APPENDIX P

BIOLOGICAL RESOURCES ASSESSMENT

Biological Resources Assessment

Amoruso Ranch Project

Placer County, California

Prepared For:

Brookfield Sunset, LLC

30 October 2015

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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LIST OF ABBREVIATED TERMS

Amoruso Ranch Development	A ±629-acre area within the overall ±674-acre Amoruso Ranch Property and adjacent ±5 acre West Sunset Boulevard right-of-way proposed for development.
Amoruso Ranch Property	Includes a ±674-acre property and the adjacent 5±-acre West Sunset Boulevard right-of-way.
BO	Biological Opinion
CCR	California Code of Regulations
CDFW/CDFG	California Fish and Wildlife/California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ECORP	ECORP Consulting, Inc.
EPA	United States Environmental Protection Agency
FESA	Federal Endangered Species Act
Guidelines	April 19, 1996 Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods
GV	Great Valley region
HCP	Habitat Conservation Plan
Listed large branchiopods	Conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool fairy shrimp (*Branchinecta lynchi*), and vernal pool tadpole shrimp (*Lepidurus packardi*)
MBTA	Migratory Bird Treaty Act
Mitigation Properties	Three properties totaling ±644 acres that are proposed as mitigation for the Amoruso Ranch Development. Includes the ±240±-acre Mourier East Property, the ±265-acre Mourier West Property, and the ±139-acre Skover Property.
MSL	Mean sea level

NCCP	Natural Community Conservation Plan
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPPA	Native Plant Protection Act
NRCS	National Resource Conservation Service
OHWM	Ordinary high water mark
PCCP	Placer County Conservation Plan
PGWTP	Pleasant Grove Water Treatment Plant
PJD	Preliminary Jurisdictional Determination
ROW	Right-of-way
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
Section 404 Permit	A permit authorization to fill wetlands under the Section 404 of the federal Clean Water Act issued by the United States Army Corps of Engineers.
ScV	Sacramento Valley subregion
Study Area	Comprised of 1) the ±629-acre Amoruso Ranch Development; 2) three off-site AT&T infrastructure alternatives that range from 4,100 to 11,000 linear feet in length; 3) the off-site ±17-acre Reason Farms improvements area; and 4) three off-site Mitigation Properties totaling ±644acres.
SWPPP	Storm Water Pollution and Prevention Plan
U.S.	United States
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 INTRODUCTION

At the request of the Brookfield Sunset, LLC, ECORP Consulting, Inc. (ECORP) has conducted a biological resource assessment for the Amoruso Ranch Project, Placer County, California. The areas included in this assessment are 1) the ±629-acre Amoruso Ranch Development; 2) three off-site AT&T infrastructure alternatives that range from 4,100 to 11,000 linear feet in length; 3) off-site drainage improvements within ±17 acres of the adjacent Reason Farms property; and 4) three off-site properties totaling ±644 acres proposed as mitigation properties. Collectively these areas are called the "Study Area".

The Study Area is located in an unincorporated portion of Placer County north and west of the cities of Roseville and Rocklin, California, respectively. The purpose of the assessment was to collect information on the biological resources present within the Study Area and to determine any potential biological constraints to Study Area construction.

1.1 Project Location

The ±629-acre Amoruso Ranch Development[1] is located within the ±674-acre Amoruso Ranch Property and adjacent ±5-acre West Sunset Boulevard right-of-way (ROW) (Amoruso Ranch Property) (Figure 1. *Amoruso Ranch Property Location and Vicinity*). The center of the Amoruso Ranch Property is approximately Latitude 38.816667°, Longitude -121.384722° within the Upper Coon – Upper Auburn Watershed (#18020161, USGS 1978). The Amoruso Ranch Property is located south of West Sunset Boulevard, west of Fiddyment Road, east of Pettigrew Road, and north of Pleasant Grove Creek, and corresponds to portions of Sections 11 and 14, Township 11 North, and Range 5 East of the "Pleasant Grove, California" 7.5-minute quadrangle (USGS 1981).

There are three off-site AT&T infrastructure alternatives along West Sunset Boulevard. At this time, it is expected that all infrastructure for the Amoruso Ranch Development will come from the south and will be permitted as part the pending Creekview Specific Plan project. However, if the Creekview Specific Plan project does not occur or is significantly delayed, then one of the three off-site AT&T infrastructure alternatives may be necessary. Additionally, off-site drainage improvements will occur within±17 acres of the City of Roseville's Reason Farms property (also known as the Al Johnson Wildlife Area), which is adjacent to the Amoruso Ranch Property to the west. The AT&T infrastructure alignments and the Reason Farms improvements area are shown on Figure 2. *AT&T Infrastructure Alternatives and Reason Farms Improvements Area Location and Vicinity*.

There are three proposed locations for off-site wetland mitigation for the Amoruso Ranch Development. These are Mourier East, Mourier West, and Skover Properties (collectively "Mitigation Properties") (Figure 3. *Mitigation Properties Location and Vicinity*).

