DETERMINATION OF BIOLOGICALLY SUPERIOR OF EQUIVALENT

The Diamond Specific Plan

Lake Elsinore, California

PCR

June 15, 2009
(Updated November 17, 2009)

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The Diamond Specific Plan

Lake Elsinore, California

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June 15, 2009
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Determination of Biologically Equivalent or Superior Preservation

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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DETERMINATION OF BIOLOGICALLY EQUIVALENT OR SUPERIOR PRESERVATION FOR THE DIAMOND SPECIFIC PLAN, CITY OF LAKE ELSINORE, CALIFORNIA

1.0 INTRODUCTION

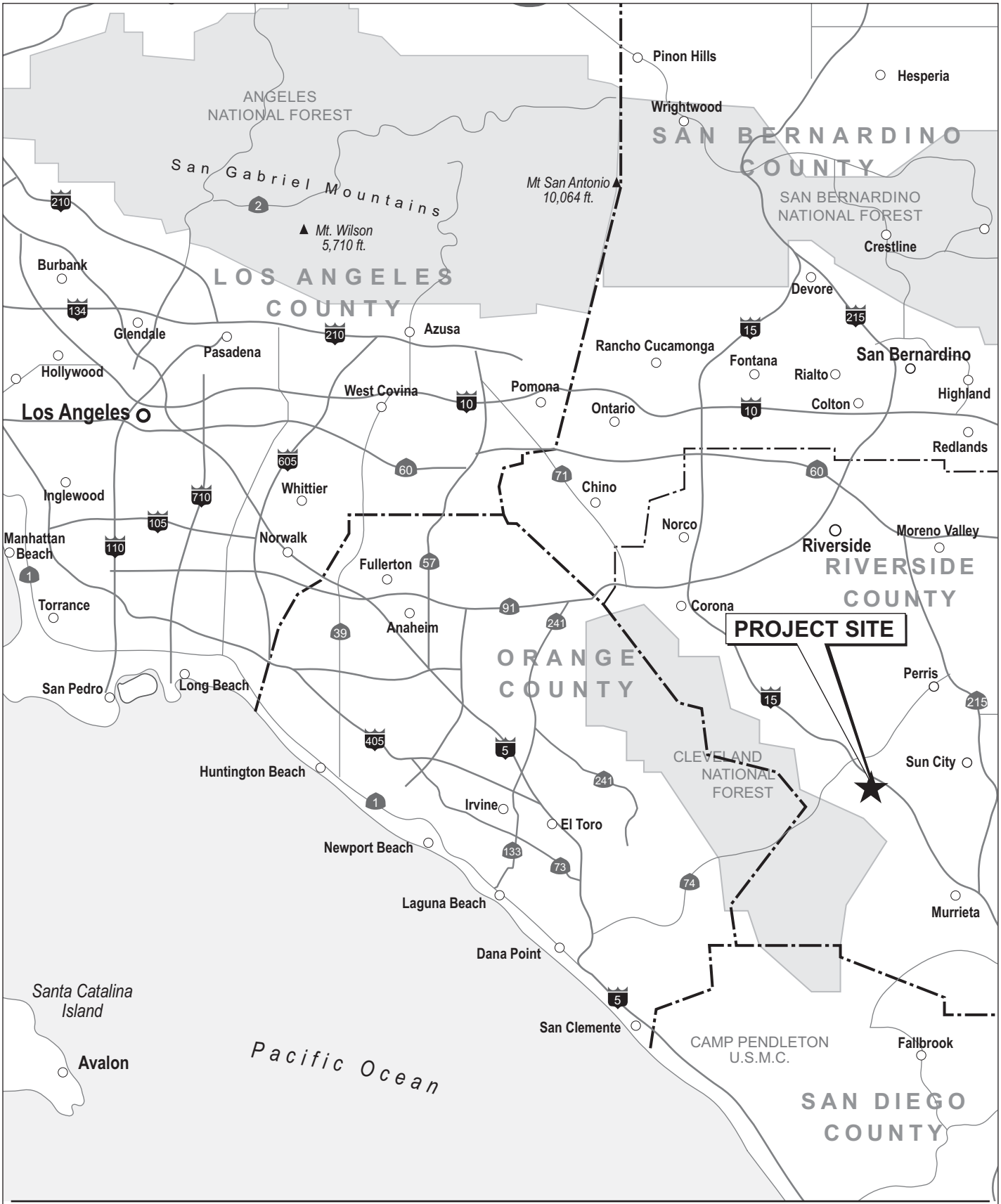
1.1 Background and Purpose

This document presents the results of a Determination of Biologically Equivalent or Superior Preservation (DBESP) conducted by **PCR Services Corporation (PCR)** for the proposed Diamond Specific Plan project 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 Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) [Riverside County Integrated Project (RCIP) 2003, Dudek 2003]. A MSHCP consistency determination for the proposed project to ensure that the proposed project is consistent with the goals and objectives of the MSHCP is included within the *Biological Resources Assessment* (PCR 2009a) (refer to Appendix A, *Biological Resources Assessment*).

1.2 Definition of the Study Area

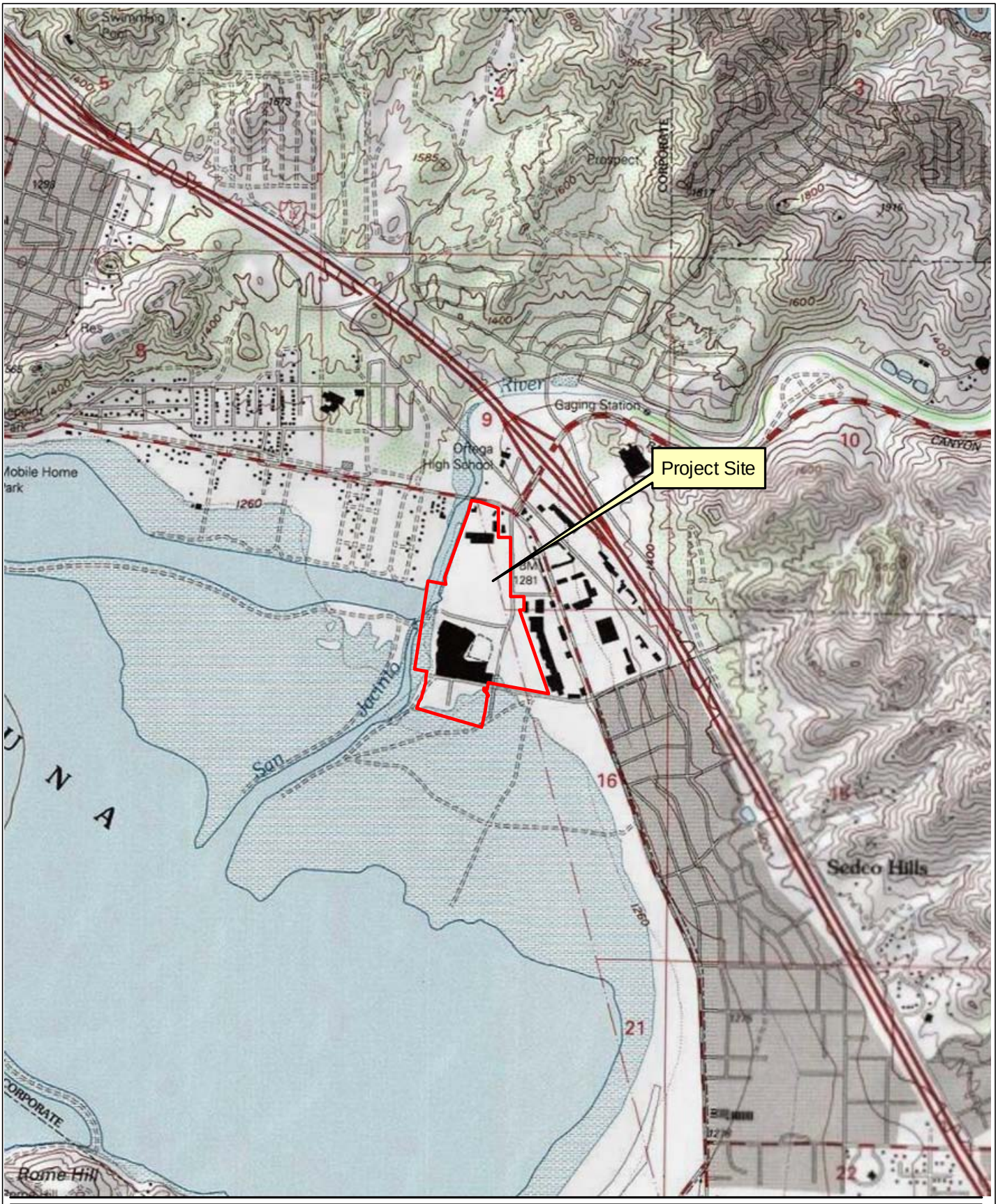
The approximately 87-acre study area[1] ("study area") is comprised of APNs: 363-150-006; 363-161-012, -029, -030, -031, -032, -033, -034, -035, -037; 365-280-022; 371-030-035; 373-210-014, -016, -019, -020, -021, -023, -026, -027, -030, -037, -038, -039, -040, -041, -042, and -043 within the City of 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 on 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

[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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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.

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.

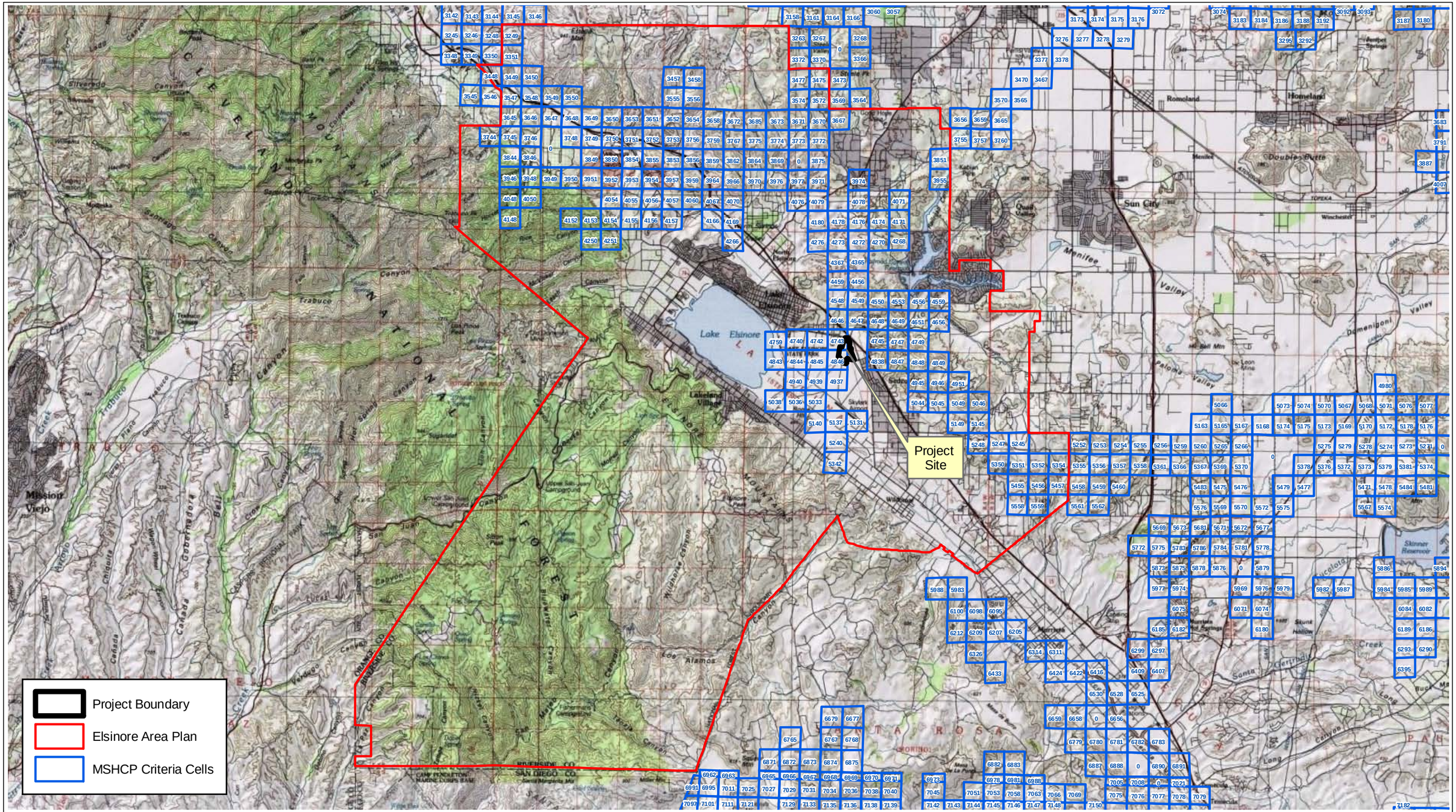
The study area consists of a developed commercial area within the northern portion, Lake Elsinore Diamond Stadium and a paved parking lot in the southern central portion, and vacant lots throughout the remainder of the study area. The vacant lots within the study area are primarily comprised of disturbed and ruderal areas which show evidence of prior routine discing activities. The western boundary of the study area also includes barren (lakebed) and tamarisk/willow scrub communities. The study area drains in a westerly direction into the San Jacinto River and Lake Elsinore, and in a southerly direction into an off-site detention basin.

The biological resources of the study area are documented in the *Biological Resources Assessment* (PCR 2009a) (refer to Appendix A, *Biological Resources Assessment*), *Jurisdictional Delineation of Waters of the United States and Wetlands* (PCR 2009b) (refer to Appendix B, *Jurisdictional Delineation of Waters of the United States and Wetlands*), and *Burrowing Owl Survey Report* (PCR 2009c) (refer to Appendix C, *Burrowing Owl Survey Report*).

1.3 Relationship to the MSHCP

The study area is located within the Elsinore Area Plan of the MSHCP. Portions of the study area are located within Criteria Cells 4743 and 4846 (within Subunit 3 of the Elsinore Area Plan), as shown in Figure 3, *Location within the Elsinore Area Plan of the MSHCP*, on page 5. Because the study area is located within Criteria Cells, it is subject to the Lake Elsinore Acquisition Process (LEAPS). The LEAPS process applies to properties within a MSHCP criteria cell which may be needed for inclusion in the MSHCP Conservation 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. The ELSP 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 (USFWS and CDFG) to develop an agreement to preserve a 770-acre area within the ELSP (referred to herein as the "Back Basin 770 Agreement") to meet the Reserve Assembly requirements. Thus, the conservation requirements for the Back Basin are being met under the Back Basin 770 Agreement. 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.

The study area is within the Criteria Species Survey Area, the Burrowing Owl Survey Area, and the Narrow Endemic Plant Species (NEPS) Survey Area of the MSHCP. In addition,



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

portions of the study area are located within Proposed Extension of Existing Core 3 and Proposed Linkage 8 of the MSHCP. The study area is not within the MSHCP's Amphibian Species Survey Area or Mammal Species Survey Area.

1.4 Project Description

The Diamond Specific Plan is a proposed mixed-use development which will reflect the objectives of the City of Lake Elsinore's General Plan's Ball Park District. Mixed uses will include commercial, office, educational, entertainment, residential uses, and stadium (which currently exists), and will be developed over five phases. The proposed project assumes impacts over the majority of the study area; however, the following will be avoided: (barren) (lakebed) community within the lake; 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. In addition, the proposed project completely avoids U.S. Army Corps of Engineers (ACOE) jurisdiction within the 1,255 feet elevation above msl for the Lake Elsinore Back Basin.[2] The project has been designed to 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.

1.5 100 Percent Avoidance Analysis

In accordance with the MSHCP, a 100 percent avoidance alternative was analyzed to determine if a project could be developed within the study area that avoided 100 percent of the Riparian/Riverine areas and sensitive plant species present. As previously mentioned, the proposed project completely avoids ACOE jurisdiction within the 1,255-foot elevation as well as impacts to barren (lakebed) and tamarisk/willow scrub communities (with the exception of 0.0058 acre) within Lake Elsinore and the San Jacinto River outlet to the lake, respectively. The study area supports two drainage features as well as a scattered distribution of smooth tarplant, and little mousetail (*Myosurus minimus* ssp. *apus*) within a seasonal pond near the center of the study area. Because of the scattered distribution of the resources on-site, a 100 percent avoidance alternative is not feasible because it would not allow the Applicant to realize project objectives.

[2] *As determined in a letter dated March 21, 2008 from the Office Chief of the Department of the Army, Regulatory Division to the City of Lake Elsinore (USACOE 2008).*

2.0 METHODOLOGY

2.1 Literature Review

The study began with a review 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 California Department of Fish and Game (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 U.S. Fish and Wildlife Service (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.

2.2 Field Investigations

The following field investigations were conducted by PCR. The detailed methodology for each type of survey can be found in Section 2.0 of the Appendix A, *Biological Resources Assessment*.

- General biological survey, vegetation mapping, and riparian/riverine and sensitive species habitat assessments were conducted on December 2 and 10, 2008 by PCR biologist Maile Tanaka and Crysta Dickson.

- Jurisdictional delineation was conducted on December 24, 2008 by PCR wetland ecologist Richard Haywood.

- Focused wet season surveys for federally-listed fairy shrimp species [Riverside fairy shrimp (*Streptocephalus woottoni*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), and vernal pool fairy shrimp ((*Branchinecta lynchi*)] commenced on December 10, 2008 and concluded on March 31, 2009 by PCR biologists Ms. Dickson (TE067347-3), Linda Robb (TE093591-1), Ms. Tanaka, and Zeke Cooley. Wet season surveys were conducted for nine seasonal ponds every two weeks after initial inundation for 120 days or until the ponds dried up.

- Focused burrowing owl (*Athene cunicularia*) surveys conducted on March 4, 18, 25, and 31, 2009 by PCR biologists Ms. Dickson, Ms. Robb, Ms. Tanaka, and Mr. Cooley.

- Sensitive plant survey conducted on May 21, 2009 and July 1, 2009 by PCR biologists Ms. Dickson, Ms. Tanaka, and Ms. Robb.

- Fairy shrimp dry season survey conducted on June 2, 2009 by Ms. Dickson and Ms. Tanaka.

2.3 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.

3.0 DESCRIPTION OF AVAILABLE BIOLOGICAL INFORMATION

3.1 Plant Communities

The majority of the study area is developed or disturbed due to prior routine discing activities and dominated by ruderal vegetation. The study area supports 1.3 acres of native plant communities and 86.4 acres of non-native plant communities. Native plant communities include 1.0 acre of barren (lakebed) community and 0.3 acre of buckwheat scrub. Non-native plant communities include 44.2 acres of developed, 37.3 acres of disturbed, 0.4 acre of ruderal, 3.6 acres of ruderal/disturbed, 0.4 acre of tamarisk/ruderal, and 0.4 acre of tamarisk/willow scrub. Descriptions and a map of the plant communities are included in the *Biological Resources Assessment* prepared by PCR (2009a).

The proposed project assumes permanent impacts over the majority of the study area, however, the following will be avoided: 1.0 acre of barren (lakebed) community; 0.4 acre of tamarisk/willow scrub community with the exception of 0.0058 acre (1.4 percent of the 0.4 acre on-site); and a 0.98-acre disturbed area along the northwestern boundary of the study area, which includes a 0.08-acre area of a dense population of smooth tarplant. In addition, no impacts to the existing stadium (14.8 acres) are anticipated. Thus, permanent impacts to native plant communities include 0.3 acre of buckwheat scrub, which is surrounded by a disturbed area, and permanent impacts to non-native plant communities include 36.4 acres of disturbed, 0.4 acre of ruderal, 3.6 acres of ruderal/disturbed, and 0.4 acre of tamarisk/ruderal. In addition, 29.4 acres of currently developed area will be impacted. The total acreage of each plant community

mapped within the study area and the permanent impacts to those communities are included in Table 1, *Impacts to Plant Communities*, on page 10.

