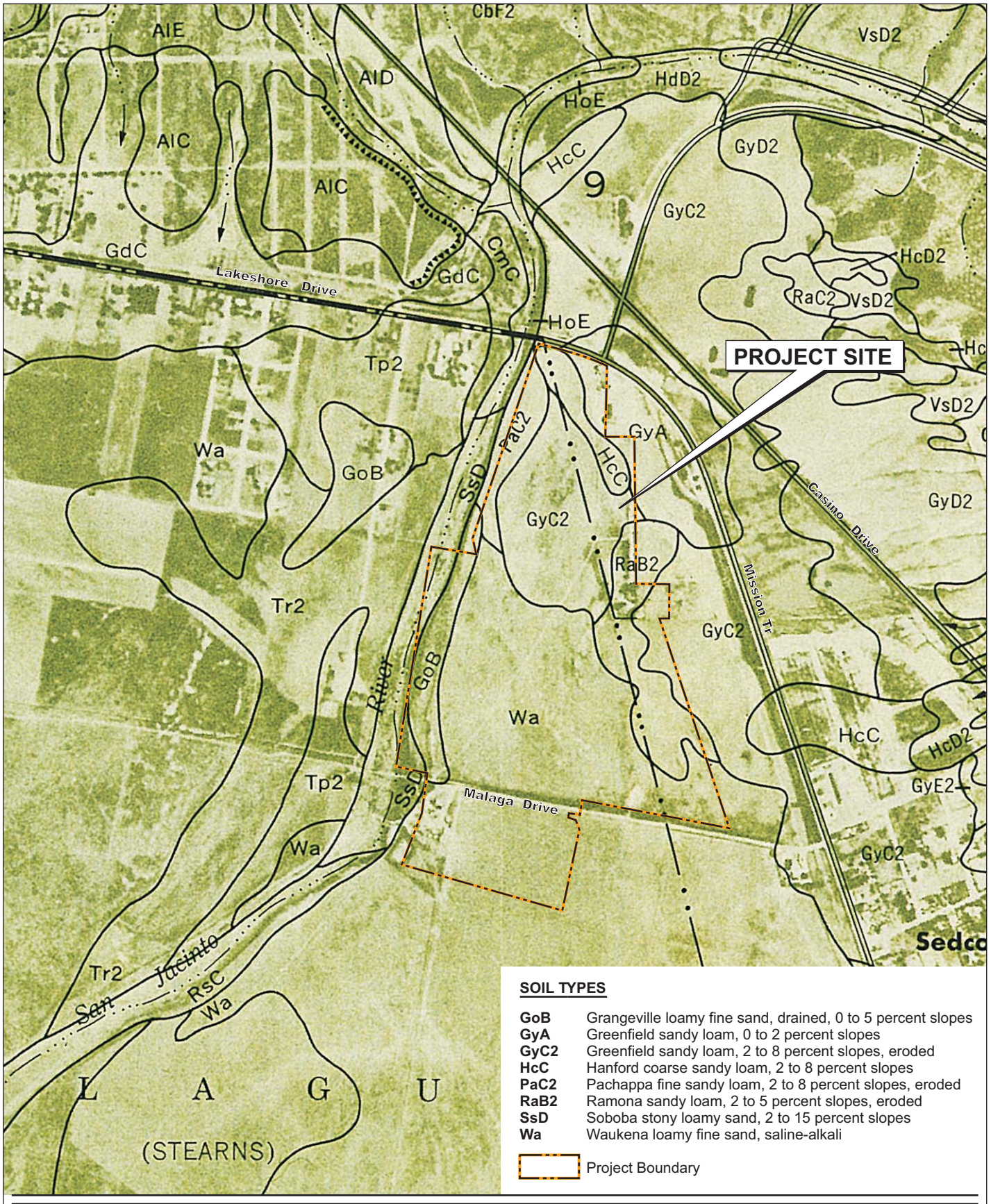
support woolly marbles), the seasonal ponds do not support appropriate vernal pool soils (i.e., Travers, Willows, or clay soils), as shown in Figure 15, *Soils Map*, on page 96. In addition, historic aerial photographs from 1971, 1994, 2002, 2004, 2005, 2006, and 2008 were reviewed to determine if any vernal pools have historically occurred on-site. As shown in Figure 15, *Soils Map* (which includes a historical aerial photograph from 1971) and Figure 16A through F, *Historic Aerial Photographs*, on pages 97 through 102, no historic evidence of vernal pools exists on-site. It is believed that the past and on-going disturbance activities on the site (e.g., routine discing, off-road vehicle use, and impromptu pedestrian trails) have lead to the gradual compaction of the soils to form depressional areas that retain water after rain events. Therefore, the study area does not support vernal pools.

4.4.4 Impacts to Wildlife Movement and Migratory Species

Will the proposed project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant with Mitigation Incorporated

As described previously in Section 3.5.2, *Wildlife Movement within the Study Area*, the majority of the study area is either developed or disturbed, with the exception of the barren (lakebed) and tamarisk/willow scrub communities in the western portion of the study area, and would therefore not be expected to support regional movement for large mammals with extensive home ranges. However, regional movement may be provided in the form of stepping-stone habitat for birds and several reptile and small- to medium-sized mammals that are more adapted to disturbed development. The western boundary of the study area lies within the Proposed Extension of Existing Core 3 and a small portion of the northwesternmost corner of the study area, which currently exists as a commercial development, lies within Proposed Linkage 8 of the MSHCP. The barren (lakebed) and tamarisk/willow scrub communities may support wildlife movement; both of these communities are being avoided (with the exception of 0.0058 acre of tamarisk/willow scrub at the extreme edge of the San Jacinto River) and the proposed project impacts were designed to completely avoid the Preservation Areas. The remainder of the study area is not expected to support the Planning Area species identified for conservation under the proposed core extension and proposed linkage due to the lack of suitable riparian scrub, woodland, forest, or grassland habitat. Although some of the species may be observed flying over the study area as they move through Proposed Linkage 8 to and from the Proposed Extension of Existing Core 3, they are not expected to breed or forage within the study area. Therefore, the proposed project would not significantly impact movement within and along the Proposed Extension of Existing Core 3 and Proposed Linkage 8 due to the study area's lack of suitable habitat to support the Planning Area species. Therefore, impacts to wildlife movement are less than significant.



SOIL TYPES

GoB	Grangeville loamy fine sand, drained, 0 to 5 percent slopes
GyA	Greenfield sandy loam, 0 to 2 percent slopes
GyC2	Greenfield sandy loam, 2 to 8 percent slopes, eroded
HcC	Hanford coarse sandy loam, 2 to 8 percent slopes
PaC2	Pachappa fine sandy loam, 2 to 8 percent slopes, eroded
RaB2	Ramona sandy loam, 2 to 5 percent slopes, eroded
SsD	Soboba stony loamy sand, 2 to 15 percent slopes
Wa	Waukena loamy fine sand, saline-alkali