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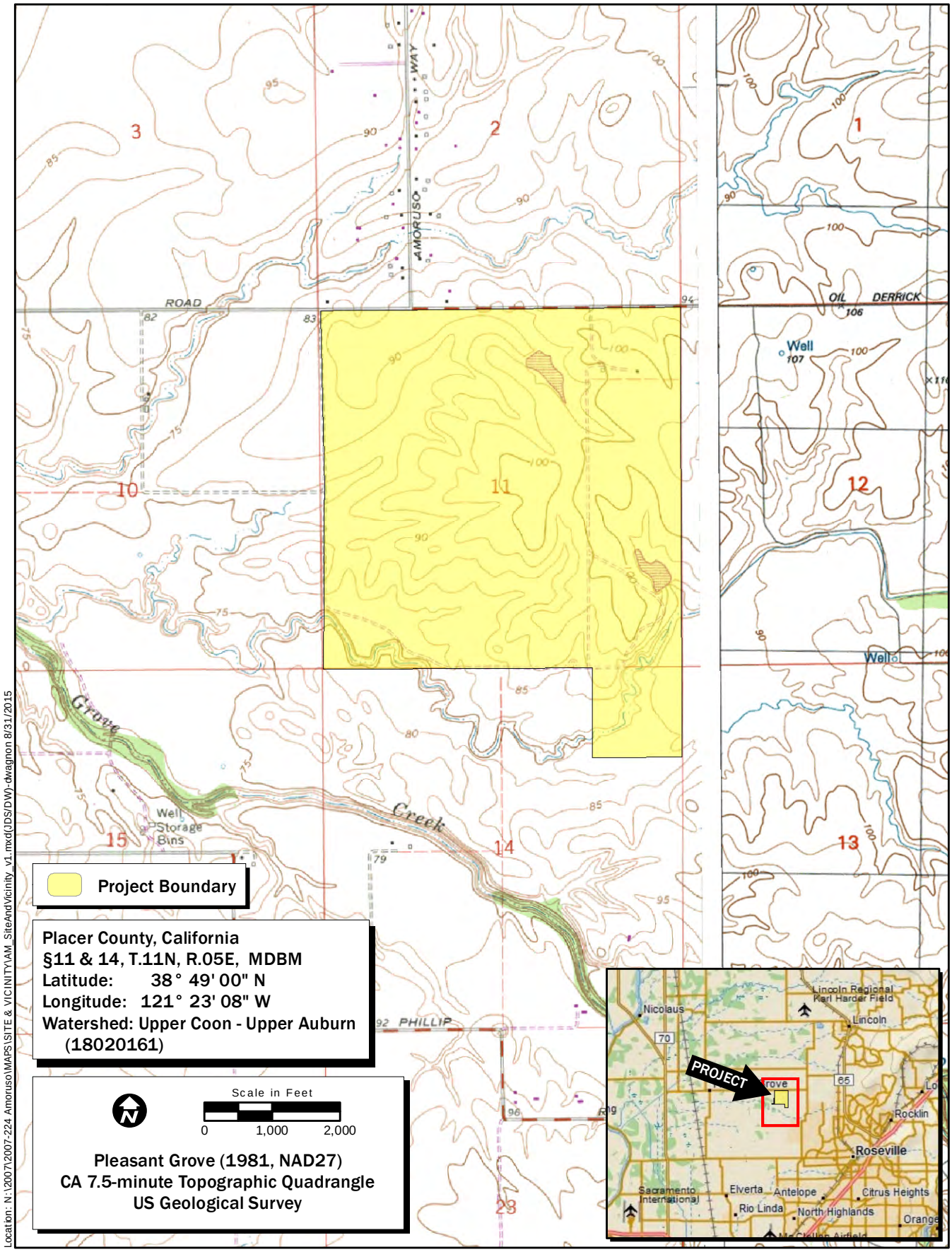
[1] *The ±629-acre Amoruso Ranch Development includes ±4 acres of the West Sunset Boulevard right-of-way and ±625 acres of the Amoruso Ranch Property (including ±34 acres of Westbrook Boulevard and excluding ±49 acres of alignment for the future the Placer Parkway regional transportation improvement project).*



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Map Date: 8/31/2015
Service Layer Credits: Copyright:© 2013 DeLorme