3.2 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). Sensitive plant surveys were conducted by PCR biologists Ms. Dickson and Ms. Tanaka on May 21 and July 1, 2009 in accordance with the survey guidelines published by the CNPS (CNPS 2001).

Two sensitive plant species, smooth tarplant and little mousetail, were observed within the study area as shown in Figure 4, *Locations of Sensitive Plant Species*, on page 11. 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 to occur 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 along the edges of Seasonal Pond 9.

3.3 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. Sensitive wildlife species which have the potential to occur on-site include three federally-listed fairy shrimp species (vernal pool fairy shrimp, Riverside fairy shrimp, and the San Diego fairy shrimp) and burrowing owl.

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. All surveys were conducted in accordance with the 1993 California Burrowing Owl Consortium's *Survey Protocol and Mitigation Guidelines* and the County of Riverside's *Burrowing Owl Survey Instructions* (California Burrowing Owl Consortium 1993, County of Riverside 2005). No burrowing owls were found on-site during the focused surveys. Details of the burrowing owl

Table 1

Impacts to Plant Communities

Plant Community	Existing (Acres)	Impacts (Acres)
Developed	44.2	29.4
Disturbed	37.3	36.3
Ruderal	0.4	0.4
Ruderal/Disturbed	3.6	3.6
Barren (Lakebed)	1.0	0.0
Buckwheat Scrub	0.3	0.3
Tamarisk/Ruderal	0.4	0.4
Tamarisk/Willow Scrub	0.4	0.0058
Total	**87.6**	**70.4**

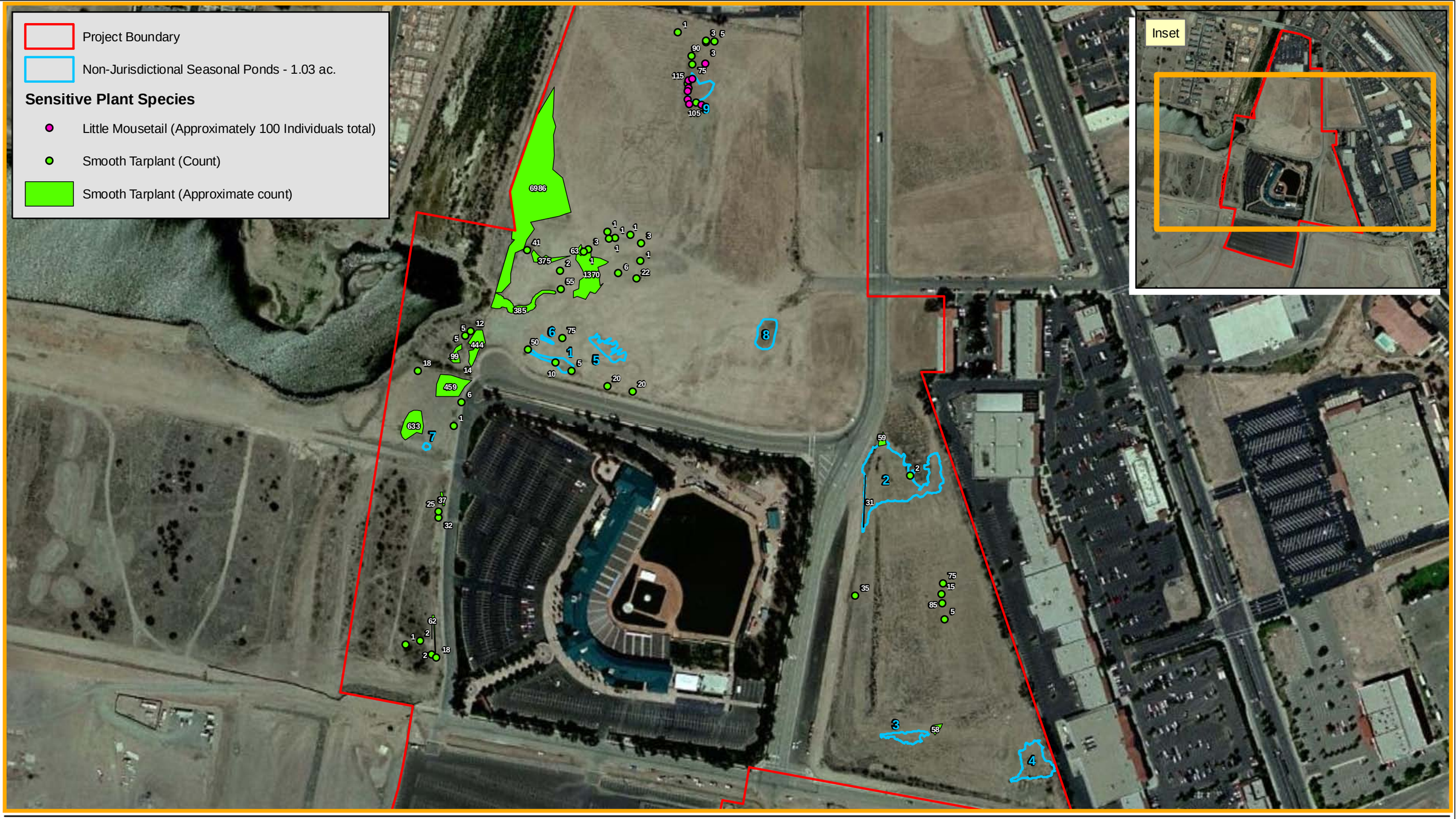
Source: PCR Services Corporation, 2009.

surveys are included in the *Results of Phase III Burrowing Owl Surveys for The Diamond Specific Plan* letter report (PCR 2009c) (refer to Appendix C, *Burrowing Owl Survey Report*).

The study area supports 0.4 acre of tamarisk/willow scrub. Because this community is located where the San Jacinto River outlets into Lake Elsinore, a portion of this community is comprised of un-vegetated boulder riprap, and the community is dominated by non-native, invasive tamarisk with a few sparse willows, as shown in Figure 5, *San Jacinto River Outlet Photograph,* on page 12. Overall, this community is comprised of short, scrubby vegetation that is not dense enough to support habitat for the least Bell's vireo (*Vireo bellii pusillus*). Thus, no focused surveys for the least Bell's vireo were warranted, as specified in Section 6.1.2 of the MSCHP.

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*).

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 Species of Special Concern (SSC) species and do not require surveys. The American peregrine falcon is a State



PCR

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

Figure 4
The Diamond Specific Plan
Location of Sensitive Plant Species

Photograph 1: San Jacinto River outlet into Lake Elsinore.

Photograph 2: View of un-vegetated boulder riprap and tamarisk/willow scrub community dominated by non-native, invasive tamarisk.

PCR

Figure 5
The Diamond Specific Plan
San Jacinto River Outlet Photograph

Source: PCR Services Corporation, 2009.

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.

3.4 Soils

A determination soil types found on-site is useful in characterizing drainages and the extent of wetlands within the study area. The *Soil Survey of Western Riverside Area, California* (Knecht 1971) was consulted, and eight soil types within seven soil series were identified within the study area boundaries (Figure 6, *Soils Map*, on page 14). Descriptions of the soils associated with the on-site drainages are presented below.

- **Grangeville loamy fine sand, drained, 0 to 5 percent slopes (GoB)**: This moderately well drained soil series is formed in alluvium derived from granite. It occurs on alluvial fans and floodplains with elevations ranging from 600 to 3,500 feet. This soil has moderately rapid permeability, with an available water holding capacity of 5.0 to 7.5 inches. Depth to the water table is from 20 to 48 inches. Runoff is slow and the hazard of erosion is slight. Minor components within this soil mapping include Dello loamy sand, and Traver fine sandy loam.

- **Greenfield sandy loam, 0 to 2 percent slopes (GyA)**: This well drained soil series is formed in alluvium derived from granite. It occurs on alluvial fans and floodplains with elevations ranging from 600 to 1,800 feet. This soil has moderate permeability, with an available water holding capacity of 7.5 to 10 inches. The root zone is more then 60 inches deep. Runoff is slow and the hazard of erosion is slight. Minor components within this soil mapping include Hanford, Pachappa, Arlington, and Ramona soils.

- **Greenfield sandy loam, 2 to 8 percent slopes, erode (GyC2)**: This well drained soil series is formed in alluvium derived from granite. It occurs on alluvial fans and terraces with elevations ranging from 600 to 1,800 feet. This soil has moderate permeability, with an available water holding capacity of 7.5 to 10 inches. The root zone is more than 60 inches deep. Runoff is slow to medium and the hazard of erosion is slight to moderate. Minor components within this soil mapping include Hanford, Pachappa, Arlington, and Ramona soils.

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 6
The Diamond Specific Plan
Soils Map

- **Hanford coarse sandy loam, 2 to 8 percent slopes (HcC):** This well drained soil series is formed in alluvium derived from granite. It occurs on alluvial fans with elevations ranging from 700 to 2,500 feet. This soil has moderately rapid permeability, with an available water holding capacity of 5.0 to 7.5 inches. The root zone is more then 60 inches deep. Runoff is slow to medium and the hazard of erosion is slight to moderate. Minor components within this soil mapping include Tujunga, Greenfield, and Ramona soils.

- **PaC2 Pachappa fine sandy loam, 2 to 8 percent slopes, eroded (PaC2)**: This well drained soil series is formed in alluvium derived from granite. It occurs on alluvial fans with elevations ranging from 600 to 1,700 feet. This soil has moderate permeability, with an available water holding capacity of 7.5 to 10 inches. The root zone is more then 60 inches deep. Runoff is medium and the hazard of erosion is moderate. Minor components within this soil mapping include Hanford, Greenfield, and San Emigdio soils.

- **Ramona sandy loam 2 to 5 percent slopes eroded (RaB2)**: This well drained soil series is formed in alluvium derived from granite. It occurs on alluvial fans and terraces with elevations ranging from 500 to 3,500 feet. This soil has moderately slow permeability, with an available water holding capacity of 8.5 to 9.5 inches. The root zone is more then 60 inches deep. Runoff is medium and the hazard of erosion is moderate. Minor components within this soil mapping include Tujunga, Hanford, Greenfield, Arlington, Buren, Placentia, and Monserate soils.

- **Soboba stony loamy sand, 2 to 15 percent slopes (SsD)**: This excessively well drained soil series is formed in alluvium predominately derived from very gravelly, very cobbly, or stony granitic materials. It occurs on alluvial fans and talus slopes with elevations ranging from 900 to 2,500 feet. This soil has very rapid permeability, with an available water holding capacity of 2.5 to 3.5 inches. The root zone is more then 60 inches deep. Runoff is slight and the hazard of erosion is slight. Minor components within this soil mapping include Tujunga and Hanford soils.

- **Waukena loamy fine sand, saline-alkali (Wa)** This moderately well drained soil series is formed in alluvium derived from granite. It occurs in basins and floodplains with elevations ranging from 600 to 1,800 feet. This soil is moderately saline-alkali. This soil has moderately rapid permeability, with an available water holding capacity of 6.5 to 9.5 inches. The root zone is more then 60 inches deep. Runoff is very slow and the hazard of erosion is moderate. Minor components within this soil mapping include unnamed gravelly loamy sand.

3.5 Assessment of Riparian/Riverine Resources

3.5.1 Assessment of Riparian/Riverine Features

The study area supports a total of 1.84 acres of Riparian/Riverine habitat, as shown in Figure 7, *Riparian/Riverine Habitats,* on page 17. Riparian/Riverine habitat on-site is comprised of three small drainage features (DF1, DF2, and DF3), a barren (lakebed) community that will be completely avoided by the proposed project, and a tamarisk/willow scrub community within the San Jacinto River outlet to Lake Elsinore which all but 0.0058 acre will be avoided.

Ephemeral drainage feature, DF1, is a small erosional gully that collects stormwater from the study area and drains into Lake Elsinore. The feature terminates abruptly at the boulder riprap that lines the slopes surrounding the lake; however, a diffuse surface connection to the lake is assumed to occur as stormwater percolates down the riprap slope into the lake. DF1 is relatively un-vegetated with a sparse cover of weedy species; however, this drainage contains smooth tarplant, which is a species listed in Sections 6.1.2 and 6.3.2 of the MSHCP. DF1 contains 0.10 acre (217.2 linear feet) of Riparian/Riverine habitat and likely provides sediment transport as the uplands erode as part of gully formation. The main hydrologic function of DF1 is to transport stormwater, most of which is nuisance urban runoff originating from the surrounding uplands that make up much of the study area, which may provide a water source with limited nutrient, carbon, and aquatic chemicals that may be marginally beneficial to wildlife that utilize the lake. Secondary functions of DF1, which are likely limited due to the small size of the drainage, include sediment transport and possibly some limited nutrient transport. Thus, the functions and values of DF1 are directly beneficial as habitat for smooth tarplant.

DF2 is an ephemeral channel supported by runoff collected in surface gutters from the surrounded paved streets and other impervious areas. These gutters discharge the runoff onto the study area which has created a channelized flow, delineated as DF2. The channelized flow eventually disperses, and moves across the study area as sheet flow. This sheet flow continues westward, supporting a small seasonal pond (Seasonal Pond 1) on the western side of the lot where a vertical culvert inlet collects the periodically higher flows and subsequently discharges them into DF3 where they then flow into the lake. Although DF2 provides some hydrology supporting Seasonal Pond 1, results of focused surveys for listed fairy shrimp were negative; therefore, the Seasonal Pond 1 is not expected to support wildlife species listed under Section 6.1.2 of the MSHCP. DF2 contains 0.11 acre (514.3 linear feet) of Riparian/Riverine habitat which collects and carries stormwater from the surrounding uplands down gradient. During storm events, DF2 provides sediment and some nutrient transport downstream. However, as these flows become more diffuse they lose energy, allowing much of the sediment load and particulate matter to drop out of the water column within the study area. This upland deposition, which was observed in the formation of a small alluvial fan at the downstream extent of DF2, denotes the limited extent to which this function is performed. These sediments are likely

PCR

N

250 0 250 Feet

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

Figure 7
The Diamond Specific Plan
Riparian/Riverine Habitats

flushed into the lake periodically (via DF3, described below) during larger storm events that produce sufficiently energetic flow volumes. Alternately, the diffuse sheet flows occurring downstream from DF2, along with the limited volume (depth) control provided by the vertical culvert inlet likely provides limited seasonal flood storage, flood flow attenuation, and possibly groundwater recharge. DF2 is relatively un-vegetated and does not provide habitat for species listed in Section 6.1.2 of the MSHCP. Finally, due to its hydrologic connection to the lake, DF2 may provide limited nutrient, carbon, and aquatic chemicals that may be marginally beneficial to wildlife utilizing the lake.

The main hydrologic function of DF2 is to transport stormwater, most of which is nuisance urban runoff. Pollutants, typical of urban environments (e.g., oils, fuels, and other hazardous materials) are likely present in the runoff, particularly during the first flush of storm events. These pollutants, which are generally untreated under existing conditions, can impair water quality within the lake when present at sufficient concentrations.

DF3 is a constructed, intermittent stormwater channel that originates at the discharge of a concrete culvert. The hydrology supporting DF3 includes the collected surface flows discharged by DF2 during sufficiently large storm events, as well as nuisance runoff from adjacent man-made sources (i.e., adjacent landscape, lawn irrigation, and seasonal stormwater runoff from adjacent paved streets and a large parking lot). DF3 contains 0.23 acre (202 linear feet) of Riparian/Riverine habitat. DF3 is vegetated by a variety of upland, facultative, and wetland indicator plant species, including sparse tamarisk, mule fat, and black mustard (*Brassica nigra*) and due to the augmented hydrology provided by irrigation runoff, the feature supports a very small, 0.02-acre, wetland system within its bed.

The main hydrologic function of DF3 is the transport of water, most of which is nuisance urban runoff. Pollutants, typical of urban runoff (e.g., oils, fuels, and other hazardous materials from the streets and parking lot; and fertilizers and pesticides carried by irrigation runoff) are likely present in the runoff, particularly during the first flush of storm events. These pollutants can impair water quality within the lake when present at sufficient concentrations. Secondary functions of DF3, which are likely limited due to the small size of the drainage, include wildlife habitat; some limited flood storage; velocity dissipation; sediment trapping; nutrient retention, transformation, and uptake; toxicant trapping; and is a source for both particulate and dissolved carbon.

The barren (lakebed) community consists of a portion of the Lake Elsinore lakebed upon which the study area overlaps. This community was dry and contained no vegetation, but is considered Riparian/Riverine habitat under the MSHCP's definition due to its association with the San Jacinto River outlet and the potential for this area to fill should the lake's water level rise. This community provides flood storage, a water source for wildlife, and foraging and live-

in habitat for shore birds, amphibians, aquatic invertebrates and a variety of other wildlife species. Lake Elsinore also provides core habitat important to wildlife movement.

The tamarisk/willow scrub community consists of a portion of the San Jacinto River where the river outlets into Lake Elsinore. This community is dominated by tamarisk (*Tamarix ramosissima*), and also includes a few black willow (*Salix goodingii*), and is considered Riparian/Riverine habitat. Although dominated by a non-native, invasive species, this community provides flood storage, flood flow attenuation, and nutrient, sediment, toxicant trapping, and is a source of particulate and dissolved carbon within the San Jacinto River; cover and a water source for wildlife; and foraging and live-in habitat for a variety of other wildlife species. The San Jacinto River also provides core habitat important to wildlife movement.

Two additional small tamarisk/ruderal communities comprising a total of 0.4 acre were observed on-site. 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 (*Baccharis salicifolia*). Because these two areas are dominated by tamarisk, a non-native, invasive species; are not contiguous to riparian 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.

The study area also supports nine seasonal ponds. 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. Even though 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, as discussed in Section 4.4.3 of the *Biological Resources Assessment* (PCR 2009a) (refer to Appendix A, *Biological Resources Assessment*). 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; no historic evidence of vernal pools exists [refer to Figure 15, *Soils Map* (which includes a historical aerial photograph from 1971) and Figures 16A through F, *Historic Aerial Photographs*, of the *Biological Resources Assessment*].

3.5.2 Assessment of Riparian/Riverine Plant and Wildlife Species

Plants

Focused sensitive plant surveys were conducted in May 2009 and July 2009 for Riparian/Riverine, Narrow Endemic, and Criteria Area plant species. 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 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. Smooth tarplant is a sensitive plant species which contributes to the overall biodiversity within Lake Elsinore's Back Basin and may contribute to limited soil stabilization within the study area. However, smooth tarplant does not support habitat for wildlife species listed under Section 6.1.2 of the MSHCP. Thus, the functions and values of this species are primarily for the preservation of biodiversity.

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 along the edges of Seasonal Pond 9. [As previously mentioned, 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 required to qualify as MSHCP-regulated vernal pools.] Little mousetail is a sensitive plant species which contributes to the overall biodiversity within Lake Elsinore's Back Basin and may contribute to very limited soil stabilization within the study area. However, little mousetail does not support habitat for wildlife species listed under Section 6.1.2 of the MSHCP. Thus, the functions and values of this species are primarily for the preservation of biodiversity.

No Brand's phacelia (*Phacelia stellaris*), California Orcutt grass (*Orcuttia californica*), 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 (*Lilium parryi*), Mojave tarplant (*Deinandra mohavensis*), mud nama (*Nama stenocarpum*), ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*), Orcutt's brodiaea (*Brodiaea orcuttii*), Parish's meadowfoam (*Limnanthes gracilis* ssp. *parishii*), prostrate navarretia (*Navarretia prostrata*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), San Miguel savory (*Satureja chandleri*), Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*), slender-horned spineflower (*Dodecahema leptoceras*), southern California black walnut (*Juglans californica*), spreading navarretia (*Navarretia fossalis*), thread-leaved brodiaea (*Brodiaea filifolia*), vernal

barley (*Hordeum intercedens*), Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), many-stemmed dudleya (*Dudleya multicaulis*), Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*), Parish's brittlescale (*Atriplex parishii*), round-leaved filaree (*Californica macrophylla*), or Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) were observed on-site during the focused surveys.

Invertebrates

The study area has potential suitable habitat for listed fairy shrimp. 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. 9 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.