Project Boundary

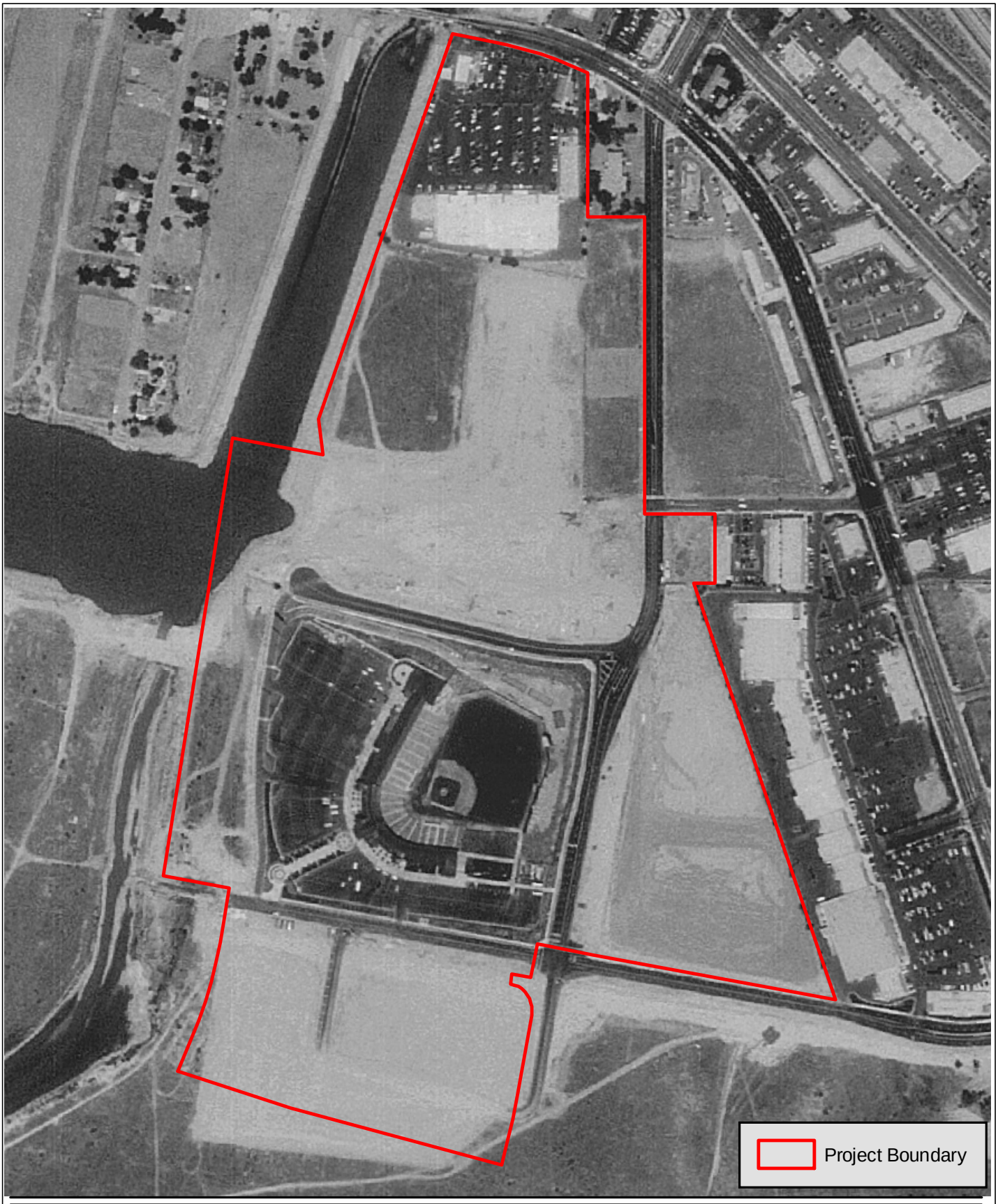
PCR

N

0 800 1600 Feet

Source: Soil Survey, Western Riverside County, California, USDA, 1971.

Figure 15
The Diamond Specific Plan
Soils Map



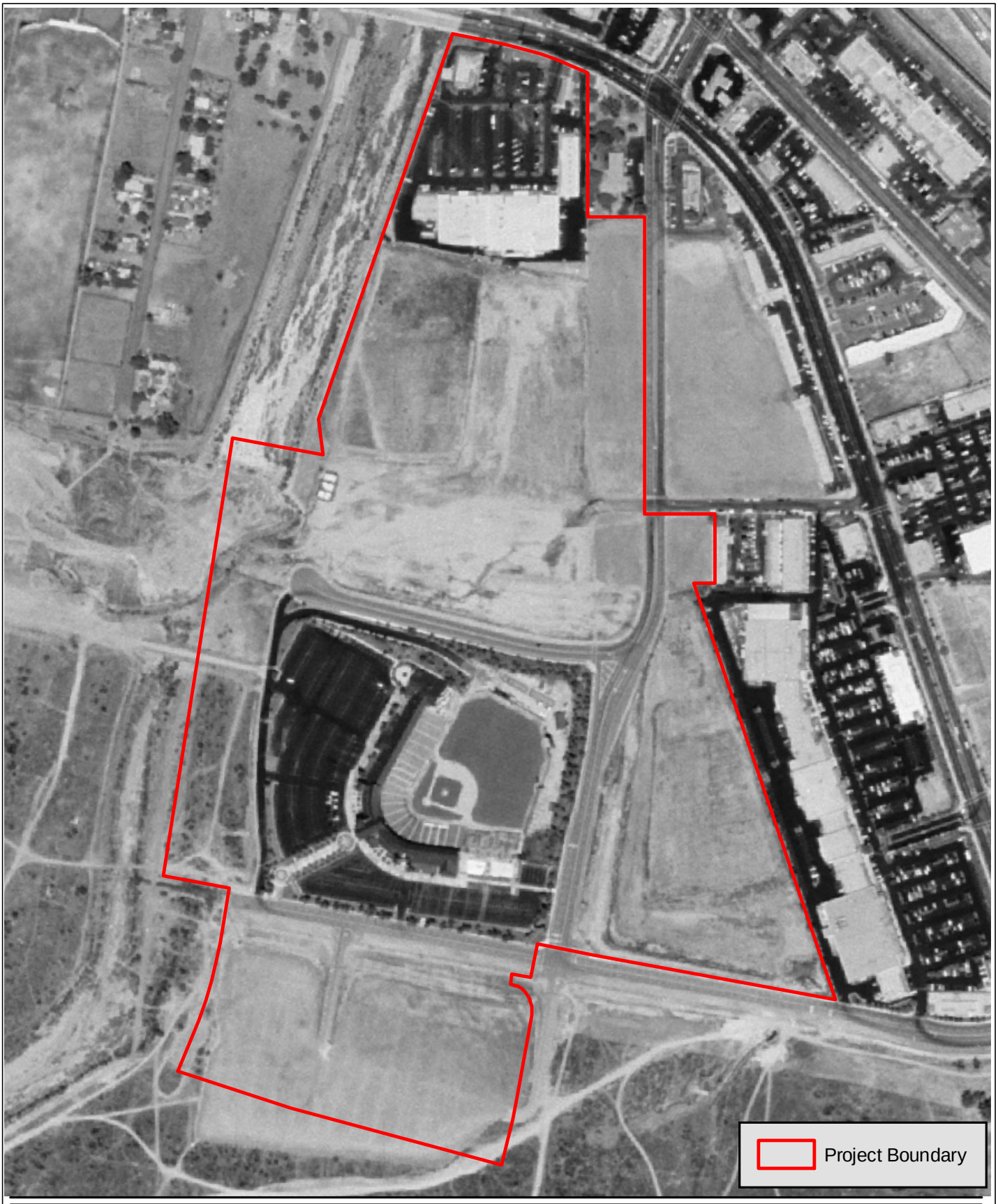
PCR

N

400 0 400 Feet

Source: Google (Aerial), 1994; PCR Services Corporation, 2009.

Figure 16A
The Diamond Specific Plan
Historic Aerial Photograph - 1994



PCR

N

400 0 400 Feet

Source: Google (Aerial), 2002; PCR Services Corporation, 2009.

Figure 16B
The Diamond Specific Plan
Historic Aerial Photograph - 2002

PCR

N

400 0 400 Feet

Source: Google (Aerial), 2004; PCR Services Corporation, 2009.

Figure 16C
The Diamond Specific Plan
Historic Aerial Photograph - 2004

PCR

N

400 0 400 Feet

Source: Google (Aerial), 2005; PCR Services Corporation, 2009.

Figure 16D
The Diamond Specific Plan
Historic Aerial Photograph - 2005

PCR

N

400 0 400 Feet

Source: Google (Aerial), 2006; PCR Services Corporation, 2009.

Figure 16E
The Diamond Specific Plan
Historic Aerial Photograph - 2006

PCR

N

400 0 400 Feet

Source: Aerial Express (Aerial), 2008; PCR Services Corporation, 2009.