Figure 1. Project Location and Vicinity

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2007-224 Amoruso Ranch

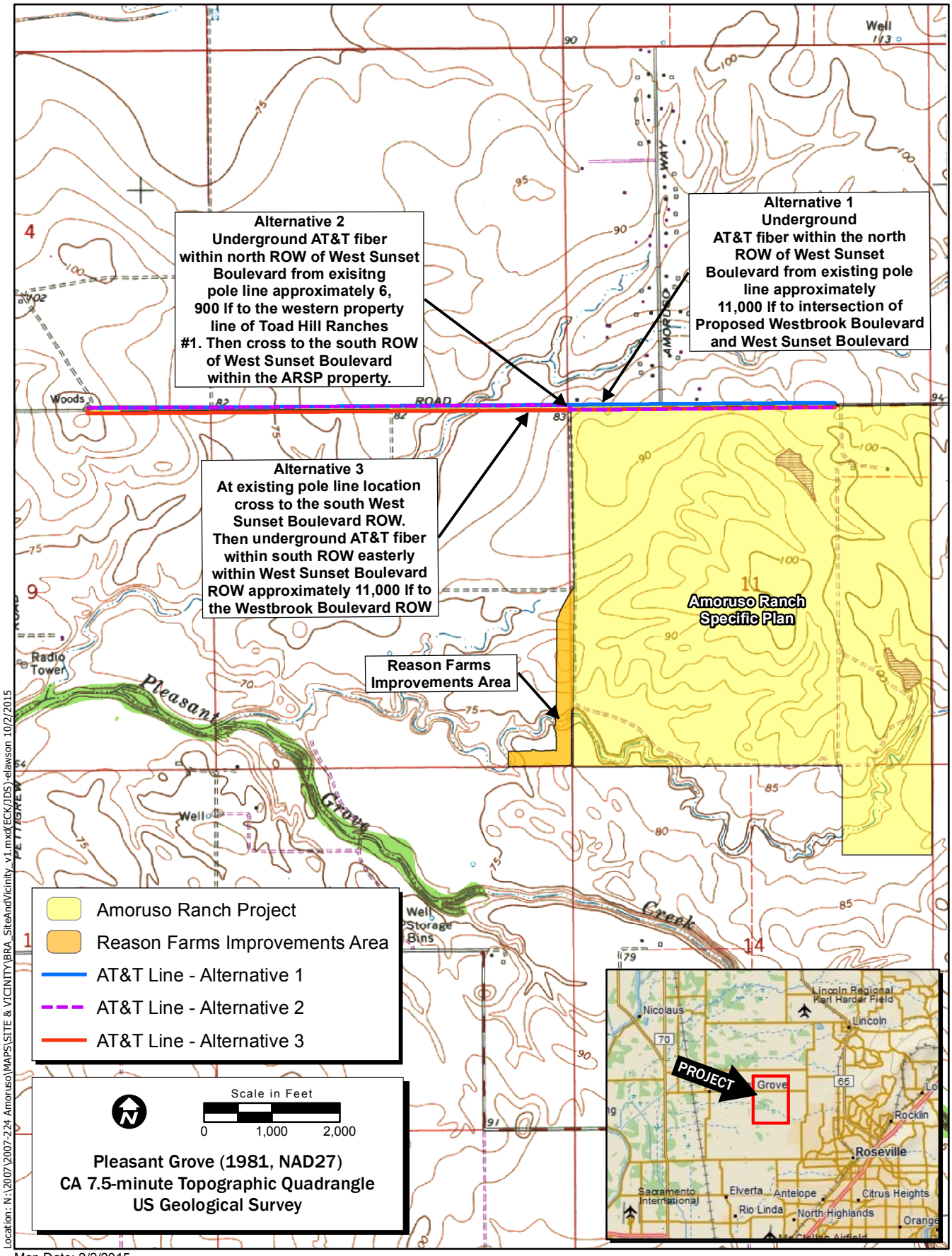

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Figure 2. AT&T Infrastructure Alternatives and Reason Farms Improvements Area Location and Vicinity

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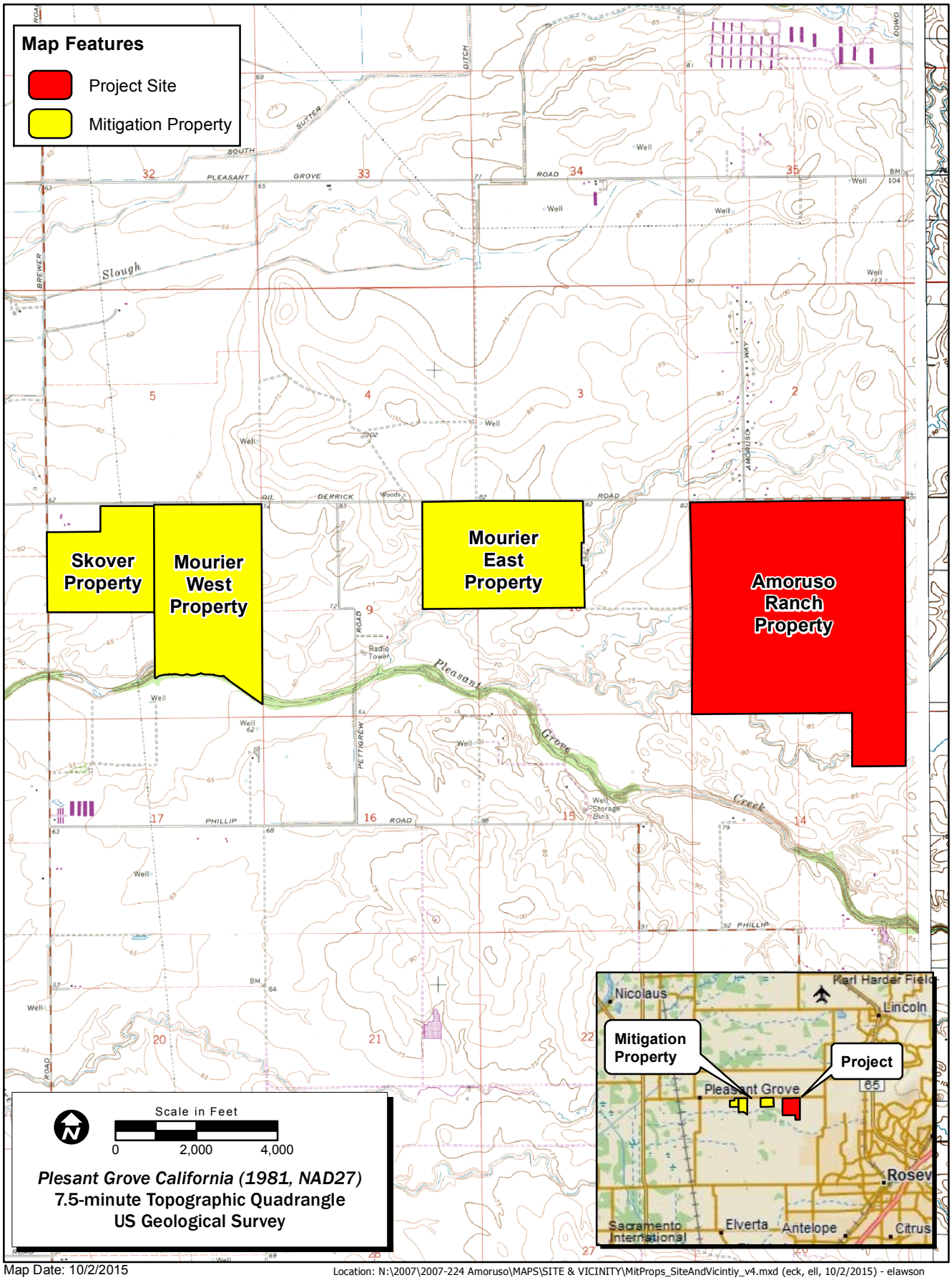
2007-224 Amoruso Ranch