Fish

The Santa Ana sucker (*Catostomus santaanae*) does not occur within the study area due to the study area's location outside of the known range of the species.

Amphibians

The arroyo toad (*Bufo californicus*), mountain yellow-legged frog (*Rana muscosa*), and California red-legged frog (*Rana aurora draytonii*) do not occur within the study area due to the study area's location outside of the known range of these species and/or lack of suitable habitat.

Birds

The bald eagle (*Haliaeetus leucocephalus*) is not expected to occur due to the study area's location outside of the known range of these species. 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. The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), least Bell's vireo, and southwestern willow flycatcher (*Empidonax traillii extimus*) are not expected to occur due to lack of suitable habitat.

3.5.3 Assessment of Riparian/Riverine Ecological Processes

The three drainages within the study area have a moderate potential to provide limited flood storage; flood flow attenuation; velocity dissipation; nutrient and sediment transport and trapping; carbon transport; and toxicant trapping from the stormwater and nuisance urban runoff which support these features. Due to the small extents of the drainages, these features likely provide only limited groundwater recharge within the study area. In addition, the drainages provide a seasonal (ephemeral) water source and foraging habitat for wildlife species when water is present.

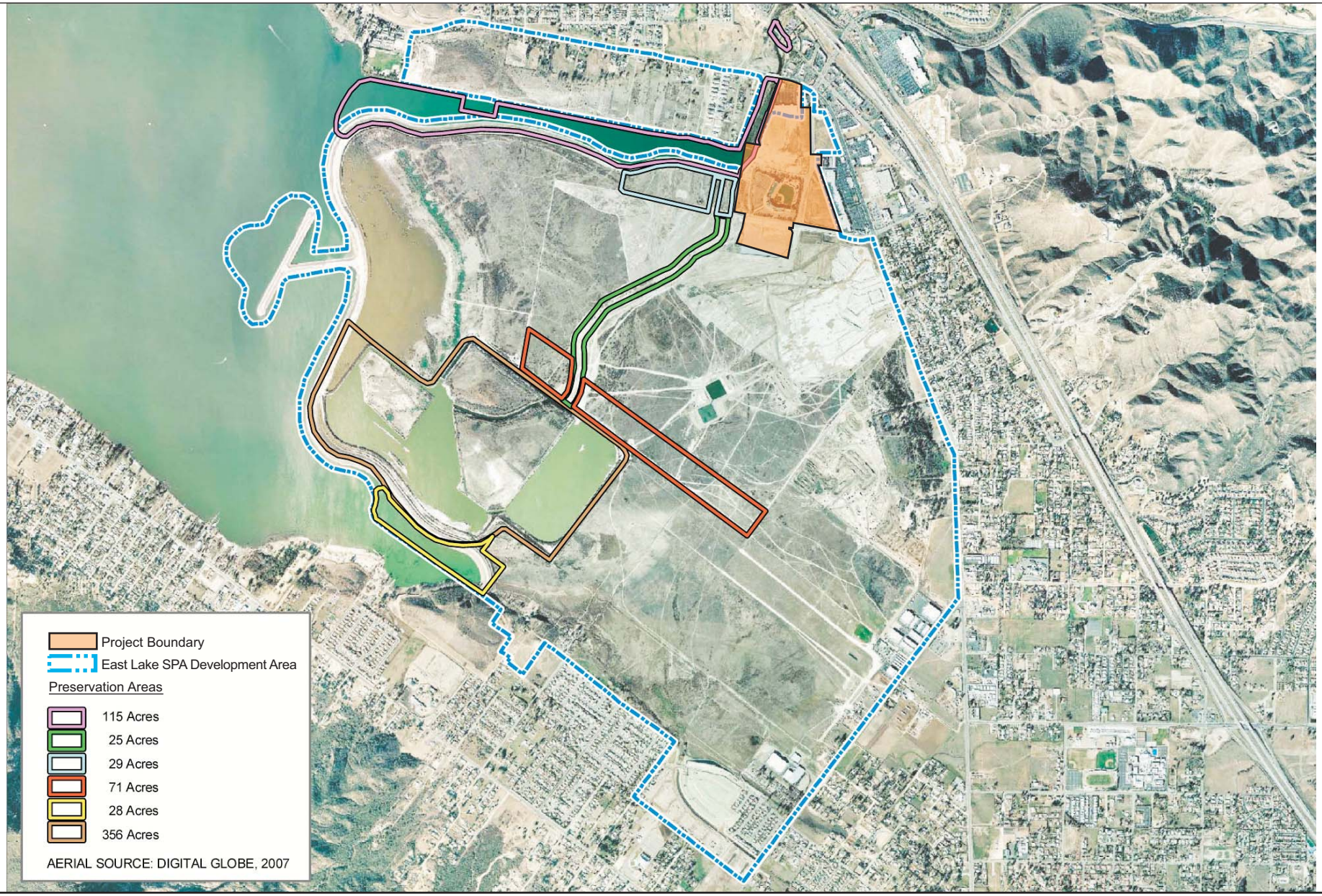
The barren (lakebed) community and tamarisk/willow scrub communities support the functions and values of the San Jacinto River and Lake Elsinore as a Riparian/Riverine system by providing both live-in and foraging habitat for wildlife, as well as connectivity for wildlife movement to core habitat areas. In addition to providing wildlife habitat, the San Jacinto River and Lake Elsinore provide for extensive flood storage, flood flow attenuation, nutrient and sediment transport and retention, toxicant trapping, and public use.

4.0 UNAVOIDABLE IMPACTS TO SENSITIVE PLANT SPECIES AND RIPARIAN/RIVERINE AREAS

4.1 Direct Impacts

Direct impacts are considered to be those that involve the loss, modification, or disturbance of natural resources or habitats (i.e., vegetative communities or substrate) that in turn, directly affect plant and wildlife species dependent on that habitat. Direct impacts include the destruction of individual plants or wildlife of low mobility (i.e., plants, amphibians, reptiles, and small mammals). The collective loss of individuals may also directly affect area-wide population numbers or result in the physical isolation of populations thereby reducing genetic diversity and population stability.

Although the proposed project is within portions of Criteria Cells 4743 and 4846 along the western portion of the study area, the majority of the area being impacted by the proposed project within the Criteria Cells is dominated by ruderal vegetation or disturbance; however, 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)]. In addition, with the exception of the northernmost portion of the study area which is an active developed commercial area, the study area is also located within the ELSP, as previously mentioned in Section 1.3 above. It should be noted that although a portion of the study area is located within the 770-acre Preservation Areas, the proposed project was designed to avoid all Preservation Areas (refer to Figure 8, *Back Basin 770 Agreement*, on page 23 and Figure 9, *Proposed Development Plan*, on page 24); therefore, the proposed project is consistent with the MSHCP reserve assembly directives. (Although off-site trails are included within the proposed



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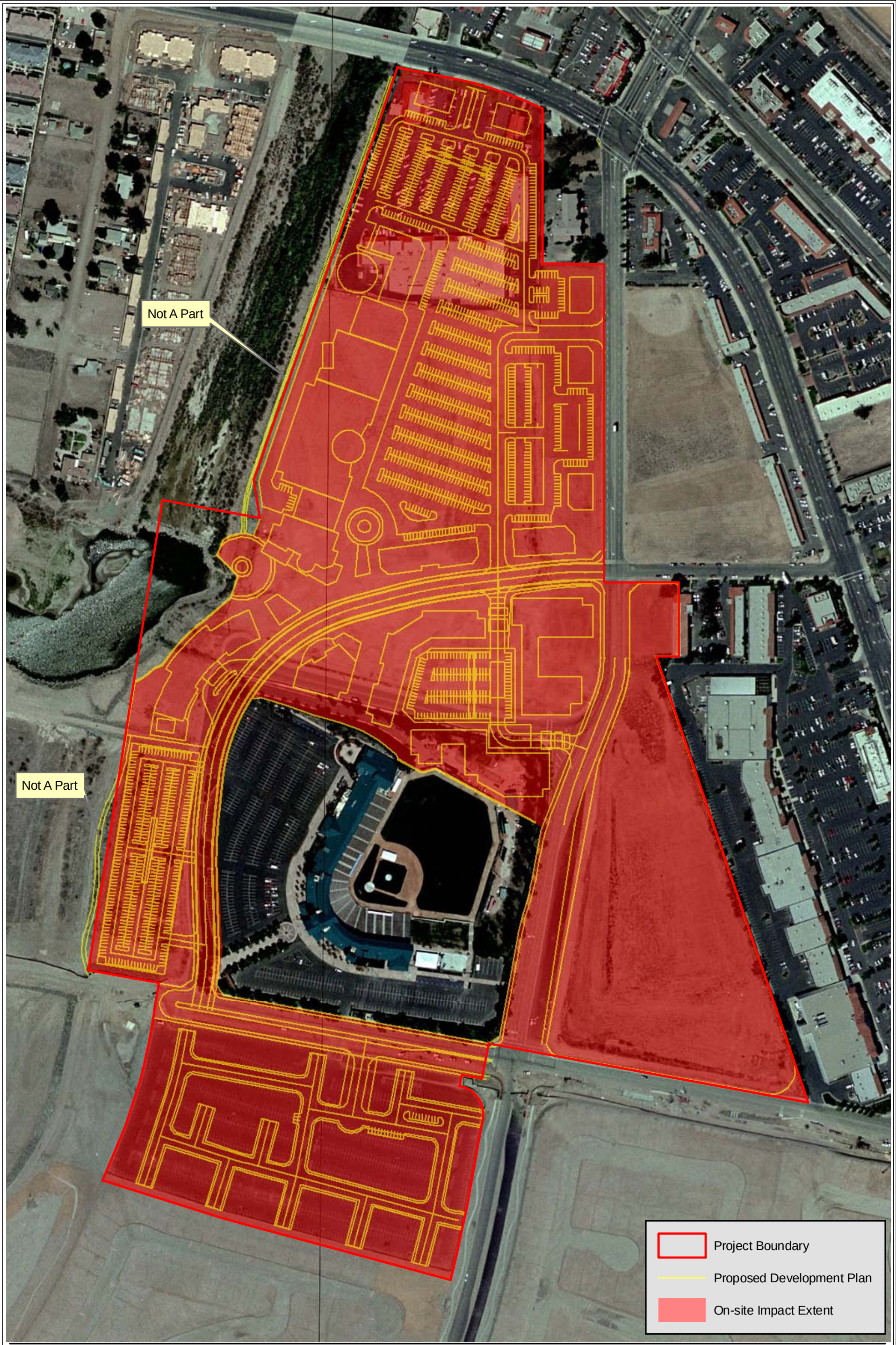
0 .5 1 Mile

Source: Dudek, 2008.

Figure 8
The Diamond Specific Plan
Back Basin 770 Agreement



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250 0 250 Feet

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

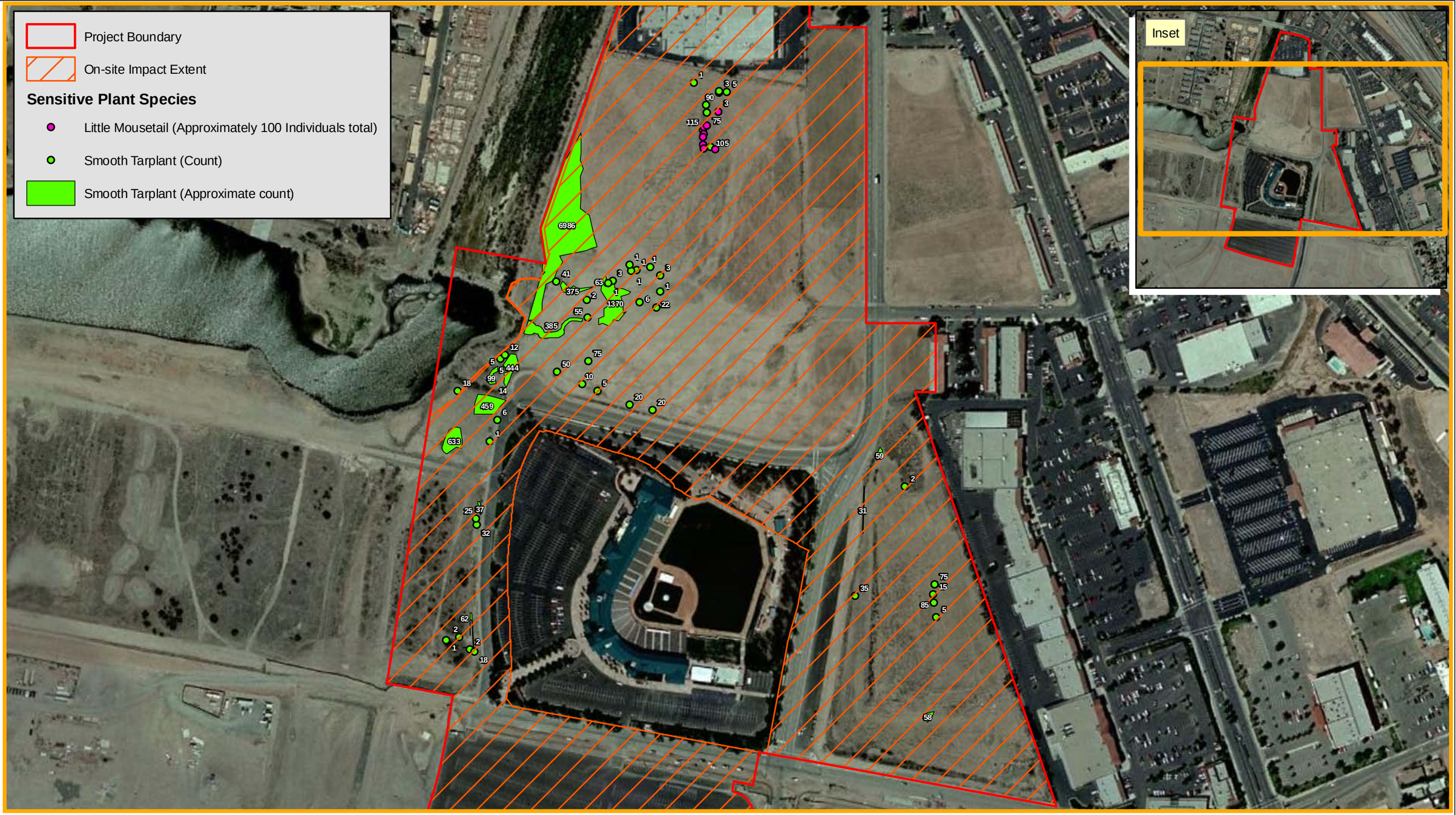
Figure 9
The Diamond Specific Plan
Proposed Development Plan

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 9, *Proposed Development Plan*.)

Of the estimated 12,100 smooth tarplant plants covering 1.46 acres on-site, approximately 11,420 smooth tarplant plants covering 1.38 acres (94.4 percent) would be impacted by the proposed project, as shown in Figure 10, *Impacts to Sensitive Plants*, on page 26. Given the project's objectives, 90 percent of the smooth tarplant on-site cannot be avoided; therefore, equivalent or superior preservation is required under Sections 6.1.2, Riparian/Riverine and 6.3.2, Additional Survey Needs and Procedures of the MSHCP. Mitigation for this proposed impact is addressed in Section 5.1 below. With the implementation of the proposed mitigation measures, the conservation objectives for smooth tarplant will be met at an equivalent or superior level of preservation to the existing conditions; thus, none of the functions or values of this resource will be lost.

All of the approximately 100 little mousetail plants found along the edges of the approximately 0.07-acre Seasonal Pond 9 would be impacted by the proposed project, as shown in Figure 10, *Impacts to Sensitive Plants*. Because 90 percent of the little mousetail on-site cannot be avoided, given the project's objectives, equivalent or superior preservation is required under Section 6.3.2, Additional Survey Needs and Procedures of the MSHCP. Mitigation for this proposed impact is addressed in Section 5.1 below. With the implementation of the proposed mitigation measures, the conservation objectives for little mousetail will be met at an equivalent or superior level of preservation to the existing conditions; thus, none of the functions or values of this resource will be lost.

Approximately 0.33 acre (17.9 percent) of Riparian/Riverine habitat would be impacted by the proposed project, as shown in Figure 11, *Impacts to Riparian/Riverine Features*, on page 27. However, the barren (lakebed) community will be completely avoided, and the tamarisk/willow scrub community, with the exception of 0.0058 acre, will also be avoided (i.e., 82.1 percent of Riparian/Riverine habitat will be avoided). With the exception of fairy shrimp and smooth tarplant, the study area lacks suitable habitat to support Riparian/Riverine species listed under Section 6.1.2 of the MSHCP. Due to the presence of seasonal ponds, focused surveys for listed fairy shrimp were conducted and the results were negative. Therefore, the seasonal ponds on-site are not expected to support wildlife species listed under Section 6.1.2 of the MSHCP. As previously mentioned, with the implementation of the proposed mitigation measures to address impacts to smooth tarplant, none of the functions or values of these resources will be lost. Because these Riparian/Riverine areas cannot be avoided, equivalent or superior preservation is required under Sections 6.1.2, Riparian/Riverine of the MSHCP. Mitigation for this proposed impact is addressed in Section 5.1 below.



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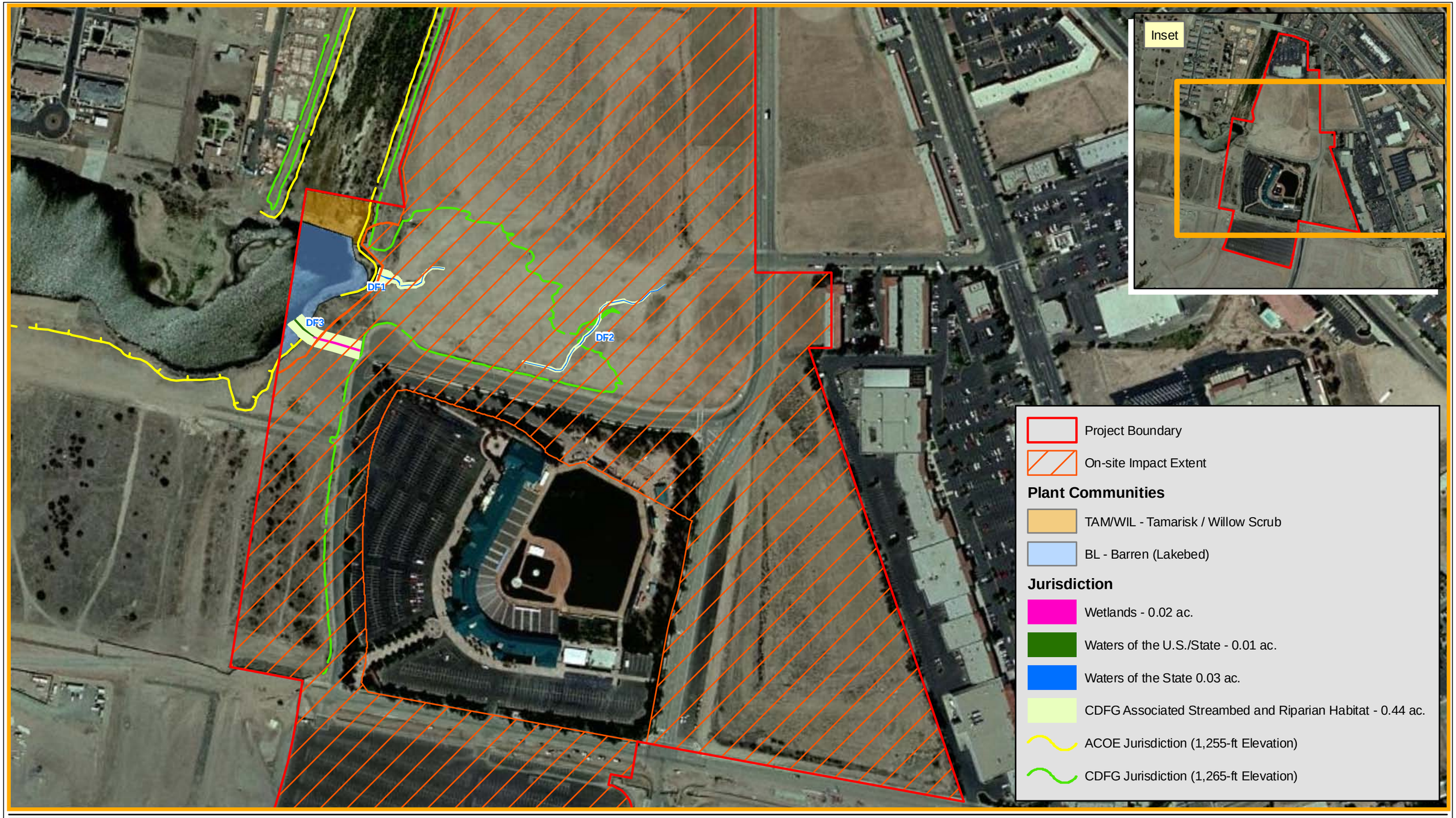
275 0 275 Feet

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

Figure 10
The Diamond Specific Plan
Impacts to Sensitive Plants



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

Figure 11
The Diamond Specific Plan
Impacts to Riparian/Riverine Features

4.2 Indirect Impacts

Indirect impacts are considered to be those impacts associated with the project that involve the effects of alteration of the existing habitat and an increase in human population within the study area. These impacts are commonly referred to as "edge effects" and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to the study area.