Figure 16F
The Diamond Specific Plan
Historic Aerial Photograph - 2008

The study area has the potential to support both raptor and songbird nests due to the presence of trees, shrubs, and ground cover. Nesting activity typically occurs from February 15 to August 31. Disturbing or destroying active nests is a violation of the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.). In addition, nests and eggs are protected under Fish and Game Code Section 3503. The removal of vegetation during the breeding season is considered a potentially significant impact. Mitigation provided below in Section 5.2.4 would reduce this impact to a less than significant level.

4.4.5 Consistency with Local Policies and Ordinances

Will the proposed project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact

The study area is not subject to any local policies or ordinances protecting biological resources; therefore, no conflicts would occur.

4.4.6 Consistency with an Adopted Habitat Conservation Plan

Will the proposed project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less Than Significant Impact with Mitigation Incorporated

The study area is located within the Elsinore Area Plan of the Western Riverside MSHCP Plan Area. As mentioned previously, portions of the study area are located within Criteria Cells 4743 and 4846 (within Subunit 3 - Elsinore), the Criteria Species Survey Area, the Burrowing Owl Survey Area, and NEPS Survey Area 2 of the MSHCP. The goals for Criteria Cell 4743 focus on areas connected to riparian scrub, woodland, forest and grassland habitat associated with the San Jacinto River, with a conservation goal range from 45%-55% of the Cell focusing in the southern and northeastern portions of the Cell. The goals for Criteria Cell 4846 focus on areas connected to grassland habitat associated with the San Jacinto River, with a conservation goal range from 65%-75% of the Cell focusing in the western portion of the Cell. Conservation within both Cells would contribute to assembly of Proposed Extension of Existing Core 3 and Proposed Linkage 8. Although the proposed project is within portions of these two Criteria Cells along the western portion of the study area, the majority of those areas being impacted by the proposed project are dominated by ruderal vegetation or disturbance and the habitats specified within the goals of the Criteria Cells 4743 and 4846 are being avoided [i.e., barren (lakebed) and tamarisk/willow scrub communities (with the exception of 0.0058 acre)]. Further, the conservation requirements for the Back Basin are being met under the Back Basin 770

Agreement which identified preservation areas consisting approximately 770 acres within the Back Basin area that will be conserved and serve as the Reserve Assembly for projects within the Back Basin. The study area will not impact any of the 770-acre Preservation Areas for the Back Basin (as shown in Figure 11, *Back Basin 770 Agreement*); thus, the proposed project is consistent with the with the MSHCP reserve assembly directives.

As discussed in Section 4.4.2 above, Riparian/Riverine resources will be impacted by the proposed project; however, a Determination of Biologically Equivalent or Superior Preservation (DBESP) shall be prepared to address proper mitigation to ensure the replacement of any lost functions and values and ensure the proposed project is consistent with the goals and objectives of Section 6.1.2, Riparian/Riverine and Vernal Pools of the MSHCP.

As discussed in Section 3.8.4 above, the study area is located within the Narrow Endemic Plant Species Survey Area. As such, a sensitive plant species survey was conducted in May 2009. No Narrow Endemic Plant Species were identified within the study area. Therefore, the proposed project is consistent with the goals and objectives of Section 6.1.3, Narrow Endemic Plant Species of the MSHCP.

As discussed in Section 3.8.5 above, the study area is located within the Burrowing Owl Survey Area and the Criteria Area Species Survey Area. As such, Phase I, II, and III surveys for burrowing owl were conducted within the study area by PCR biologists in March of 2009. No burrowing owls or evidence of burrowing owls were identified within the study area. Criteria Area Species were addressed during the sensitive plant survey, as discussed in Section 4.4.1 above, and a DBESP shall be prepared to address proper mitigation for impacts to the sensitive plant species on-site. Thus, upon approval of the DBESP, the proposed project is consistent with the goals and objectives of Section 6.3.2, Additonal Survey Needs and Procedures of the MSHCP.

The proposed project is immediately adjacent to an area set aside for conservation under the Back Basin 770 Plan (Figure 11, *Back Basin 770 Agreement*). As such potential for indirect impacts related to the urban edge were analyzed. These include the quantity and quality of any runoff generated by the development, night lighting, and noise-generating land uses. In order to reduce the potential for these indirect edge effects on conservation lands, project design features and best management practices were incorporated into the proposed project to minimize these edge effects, as discussed in Section 4.3.3 above. Inclusive of these design features, the proposed project is consistent with the goals and objectives of Section 6.1.4, *Urban Wildland Interface* of the MSHCP.

Due to the negative findings of focused surveys and with the implementation of the appropriate mitigation measures for impacts to sensitive species and Riparian/Riverine resources,

the proposed project will be consistent with the provisions provided for in the MSHCP. Because impacts will occur to sensitive plant species and Riparian/Riverine habitat, a DBESP shall be prepared to address proper mitigation to ensure the replacement of any lost functions and values. Upon approval of the DBESP, impacts to sensitive plant species and Riparian/Riverine habitat would be reduced to a less than significant level, as detailed in Section 5.2.5.

4.5 CUMULATIVE IMPACTS

Cumulative impacts are defined as the direct and indirect effects of a proposed project which, when considered alone, would not be deemed a substantial impact, but when considered in addition to the impacts of related projects in the area, would be considered significant. "Related projects" refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed project. CEQA deems a cumulative impact analysis to be adequate if a list of "related projects" is included in the EIR or the proposed project is consistent with an adopted general, specific, master, or comparable programmatic plan [Section 15130(b)(1)(B)]. CEQA also states that no further cumulative impact analysis is necessary for impacts from a proposed project consistent with an adopted general, specific, master, or comparable programmatic plan [Section 15130(d)].

Due to the disturbed nature of the study area and concentration of impacts within already developed areas, and with the implementation of project design features, mitigation, and best management practices designed to minimize any edge effects to Preservation Areas within the Back Basin 770 Agreement, the proposed project is not expected to add significant cumulative impacts within the region and is consistent with the intended designation of Lake Elsinore's General Plan Ballpark District.

5.0 MITIGATION MEASURES

5.1 APPROACH

Mitigation measures are recommended for those impacts determined to be significant to sensitive biological resources. Mitigation measures for impacts considered to be "significant" were developed in an effort to reduce such impacts to a level of "insignificance," while at the same time allowing the Applicant an opportunity to realize development goals. As stated in CEQA Guidelines Section 15370, mitigation includes:

1. Avoiding the impact altogether by not taking a certain action or parts of an action.
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
3. Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
5. Compensating for the impact by replacing or providing substitute resources or environments.

5.2 MITIGATION MEASURES FOR SIGNIFICANT IMPACTS

The following mitigation measures address potentially significant impacts from implementation of the proposed project.