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Location: N:\2007\2007-224 Amoruso\MAPS\SITE & VICINITY\MitProps_SiteAndVicintiy_v4.mxd (eck, ell, 10/2/2015) - elawson

Figure 3. Mitigation Properties Site and Vicinity

2007-224 Amoruso Ranch

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The Mourier East Property is a ±240-acre site located approximately 0.5 mile west of the Amoruso Ranch Property. The location corresponds to a portion of Sections 9 and 10, Township 11 North, and Range 5 East (MDBM) of the "Pleasant Grove, California" 7.5-minute quadrangle (USGS 1981). The approximate center of the site is located at Latitude 38.820833°, Longitude -121.411111° within the Upper Coon – Upper Auburn Watershed (#18020161, USGS 1978)

The Mourier West Property is a ±265-acre site located approximately two miles west of the Amoruso Ranch Property. The site corresponds to a portion of Section 8, Township 12 North, and Range 5 East (MDBM) of the "Pleasant Grove, California" 7.5-minute quadrangle (USGS 1981). The approximate center of the site is located at Latitude 38.818056°, Longitude -121.436111° within the Upper Coon – Upper Auburn Watershed (#18020161, USGS 1978).

The Skover Property is a ±139-acre site located approximately 2.5 miles west of the Amoruso Ranch Property. The site corresponds to a portion of Section 8, Township 12 North, and Range 5 East (MDBM) of the "Pleasant Grove, California" 7.5-minute quadrangle (USGS 1981). The approximate center of the site is located at Latitude 38.820092°, Longitude -121.446344° within the Upper Coon – Upper Auburn Watershed (#18020161, USGS 1978).

1.2 Project Description

1.2.1 Amoruso Ranch Development

The Amoruso Ranch Development is a mixed-use planned community that includes residential dwelling units of low, medium, and high density residential on ±347 acres. The Amoruso Ranch Development also includes ±51 acres of retail and commercial uses, one school, a fire station, public and private parks, and new roads and future ROW, including a ±34-acre section of Westbrook Boulevard, a regional improvement project. Approximately 16% of the Amoruso Ranch Development (±98 acres) is designated as an open space preserve and abuts other regional open space areas, including portions of the Creekview Specific Plan's open space preserve to the south, portions of the West Roseville Specific Plan's open space preserve to the southeast, and the City of Roseville's Reason Farms property (also known as the Al Johnson Wildlife Area) to the west. The open space component of the Amoruso Ranch Development is consistent with the regional open space planning goals of the draft Placer County Conservation Plan (PCCP), which strives to make 50,000 to 60,000 acres within the proposed PCCP plan area part of a reserve system to preserve approximately 50% of Placer County's remaining vernal pool habitat.

The Amoruso Ranch Development also includes a ±9-acre avoided area. This avoided area falls within the alignment of the future alignment Placer Parkway regional transportation improvement project. The development of Placer Parkway is expected to ultimately alter the watershed and the Waters of the U.S. within avoided area. For this reason, the avoided area will not be established as a wetland or habitat preserve but rather as general open space that is not protected under a conservation easement. With the implementation of wetland buffers as described below, the avoided area and the wetlands within it are expected to function until the Placer Parkway regional transportation improvement project is constructed.

The boundary of the ±98-acre on-site open space preserve was designed so that all preserved wetland basins (e.g., vernal pools and seasonal wetlands) are located at least 50 feet from the edge of development. Most of the preserved wetlands will be greater than 50 feet from the edge of development. The boundary of the ±9-acre avoided was designed so that all avoided wetland basins are located at least 20 feet from the edge of development, with many greater than 50 feet from the edge of development. These buffers will help protect preserved/avoided wetlands during adjacent development.