4.2.1 Permanent Impacts

Permanent indirect impacts include the effects of increases in ambient levels of sensory stimuli (e.g. noise, light), unnatural predators (e.g. urban wildlife, and other non-native animals), and competitors (e.g. exotic plants, non-native animals) due to the increase in human population. Other permanent indirect effects may occur that are related to water quality and stormwater management, including trash/debris, toxic materials, and dust. Permanent indirect impacts to Riparian/Riverine resources may be associated with the eventual operation of the project including the reduction in the volume of water flowing directly into the lake as runoff, increased exposure to toxicants (e.g. from cars, landscape fertilizers), and reduction in the available area for water absorption during storm events which may exacerbate flooding downstream of the study area.

4.2.2 Temporary Impacts

Temporary indirect impacts may be associated with the construction and eventual operation of the project; therefore, these impacts may be both short-term and long-term in their duration. Temporary indirect impacts to Riparian/Riverine resources may include construction-related increases in ambient levels of sensory stimuli (e.g. noise, light), dust, and increased exposure to toxicants (e.g. from construction equipment) within the study area.4.3 Alternatives Considered

The proposed project avoids the barren (lakebed) community within Lake Elsinore and the tamarisk/willow scrub community within the San Jacinto River (with the exception of 0.0058 acre). These communities fall within a Preservation Area of the Back Basin 770 Agreement and are important to wildlife movement because they comprise a portion of the Proposed Extension of Existing Core 3 of the MSHCP.

Project alternatives to avoid or minimize impacts to the remainder of the Riparian/Riverine areas on-site were considered; however, they were deemed impractical due to the scattered distribution of the Riparian/Riverine resources within the study area. Complete

avoidance of the drainages, smooth tarplant, and little mousetail would reduce the developable footprint substantially and would be cost prohibitive and not allow the Applicant to realize project objectives. In addition, the proposed project was designed to cluster development within the portions of the study area that are currently surrounded by development.

In terms of habitat value, the smooth tarplant and little mousetail occur within disturbed habitat dominated by ruderal vegetation that was routinely disced. In terms of hydrology-related functions and values, the Riparian/Riverine drainages mapped within the study area are fragmented and are surrounded by disturbance or development. The main hydrologic function of these three drainages within the study area is the transport of stormwater, most of which is nuisance urban runoff, and some of which discharges into the lake untreated. Because Lake Elsinore is currently impaired due to high loads of nutrients and toxicants entering the lake, preventing the transport of untreated runoff from the study area would be beneficial to the lake. In addition, the Riparian/Riverine areas to be impacted do not support suitable habitat for the Riparian/Riverine wildlife species listed under Section 6.1.2 of the MSHCP, with the exception of providing some habitat for smooth tarplant within one drainage, DF1. Thus, the proposed project was designed to avoid the Riparian/Riverine habitat on-site with the greatest biological functions and values [i.e., the barren (lakebed) community within Lake Elsinore and the tamarisk/willow scrub community within the San Jacinto River (with the exception of 0.0058 acre)]. In addition, the functions and values of the Riparian/Riverine features which will be impacted by the proposed project will be replaced and enhanced (e.g. water quality will be improved) by the project design features and mitigation measures, as described in Section 5.0 below.

5.0 PROJECT DESIGN FEATURES AND MITIGATION MEASURES

5.1 Mitigation Measures for Direct Impacts

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.

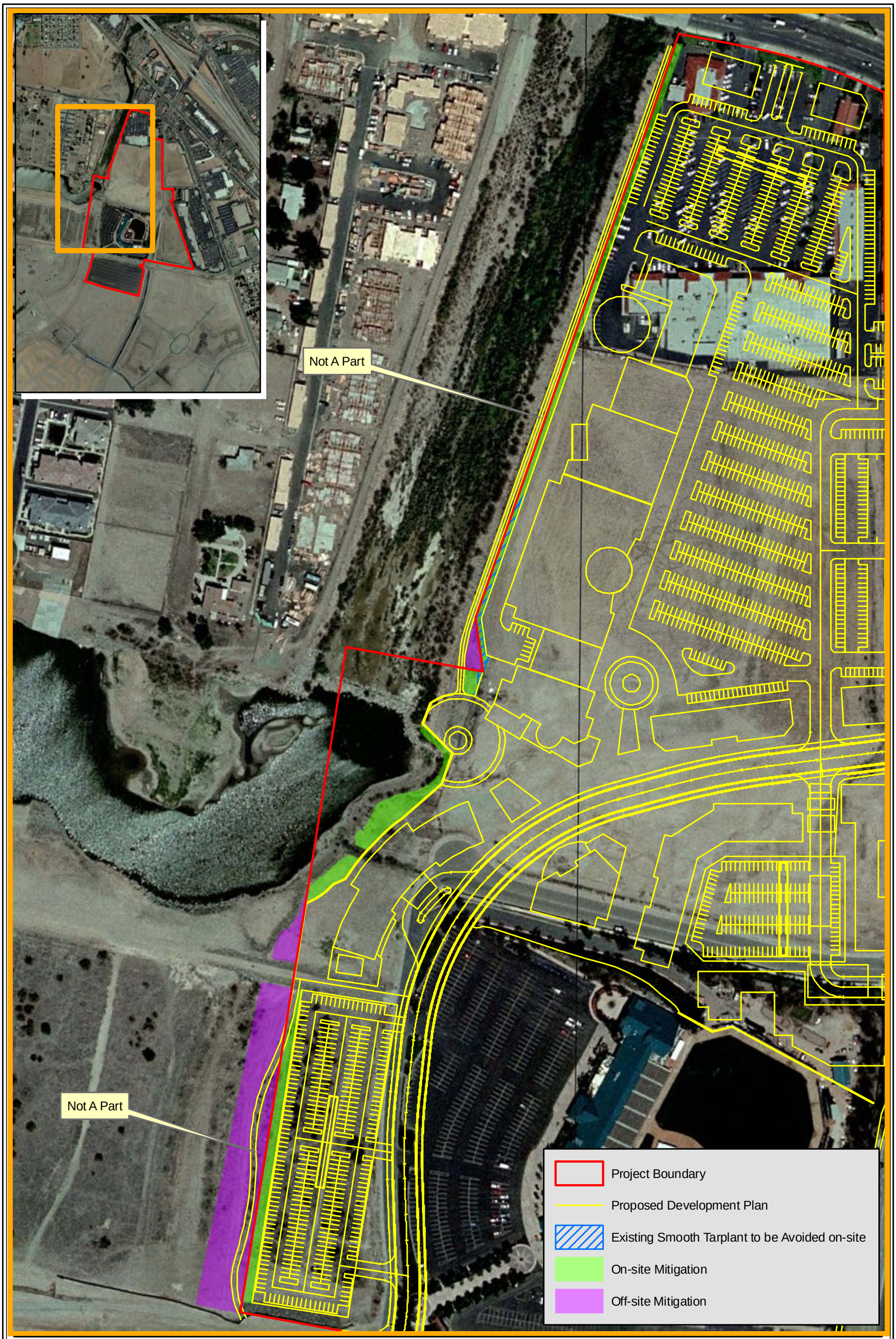
To mitigate for the smooth tarplant that will be impacted by the proposed project, 0.83 acre of smooth tarplant will be seeded with seeds collected from the existing population on-site that will be impacted on-site (prior to disturbance activities) and distributed along the western boundary of the study area. Of note, this area is contiguous to 0.08 acre of smooth tarplant which currently exists on-site and will be avoided. In addition, approximately 1.12 acres off-site will be seeded with smooth tarplant seed collected from the existing on-site population. Total

smooth tarplant mitigation area on- and off-site will amount to 2.03 acres, or 139 percent of the existing smooth tarplant population), as shown in Figure 12, *Smooth Tarplant Mitigation Areas*, 31. Because the smooth tarplant on-site has survived continual discing and disturbance, this species has demonstrated that it is durable; therefore, the successful translocation of this species is anticipated. A transplantation plan will be prepared to detail 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. 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.

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).

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



PCR

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175 0 175 Feet

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

Figure 12
The Diamond Specific Plan
Smooth Tarplant Mitigation Areas

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.

Mitigation for impacts to Riparian/Riverine areas will include one or more of the following measures:

- Off-site replacement of Riparian/Riverine 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 (e.g., San Jacinto River invasive removal project through Santa Ana Watershed Authority, Barry Jones Wetland Mitigation Bank).

Off-site mitigation for impacts to Riparian/Riverine resources will ensure mitigation within areas that are contiguous and will be maintained and preserved in perpetuity. The on-site features DF1 and DF2 are small erosional features supported by stormwater and street runoff and are sparsely vegetated. Drainage DF3 is a constructed channel supported seasonally by stormwater and street runoff as well as nuisance irrigation runoff. In addition, DF1 and DF2 lie within areas that are routinely disced and dominated by ruderal species. Off-site mitigation within a natural Riparian/Riverine ecosystem, such as enhancement of the San Jacinto River, would provide greater flood storage, flood flow attenuation, velocity dissipation, nutrient retention and transport, sediment trapping and transport, toxicant trapping, and wildlife habitat as well as have better habitat quality on a ecosystem-wide level to provide a higher level of function and value for the species listed in Section 6.1.2 of the MSHCP; therefore, this would be biologically superior to the Riparian/Riverine resources which currently exist on-site.

5.2 Mitigation Measures for Indirect Impacts and Project Design Features to Minimize Edge Effects at the Urban/Wildlands Interface

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.

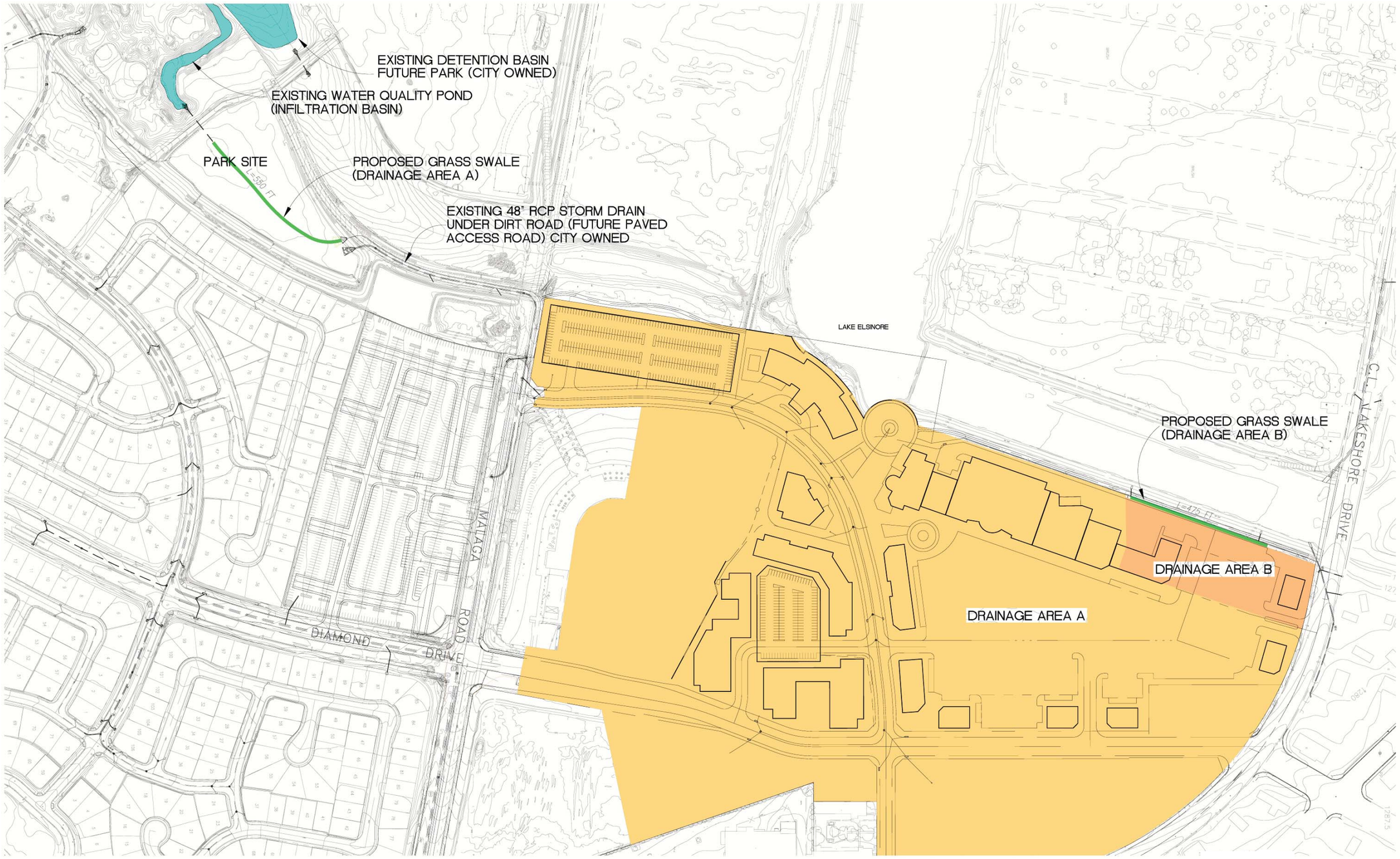
Drainage: Within the northern portion of the study area, the project proposes to treat project flows in a grass swale which outlets into the San Jacinto River. The location and discharge rate of the drainage within this area is similar to the existing pre-project conditions. For the remainder of the 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, as shown in Figure 13, *Water Quality Management Plan,* on page 34. 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). 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 thereby improving 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 project 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.



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No scale

Source: Wilson Mikami, 2009.

Figure 13
The Diamond Specific Plan
Water Quality Management 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.

6.0 DETERMINATION OF BIOLOGICALLY EQUIVALENT OR SUPERIOR PRESERVATION

Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools and Section 6.3.2, Additional Surveys and Procedures of the MSHCP, Volume I, are intended to ensure protection of Riparian/Riverine areas within the entire MSHCP Plan Area such that habitat values are preserved for those species within the MSHCP Conservation Area.

The proposed project, inclusive of all project design features and mitigation measures is biologically superior to an avoidance alternative for the reasons outlined below. Overall, however, biological superiority is founded on measures which translocate populations and habitat from areas where they are now frequently and intensively disturbed and are, therefore, in jeopardy of permanent removal, to areas where they can be consolidated with other conserved

resources and protected in the long-term. It should also be noted that the areas where these resources will be translocated to on- and off-site, will be placed under a conservation easement, deed restriction, or comparable legal instrument which restricts land uses and provides for their long-term stewardship.

6.1 Effects on Riparian/Riverine Planning Species

Because the study area is within the Criteria Species Survey Area, the Burrowing Owl Survey Area, and the NEPS Survey Area of the MSHCP and Riparian/Riverine resources were found on-site, focused surveys for sensitive plants, fairy shrimp, and burrowing owl were conducted due to the presence of potentially suitable habitat for these species within the study area. The results of the focused surveys for fairy shrimp and burrowing owl were negative. Two sensitive plant species, smooth tarplant and little mousetail, were observed within the study area during focused surveys. No other sensitive plants were observed on-site. In addition, no other species listed under Section 6.1.2, Section 6.1.3, Section 6.3.2, or species specific survey areas of the MSHCP were found to have suitable habitat on-site; thus, no other focused surveys were conducted.

Mitigation for impacts to smooth tarplant and little mousetail will result in superior preservation for these species.

The proposed smooth tarplant mitigation areas will preserve contiguous populations of smooth tarplant adjacent to the San Jacinto River and Lake Elsinore and 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. As detailed in Section 5.1 above, more than 90 percent of the smooth tarplant will be mitigated and preserved in perpetuity; thus, the conservation objectives for this species will be met and exceeded with implementation of the proposed mitigation measures. 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 the current existing conditions.

The proposed little mousetail mitigation will preserve the little mousetail population within an area that is not continually disced or disturbed, as well as preserving the biodiversity functions and values of this sensitive plant species. At least 90 percent of the little mousetail will be mitigated and preserved in perpetuity; thus, the conservation objectives for this species will be met with implementation of the proposed mitigation measures. In addition, weeding of the mitigation area to get the little mousetail populations established will improve the habitat for this sensitive plant species from the ruderal (i.e., weedy) habitat where it currently exists and the

mitigation area will be placed under a conservation easement, deed restriction, or comparable legal instrument which restricts land uses and provides for their long-term preservation. Thus, the improved habitat conditions would have higher functions and values for this species than those that currently exist.

6.2 Effects on Conserved Habitats

The proposed project avoids the Riparian/Riverine habitat on-site with the greatest biological functions and values [i.e., the barren (lakebed) community within Lake Elsinore and tamarisk/willow scrub community within the San Jacinto River (with the exception of 0.0058 acre)].

The Riparian/Riverine drainages mapped within the study area, which will be impacted by the proposed project, are sparsely vegetated and are surrounded by areas that are routinely disced and dominated by ruderal species. These features do not support suitable habitat for the Riparian/Riverine wildlife species listed under Section 6.1.2 of the MSHCP. The main hydrologic function of these three drainages within the study area is the transport of water, most of which is nuisance urban runoff. Although the on-site drainages provide some limited ecological functions (i.e., limited sediment transport, transport of nutrients and aquatic chemicals to downstream waters, seasonal flood storage, flood flow attenuation, toxicant trapping, and velocity dissipation), off-site mitigation within a more extensive Riparian/Riverine ecosystem, such as enhancement of the San Jacinto River, would provide these ecological functions at a greater magnitude and higher quality, as well as wildlife habitat that supports species listed in Section 6.1.2 of the MSHCP. Furthermore, the enhanced habitat would allow for greater nutrient and toxicant trapping, which would be beneficial to Lake Elsinore, which is currently impaired due to high loads of nutrients and toxicants entering the lake. Additionally, these areas will be maintained and preserved in perpetuity. Therefore, off-site mitigation would be biologically superior to the Riparian/Riverine resources which currently exist on-site that will be impacted by the proposed project.

6.3 Effects on Linkages and Functions of the MSHCP Conservation Area

As previously mentioned, the proposed project avoids the Riparian/Riverine habitat on-site with the greatest biological functions and values [i.e., the barren (lakebed) community within Lake Elsinore and tamarisk/willow scrub community within the San Jacinto River (with the exception of 0.0058 acre)]. These communities fall within a Preservation Area of the Back Basin 770 Agreement and are important to wildlife movement because they comprise a portion of the Proposed Extension of Existing Core 3 of the MSHCP.

The project has been designed to avoid any impacts to MSHCP Cores or Linkages or Preservation Areas of the Back Basin 770 Agreement. A number of mitigation measure and project design features have been incorporated to address edge effects, such as drainage, toxics, trash/debris, lighting, noise, invasives, barriers, and grading/land development and/or fuel modification activities, to ensure that there will be no indirect impacts from the project which will affect the Preservation Areas. These are discussed above in Section 5.2.