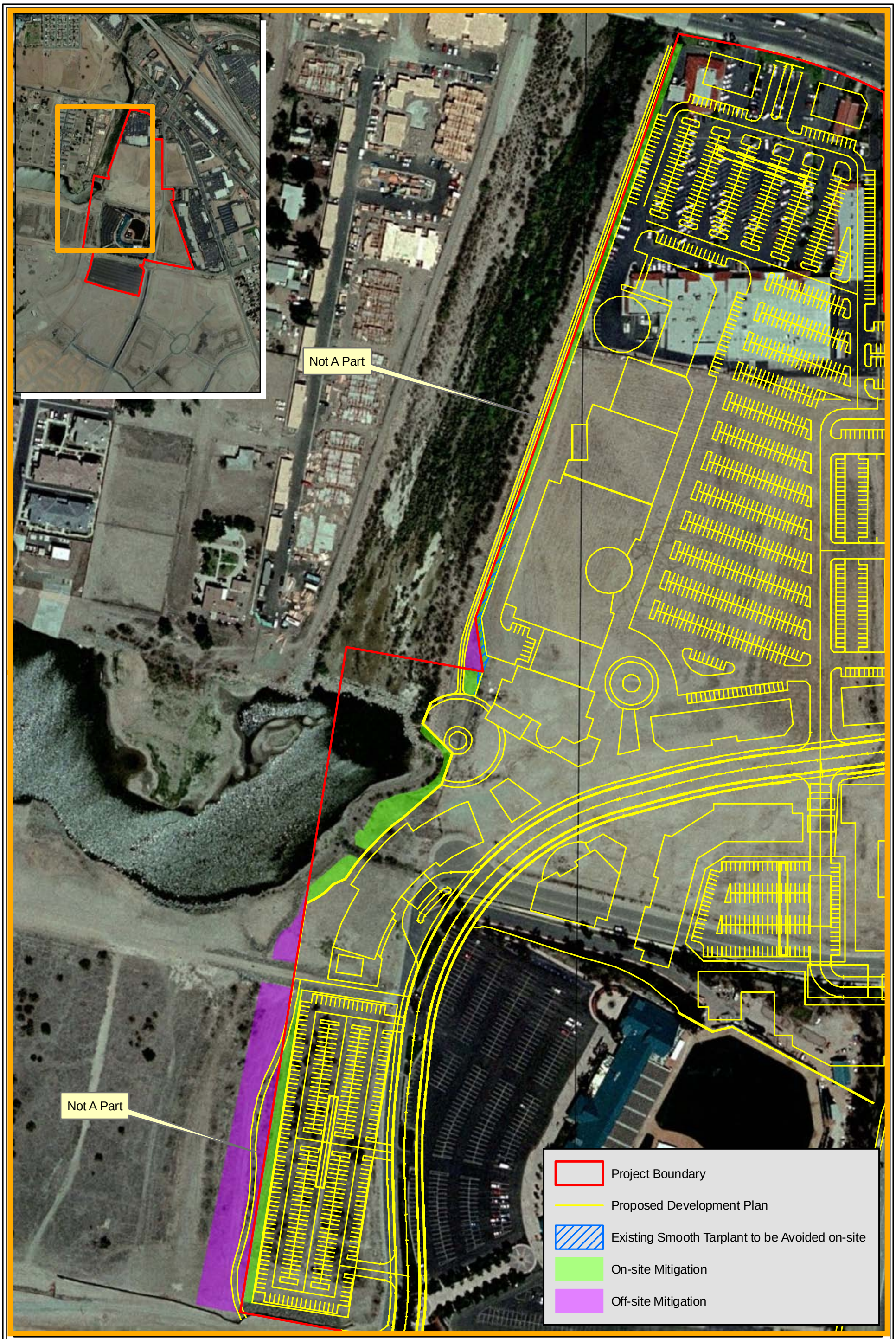
5.2.1 Measures to Mitigate Impacts to Special Status Plant Species

Because smooth tarplant is a Riparian/Riverine and Criteria Area Species, the MSHCP requires that 90 percent of those portions of the property that provide for long-term conservation value for the identified species shall be avoided or, if the 90 percent threshold cannot be met, a DBESP is required. The proposed project aims to avoid impacts to a portion of the densest areas of smooth tarplant (approximately 680 individual plants) along the western boundary of the study area. This project design feature will also place the smooth tarplant mitigation areas adjacent to the San Jacinto River and Lake Elsinore, thus consolidating resources to be conserved whereby long-term protection is facilitated.

A total of 0.08 acre (approximately 680 individuals, or 5.6 percent) of smooth tarplant will be avoided of the 1.46 acres (approximately 12,100 individuals) which occur on-site. An additional 0.83 acre of smooth tarplant will be translocated on-site (i.e., seeded with seeds collected from the existing population on-site) along the western boundary of the study area, contiguous to the existing populations of smooth tarplant which currently exist on-site as shown in Figure 17, *Smooth Tarplant Mitigation Areas*, on page 108. In addition, approximately 1.12 acres of smooth tarplant will also be translocated off-site (for a total smooth tarplant mitigation area of 2.03 acres, or 139 percent of the existing smooth tarplant population). Seed will be collected from the areas on-site to be impacted, prior to disturbance activities, and transplanted to the on- and off-site areas just described. Because the smooth tarplant on-site has survived continual discing and disturbance, this species has demonstrated that it is durable, thus the successful translocation of smooth tarplant is anticipated. A transplantation plan will be prepared to outline implementation of the proposed mitigation and outline the ultimate success criteria of the plan. In addition, mitigation areas will be placed under a conservation easement, deed restriction, or comparable legal instrument which restricts land uses and provides for their long-term preservation. Because more than 90 percent of the smooth tarplant will be mitigated and preserved in perpetuity, the conservation objectives for this species will be met and exceeded with implementation of the proposed mitigation measures. The proposed smooth tarplant mitigation areas will preserve contiguous populations of smooth tarplant adjacent to the San Jacinto River and Lake Elsinore. Preservation of the smooth tarplant within the mitigation area will ensure that continual discing and disturbance no longer impact these populations, as well as preserving the biodiversity functions and values of this sensitive plant species. In addition, weeding of the mitigation area to get the smooth tarplant populations established will improve the habitat for this sensitive plant species from the ruderal (i.e., weedy) habitat where it currently exists. Thus, the improved habitat conditions would have higher functions and values for this species than currently exists.

Because little mousetail is a Criteria Area Species, the MSHCP requires that 90 percent of those portions of the property that provide for long-term conservation value for the identified species shall be avoided or, if the 90 percent threshold cannot be met, a DBESP is required. Mitigation for impacts to little mousetail will include one or more of the following measures:

- Off-site transplantation of individual plants to a site where suitable habitat conditions exist.
- On-site mitigation through translocation by collected seed and topsoil inoculum.
- Off-site mitigation through translocation by collected seed and topsoil inoculum.
- Payment into an agency-approved off-site mitigation bank or an in-lieu fee agreement.
- Off-site purchase and set aside (either in-kind or out-of-kind).



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175 0 175 Feet

Source: Aerial Express, 2008; PCR Services Corporation, 2009.

Figure 17
The Diamond Specific Plan
Smooth Tarplant Mitigation Areas

In addition, mitigation areas will be placed under a conservation easement, deed restriction, or comparable legal instrument which restricts land uses and provides for their long-term preservation. Because at least 90 percent of the little mousetail will be mitigated and preserved in perpetuity, the conservation objectives for this species will be met with implementation of the proposed mitigation measures. Preservation of the little mousetail within the mitigation area will improve habitat quality from the ruderal (i.e., weedy) habitat where it currently exists, reduce competition with non-native species, and ensure that continual discing and disturbance no longer impact these populations. In addition, the little mousetail mitigation will preserve the biodiversity functions and values of this sensitive plant species. Thus, the improved habitat conditions would have higher functions and values for this species than those that currently exist.

5.2.2 Measures to Mitigate Impacts to Special Status Wildlife Species

A pre-construction survey for burrowing owl shall be conducted within 30 days prior to disturbance to ensure that take of active burrows are avoided. Passive relocation (use of one way doors and collapse of burrows) will occur if owls are present outside the nesting season.

5.2.3 Measures to Mitigate Impacts to Jurisdictional Features

Mitigation for impacts to Riparian/Riverine areas will include one or more of the following measures, which would reduce impacts to ACOE, RWQCB, and CDFG jurisdictional areas to below a level of significance:

- Off-site replacement of ACOE/RWQCB jurisdictional "waters of the U.S.," "waters of the State," and wetlands at no less than a 1:1 replacement to impact ratio, or as required by the agency. Off-site replacement will include the purchase of mitigation credits at an agency-approved off-site mitigation bank or payment into an in-lieu fee agreement (i.e., San Jacinto River invasive removal project through Santa Ana Watershed Authority).

- Off-site replacement of CDFG jurisdictional streambed and associated riparian habitat at no less than a 1:1 replacement to impact ratio, or as required by the agency. Off-site replacement will include the purchase of mitigation credits at an agency-approved off-site mitigation bank or payment into an in-lieu fee agreement (i.e., San Jacinto River invasive removal project through Santa Ana Watershed Authority).

Under Section 6.1.2 of the MSHCP, any unavoidable impacts to Riparian/Riverine shall be mitigated such that the lost functions and values are replaced to an equivalent or superior value than what is being impacted. A DBESP shall be supplied by the Applicant and reviewed

by the permittee for approval to ensure replacement of any lost functions and values to Riparian/Riverine habitat.