Additional 30-foot transition areas will be provided between the ±98-acre open space preserve and the ±9-acre avoided area and the adjacent development. These transition areas will be utilized for activities such as slope grading, outfall structures, a conveyance ditch, bike trails, weed abatement activities, and health and safety vehicle access. These 30-foot transition areas will not be protected by a conservation easement and all wetlands within this area will be permitted for direct impacts (fill). While some structures, grading, and ongoing maintenance will occur within the 30-foot transition areas, ultimately the activities within this area will result in fewer impacts than that of the development area and will provide some additional protection to the wetlands located within the on-site open space preserve/avoided area. A conveyance ditch, which is necessary to direct storm water and nuisance flows off-site, will be created within the 30-foot transition areas. This ditch will in effect hydrologically separate the preserve from adjacent development. The other benefit of the 30-foot transition areas is to alleviate the need to install structures typically located within preserves (e.g., bike trails, outfalls, power lines) from inside the on-site open space preserve/avoided area. This will reduce the need to access these areas for structure maintenance and reduce the risk of inadvertent wetland impacts.

1.2.2 AT&T Infrastructure Alternatives

There are three possible alternatives for the off-site AT&T infrastructure, which would include an underground fiber line within an 18-inch trench.

- Alternative One: Underground AT&T fiber within the north ROW of West Sunset Boulevard from existing pole line approximately 11,000 linear feet to intersection of proposed Westbrook Boulevard and West Sunset Boulevard.
- Alternative Two: Underground AT&T fiber within north ROW of West Sunset Boulevard from existing pole line approximately 6,000 linear feet to the western property line of Toad Hill Ranches #1; then cross to the south ROW of West Sunset Boulevard within the Amoruso Ranch Property. The AT&T fiber would then be placed along the northern ROW of West Sunset Boulevard approximately 4,100 linear feet to the Westbrook Boulevard ROW.
- Alternative Three: At existing pole line location cross to the south West Sunset Boulevard ROW; then underground AT&T fiber within south ROW eastern within Sunset Boulevard ROW approximately 11,000 linear feet to the Westbrook Boulevard ROW.

As mentioned previously, it is expected that all infrastructure for the Amoruso Ranch Development will come from the south and will be permitted as part the pending Creekview Specific Plan project. However, if the Creekview Specific Plan project does not occur or is significantly delayed, then one of the three off-site AT&T infrastructure alternatives may be necessary.

1.2.3 Reason Farms Improvements Area

Drainage improvements at the off-site Reason Farms property are necessary for the Amoruso Ranch Development. The ±17-acre off-site Reason Farms improvements area is located within the greater Reason Farms Property, which lies west of and adjacent to the Amoruso Ranch Property. The ±1,754-acre Reason Farms Property is comprised of a mix of gently rolling terrain and leveled agricultural fields at an elevation range of approximately 60 feet to 80 feet above mean sea level (MSL), and many portions of the site are used to conduct annual dry farming of crops such as wheat, oats, or barley. Drainage improvements planned within the Reason Farms improvements area include the removal of a berm that runs along University Creek, the excavation of existing University Creek along the western boundary of the Amoruso Ranch Property, and the installation of conveyance infrastructure (piping and/or ditching) along the future alignment of Placer Parkway within the Amoruso Ranch Property and the Reason Farms Property.

1.2.4 Mitigation Properties

Three off-site Mitigation Properties are proposed as mitigation to offset unavoidable impacts to Waters of the United States (U.S.) and habitat for the federally threatened vernal pool fairy shrimp (*Branchinecta lynchi*) that may occur as a result of implementation of the Amoruso Ranch Development. Mitigation proposed will be a combination of preservation of existing wetlands and restoration of wetlands degraded by historic land uses. At this time, wetland restoration planning is conceptual; final design, limits of construction, and any associated habitat effects have not been analyzed. All three Mitigation Properties would be established as permanent wetland preserves, protected by conservation easement/deed restrictions, and managed in perpetuity as outlined in an Operations and Management Plan approved by the appropriate regulatory agencies.

1.3 Biological Setting

The Study Area is located within a rural area in western Placer County. The Study Area is located in the Sacramento Valley subregion (ScV), Great Valley region (GV) of the California Floristic Province (Baldwin, et al. 2012). This area is characterized by Mediterranean climate typical of the Great Valley of California. The annual precipitation in Sacramento (approximately 15 miles to the southwest) is 19.87 inches (with the wettest period during November through March), and average daily temperatures ranging from 47.7° F in December to 77.4°F in July (NOAA 2002). The local topography is leveled (for irrigated pasture in the northeastern corner of the Amoruso Ranch Property) and flat to gently rolling. The Study Area is currently undeveloped and is situated at an elevation range of 50-105 feet above MSL. West Sunset Boulevard represents the northern boundary of the Amoruso Ranch Property and off-site Mitigation Properties and is a County-maintained paved roadway.

The vast majority of the Amoruso Ranch Property is annual grassland, with leveled irrigated pastures in the northeastern corner of the site. One rural residence (currently occupied) and a dilapidated barn are located within the northeastern portion of the Amoruso Ranch Property. The remainder of the site is annual grassland that is grazed by cattle. Scattered ephemeral wetland and drainage features are located throughout the annual grassland. The off-site AT&T infrastructure alternatives contain annual grassland similar to the Amoruso Ranch Property as well as rural residences. The

adjacent Reason Farms Property, where off-site drainage improvements will occur, consists of leveled fields in active agriculture (historically rice and currently in wheat).