In addition, the western border of the study area will serve as the receptor site of the smooth tarplant mitigation. This will preserve contiguous populations of this sensitive plant species adjacent to existing Preservation Areas. The smooth tarplant mitigation area will be placed under a conservation easement, deed restriction, or comparable legal instrument which restricts land uses and provides for their long-term preservation. This mitigation area will also provide a buffer between the project and the Preservation Areas.

The project's treatment control BMPs will ensure that the project's water quality standards are met. 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). 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. In addition, the 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. This would improve the overall water quality of flows entering the Back Basin and Preservation Areas, and potentially improve the habitat within Preservation Areas for MSHCP planning species, making this a superior alternative to existing conditions.

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APPENDIX A: BIOLOGICAL RESOURCES ASSESSMENT

APPENDIX B: JURISDICTIONAL DELINEATION OF WATERS OF THE UNITED STATES AND WETLANDS

APPENDIX C: BURROWING OWL SURVEY REPORT

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Little Mousetail Mitigation Maintenance and Monitoring Plan

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)

Prepared For:
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Report Date:
December 23, 2009

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LITTLE MOUSETAIL MITIGATION MAINTENANCE AND MONITORING PLAN FOR THE DIAMOND SPECIFIC PLAN, CITY OF LAKE ELSINORE, CALIFORNIA

1.0 INTRODUCTION

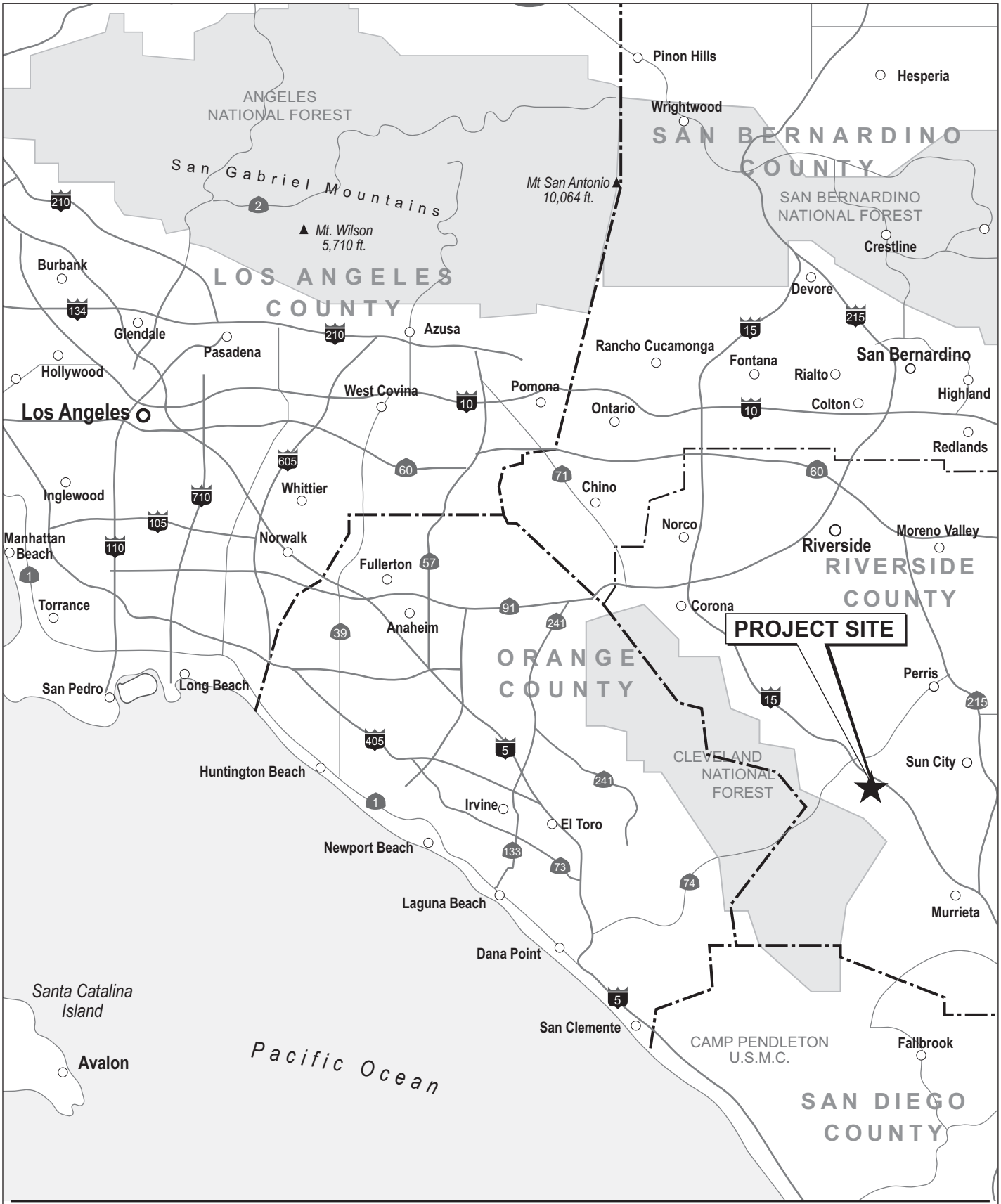
This Little Mousetail Mitigation Maintenance and Monitoring Plan (MMMP) for the proposed Diamond Specific Plan is intended to describe the proposed mitigation and its implementation to compensate for the project's impacts to little mousetail (*Myosurus minimus* ssp. *apus*) on-site.

1.1 Project Location

The approximately 87-acre study area ("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 ("City"), Riverside County ("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 on 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.

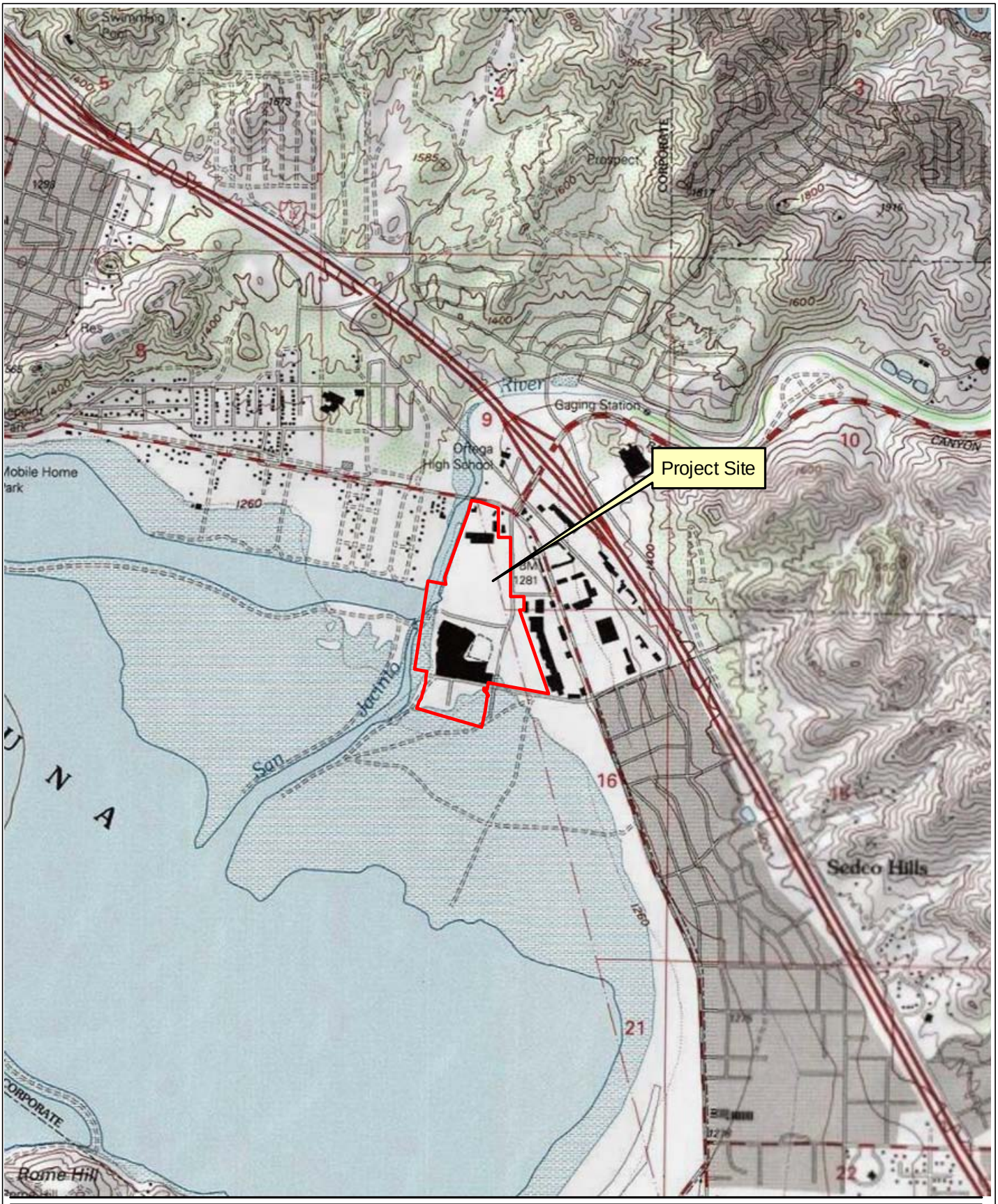
1.2 Project Description

The Diamond Specific Plan is a proposed mixed-use development which will reflect the objectives of the City of Lake Elsinore's General Plan's Ball Park District. Mixed uses will include commercial, office, educational, entertainment, residential, and stadium (which currently exists), and will be developed over five phases. The proposed project assumes impacts over the majority of the study area; however, the following will be avoided: barren (lakebed) community within the lake; 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



Source: PCR Services Corporation, 2009.

Figure 1
The Diamond Specific Plan
Regional Map



PCR

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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.

western boundary of the study area which will be used as a mitigation area for smooth tarplant; and the existing stadium. In addition, the proposed project completely avoids U.S. Army Corps of Engineers (ACOE) jurisdiction within the 1,255 feet elevation above msl for the Lake Elsinore Back Basin.[1]

2.0 EXISTING RESOURCES

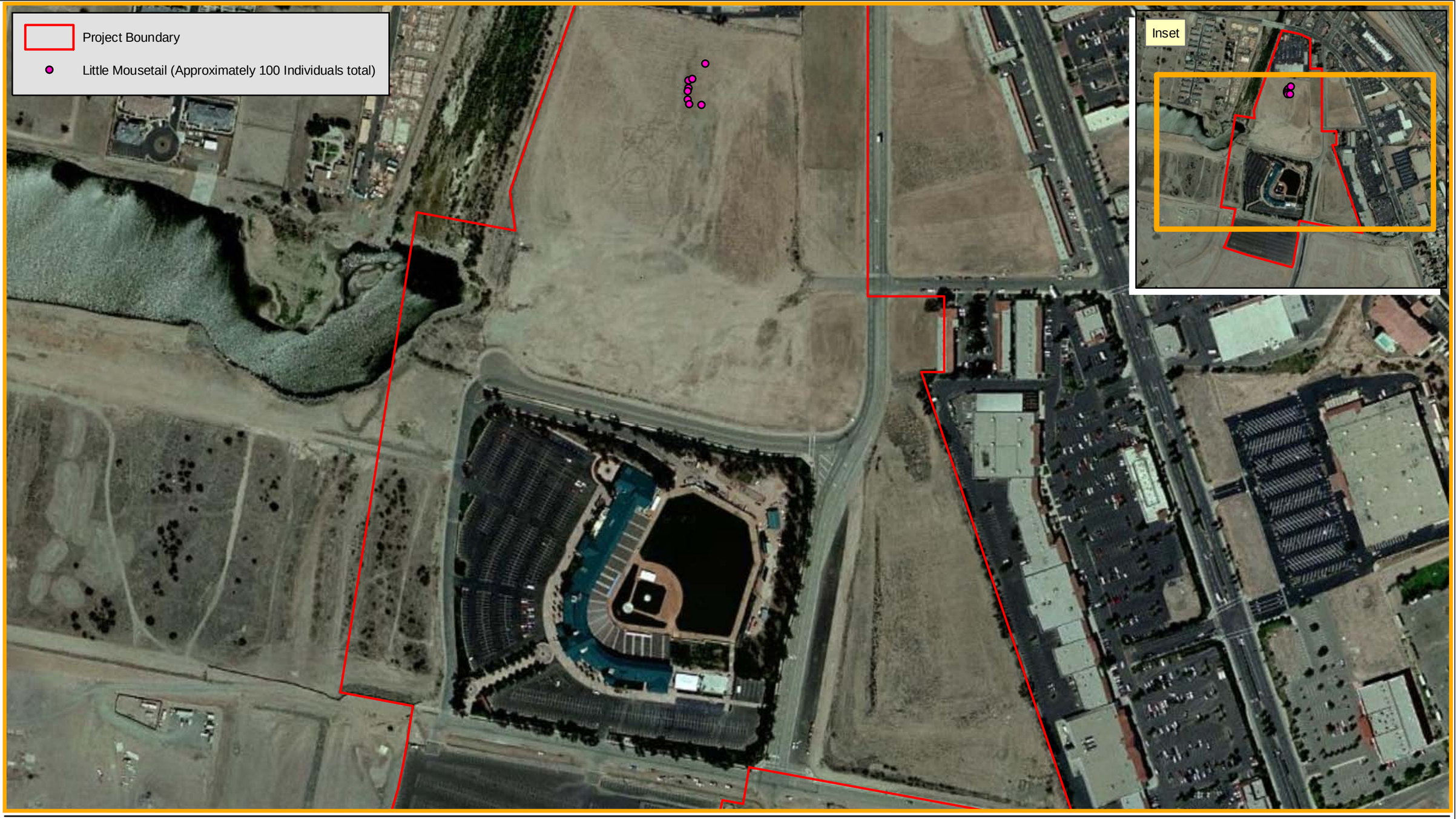
The majority of the study area is developed or disturbed due to prior routine discing activities and dominated by ruderal vegetation. The study area supports 1.3 acres of native plant communities and 86.4 acres of non-native plant communities. Native plant communities include 1.0 acre of barren (lakebed) community and 0.3 acre of buckwheat scrub. Non-native plant communities include 44.2 acres of developed, 37.3 acres of disturbed, 0.4 acre of ruderal, 3.6 acres of ruderal/disturbed, 0.4 acre of tamarisk/ruderal, and 0.4 acre of tamarisk/willow scrub. The study area also supports three small drainages and nine seasonal ponds. Descriptions and maps of the plant communities and drainages are included in the Biological Resources Assessment prepared by PCR (2009a).

Little mousetail was observed within the study area during focused sensitive plant surveys conducted in May and July of 2009 as shown in Figure 3, *Location of Little Mousetail,* on page 5. 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 along the edges of a seasonal pond (referred to as Seasonal Pond 9 in the Biological Resources Assessment prepared by PCR (2009a)). 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 required to qualify as MSHCP-regulated vernal pools. This is further detailed in the Biological Resources Assessment prepared by PCR (2009a).

3.0 PROJECT IMPACTS

Implementation of The Diamond Specific Plan project would impact all of the approximately 100 little mousetail plants found along the edges of the approximately 0.07-acre Seasonal Pond 9, as shown in Figure 4, *Impacts to Little Mousetail*, on page 6.

[1] *As determined in a letter dated March 21, 2008 from the Office Chief of the Department of the Army, Regulatory Division to the City of Lake Elsinore (USACOE 2008).*



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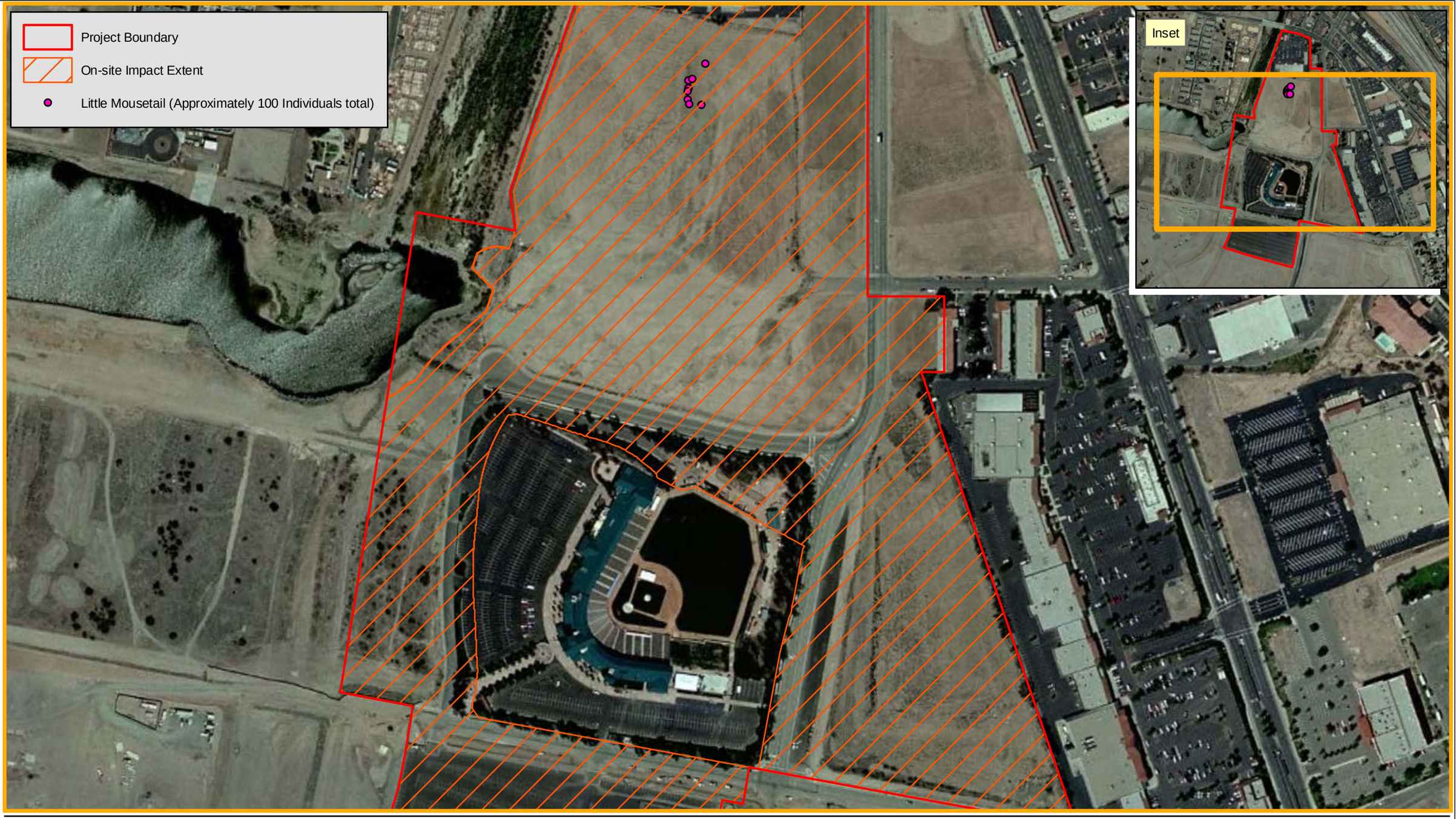
N

250 0 250 Feet

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

Figure 3

The Diamond Specific Plan
Locations of Little Mousetail



PCR

N

250 0 250 Feet

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

Figure 4

The Diamond Specific Plan
Impacts to Little Mousetail

4.0 PROPOSED MITIGATION

In accordance with the MSHCP, 90 percent of the little mousetail on-site must be avoided or preserved. However, because 90 percent of the little mousetail on-site cannot be avoided, given the project's objectives, equivalent or superior preservation is required pursuant to MSHCP Section 6.3.2.