5.2.4 Measures to Mitigate Impacts to Nesting Birds

The Applicant shall be responsible for implementing mitigation to reduce impacts to migratory and/or nesting bird species to below a level of significance through one of two ways: (1) Vegetation removal activities will be scheduled outside the nesting season (September 1 to February 14) to avoid potential impacts to nesting birds. This will ensure that no active nests will be disturbed and that habitat removal could proceed rapidly. (2) Any construction activities that occur during the nesting season (February 15 to August 31) will require that all suitable habitat be thoroughly surveyed for the presence of nesting birds by a qualified biologist before commencement of clearing. If any active nests are detected, a buffer of at least 300 feet (500 feet for raptors) will be delineated, flagged, and avoided until the nesting cycle is complete as determined by the biological monitor to minimize impacts.

5.2.5 Measures to Ensure Consistency with an Adopted Habitat Conservation Plan

Inclusive of all mitigation measures outlined above and the completion of a DBESP for sensitive plant species and Riparian/Riverine features, the proposed project is consistent with the goals and objectives of the MSHCP. In addition, although a small portion of the study is located within the Preservation Areas for the Back Basin 770 Agreement (at the San Jacinto River's outlet into Lake Elsinore), the proposed project was designed to completely avoid the Preservation Areas and therefore will not conflict with the implementation of the MSHCP Reserve Assembly directives for the Back Basin.

A DBESP document will be prepared and submitted for approval. Mitigation measures to address impacts to MSHCP-species were discussed in Sections 5.2.1 and 5.2.2.

5.3 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project, inclusive of all mitigation measures, mitigates all significant impacts to sensitive plant species, sensitive wildlife species, jurisdictional features, Riparian/Riverine areas, nesting birds, and MSHCP species to a level of less than significant.

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APPENDIX A: RESUMES

Crysta Dickson, SENIOR BIOLOGIST II

Education

- B.S., Biological Sciences, California State University, Fullerton, 2003

Permits/Certifications

- U.S. Fish and Wildlife Service (USFWS) Quino Checkerspot Butterfly, Coastal California Gnatcatcher, and Vernal Pool Brachiopods 10 (A)(1)(a) Permit #TE 067347-3
- California Department of Fish and Game (CDFG) Scientific Collectors Permit #SC-008085
- CDFG Rare, Threatened, and Endangered Plant Voucher Collecting Permit #07014

Continuing Education

- Southern California Native Plant Identification, Santa Ana College, 2007
- Sparrow Identification, Sea and Sage Audubon Society, 2007
- Raptor Identification, The Wildlife Institute, 2007
- California Environmental Quality Act (CEQA) Advanced Workshop Series, 2007
- Plant Identification, Rancho Santa Ana Botanical Gardens, 2005
- Vegetation Community Classification, California Native Plant Society, 2004
- Fairy Shrimp Identification, Mary Schug Belk, MS, 2004 & 2005
- Executing, and Reporting for Botanical Surveys, Rancho Santa Ana Botanical Garden Rare Plants and Communities Planning, 2004
- California Burrowing Owl Symposium, 2003
- Sea and Sage Audubon Society, Bird Identification, 2003

Expertise

Crysta Dickson is a biologist with five years of professional experience in the field of wildlife biology. Ms. Dickson has a strong background in southern California insects, flora, and fauna that she effectively applies to her mitigation monitoring, permit processing, wildlife surveys, and report writing. Using this background, Ms. Dickson has been able to build her professional expertise by effectively managing a dynamic array of projects that require specific expertise.

Ms. Dickson's expertise includes preparing technical biological resources assessments in accordance with CEQA and Natural Community Conservation Plan (NCCP) guidelines for a variety of projects in southern California. She has had extensive experience with the Western Riverside County Multi-Species Habitat Conservation Plan (MSHCP) compliance guidelines and the Consistency Review Process. Additionally, she has had experience with regulatory compliance and permitting procedures, including field delineations under Sections 401 and 404 of the Clean Water Act, Section 1600 of the State Fish and Game Code and Sections 7 and 10 of Endangered Species Act.

Experience

Field Survey: Ms. Dickson has conducted several field surveys for Federal Endangered and Federally Listed native species, including the Arroyo toad, coastal California gnatcatcher, quino checkerspot butterfly, least Bell's vireo, southwestern willow flycatcher, desert tortoise, and fairy shrimp. She has accrued over 200 hours conducting protocol quino checkerspot butterfly surveys within Riverside County. She has had extensive experience conducting protocol burrowing owl surveys in Riverside, Los Angeles, and San Bernardino counties. Ms. Dickson conducted desert tortoise surveys on the 2,200-acre California City project and a jurisdictional delineation on a project site over 20,000 acres in southern Arizona. She has also assisted in the trapping and removal of the parasitic, non-native cowbird and the monitoring of occupied coastal California gnatcatcher habitat.

Botany: In addition to wildlife surveys, Ms. Dickson has contributed to rare and sensitive plant surveys throughout southern California. Specific species surveyed include the mariposa lily, Coulter's matilija poppy, Joshua tree, scalebroom, and MSHCP Narrow Endemic and Criteria Area species in Riverside County. Ms. Dickson is also heavily involved the extensive vegetation mapping throughout southern California.

Ms. Dickson has assisted in the development and training of City employees for tree-trimming activities relative to their effect on the Migratory Bird Treaty Act. Training included presentations to several city departments on federal and state regulations pertaining to the protection of nesting bird species. Additional training experience includes the development and leadership of the annual River Ralley in Santa Clarita, a community education and outreach event focused on cleaning up the Santa Clara riverbed, since 2003.

Research: Ms. Dickson spent three months assisting in the field at Starr Ranch Audubon Society looking at the effects of artichoke thistle pollination on the native habitat. She has completed extensive collection, mounting, and identification of the regions insects and fauna.

Stephanie M. Gasca, SENIOR REGULATORY SPECIALIST II

Education

- M.A., Environmental Science, (Emphasis: Environmental Law and Policy), University of Southern California, Los Angeles, California, 2003
- B.A., Biological Sciences, University of Southern California, Los Angeles, California, 1998

Continuing Education

- Using Green Infrastructure to Address Hydromodification Issues Within the Arid West, SWRCB Training Academy, March 2009
- California Wetlands Conference, CLE International, 2009, 2007, & 2006
- Coachella Valley MSHCP and Other Land Use Regulations Affecting Development in the Desert, Nossaman LLP, December 2008
- Demonstrating compliance with the Riverside County MSHCP Workshop, Riverside County Regional Conservation Authority, 2006
- Wetland Delineation Training, Wetland Training Institute, 2005
- Regulating Activities Effecting Wetlands, Streams & Other Waters, UCLA Extension, 2004
- Endangered Species Regulation and Protection, UCLA Extension, 2004

Summary

Stephanie Gasca is a regulatory specialist/environmental scientist with over nine years of professional and academic experience relative to environmental science. As a regulatory specialist, Ms. Gasca is skilled with the understanding, acquisition, and implementation of federal and State regulatory permitting processes; jurisdictional delineations; and impacts to water quality. Relative to project management, Ms. Gasca is an experienced Project Manager ensuring the execution of overall team management and communication, task assignments, and quality assurance/quality control of deliverable products. In addition, Ms. Gasca regularly prepares and/or supervises budgets and proposal preparation for public and private projects throughout southern California, and supervises the execution of proposals and budget monitoring.

Experience

Ms. Gasca is PCR's practice leader for regulatory permitting, working closely with the local, State and federal agencies, project planners, engineers, and landscape architects. She has also assisted with Habitat Mitigation and Monitoring Plans (HMMPs), and Water Quality Management Plans (WQMPs). She has worked on private and public projects throughout Ventura, Los Angeles, Orange, San Bernardino, Riverside, Kern and San Diego counties, including many projects with the Southern Californian Edison. Her representative projects include Stoneridge Ranch residential development, Indigo Palms residential development, City of Yorba Linda Lucia Kust Park, Stough Canyon Emergency Sediment Removal, Wildwood Canyon Improvement Project, and the Crossings at Gallery residential development and associated mitigation.