The Mourier East and Mourier West properties are dominated by annual grassland vegetation community. A grove of blue gum (*Eucalyptus globulus*) occurs around a rural residence (currently unoccupied) and associated barns in the northern portion of the Mourier West Property. The Skover Property is comprised of cultivated rice (*Oryza sativa*) fields. The fields typically remain flooded until the late summer/fall and harvested when each field is drained into man-made ditches. Individual fields are separated by small upland checks or larger levees, some of which are used as access roads.

2.0 REGULATORY SETTING

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects plants and animals that are listed as endangered or threatened by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Section 9 of FESA prohibits the taking of endangered wildlife, where taking is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 USC 1538). Under Section 7 of FESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion (BO), the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of FESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan is developed.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

2.1.3 Federal Clean Water Act

The purpose of the federal Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "Waters of the U.S." without a permit from the United States Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The United States Environmental Protection Agency (EPA) also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

2.2 State Regulations

2.2.1 California Endangered Species Act

The California Endangered Species Act (CESA) generally parallels the main provisions of the FESA, but unlike its federal counterpart, CESA applies the take prohibitions to species proposed for listing (called "candidates" by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with California Fish and Wildlife (CDFW), formerly California Fish and Game (CDFG), to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of CESA and FESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under CESA and/or FESA. The regulations that implement the Fully Protected Species Statute (Fish and Game Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (Fish and Game Code Sections 1900-1913) was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. The CESA of 1984 (Fish and Game Code Section 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the Fish and Game Code.

2.2.4 California Streambed Alteration Notification/Agreement

Section 1602 of the Fish and Game Code requires that a Streambed Alteration Application (SAA) be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the SAA. Often, projects that require a Streambed Alteration Agreement also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

2.2.5 CEQA Significance Criteria

Section 15064.7 of the California Environmental Quality Act (CEQA) Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines (Title 14 California Code of Regulations (CCR) Section 15000 et seq.). Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

- conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

2.3 Local Regulations

2.3.1 City of Roseville General Plan 2025

It is an overall goal of the Open Space and Conservation Element of the City of Roseville General Plan (City of Roseville 2010) to preserve a comprehensive interconnecting system of open space, encompassing preservation and enhancement of natural habitat and significant resource areas, for the use, appreciation, and enjoyment of the community.

2.3.2 Placer County General Plan

The Goals of the Natural Resources Element of the Placer County General Plan (Placer County 1994) that may be pertinent to the proposed Project are:

Goal 6.A. *To protect and enhance the natural qualities of Placer County's rivers, streams, creeks and groundwater;*

Goal 6.B. *To protect wetland communities and related riparian areas throughout Placer County as valuable resources;*

Goal 6.C. *To protect, restore, and enhance habitats that support fish and wildlife species so as to maintain populations at viable levels;*

Goal 6.D. *To preserve and protect the valuable vegetation resource of Placer County; and*

Goal 6.E. *To preserve and enhance open space lands to maintain the natural resources of the County.*

2.3.3 City of Roseville/U.S. Fish and Wildlife Service Memorandum of Understanding

To minimize take of vernal pool species resulting from the effects of the Pleasant Grove Water Treatment Plant's (PGWTP) operation, the City of Roseville committed to develop and implement an interim conservation strategy and long-term habitat conservation program. Through this Memorandum of Understanding (MOU), the City of Roseville and the USFWS seek to accomplish the following objectives consistent with the proposed action as described in the BO (for the construction of the PGWTP) and with the reasonable and prudent measures to minimize take in the Incidental Take Statement:

- To set out a process to develop an interim conservation strategy to minimize the adverse effect on federally listed species of future development serviced by Phase I operations of the PGWTP and located on lands under the City of Roseville's jurisdiction
- To work cooperatively to develop a long-term habitat conservation program or its equivalent to minimize the effects on federally listed species of future development serviced by Phase II of the PGWTP and located in the City of Roseville or other participating jurisdictions who commit to participate in the habitat conservation program or its equivalent

2.3.4 City of Roseville Municipal Code/Title 19 Zoning/Chapter 19.66-Tree Preservation

In order to promote the public health, safety and general welfare of the City of Roseville while at the same time recognizing individual rights to develop private property, it is necessary to enact regulations controlling the removal of and preservation of trees within the City of Roseville and to reforest our urban environment.

3.0 METHODS

In preparing this biological resource assessment, the CDFW's California Natural Diversity Database (CNDDB) (Attachment A) (CDFW 2014) and California Native Plant Society Electronic Inventory (Attachment B) (CNPS 2014) were queried to determine the special-status species that had been documented in the topographic quadrangle that encompasses the Study Area. Additional data regarding the potential occurrence of special-status species were gathered from various online websites and databases such as Calflora and USFWS species lists (Attachment C). Soil types were determined using the United States Department of Agriculture National Resource Conservation Service Web Soil Survey (NRCS 2014). On-site resource data for the Study Area was collected from various species or taxa-specific field surveys conducted by ECORP. These include:

Amoruso Ranch Property

- Wet season surveys for federally listed vernal pool branchiopods (ECORP 2008a, 2009)
- Wetland delineation (ECORP 2010, 2011c)
- Western spadefoot toad survey (ECORP 2011a)
- Raptor nesting survey (ECORP 2011b)
- Arborist survey (ECORP 2013a)

- Special-status plant surveys (ECORP 2013b, 2013c, 2015a)
- Valley elderberry longhorn beetle survey (VELB) (ECORP 2013d).