Mitigation for impacts to little mousetail will include off-site mitigation through translocation of topsoil inoculum (to be collected prior to disturbance activities) to a site where suitable habitat conditions exist.

Adjacent to the southwestern boundary of the study area within the City-owned 33-acre Preservation Area of the Back Basin, the creation of 22 seasonal ponds was completed as required mitigation for the Summerly project (referred to hereon in as the "Summerly mitigation area"). Permission is being sought from the City to utilize the seasonal ponds within the Summerly mitigation area to implement the little mousetail mitigation warranted for the proposed Diamond Specific Plan project. Of the 22 seasonal ponds, one or multiple seasonal ponds within the Summerly mitigation area will serve as the receptor sites of the little mousetail topsoil inoculum depending on which ponds are determined to be most suitable. Implementation of this proposed little mousetail mitigation will preserve populations of this sensitive plant species within an existing Preservation Area within Lake Elsinore's Back Basin, thus consolidating resources to be conserved whereby long-term protection is facilitated. The addition of the little mousetail will increase the diversity of native plant species within the created seasonal ponds and enhance the overall habitat value within the Preservation Area. Total little mousetail mitigation off-site (within the Summerly mitigation area) will amount to approximately 100 individual plants, or 100 percent of the existing little mousetail population, as shown in Figure 5, *Little Mousetail Mitigation Areas,* on page 8.

The proposed little mousetail mitigation will preserve the biodiversity functions and values of this sensitive plant species by translocating the existing little mousetail population from an area that is frequently and intensively disced or disturbed and therefore in jeopardy of permanent removal to areas where they can be consolidated with other conserved resources and protected in the long-term. In addition, weeding of the mitigation area to get the little mousetail 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 those that currently exist. Because more than 90 percent of the little mousetail will be mitigated and preserved in perpetuity, the conservation objectives for this species required by the MSHCP will be met and exceeded with implementation of the proposed mitigation measures.

PCR

N

0 200 400 800 Feet

Source: Glenn Lukos Associates, 2009.

Figure 5
The Diamond Specific Plan
Little Mousetail Mitigation Areas

4.1 Rationale to Expect Success

The environmental conditions within the mitigation area are very similar (as well as in close proximity) to those which exist on-site. In addition, because the little mousetail on-site has survived continual discing and disturbance, this species has demonstrated that it is durable. Therefore, the successful translocation of this species is anticipated.

4.2 Time Lapse Between Impacts and Establishment of Mitigation

Implementation of the little mousetail mitigation will be concurrent with project construction. It is anticipated that the mitigation will be self-sustaining and fully functioning within 3-5 years.

4.3 Ownership and Responsible Parties

On-site mitigation will take place within JIC-CP Diamond Development, LCC-owned property and off-site mitigation will take place within City-owned property. The Applicant, JIC-CP Diamond Development, LCC, will be responsible for the implementation and initial monitoring of the mitigation areas for three to five years or until the success criteria stipulated in this report are achieved. All remedial and/or contingency measures required during the initial monitoring period will be the responsibility of JIC-CP Diamond Development, LCC, who may be contacted at the address below:

JIC-CP Diamond Development, LCC
Attn: Jeff Pomeroy
7777 Center Avenue, Suite 300
Huntington Beach, California 92467
Telephone: (714) 230-8000

4.4 Long-Term Protection

The little mousetail mitigation area will be placed under a conservation easement, deed restriction, or comparable legal instrument with the City or Riverside Conservation Authority (RCA), or similar entity with like conservation goals (i.e., Elsinore-Murrieta-Anza Resource Conservation District, Riverside Land Conservancy), which restricts land uses and provides for their long-term preservation and stewardship. The mitigation areas will be the responsibility of JIC-CP Diamond Development, LCC and mitigation will not be deemed "successful" until a long-term management entity has been identified. JIC-CP Diamond Development, LCC shall also be responsible for providing the conservation area with the appropriate endowment to ensure the mitigation area is maintained and preserved in perpetuity.

5.0 IMPLEMENTATION

Prior to ground-disturbing activities, a qualified biologist/restoration specialist shall flag all existing little mousetail on-site, in accordance with PCR's 2009 mapped locations, using stakes and orange flagging (or similar materials) to clearly identify all "no equipment zones" to be avoided by construction personnel. Construction crews shall be made aware of the locations of the "no equipment zones."

The off-site mitigation area receptor sites shall have non-native invasive weeds removed by hand weeding. Although hand weeding is preferred, if determined necessary by the qualified biologist/restoration specialist, selective herbicides that are safe for use in aquatic areas may be applied.

Soil from Seasonal Pond 9 containing little mousetail, which will be impacted by the proposed project, shall have topsoil inoculum collected from the existing on-site populations prior to disturbance activities. The topsoil inoculum will be collected after the rainy season when the soil is completely dry and the plant has already gone to seed (most likely during August to September 2010). The top one-inch of inoculum will be gathered with flat end shovels to ensure that the seed bank of the little mousetail is collected. The soil will be placed in boxes and immediately translocated into the seasonal pond mitigation receptor sites located off-site within the Summerly mitigation area. The inoculum will be placed along the periphery and within the interior of the pools to maximize potential for little mousetail germination in the event that rainfall is higher or lower than typical rainfall levels.

6.0 MAINTENANCE AND MONITORING

6.1 As-Built Report

Following the completion of planting, an As-Built report will be submitted to the City within 90 days. This report will include a description of how the planting was implemented and photographs of the mitigation areas.

6.2 Maintenance

Maintenance after implementation and throughout the three to five years of monitoring will be essential to the success of the mitigation areas. Invasion of invasive non-native weeds is one of the greatest threats to the success of the mitigation areas. Weed species quickly colonize open areas and out-compete native species. Once established, the competitive exclusion of light, water, and nutrients by weeds makes it difficult for native species to re-establish and grow. A

comprehensive weed eradication program shall be implemented to minimize the adverse effects of weed invasion.

It should be anticipated that frequent (twice-monthly to monthly) monitoring of the restoration areas will be required for weed management in the first year. Monitoring will be effective for early identification of seedling weed species and to schedule control methods according to the phenology of each weed species.

Specified weeds must be controlled before they produce viable seed. Methods of control will depend on the species, the density of weeds, the area of infestation, and the ecological sensitivity of the habitat. Hand removal is the preferred method for control of weed species. Limited use of selected herbicides is specified when no other effective alternative is available to remove and control certain noxious weed species. At the direction of the qualified biologist/restoration specialist, selective herbicides that are safe for use in aquatic areas may be applied. All exotic plants and their associated humus shall be disposed of at an off-site location.

Additionally, during each maintenance visit, the mitigation areas shall be inspected for trash, vandalism, disease, and pest infestation that may threaten the long-term health of the mitigation areas. Trash will be removed, vandalism will be repaired and appropriate pest control techniques will be employed as necessary. In addition, any signs of distress or mortality will be noted and rectified if the cause is apparent.

6.3 Monitoring

A monitoring program is necessary to document performance of the mitigation areas relative to the success criteria and to identify any shortcomings or problems in the mitigation areas. Early detection of problems or other unforeseen issues allows for adaptive management and mid-course adjustments to the mitigation program that will maximize the likelihood of success.

Plant growth shall be monitored on a yearly basis for three to five years during the blooming season (March through June) to determine when the plants have met the required success criteria. Monitoring will begin at the end of the first major planting period and will continue until either: (1) the mitigation areas have met the success criteria; (2) the City determines that monitoring is no longer required; or (3) alternative mitigation sites or strategies are adopted (and approved by the City). Monitoring will be conducted on a bi-weekly basis during the first blooming period for a period of three to four months following planting to inspect for signs of plant stress, disease, insect infestation, weeds and other problems. Once the first year of monitoring is complete, monitoring will be conducted twice each year within the blooming period, and once outside of the blooming period thereafter. Any necessary

maintenance or adaptive management measures will be determined during each monitoring visit, and the qualified biologist/restoration specialist shall notify the client and work with the landscape contractor to rectify identified problems. Required maintenance or adaptive management measures shall be performed within two weeks of identification of any damage or needs.

Qualitative data will be collected during year one sampling and quantitative data (i.e., count of individual little mousetail plants) will be used to evaluate the mitigation sites thereafter. Quantitative counts will be used to calculate the total number of little mousetail individuals to ensure the required amount is met. The percentage of non-native species will also be estimated within the mitigation area to ensure non-native weedy species are kept to a minimum. In addition, these data will be used to assess the success of the mitigation areas and to identify any necessary remedial actions.

6.3 Monitoring Reports

Annual reports summarizing monitoring results shall be submitted to the City beginning one year after completion of installation of the mitigation and continuing throughout the monitoring period. Monitoring reports will discuss maintenance activities performed; the results of the monitoring; an assessment of the progress made towards achievement of the success criteria; and recommendations of any remedial or adaptive management measures that may be necessary or prudent. Reports will also include photographs of the mitigation areas.

7.0 SUCCESS CRITERIA AND CONTIGENCY MEASURES

The goal of the mitigation plan is for the translocated populations of little mousetail to eventually be self-perpetuating with no outside input required for recruitment and propagation of this species. Progress toward achieving the success criteria will be the basis for recommendations for remedial actions and adaptive management. The success criteria will be used as the basis for certification of mitigation success and/or the need for contingency measures. Mitigation monitoring will continue until either: (1) the mitigation areas have met the success criteria; (2) the City determines that monitoring is no longer necessary; or (3) alternative mitigation sites or strategies are adopted (and approved by the City).

7.1 Success Criteria

To be considered successful the mitigation sites must achieve the following general standards:

- Translocate 100 individuals of little mousetail. To be considered successful, the approximate number of individual plants shall equal 100 individuals.

- The non-native vegetation may not exceed 20 percent of the total cover.

- The site must be self-sustaining. Self-sustaining is defined as the site requiring no supplemental planting for two consecutive years and the site resists invasion by non-native species with no significant weeding being necessary for two consecutive years.

- The site must exhibit evidence of natural recruitment of native species.

7.2 Adaptive Management and Contingency Measures

An integral part of a successful mitigation program is the ability to detect problems with the mitigation early in the process, determine the cause of the problem, and attempt to modify the mitigation program to accommodate emerging issues or situations. Minor problems, such as trash, vandalism, isolated instances of plant mortality, and/or small-scale weed or pest infestations will be rectified by contacting the maintenance contractor as they are discovered during routine site monitoring.

Major remedial actions or contingency measures will be triggered if there are large-scale instances of mortality, weed infestation or disease (i.e., greater than 50 percent of a site is affected); if the mitigation sites are not making progress toward attainment of the success criteria after the end of the second year or at some time during the three to five-year monitoring plan; or if the success criteria have not been met at the end of five years. Under these circumstances, the cause of mitigation failure will be investigated, and JIC-CP Diamond Development, LCC will be contacted. Prior to taking action, the City will be consulted regarding potential courses of action and/or corrective measures. Based on consultation with the City, and a response within a reasonable amount of time, the qualified biologist/restoration specialist will recommend appropriate contingency measures. JIC-CP Diamond Development, LCC is ultimately responsible to ensure the recommended mitigation measures are implemented appropriately by the maintenance contractor as dictated by the qualified biologist/restoration specialist. These measures may include supplemental planting of additional seed collected from local seed stock in order to meet the required quantity of plants, or the implementation of adaptive management activities. If the mitigation sites cannot be remediated, alternate mitigation sites shall be located and replacement plans will be generated as necessary to meet the mitigation requirements. All remedial actions or modifications to the mitigation program shall be subject to the approval by the City.

If remedial or contingency measures are necessary the monitoring period will be extended for an appropriate length of time to ensure mitigation success.

7.3 Certification of Success

When the mitigation areas have achieved the success criteria stipulated in this document and a long-term management entity has been identified, success of the mitigation area shall be considered complete and the City will be notified in writing. The notification will be accompanied by the most recent annual monitoring report and any supplemental information necessary to document attainment of the success criteria.

8.0 REFERENCES

California Native Plant Society (CNPS). 2001. *Inventory of Rare and Endangered Plants of California (sixth edition).* Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, California. 388pp.

Dudek & Associates. June 17, 2003. *Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Draft Final MSHCP*. Prepared for the County of Riverside Transportation and Land Management Agency.

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United States Department of Agriculture, Natural Resources Conservation Service. March 1992. *Field Office Official List of Hydric Soil Map Units for Western Riverside Area, California.*

Smooth Tarplant Mitigation Maintenance and Monitoring Plan

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)

Prepared For:
JIC-CP Diamond Development, LLC
7777 Center Avenue, Suite 300
Huntington Beach, California 92467
(714) 230-8000
Contact: Mr. Jeff Pomeroy and Ms. Tina Alexander

Prepared By:
PCR Services Corporation
One Venture, Suite 150
Irvine, California 92618
(949) 753-7001
Contact: Ms. Maile Tanaka, Biologist

Report Date:
December 23, 2009

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SMOOTH TARPLANT MITIGATION MAINTENANCE AND MONITORING PLAN FOR THE DIAMOND SPECIFIC PLAN, CITY OF LAKE ELSINORE, CALIFORNIA

1.0 INTRODUCTION

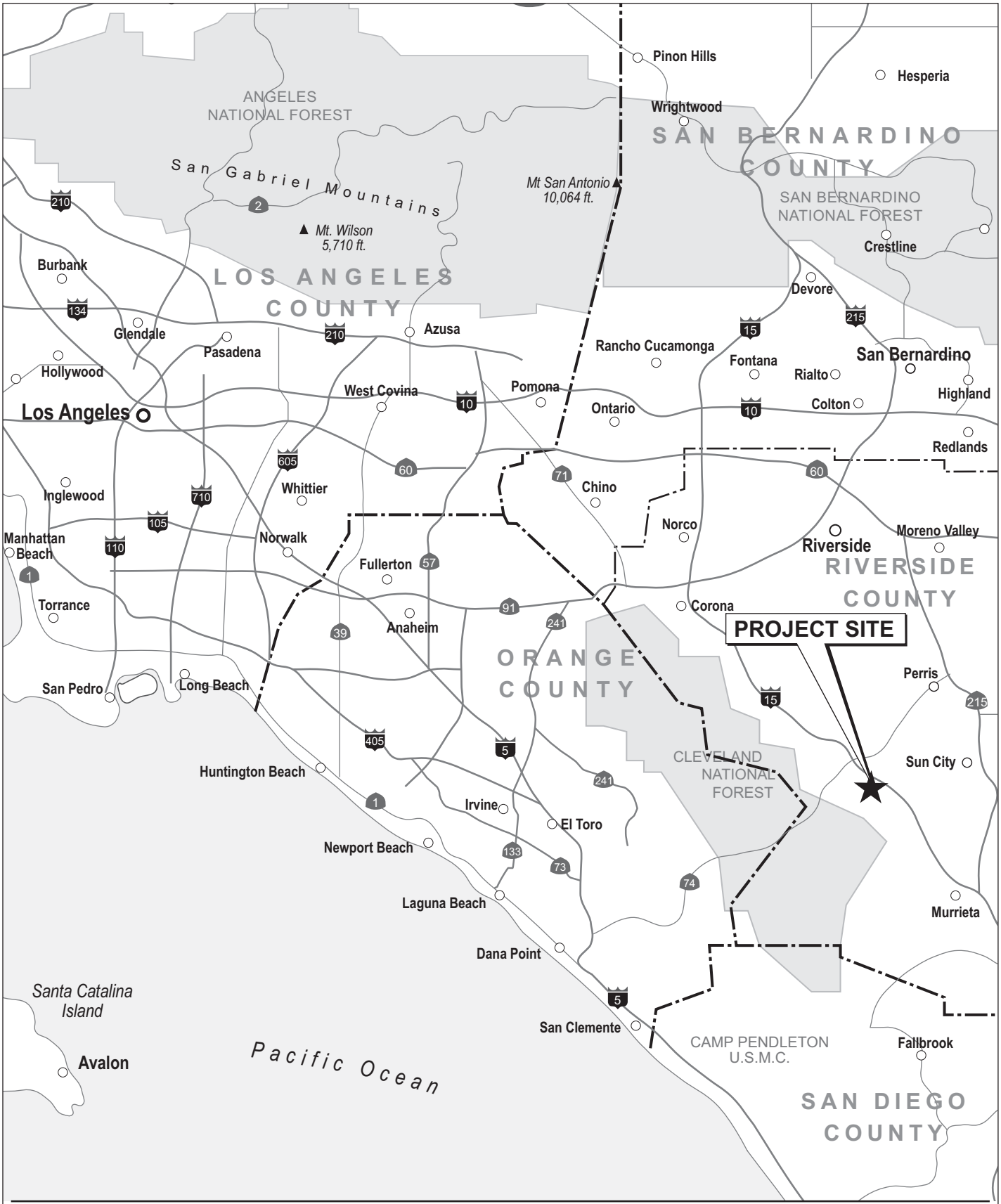
This Smooth Tarplant Mitigation Maintenance and Monitoring Plan (MMMP) for the proposed Diamond Specific Plan is intended to describe the proposed mitigation and its implementation to compensate for the project's impacts to smooth tarplant (*Hemizonia pungens* ssp. *laevis*) on-site.

1.1 Project Location

The approximately 87-acre study area ("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 ("City"), Riverside County ("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 on 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.

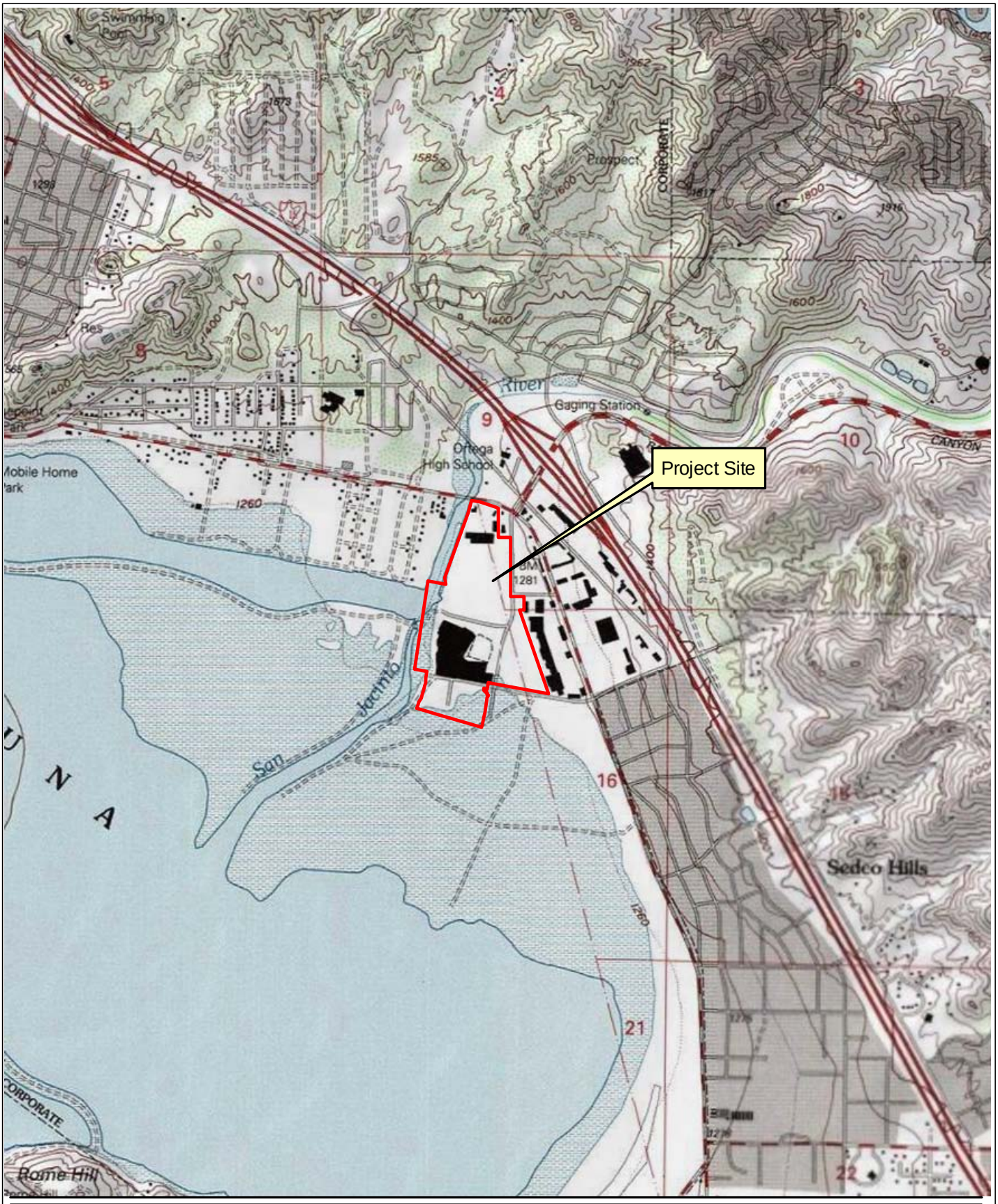
1.2 Project Description

The Diamond Specific Plan is a proposed mixed-use development which will reflect the objectives of the City of Lake Elsinore's General Plan's Ball Park District. Mixed uses will include commercial, office, educational, entertainment, residential, and stadium (which currently exists), and will be developed over five phases. The proposed project assumes impacts over the majority of the study area; however, the following will be avoided: barren (lakebed) community within the lake; 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



Source: PCR Services Corporation, 2009.