Regulatory Experience: Ms. Gasca has extensive knowledge of the Clean Water Act (CWA) sections 401, 402, 404, the Porter-Cologne Water Quality Control Act (Porter-Cologne), and Fish and Game Code 1600 permitting processes. She is experienced with the incidental take permits for both the Federal Endangered Species Act (ESA) and California ESA. Ms. Gasca has prepared a number of environmental regulatory permitting applications associated with the U.S. Army Corps of Engineers (ACOE) CWA Section 404 permit, Regional Water Quality Control Board (RWQCB) CWA Section 401 Water Quality Certification, and Waste Discharge Requirements (WDR) pursuant to Porter-Cologne, and the California Department of Fish and Game (CDFG) Streambed Alteration Program. She has spent several years in close coordination with the ACOE, many of the nine California RWQCBs, CDFG, and U.S. Fish and Wildlife Service representatives. In addition, she has assisted with the preparation of the ACOE Public Notices, response to comments on the Public Notices, and the ACOE Environmental Assessments. Moreover, she has assisted with preparing Staff Reports and Board Orders associated with the issuance of WDRs, as well as drafting 401 Water Quality Certification language, and developing consistency determinations for compliance with the western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

Ms. Gasca has had successful negotiations with State and federal agencies negotiating mitigation terms for project-induced impacts. She has also assisted in preparing deed restrictions, conservation easements, and collaborated with Resource Conservation Districts and various mitigation banks to adequately address impacts to jurisdictional waters and habitats.

Wetland Assessment: Ms. Gasca has experience conducting wetland and waters of the U.S. and State jurisdictional delineations, has conducted verifications with ACOE, RWQCB, and CDFG representatives for projects in multiple Southern California counties.

Water Quality: Ms. Gasca has focused her academic and professional career to target issues of water quality. Prior to joining PCR, Ms. Gasca spent three years with the RWQCB, Santa Ana Region. While with the RWQCB, Ms. Gasca managed the implementation, oversight, and execution of the Newport Bay Fecal Total Maximum Daily Load, led the non-point source program, and addressed California Environmental Quality Act (CEQA) and CWA 401 related issues. Ms. Gasca was also involved with the design of water quality sampling plans, and collection and analysis of water column, benthic, and sediment samples.

Richard Haywood, SENIOR WETLANDS ECOLOGIST/CERTIFIED ARBORIST

Education

- M.S. Candidate, Wetlands Conservation, University of Massachusetts, Amherst
- B.S., Environmental Studies (Minor: Botany), University of Massachusetts, Amherst, 1993

Permits/Certifications

- Certified Arborist, International Society of Arboriculture (ISA), #WE-7618A

Professional Affiliations

- ISA Member
- ISA Western Chapter Member
- Xi Sigma Pi Academic Honor Society Member

Expertise

Richard Haywood is a wetlands ecologist with over 11 years of professional and academic experience in the field of wetlands ecology, conservation, and creation. He is experienced in state & federal regulations, including the Clean Water Act (CWA), Sections 401 and 404, the Endangered Species Act (ESA) (California and federal), the Porter-Cologne Water Quality Control Act Fish and Game Code 1600 permitting processes, the Streambed Alteration Program, and agency coordination for application requirements associated with these regulations, i.e., 401 Water Quality Certifications, Section 7 of the Federal ESA, and a U.S. Army Corps of Engineers (ACOE) Programmatic General Permit.

Mr. Haywood is an ISA-certified arborist and is experienced in conducting general tree inventory surveys, formal assessment surveys for oaks and other native tree species under numerous municipal and county tree preservation ordinances. Aspects of these surveys include species identification, an assessment of each tree's individual health and structural condition and providing recommendations for the preservation or mitigation of each trees assessed.

Experience

Wetland Ecology: Mr. Haywood has performed several aspects of aquatic and wetland ecology. He has designed and overseen the construction and planting of multiple wetland replication areas and stormwater Best Management Practices designs and has follow up inspections for success determination of these areas, including extended detention basins and vegetated swales. He routinely performs wetlands delineations, including vegetative dominance tests and soil identification to complete Army Corps of Engineers field data plots. He is experienced in reading and understanding technical engineering and survey plans.

Mr. Haywood has performed numerous jurisdictional delineations within Orange, Riverside, and San Bernardino counties. He prepared a request for a determination of non-jurisdiction submitted to ACOE for a project in San Bernardino County; submittal and on-going coordination of an Individual Permit application for at project near Rancho Cucamonga, which included a Section 7 Biological Assessment and on-going coordination with agency representatives; and a CWA Section 404(b)1 alternatives analysis for proposed projects in San Marcos, near unincorporated areas of Riverside and San Bernardino counties for the ACOE. Mr. Haywood also completed the Individual Permitting process for a large Orange County project which included extensive coordination with the U.S. Fish and Wildlife Service and a large Riverside County project which required extensive coordination with the California Department of Fish and Game under the Western Riverside County Multiple Species Habitat Conservation Plan. Mr. Haywood keeps abreast of regulatory issues and wetland delineation techniques through the attendance of continuing education courses and workshops.

In addition to his technical expertise, Mr. Haywood is experienced in coordinating and leading site visits with clients, various regulatory agencies representatives, and other environmental professionals. Mr. Haywood is also skilled in giving public presentations and coordinating project design and objectives with project team members including civil engineers and registered land surveyors.

Arboriculture: Mr. Haywood's current projects include a number of large tree surveys in Los Angeles, Riverside, and San Bernardino counties. These projects include several Joshua tree surveys in the high desert areas in the Victorville and Palmdale areas, and oak tree surveys and inventories in the City of Los Angeles. Mr. Haywood keeps up with current issues through the attendance of continuing education courses regarding plant identification and tree health and assessment techniques.

Wildlife: Mr. Haywood has conducted or assisted in various biological surveys throughout Orange, Riverside and San Bernardino counties. Among these he has performed presence/absence surveys for desert tortoise and burrowing owl.

Academic: As a part of his Master's project he maintained and experimented with a pilot plant scale constructed wetland. This project included the design, construction and maintenance of multiple constructed wetland "cells". Since then he has employed his skills as a wetlands ecologist facilitating the permitting process and agency coordination to support the development of residential developments, commercial sites, and institutional centers.

Linda Robb, SENIOR BIOLOGIST

Education

- B.S., Biology, California State University, Fullerton, California, 2001
- B.A., Economics, University of California, Los Angeles, California, 1988

Permits/Certifications

- U.S. Fish and Wildlife (USFWS) Coastal California Gnatcatcher Permit #TE093591-0 (pending application for Fairy Shrimp)
- California Department of Fish & Game (CDFG) – Rare, Threatened, and Endangered Plant Voucher Collecting Permit #SC-07017; Scientific Collectors Permit #VP-007958

Continuing Education

- California Anostraca and Notostraca Identification Class, Mary Belk, 2008 & 2006
- Beginning and Intermediate Tracker Naturalist Class, San Diego Tracking Team, 2008
- Arid West Supplement Wetland Delineation Training, Wetland Training Institute, 2007
- California Environmental Quality (CEQA) Advanced Workshop, Association of Environmental Professionals (AEP), 2007
- California Tiger Salamander Larval Survey Techniques Workshop, Laguna de Santa Rosa Foundation, 2006
- Identifying and Appreciating the Native and Naturalized Grasses of California, California Native Grasslands Association, 2005
- Vegetation and Habitat Rapid Assessment Public Workshop, California Native Plant Society, 2004
- Introductory Birding Skills/ Learning California Bird Sounds, Sylvia Gallagher, 2003 & 2004
- Identification and Ecology of Sensitive Reptiles and Amphibians of Southern California, Wildlife Society, 2003
- CEQA Basics Workshop, AEP, 2003
- Willow Flycatcher Survey Training Workshop, 2002
- Desert Tortoise Line Distance Sampling Training, 2002
- Surveying. Monitoring, and Handling Techniques Workshop, Desert Tortoise Council, 2002

Expertise

Linda Robb is a biologist with seven years of educational and professional experience. She is skilled in managing large projects and conducting sensitive species surveys, botanical surveys and research, jurisdictional delineations, and preparing biological documents including CEQA-level biological resource assessments, Resource Management Plans, and the biological resources sections of Environmental Impact Reports.