Mourier East Property

- Wet season survey for federally listed vernal pool branchiopods (ECORP 2008b)
- Wetland delineation (ECORP 2008d)
- Special-status plant surveys (ECORP 2015b)
- Valley elderberry longhorn beetle survey (VELB) (ECORP 2015h)
- Special-status species assessment (ECORP 2015e).

Mourier West Property

- Wet season survey for federally listed vernal pool branchiopods (ECORP 2008c)
- Wetland delineation (ECORP 2011d)
- Special-status plant surveys (ECORP 2015c)
- Valley elderberry longhorn beetle survey (VELB) (ECORP 2015i)
- Special-status species assessment (ECORP 2015f).

Skover Property

- Wetland delineation (2011e)
- Special-status plant surveys (ECORP 2015d)
- Valley elderberry longhorn beetle survey (VELB) (ECORP 2015j).

Reason Farms Improvements Area

- Wet season and dry season surveys for federally listed vernal pool branchiopods (ECORP 2014a)
- Special-status species plant surveys (ECORP 2014b)
- VELB survey (ECORP 2014c).
- Arborist survey (ECORP 2014d)
- Wetland delineation (ECORP 2014e)

Figure 4. *Special-Status Species Locations* shows the locations of special-status species found within the Study Area during the above-mentioned surveys.

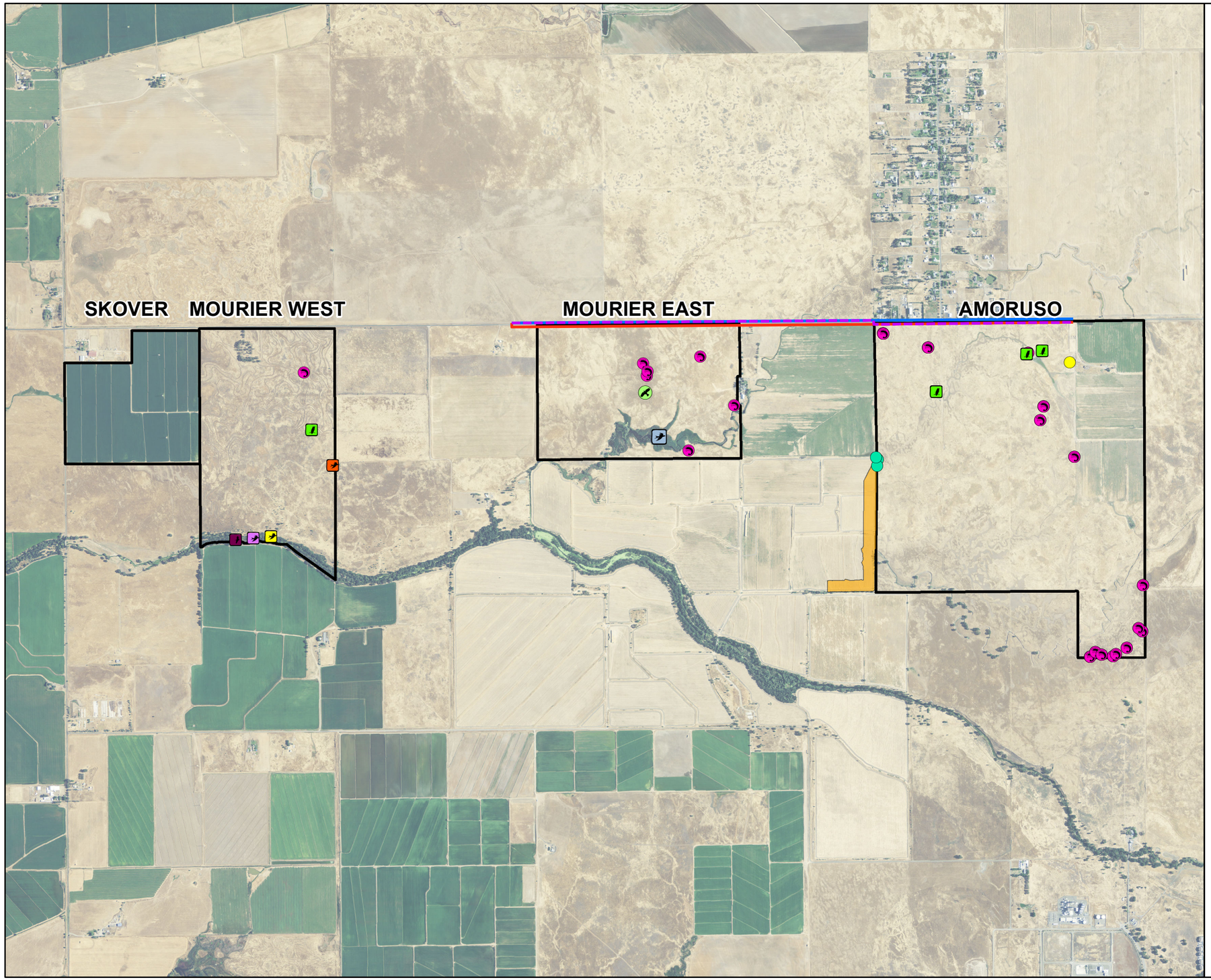


Figure 4.
Special-Status Species Locations

Map Features

- Property Boundary
- Reason Farms Improvements Area
- AT&T Line - Alternative 1
- AT&T Line - Alternative 2
- AT&T Line - Alternative 3