Figure 1
The Diamond Specific Plan
Regional Map



PCR

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.

western boundary of the study area which encompasses a portion of the densest areas of smooth tarplant on-site and will be used as a mitigation area for smooth tarplant; and the existing stadium. In addition, the proposed project completely avoids U.S. Army Corps of Engineers (ACOE) jurisdiction within the 1,255 feet elevation above msl for the Lake Elsinore Back Basin.[1] The project has been designed to 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.

2.0 EXISTING RESOURCES

The majority of the study area is developed or disturbed due to prior routine discing activities and dominated by ruderal vegetation. The study area supports 1.3 acres of native plant communities and 86.4 acres of non-native plant communities. Native plant communities include 1.0 acre of barren (lakebed) community and 0.3 acre of buckwheat scrub. Non-native plant communities include 44.2 acres of developed, 37.3 acres of disturbed, 0.4 acre of ruderal, 3.6 acres of ruderal/disturbed, 0.4 acre of tamarisk/ruderal, and 0.4 acre of tamarisk/willow scrub. The study area also supports three small drainages and nine seasonal ponds. Descriptions and maps of the plant communities and drainages are included in the Biological Resources Assessment prepared by PCR (2009a).

Smooth tarplant was observed within the study area during focused sensitive plant surveys conducted in May and July of 2009 as shown in Figure 3, *Locations of Smooth Tarplant,* on page 5. Smooth tarplant is a CNPS List 1B.1 species and a Riparian/Riverine and Criteria Area Species under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Sections 6.1.2 and 6.3.2, respectively. Approximately 12,100 smooth tarplant plants were estimated to occur on-site, the majority of which are in the western portion of the study area.

3.0 PROJECT IMPACTS

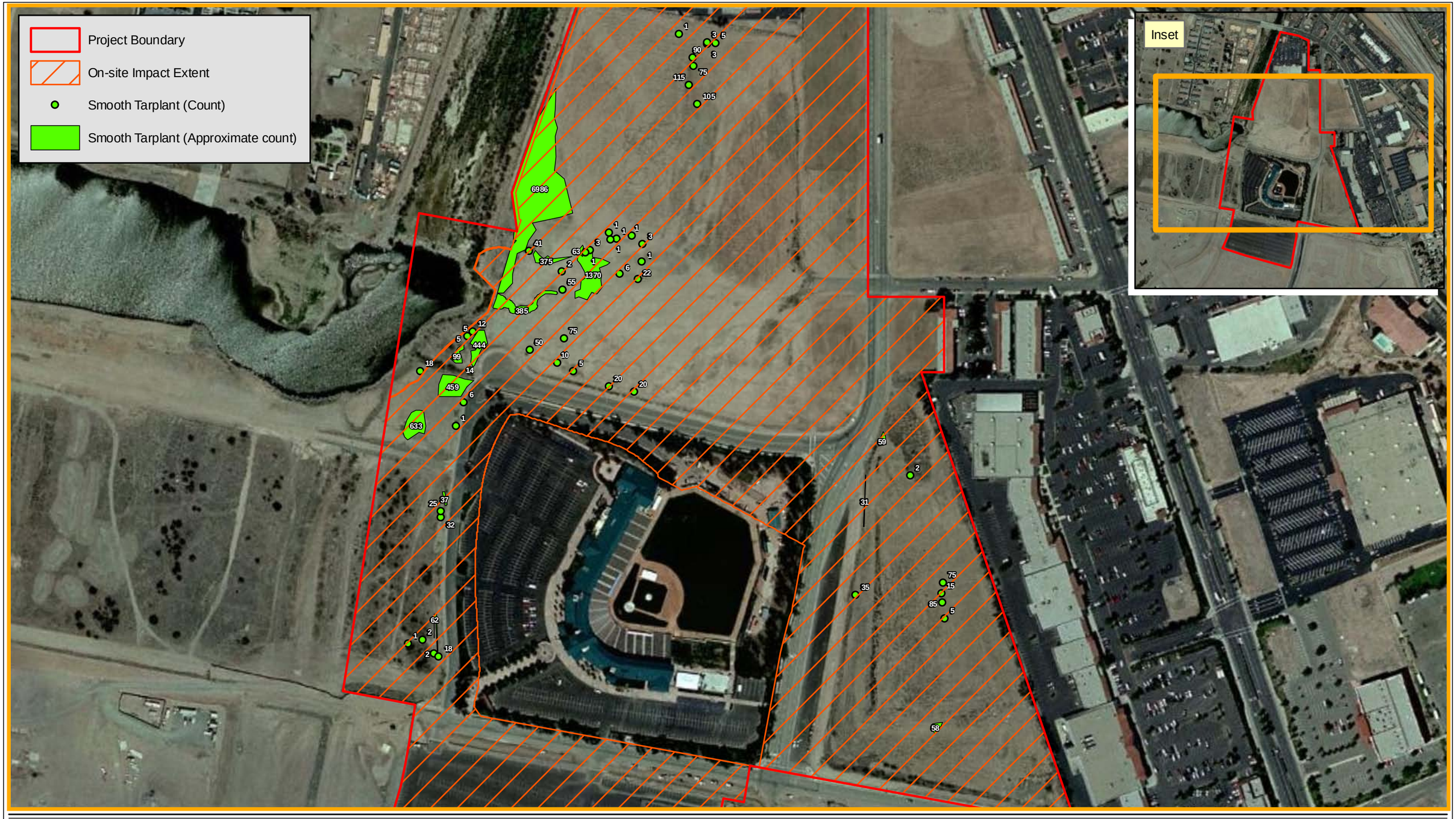
Of the estimated 12,100 smooth tarplant plants covering 1.46 acres on-site, implementation of The Diamond Specific Plan project would impact approximately 11,420 smooth tarplant plants covering 1.38 acres (94.4 percent), as shown in Figure 4, *Impacts to Smooth Tarplant,* on page 6.

[1] *As determined in a letter dated March 21, 2008 from the Office Chief of the Department of the Army, Regulatory Division to the City of Lake Elsinore (USACOE 2008).*

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

Figure 3

The Diamond Specific Plan
Locations of Smooth Tarplant



PCR

N

250 0 250 Feet

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

Figure 4

The Diamond Specific Plan
Impacts to Smooth Tarplant

4.0 PROPOSED MITIGATION

In accordance with the MSHCP, 90 percent of smooth tarplant on-site must be avoided or preserved. However, given the project's objectives, 90 percent of the smooth tarplant on-site cannot be avoided as required under the MSHCP; therefore, equivalent or superior preservation is required pursuant to MSHCP Sections 6.1.2 and 6.3.2.

To mitigate for the smooth tarplant that will be impacted by the proposed project, 0.83 acre of smooth tarplant will be seeded with seeds collected from the existing population on-site prior to disturbance activities. The western border of the study area will serve as the receptor site of the smooth tarplant mitigation. This will preserve contiguous populations of this sensitive plant species adjacent to the San Jacinto River and Lake Elsinore as well as existing Preservation Areas within Lake Elsinore's Back Basin, thus consolidating resources to be conserved whereby long-term protection is facilitated. Of note, this area is contiguous to 0.08 acre of smooth tarplant which currently exists on-site and will be avoided. In addition, approximately 1.12 acres off-site will be seeded with smooth tarplant seed collected from the existing on-site population prior to disturbance activities. Total smooth tarplant mitigation area on- and off-site will amount to 2.03 acres, or 139 percent of the existing smooth tarplant population, as shown in Figure 5, *Smooth Tarplant Mitigation Areas,* on page 8.

The proposed smooth tarplant mitigation areas will preserve the biodiversity functions and values of this sensitive plant species and will translocate populations from areas where they are now frequently and intensively disced or disturbed and are therefore in jeopardy of permanent removal, to areas where they can be consolidated with other conserved resources and protected in the long-term. In addition, weeding of the mitigation area to get the smooth tarplant populations established, as well as weeding to enhance areas where smooth tarplant populations already exist and will be preserved, 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 the current existing conditions. The on-site mitigation area will also provide a buffer between the project and the established Preservation Areas within Lake Elsinore's Back Basin. Because more than 90 percent of the smooth tarplant will be mitigated and preserved in perpetuity, the conservation objectives for this species required by the MSHCP will be met and exceeded with implementation of the proposed mitigation measures.

4.1 Rationale to Expect Success

The environmental conditions within the mitigation area are very similar (as well as in close proximity) to those which exist on-site. In addition, because the smooth tarplant on-site has survived continual discing and disturbance, this species has demonstrated that it is durable.

PCR

N

175 0 175 Feet

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

Figure 5

The Diamond Specific Plan
Smooth Tarplant Mitigation Areas

Therefore, the successful translocation of this species is anticipated. Additionally, a nearby population of smooth tarplant has successfully been translocated within the vicinity of this proposed mitigation area.

4.2 Time Lapse Between Impacts and Establishment of Mitigation

Implementation of the smooth tarplant mitigation will be concurrent with project construction. It is anticipated that the mitigation will be self-sustaining and fully functioning within 3-5 years.

4.3 Ownership and Responsible Parties

On-site mitigation will take place within JIC-CP Diamond Development, LCC-owned property and off-site mitigation will take place within City-owned property. The Applicant, JIC-CP Diamond Development, LCC, will be responsible for the implementation and initial monitoring of the mitigation areas for three to five years or until the success criteria stipulated in this report are achieved. All remedial and/or contingency measures required during the initial monitoring period will be the responsibility of JIC-CP Diamond Development, LCC, who may be contacted at the address below:

JIC-CP Diamond Development, LCC
Attn: Jeff Pomeroy
7777 Center Avenue, Suite 300
Huntington Beach, California 92467
Telephone: (714) 230-8000

4.4 Long-Term Protection

The smooth tarplant mitigation area will be placed under a conservation easement, deed restriction, or comparable legal instrument with the City or Riverside Conservation Authority (RCA), or similar entity with like conservation goals (i.e., Elsinore-Murrieta-Anza Resource Conservation District or Riverside Land Conservancy which has already expressed that they would consider accepting management of the mitigation site), which restricts land uses and provides for their long-term preservation and stewardship. The mitigation areas will be the responsibility of JIC-CP Diamond Development, LCC and mitigation will not be deemed "successful" until a long-term management entity has been identified. JIC-CP Diamond Development, LCC shall also be responsible for providing the conservation area with the appropriate endowment to ensure the mitigation area is maintained and preserved in perpetuity.

5.0 IMPLEMENTATION

Prior to ground-disturbing activities, a qualified biologist/restoration specialist shall flag all existing smooth tarplant on-site, in accordance with PCR's 2009 mapped locations, using stakes and orange flagging (or similar materials) to clearly identify all "no equipment zones" to be avoided by construction personnel. Construction crews shall be made aware of the locations of the "no equipment zones."

For mitigation receptor sites and areas to be preserved within the study area, an aggressive weeding program shall begin with mowing the non-native invasive weeds and removing all excess debris and detritus. The off-site mitigation area receptor sites shall have non-native invasive weeds removed by hand weeding. If determined necessary by the qualified biologist/restoration specialist, at least one grow and kill cycle of weeds will be conducted using a grass selective, post-emergent herbicide. Subsequent weed control will consist of a combination of hand removal and selective herbicide applications.

For those areas of smooth plant which will be impacted by the proposed project, but shall have seed collected from the existing on-site populations prior to disturbance activities, the plants shall be counted and retained in place until they die back and the seed can be collected (most likely during July to August of 2010). The plant seed will be hand-collected by a qualified biologist/restoration specialist and shall be stored in brown paper bags in a cool location until they have fully dried out and the seeds dehised. Seeds will be stored and processed by S&S Seeds, Inc. If deemed appropriate by the qualified biologist/restoration specialist, three to six inches of duff and topsoil may be salvaged from the existing population as well, and crushed duff and associated topsoil will be distributed in creation areas to assist in natural recruitment of smooth tarplant individuals. Seed will be planted within the on- and off-site mitigation receptor areas prior to the next growing season to ensure the proposed mitigation acreage is met. Planting shall occur prior to the rainy season to avoid dispersal of seed or erosion of the seeded area. The seeds shall not be stored longer than two years as the viability of the seed dramatically drops off after one year. Soil will be mechanically ripped and seeds mechanically broadcast to ensure the seed is properly tracked into the soil. Once the seeds are planted, the mitigation area will be lightly watered afterward to promote seed germination.

6.0 MAINTENANCE AND MONITORING

6.1 As-Built Report

Following the completion of planting, an As-Built report will be submitted to the City within 90 days. This report will include a description of how the planting was implemented and photographs of the mitigation areas.

6.2 Maintenance

Maintenance after implementation and throughout the three to five years of monitoring will be essential to the success of the mitigation areas. Invasion of invasive non-native weeds is one of the greatest threats to the success of the mitigation areas. Weed species quickly colonize open areas and out-compete native species. Once established, the competitive exclusion of light, water, and nutrients by weeds makes it difficult for native species to re-establish and grow. A comprehensive weed eradication program shall be implemented to minimize the adverse effects of weed invasion.

It should be anticipated that frequent (twice-monthly to monthly) monitoring of the restoration areas will be required for weed management in the first year. Monitoring will be effective for early identification of seedling weed species and to schedule control methods according to the phenology of each weed species.

Specified weeds must be controlled before they produce viable seed. Methods of control will depend on the species, the density of weeds, the area of infestation, and the ecological sensitivity of the habitat. Hand removal is the preferred method for control of weed species. Limited use of selected herbicides is specified when no other effective alternative is available to remove and control certain noxious weed species. At the direction of the qualified biologist/restoration specialist, a grass selective post-emergent herbicide may be used to reduce non-native grasses where they are dense. All exotic plants and their associated humus shall be disposed of at an off-site location.

Additionally, during each maintenance visit, the mitigation areas shall be inspected for trash, vandalism, disease, and pest infestation that may threaten the long-term health of the mitigation areas. Trash will be removed, vandalism will be repaired and appropriate pest control techniques will be employed as necessary. In addition, any signs of distress or mortality will be noted and rectified if the cause is apparent.

6.3 Monitoring

A monitoring program is necessary to document performance of the mitigation areas relative to the success criteria and to identify any shortcomings or problems in the mitigation areas. Early detection of problems or other unforeseen issues allows for adaptive management and mid-course adjustments to the mitigation program that will maximize the likelihood of success.

Plant growth shall be monitored on a yearly basis for three to five years during the blooming season (April through September) to determine when the plants have met the required success criteria. Monitoring will begin at the end of the first major planting period and will continue until either: (1) the mitigation areas have met the success criteria; (2) the City determines that monitoring is no longer required; or (3) alternative mitigation sites or strategies are adopted (and approved by the City). Monitoring will be conducted on a bi-weekly basis during the first blooming period for a period of three to six months following planting to inspect for signs of plant stress, disease, insect infestation, weeds and other problems. Once the first year of monitoring is complete, monitoring will be conducted twice each year within the blooming period, and once outside of the blooming period thereafter. Any necessary maintenance or adaptive management measures will be determined during each monitoring visit, and the qualified biologist/restoration specialist shall notify the client and work with the landscape contractor to rectify identified problems. Required maintenance or adaptive management measures shall be performed within two weeks of identification of any damage or needs.

Qualitative data will be collected during year one sampling and semi-quantitative data (i.e., cover estimates) will be used to evaluate the mitigation sites thereafter. Cover estimates will be used to calculate the total vegetation cover of smooth tarplant to ensure the required amount is met. The percentage of non-native species will also be estimated within the mitigation area to ensure non-native weedy species are kept to a minimum. In addition, these data will be used to assess the success of the mitigation areas and to identify any necessary remedial actions.

In addition, permanent photograph stations will be established at the mitigation site upon initiation of site preparation. Site photographs will be taken from the photograph stations during every scheduled monitoring visit. Photograph stations will be permanently marked with stakes and located with GPS. There will be sufficient stations to clearly show the progress of the smooth tarplant establishment.

6.3 Monitoring Reports

Annual reports summarizing monitoring results shall be submitted to the City beginning one year after completion of installation of the mitigation and continuing throughout the monitoring period. Monitoring reports will discuss maintenance activities performed; the results of the monitoring; an assessment of the progress made towards achievement of the success criteria; and recommendations of any remedial or adaptive management measures that may be necessary or prudent. Reports will also include photographs of the mitigation areas from set photo reference stations.

7.0 SUCCESS CRITERIA AND CONTIGENCY MEASURES

The goal of the mitigation plan is for the translocated populations of smooth tarplant to eventually be self-perpetuating with no outside input required for recruitment and propagation of this species. Progress toward achieving the success criteria will be the basis for recommendations for remedial actions and adaptive management. The success criteria will be used as the basis for certification of mitigation success and/or the need for contingency measures. Mitigation monitoring will continue until either: (1) the mitigation areas have met the success criteria; (2) the City determines that monitoring is no longer necessary; or (3) alternative mitigation sites or strategies are adopted (and approved by the City).

7.1 Success Criteria

To be considered successful the mitigation sites must achieve the following general standards:

- Translocate and enhance 2.03 acres of smooth tarplant mitigation. Although densities may vary, the approximate number of individual plants shall equal approximately the number of smooth tarplant plants impacted to be considered successful, as determined by plot sampling.

- The non-native vegetation may not exceed 20 percent of the total cover.

- The site must be self-sustaining. Self-sustaining is defined as the site requiring no supplemental planting for two consecutive years and the site resists invasion by non-native species with no significant weeding being necessary for two consecutive years.

- The site must exhibit evidence of natural recruitment of native species.

7.2 Adaptive Management and Contingency Measures

An integral part of a successful mitigation program is the ability to detect problems with the mitigation early in the process, determine the cause of the problem, and attempt to modify the mitigation program to accommodate emerging issues or situations. Minor problems, such as trash, vandalism, isolated instances of plant mortality, and/or small-scale weed or pest infestations will be rectified by contacting the maintenance contractor as they are discovered during routine site monitoring.

Major remedial actions or contingency measures will be triggered if there are large-scale instances of mortality, weed infestation or disease (i.e., greater than 50 percent of a site is affected); if the mitigation sites are not making progress toward attainment of the success criteria after the end of the second year or at some time during the three to five-year monitoring plan; or if the success criteria have not been met at the end of five years. Under these circumstances, the cause of mitigation failure will be investigated, and JIC-CP Diamond Development, LCC will be contacted. Prior to taking action, the City will be consulted regarding potential courses of action and/or corrective measures. Based on consultation with the City, and a response within a reasonable amount of time, the qualified biologist/restoration specialist will recommend appropriate contingency measures. JIC-CP Diamond Development, LCC is ultimately responsible to ensure the recommended mitigation measures are implemented appropriately by the maintenance contractor as dictated by the qualified biologist/restoration specialist. These measures may include supplemental planting of additional seed collected from local seed stock in order to meet the required quantity of plants, or the implementation of adaptive management activities. If the mitigation sites cannot be remediated, alternate mitigation sites shall be located and replacement plans will be generated as necessary to meet the mitigation requirements. All remedial actions or modifications to the mitigation program shall be subject to the approval by the City.