Experience

Herpetofauna: Ms. Robb has managed and conducted several zone of influence studies for project sites in the Mojave Desert, and conducted line distance sampling to determine the desert tortoise population density in the Mojave Desert. Ms. Robb has also performed arroyo toad surveys for projects in San Juan Creek, Big Tujunga Wash Mitigation Bank, and a habitat assessment in La Tuna Canyon. She conducted pond turtle and western spade-foot toad surveys in Orange and Los Angeles counties.

Birds: Ms. Robb has conducted several biological reconnaissance surveys which involved the identification of birds in Los Angeles, San Bernardino, Riverside, Orange, San Diego and Mono counties in California and Pinal County, Arizona. Her nesting bird survey work includes projects in Tejon Ranch and Castaic.

Ms. Robb has conducted least Bell's vireo surveys for numerous project sites in Riverside, Los Angeles, Orange, and San Diego counties.

Ms. Robb has performed numerous coastal California gnatcatcher surveys for projects in Riverside, Los Angeles, Orange, and San Bernardino counties.

Her burrowing owl experience includes Phase I (habitat assessment), Phase II (burrow survey) surveys, and Phase III (owl survey) surveys in San Bernardino and Riverside counties in California.

Botany: Ms. Robb has managed and conducted sensitive plant surveys, vegetation mapping, reconnaissance botanical surveys, and quantitative vegetation sampling in Los Angeles, Riverside, San Bernardino, Orange, San Diego, Fresno, Tuolumne, and Mono counties in California and Pinal and Maricopa counties, Arizona.

Jurisdictional Delineations: Ms. Robb has participated in jurisdictional delineations for a variety of projects in Los Angeles, Riverside, and Orange counties, California and Pinal County, Arizona.

Permitting: Ms. Robb has completed U.S Army Corps of Engineers, California Department of Fish and Game, Regional Water Quality Control Board, and California Coastal Conservancy permit applications for projects in Orange and Riverside counties.

Maile Tanaka, BIOLOGIST

Education

- Master of Environmental Science & Management (MESM), University of California, Santa Barbara, California, 2005
- B.S., Organismic Biology, Ecology & Evolution, University of California, Los Angeles, California, 2002

Continuing Education

- Tracker/Naturalist Training Program, Anza-Borrego Foundation and Institute, 2008
- Survey Techniques Workshop Desert Tortoise Council, 2007
- Plants of Orange County, Santa Ana College, 2007
- Basic Wetland Delineation Workshop, Wetland Training Institute, 2006
- California Tiger Salamander Larval Survey Techniques Workshop, Laguna de Santa Rosa Foundation, 2006
- Learning California Bird Sounds, Sea & Sage Audubon Society, 2006
- Introductory Birding Skills, Sea & Sage Audubon Society, 2005

Expertise

Maile Tanaka is a biologist with four years of academic and professional experience in the planning field. Her Master's thesis focused on designing road crossings to ensure safe wildlife passage for planning projects impacting wildlife corridors. The Mitigation Guidelines will be implemented to establish uniform wildlife crossing mitigation for the County of Ventura's Planning Division.

Her professional experience includes surveys for sensitive floral and faunal species, botanical surveys, and jurisdictional delineations for the southern California area. Ms. Tanaka has experience in preparing technical biological resources assessments in accordance with California Environmental Quality Act (CEQA) guidelines and is familiar with the requirements of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

Experience

Wildlife: Ms. Tanaka has conducted numerous biological reconnaissance surveys, which involved the identification of birds in Kern, Los Angeles, Orange, Riverside, San Bernardino, and Santa Barbara counties in California, and Pinal County in Arizona. She has participated in habitat assessments and focused surveys for the burrowing owl in Los Angeles and Riverside counties. Ms. Tanaka has also conducted presence/absence studies for desert tortoise in the Mojave Desert and assisted in California gnatcatcher presence/absence surveys in Orange County.

Wildlife Movement Corridor Analysis: Ms. Tanaka has experience in identifying and tracking wildlife presence from field work at PCR and as a part of her Master's project. In addition to her hands on experience, Ms. Tanaka has conducted extensive literature reviews and wildlife movement analyses to determine the presence of wildlife movement within project areas in the context of developing a basis for mitigation recommendations.

Botany: Ms. Tanaka has conducted biological assessments which have included the identification of plants and plant communities, sensitive plant surveys, tree surveys, and vegetation mapping in Kern, Los Angeles, Orange, Riverside, San Bernardino, and Santa Barbara counties in California and Maricopa County, Arizona.

Jurisdictional Delineations: Ms. Tanaka has participated in jurisdictional delineations and has experience with regulatory compliance and permitting procedures for a variety of projects in Los Angeles, Orange, and Riverside counties in California and Pinal County, Arizona.

Marine Biology: In addition to her experience with terrestrial biology, Ms. Tanaka is knowledgeable in marine biology. As an instructor at the Cabrillo Marine Aquarium and aboard the Floating Laboratory in the Port of Los Angeles, she taught school-age children about native California marine life and the science surrounding it. She has also conducted a marine assessment, including an eelgrass and surf grass survey for a Los Angeles County yacht club to assess the impact of a dock installation on Catalina Island.

Research Experience: As a part of her undergraduate study, Ms. Tanaka studied the competition of Australian birds at Fowler's Gap Research Station of the University of New South Wales as a part of her field biology quarter. The research produced an article entitled, *Can Lanchester's Laws Help Explain Interspecific Dominance in Birds?* Published in the Cooper Ornithological Society's *The Condor*.

Ezekiel T. Cooley, ASSOCIATE BIOLOGIST

Education

- B.S., Natural Resources, (Emphasis: Wildlife), Central Michigan University, Mt. Pleasant, Michigan, 2004

Continuing Education

- Enrolled in Section 404 and State Permits: Regulating Activities Affecting Wetlands, Streams, and Other Waters, UCLA Extension, 2008

Summary

Ezekiel Cooley is a biologist with six years of hands on experience. He has performed field work involving wildlife and habitat evaluations, avian and invertebrate trapping, and habitat management plans, and map creation. At PCR, Mr. Cooley is responsible for preparing regulatory permitting packages, compliance packages, and coordinating with regulatory agencies and clients. He also assists with GIS projects including impact analysis, cartographic production, Global Positioning System (GPS), surveys, and data input and manipulation to mapping project-related sensitive plants and animals, and vegetation communities.

Experience

Field Surveys: Mr. Cooley has assisted and performed burrowing owl surveys for residential development projects in Riverside, Orange, and Los Angeles counties, and participated in a Burrowing Owl passive relocation. He also assisted with an alluvial fan sage scrub (AFSS) survey that spanned throughout Southern California.

Geographic Information Systems (GIS): Mr. Cooley served as a GIS Technician for Central Michigan University where he created multiple thematic maps and information layers for graduate students. He is experienced in digitizing jurisdictional features and plant communities on maps. Specifically, he has digitized the results of AFSS surveys throughout southern California and drainages for Jurisdictional Delineation packages. Mr. Cooley also managed the Avian Influenza database at APHIS and mapped sample locations with ArcGIS.

Wetland Ecology: Mr. Cooley has assisted with jurisdictional delineations in Santa Clarita, William H. Mason Park, Santiago Oaks Regional Park, as well as Saddle Creek and Saddle Crest. He has completed the Significant Nexus/ Jurisdictional determination section of Jurisdictional Delineations, including digitizing drainage areas, watersheds, and a significant nexus for the drainage.

Avian Biology: Mr. Cooley has participated in an osprey relocation program for the Michigan Department of Natural Resources. He has also hazed and trapped migratory birds at the Detroit Metropolitan Airport, sampled sentinel swans, and collected cloacal samples while researching Avian Influenza for USDA's Animal and Plant Health Inspection Service (APHIS).

Land Management: Mr. Cooley is experienced in native plant propagation in controlled environments. While with the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service he assisted in a number of research projects collecting and recording samples. He is also experienced in identifying plants, preparing habitat restoration information to supplement land management plans, restoring native prairies, and harvesting and cleaning grass seed.