If remedial or contingency measures are necessary the monitoring period will be extended for an appropriate length of time to ensure mitigation success.

7.3 Certification of Success

When the mitigation areas have achieved the success criteria stipulated in this document and a long-term management entity has been identified, success of the mitigation area shall be considered complete and the City will be notified in writing. The notification will be accompanied by the most recent annual monitoring report and any supplemental information necessary to document attainment of the success criteria.

8.0 REFERENCES

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United States Department of Agriculture, Natural Resources Conservation Service. March 1992. *Field Office Official List of Hydric Soil Map Units for Western Riverside Area, California.*

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Eastern Sierra Inland Deserts Region
3602 Inland Empire Blvd., Ste C-220
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(909) 484-0459
FAX (909) 484-2945

In Reply Refer To:
FWS/CDFG-10B0107-10TA0205

JAN 21 2010

Ms. Carole K. Donahoe
City of Lake Elsinore
130 South Main Street
Lake Elsinore, California 92530

Subject: Determination of Biologically Equivalent or Superior Preservation for the Diamond Specific Plan, City of Lake Elsinore, Riverside County, California

Dear Ms. Donahoe:

The U.S. Fish and Wildlife Service (Service) and the California Department of Fish and Game (Department), hereafter collectively referred to as the Wildlife Agencies, have reviewed the Determination of Biologically Equivalent or Superior Preservation (Determination) report for the proposed Diamond Specific Plan that we received on November 24, 2009. The proposed project is located within the City of Lake Elsinore, Riverside County, California. The proposed project site is bisected by Diamond Drive, south of Lakeshore Drive and west of Mission Trail.

The proposed approximate 87-acre mixed-use development area supports 9 seasonal pools, burrowing owl habitat, approximately 12,100 smooth tarplant (*Hemizonia pungens* ssp. *Laevis*) within 1.46 acres, approximately 100 little mousetail (*Myosurus minimus*) within 0.07 acres, and a total of 1.84 acres of riparian/riverine habitat. The riparian/riverine habitat is comprised of a portion of the San Jacinto River, lakebed, two mostly unvegetated ephemeral drainages, and one intermittent partially vegetated storm water channel. The riparian habitat onsite was not considered suitable for least Bell's vireo; therefore, surveys were not conducted. Wet season fairy shrimp surveys were conducted in the seasonal pools December of 2008 through March of 2009 and dry season surveys were conducted in June of 2009 with negative results for MSHCP covered fairy shrimp species. The pools were not considered vernal pools due to the gravelly/loam nature of the soils onsite. Burrowing owl surveys were conducted in March of 2009, also, with negative results.

Smooth tarplant

The project as proposed will impact the majority of the smooth tarplant (11,420 individuals covering 1.38 acres) located within the project footprint. However, 0.08 acres of smooth tarplant with the highest onsite density (approximately 680 individuals) will be avoided.

To offset impacts to the smooth tarplant, distribution of seed collected from the existing population is proposed within 0.83 acres along the western boundary of the project contiguous to the 0.08 acre of avoided smooth tarplant. The seeds would also be distributed on approximately 1.12 acres off-site for a total of 2.03 acres (1.5:1 ratio). The Determination states that all mitigation areas will be placed under a conservation easement, deed restriction, or comparable legal instrument which would restrict land uses and provide for their long-term preservation.

The proposed conservation of an offsite mitigation area would aid in offsetting the net loss of aerial extent of smooth tarplant from this project. However, it appears that the proposed offsite tarplant mitigation area is within the City-owned 33-acre site known as the "Australia Pool" site that was conserved as mitigation for the Laing /Summerly Project (Department Permit # 1600-2004-0130-R6). The 33-acre site was to be conserved in perpetuity for the protection of vernal pools and smooth tarplant habitat. Therefore, conservation of a portion of the 33-acre site for the Diamond Specific Plan is not appropriate at this location. We recommend the Determination be resubmitted with alternative sites that are not encumbered by previous mitigation requirements.

We are also concerned about the effects of seeding additional smooth tarplant within the proximity of the Australia Pool. Rare vernal pool species such as *Marsilia vestita* and *Psilocarphus brevissimus* var. *brevissimus* occur within the conservation area and portions (at least 5 acres) of the conservation area have already been seeded with smooth tarplant to mitigate for impacts in association with other project impacts (e.g. Laing/Summerly and Waterbury projects). The seeding of additional acreage with smooth tarplant within this area may give rise to a potential monoculture of smooth tarplant and displace the other rare plants that occur there. We recommend the seeding of smooth tarplant be located in an alternative area where the species could thrive without the possibility of negative impacts to existing resources. Also a habitat mitigation and management plan (HMMP) should be included with any plans for seeding and include seeding techniques, quantitative success criteria, and monitoring plans.

Little mousetail

Although measures to offset impacts to the little mousetail were suggested (including offsite transplantation of individual plants, seed collection and topsoil inoculum translocation on or offsite, payment into an agency-approved off-site mitigation bank or an in-lieu fee agreement, or offsite purchase and set aside of either in-kind or out-of-kind habitat), no details were provided that would demonstrate any of the alternatives would provide biologically equivalent or superior preservation for this species. We recommend an HMMP be submitted with a revised Determination that details the mitigation plans for little mousetail restoration.

Riparian/Riverine Resources

Figure 7 of the Determination identifies Department jurisdictional areas (below 1265 ft elevation) that fall within the project footprint (Figure 9) that are not described in the Determination as riparian/riverine impacts. This area is considered jurisdictional to the Department, pursuant to Section 1600 of the Fish and Game Code, and requires appropriate

mitigation to offset the impacts. We believe the Determination needs to be revised to include these additional impacts in your MSHCP riparian/riverine habitat impact assessment due to its association with the San Jacinto River outlet and that appropriate mitigation be identified.

To mitigate for impacts to riparian/riverine resources the Determination states that offsite replacement of riparian/riverine habitat, at no less than a 1:1 replacement to impact ratio, will be accomplished through the purchase of mitigation credits at an agency-approved offsite mitigation bank or payment into an in-lieu fee agreement (e.g., San Jacinto River invasive removal project through Santa Ana Watershed Authority or Barry Jones Wetland Mitigation Bank). The Wildlife Agencies are not aware of the Santa Ana Watershed Authority having credits available within the San Jacinto River and invasive species removal (i.e. arundo removal) in-and-of itself is not adequate to offset permanent impacts to riparian/riverine resources. In regards to out-of-kind mitigation available at the Barry Jones Wetland Mitigation Bank, we recommend the project demonstrate that in-kind mitigation is not feasible prior to acquiring credits at this bank.

At this time, the proposed project has not demonstrated consistency with the MSHCP policies and procedures. In summary, we request: 1) selection of a more appropriate site for smooth tarplant mitigation without the possibility of negative impacts to existing resources; 2) specific measures be identified to offset impacts to the little mousetail; 3) riparian/riverine impact assessment be revised; 3) and 4) submittal of HMMPs to address specific measures that would provide equal or superior preservation for smooth tarplant, little mousetail and riparian/riverine resources.

We appreciate the opportunity to provide comments on this Determination. If you have any questions or comments regarding this letter, please contact Kathleen Pollett of the Service at (760) 431-9440, extension 357 or Leslie MacNair of the Department at (949) 458-1754.

Sincerely,

Kennon A. Corey
Assistant Field Supervisor
U. S. Fish and Wildlife Service

Leslie MacNair
Staff Environmental Scientist
California Department of Fish and Game

cc:
Charles Landry, RCA, Riverside, CA

Memorandum

TO: Stephanie Standerfer, Dudek/Riverside Conservation Authority; **DATE:** February 10, 2010
Ken Corey, U.S. Fish and Wildlife Service;
Doreen Stadtlander, U.S. Fish and Wildlife Service;
Leslie MacNair, California Department of Fish and Game;
Carole Donohoe, City of Lake Elsinore
CC: Jeff Pomeroy, JIC-CP Diamond Development, LLC
FROM: Steve Nelson, Maile Tanaka
RE: **DIAMOND SPECIFIC PLAN PROJECT - RESPONSE TO COMMENTS/AMENDMENT**

PCR Services Corporation's (PCR) has prepared the following responses to address the January 21, 2010 comments by Ken Corey of the U.S. Fish and Wildlife Service (USFWS) and Leslie MacNair of the California Department of Fish and Game (CDFG), hereafter collectively referred to as the Wildlife Agencies, to the Determination of Biologically Equivalent or Superior Preservation (DBESP) for the Diamond Specific Plan Project, City of Lake Elsinore, Riverside County, California. In addition, the following responses address comments from the February 2, 2010 meeting with PCR, the City of Lake Elsinore (City), Riverside Conservation Authority (RCA), and representatives of the Wildlife Agencies.

The findings of this memorandum shall amend the previous biological documentation for the Diamond Specific Plan Project (i.e., DBESP and Smooth Tarplant Mitigation Maintenance and Monitoring Plan (MMMP)).

Smooth Tarplant

Details of the implementation of the smooth tarplant mitigation have been provided to the Wildlife Agencies in the Smooth Tarplant MMMP, dated December 23, 2009. As clarification, based on our new approach, the success criteria for the smooth tarplant mitigation shall equal 90 percent of the existing density of smooth tarplants on-site, as determined by cover estimates.

We believe that smooth tarplant would do well within the mitigation area which the project had previously proposed, and that because the proposed mitigation area would not be regularly disturbed by fuel modification activities (i.e., routinely disced and/or disturbed by human activities) as it is with the currently existing population on the Diamond Specific Plan project site, there would be little chance that smooth tarplant would spread far beyond the proposed mitigation area where the seed was to be planted. Additionally, it is our understanding that at the time of the Summerly entitlement, the 33-acre conservation area was created to provide mitigation for not only the Summerly project, but other projects within the Back Basin as well. However, we understand the Wildlife Agencies' concern to avoid planting too dense of a concentration of smooth tarplant within the 33-acre Preservation Area of the Back Basin 770 Agreement. Although we respectfully disagree that planting approximately an additional acre of smooth tarplant for mitigation would have an adverse "invasive" effect on the 33-acre area, we have modified the proposed smooth tarplant

mitigation area in an effort to address the concerns of the Wildlife Agencies and reach a resolution for the Diamond Specific Plan project (refer to Figure 1, *Smooth Tarplant Mitigation Areas*, attached) that will address the concerns of all parties. The smooth tarplant mitigation area was revised to avoid any areas west of the off-site trail (the trail is Not A Part of the project).

In addition, per the request of the Wildlife Agencies, the smooth tarplant mitigation area within the northern portion of the study area has been moved off-site to be immediately adjacent with the San Jacinto River. This will help to ensure the hydrology is available to the mitigation area, and may allow for some natural recruitment of the smooth tarplant along the upper banks of the San Jacinto River. This modification to the proposed development plan will mean that the 0.08 acre of smooth tarplant which was previously proposed to be avoided will now be impacted by the proposed project. However, as mentioned in the Smooth Tarplant MMMP, this species has demonstrated that it is durable because the smooth tarplant on-site has survived continual discing and disturbance; therefore, successful translocation (i.e., mitigation by seed collection and subsequent dispersal) is anticipated. This also means that the smooth tarplant mitigation area will now be off-site where there is a currently disturbed maintenance access road, and that the trail that was previously Not A Part of the project will be on-site and included as a part of the project.

In addition, there had been comments from the Wildlife Agencies as to the linear nature of the proposed smooth tarplant mitigation area and their concerns that the mitigation area should not be planted like a "garden." The location of the smooth tarplant mitigation area was chosen along the San Jacinto River based on appropriate soils and habitat conditions, and because the mitigation area would provide an upland buffer to the riparian corridor which exists within the river. This would also allow for smooth tarplant to spread down into the upper banks of the San Jacinto River and would not create a "garden" effect, but instead add a native buffer of smooth tarplant to the 115-acre Preservation Area. Additionally, the mitigation area would provide a buffer between the proposed development and the Preservation Areas, and will become part of the Riparian/Riverine corridor. We have accommodated the requests of the Wildlife Agencies with these revisions to the proposed development and mitigation plans and believe that this new proposed mitigation offers greater biological and conservation values to the smooth tarplant to be preserved. This plan to bring natives to an area that currently exhibits disturbance will also add conservation value to the overall area.

With these revisions, the total smooth tarplant mitigation includes 1.35 acres (0.68 acre on-site and 0.67 acre off-site). Of the currently existing 1.46 acres of smooth tarplant, 90 percent preservation is required; therefore, a total of 1.31 acres is required to be preserved. The proposed mitigation exceeds the minimum 90 percent requirement. In addition, the mitigation area will be placed under a conservation easement, deed restriction, or comparable legal instrument which would restrict land uses and provide for the long-term preservation of the smooth tarplant. Therefore, the proposed

mitigation provides superior preservation for smooth tarplant as compared to the on-going disturbances which currently exist to the populations on-site.

Impacts to Plant Communities: In addition, because the trail will be moved on-site and is now a part of the proposed project, impacts associated with the creation of the trail include an additional 0.2 acre of developed and 0.4 acre of disturbed area, as summarized in Table 1, *Impacts to Plant Communities*, below.

Table 1

Impacts to Plant Communities

Plant Community	Existing (Acres)	Impacts (Acres)
Developed	44.2	29.6 (previously 29.4)
Disturbed	37.3	36.7 (previously 36.3)
Ruderal	0.4	0.4
Ruderal/Disturbed	3.6	3.6
Barren (Lakebed)	1.0	0.0
Buckwheat Scrub	0.3	0.3
Tamarisk/Ruderal	0.4	0.4
Tamarisk/Willow Scrub	0.4	0.0058
Total	**87.6**	**71.0 (previously 70.4)**

Source: PCR Services Corporation, 2010.

Little Mousetail

Little mousetail topsoil inoculum will be translocated off-site into the created seasonal ponds associated with the Summerly mitigation area within the 33-acre Preservation Area of the Back Basin 770 Agreement. Details of the little mousetail mitigation have been provided to the Wildlife Agencies in the Little Mousetail Mitigation Maintenance and Monitoring Plan (MMMP), dated December 23, 2009. Here again, the proposed mitigation provides superior preservation for little mousetail as compared to the on-going disturbances (i.e., routine discing and disturbances by human activities) which currently exist to the population on-site.

Riparian/Riverine Resources

The 0.33 acre of Riparian/Riverine habitat that will be impacted by the proposed project will be mitigated through the San Jacinto River invasive removal project through the Santa Ana Watershed Authority (SAWA) at a 1:1 ratio for a total of 0.33 acre. PCR had contacted Richard Zembal of SAWA on June 15, 2009 and confirmed that SAWA is actively maintaining invasive removal project sites in the San Jacinto River for which mitigation is available.

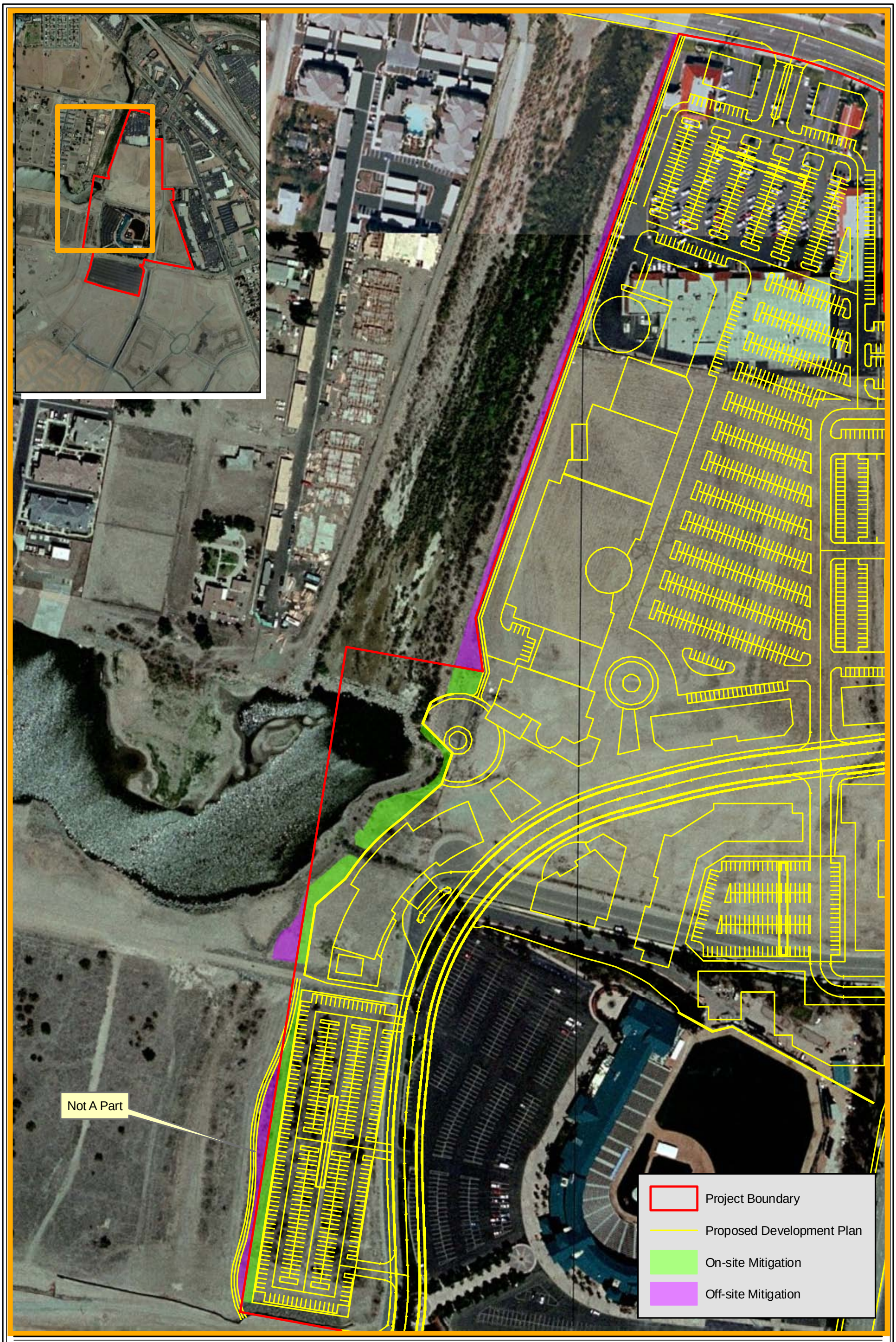
In addition, there are 11.00 acres that fall within the California Department of Fish and Game (CDFG) 1265' jurisdictional elevation of Lake Elsinore. Although these acres do not fall under the "Riparian/Riverine" definition and the jurisdictional elevation provides no biological value, as compensation for impacts to this area, we have proposed 0.68 acre of smooth tarplant mitigation on-site, enhancement of off-site habitat with the little mousetail mitigation, and for the remainder the Applicant will mitigate for the impacts to jurisdictional elevation in one or more of the following ways:

- Purchase of credits into an agency-approved off-site mitigation bank or in-lieu fee program (e.g., San Jacinto River invasive removal project through the Santa Ana Watershed Authority) at a mitigation ratio of 0.25:1.

- Conserve land (off-site) within the same jurisdictional elevation (i.e., below 1265' in elevation) within the Back Basin at a minimum mitigation ratio of 0.25:1.

- Tamarisk removal from City-owned lands within the Back Basin at a minimum mitigation ratio of 0.25:1.

- Invasive species removal from areas within the Back Basin within the CDFG 1265' jurisdictional elevation of Lake Elsinore at a minimum mitigation ratio of 0.25:1.



PCR

Source: Aerial Express, 2008; PCR Services Corporation, 2010.

Figure 1

The Diamond Specific Plan
Smooth Tarplant Mitigation Areas