As a state worker for the Department of Natural Resources Landowner Incentive Program in East Lansing, Michigan, Mr. Cooley regularly coordinated with the landowners and Native American groups, and organized field crews to conduct site visits for the Program. The purpose of the Landowner Incentive Program was to create a native wildlife corridor by linking habitat from one area to another. He assisted in preparing land management plans to inform landowners on how to restore high-quality flora. This restoration would allow landowners to be eligible for compensation for each acre of high-quality flora the landowner restored. Using his background as a Geographic Information Systems Technician, Mr. Cooley created and modified aerial, soil, topographic, drain, and plat maps.

Collection: Mr. Cooley is experienced collecting seeds from endangered and special interest plants. While working for the Michigan Department of Natural Resources he assisted the Michigan Natural Features Inventory in the collection of native plant and grass seeds from remnant prairies, and bogs throughout Southern Michigan. He is also experienced in mechanical seed collection, and has experience using a handheld power seed stripper, a tow-behind brush harvester, and a Wintersteiger Plot Combine to collect native plant and grass seeds.

APPENDIX B: FLORAL AND FAUNAL COMPENDIUM

ANGIOSPERMS (DICOTYLEDONS)

	SCIENTIFIC NAME	COMMON NAME
Arecaceae		**Palm Family**
	Washingtonia robusta	Mexican fan palm
Asteraceae		**Sunflower Family**
	Baccharis salicifolia	mule fat
	Baccharis pilularis	coyote brush
*	*Centaurea melitensis*	tocalote
	Encelia farinosa	brittlebush
	Helianthus annuus	common sunflower
	Hemizonia fasciculata	fascicled tarweed
	Hemizonia pungens ssp. *laevis*	smooth tarplant
	Heterotheca grandiflora	telegraph weed
	Isocoma menziesii	coastal goldenbush
	Psilocarphus sp.	woolly marbles
	Xanthium strumarium	cocklebur
Boraginaceae		**Borage Family**
	Amsinckia menziesii	common fiddleneck
	Heliotropium curassivicum	saltmarsh heliotrope
	Plagiobothrys leptocladus	alkali plagiobothrys
Brassicaceae		**Mustard Family**
*	*Brassica nigra*	black mustard
	Lepidium lasiocarpum	hairypod pepperweed
*	*Sisymbrium irio*	London rocket
Chenopodiaceae		**Goosefoot Family**
	Atriplex lentiformes	big saltbush
*	*Bassia hyssopifolia*	five-hooked bassia
*	*Salsola tragus*	Russian thistle
Fabaceae		**Legume Family**
	Cercidium sp.	palo verde
	Chamaesyce albomarginata	rattlesnake weed
	Eremocarpus setigerus	dove weed
Fabaceae		**Legume Family**
	Lotus scoparius	deerweed

** Non-native species*

ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
Geraniaceae	**Geranium Family**
* *Erodium cicutarium*	red-stemmed filaree
Lamiaceae	**Mint Family**
Trichostema lanceolatum	vinegar weed
Myrtaceae	**Myrtle Family**
* *Eucalyptus* sp.	gum tree
Polygonaceae	**Buckwheat Family**
Eriogonum fasciculatum	California buckwheat
* *Rumex crispus*	curly dock
Ranunculaceae	**Buttercup Family**
Myosurus minimus ssp. apus	little mousetail
Salicaceae	**Willow Family**
Salix goodingii	black willow
Solanaceae	**Nightshade Family**
Datura wrightii	jimson weed
* *Nicotiana glauca*	tree tobacco
Tamaricaceae	**Tamarisk Family**
* *Tamarix ramosissima*	Mediterranean tamarisk

ANGIOSPERMS (MONOCOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
Poaceae	**Grass Family**
* *Arundo donax*	giant reed
* *Bromus madritensis* ssp. *rubens*	foxtail chess
Distichlis spicata	saltgrass

** Non-native species*
? Potentially present

INVERTEBRATES

SCIENTIFIC NAME	COMMON NAME
Anostraca (Order Crustacea)	**Fairy Shrimp**
Branchinecta lindahli	versatile fairy shrimp

AMPHIBIANS

SCIENTIFIC NAME	COMMON NAME
Hylidae	**Treefrogs**
Hyla regilla	Pacific treefrog

REPTILES

SCIENTIFIC NAME	COMMON NAME
Phryonosomatidae	**Iguanid Lizards**
? *Sceloporus occidentalis*	western fence lizard
Uta stansburiana	side-blotched lizard

BIRDS

SCIENTIFIC NAME	COMMON NAME
Ardeidae	**Herons**
Ardea alba	great egret
Egretta thula	snowy egret
Threskiornithidae	**Ibises and Spoobills**
? *Plegadis chihi*	white-faced ibis
Alaudidae	**Larks**
? *Eremophila alpestris actia*	California horned lark
Cathartidae	**New World Vultures**
? *Cathartes aura*	turkey vulture
Accipitridae	**Hawks, Kites, Harriers, and Eagles**
? *Elanus leucurus*	white-tailed kite
Circus cyaneus	northern harrier
? *Accipiter cooperii*	Cooper's hawk
? *Buteo lineatus*	red-shouldered hawk
Buteo jamaicensis	red-tailed hawk

* *Non-native species*
? Potentially present

BIRDS

	SCIENTIFIC NAME	COMMON NAME
?	*Aquila chrysaetos*	golden eagle
Falconidae		**Falcons**
?	*Falco sparverius*	American kestrel
?	*Falco peregrinus anatum*	American peregrine falcon
Charadriidae		**Plovers**
?	*Charadrius alexandrinus nivosus*	western snowy plover
	Charadrius vociferus	killdeer
Columbidae		**Pigeons and Doves**
?*	*Columba livia*	rock dove
	Zenaida macroura	mourning dove
Strigidae		**True Owls**
?	*Asio otus*	long-eared owl
?	*Athene cunicularia*	burrowing owl
Trochilidae		**Hummingbirds**
	Calypte anna	Anna's hummingbird
Picidae		**Woodpeckers**
	Colaptes auratus	northern flicker
Tyrannidae		**Tyrant Flycatchers**
?	*Sayornis nigricans*	black phoebe
	Sayornis saya	Say's phoebe
?	*Tyrannus vociferans*	Cassin's kingbird
?	*Tyrannus verticalis*	western kingbird
Corvidae		**Jays and Crows**
?	*Aphelocoma californica*	western scrub jay
	Corvus brachyrhynchos	American crow
?	*Corvus corax*	common raven
Mimidae		**Thrashers**
?	*Mimus polyglottos*	northern mockingbird
Sturnidae		**Starlings**
?*	*Sturnus vulgaris*	European starling
Parulidae		**Wood Warblers**
	Dendroica coronata	yellow-rumped warbler
Emberizidae		**Emberizids**
?	*Pipilo crissalis*	California towhee

** Non-native species*
? Potentially present

BIRDS

SCIENTIFIC NAME	COMMON NAME
Zonotrichia leucophrys	white-crowned sparrow
Fringillidae	**Finches**
Carpodacus mexicanus	house finch
Carduelis psaltria	lesser goldfinch

MAMMALS

SCIENTIFIC NAME	COMMON NAME
Didelphidae	**New World Opossums**
?* *Didelphis virginiana*	Virginia opossum
Molossidae	**Free-tailed Bats**
? *Eumops perotis californicus*	western mastiff bat
Leporidae	**Hares and Rabbits**
Sylvilagus audubonii	desert cottontail
Sciuridae	**Squirrels**
Spermophilus beecheyi	California ground squirrel
Heteromyidae	**Kangaroo Rats, Pocket Mice, and Kangaroo Mice**
? *Dipodomys stephensi*	Stephens' kangaroo rat
Muridae	**Mice, Rats, and Voles**
?* *Mus musculus*	house mouse
Canidae	**Foxes, Wolves, and Coyotes**
? *Canis latrans*	coyote
Procyonidae	**Raccoons**
? *Procyon lotor*	raccoon

** Non-native species*
? Potentially present

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