Special-Status Species Occurrences

- Vernal Pool Fairy Shrimp
- Downingia pusilla
- Elderberry Shrub (in Placer Parkway Alignment)
- Burrowing Owl
- Loggerhead Shrike
- Nuttall's Woodpecker
- Oak Titmouse
- Yellow-billed Magpie
- Northern Harrier
- Tricolored Blackbird

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: N:\2007\2007-224 Amoruso\MAPS\SSS_SURVEY_AND_MAPPING\SSS_Locations\BRA_Properties_SSS_v4.mxd (ECK/JDS)-elawson 10/2/2015

2007-224 Amoruso Ranch

Feet
0 2,000

Photo Source: NAIP 2012

Map Date: 10/2/2015

3.1 Special-Status Species

For the purposes of this assessment, special-status species are defined as plants or animals that:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under FESA;
- are listed or candidates for future listing as threatened or endangered under CESA;
- meet the definitions of endangered or rare under Section 15380 of the CEQA Guidelines;
- are identified as a species of special concern by CDFW;
- are birds identified as birds of conservation concern by the USFWS;
- are plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (California Rare Plant Rank [CRPR] 1 and 2);
- are plants listed as rare under the California Native Plant Protection Act (Fish and Game Code of California, Section 1900 et seq.); or
- are fully protected in California in accordance with the Fish and Game Code of California, Sections 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

Only species that fall into one of the above listed groups was considered for this assessment. While other species (i.e., CRPR 3 or 4 species, species tracked by the CNDDB) are sometimes found in database searches or within the literature, these were not included within this analysis.

Using information from the CNDDB, the literature review, and observations in the field, a list of special-status plant and animal species that have the potential to occur in the Study Area were generated (Table 1. *Special-Status Species*). Each of these species was assessed for their potential to occur within the Study Area (comprised of the Amoruso Ranch Development, the three off-site AT&T infrastructure alternatives, the off-site Reason Farms Improvements area, and the three off-site Mitigation Properties) based on the following criteria guidelines:

Present	Species was observed during the site visit or is known to occur within the site boundary based on documented occurrences within the CNDDB.
Potential to Occur	Habitat (including soils and elevation requirements) for the species occurs within the site boundary.
Low Potential to Occur	Marginal or limited amounts of habitat occur and/or the species is not known to occur in the vicinity based on CNDDB records and other available documentation.
Absent	Not found during protocol-level surveys or no suitable habitat (including soils and elevation requirements) and/or the species is not known to occur in the vicinity based on CNDDB records and other available documentation.

Table 1. Special-Status Species

Common Name	Scientific Name	Federal ESA Status	CA ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential to occur on Amoruso Ranch Property	Potential to occur on off-site AT&T Alternatives	Potential to occur on off-site Reason Farms Improvements Area	Potential to occur on off-site Mitigation Properties
Plants										
Big-scale balsamroot	*Balsamorhiza macrolepis* var. *macrolepis*	-	-	1B.2	chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentine soils (295' - 5,102')	March-June	Absent-Not found during 2009, 2011, and 2015 surveys	Absent-Not found during 2015 survey	Absent-Not found during 2014 survey	Absent--Not found during 2015 surveys
Hispid bird's-beak	*Chloropyron molle* ssp. *hispidum*	-	-	1B.1	alkaline meadows and seeps, playas, and valley and foothill grassland (3' - 509')	June-September	Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present
Dwarf downingia	*Downingia pusilla*	-	-	2B.2	vernal pools and mesic areas in valley and foothill grassland (3' - 1,460')	March-May	Present-Found during 2015 survey	Absent-Not found during 2015 survey	Present-Found during 2014 survey	Absent-Not found during 2015 surveys
Boggs Lake hedge-hyssop	*Gratiola heterosepala*	-	CE	1B.1	clay soils in vernal pools and in marshes and swamps on lake margins (33' - 7,792')	April-August	Absent-Not found during 2009 or 2015 surveys	Absent-Not found during 2015 survey	Absent-Not found during 2014 survey	Absent-Not found during 2015 surveys
Ahart's dwarf rush	*Juncus leiospermus* var. *ahartii*	-	-	1B.1	mesic areas in valley and foothill grassland (98' - 751'	March-May	Absent-Not found during 2009 or 2015 surveys	Absent-Not found during 2015 survey	Absent-Not found during 2014 survey	Absent-Not found during 2015 surveys
Red Bluff dwarf rush	*Juncus leiospermus var. leiospermus*	-	-	1B.1	vernally mesic areas in chaparral, cismontane woodland, valley and foothill grassland, meadows and seeps, and vernal pools (115' - 3,346')	March-May	Absent-Not found during 2009 or 2015 surveys	Absent-Not found during 2015 survey	Absent-Not found during 2014 survey	Absent-Not found during 2015 surveys
Legenere	*Legenere limosa*	-	-	1B.1	vernal pools (3' - 2,887')	April-June	Absent-Not found during 2009 or 2015 surveys	Absent-Not found during 2015 survey	Absent-Not found during 2014 survey	Absent-Not found during 2015 surveys
Pincushion navarretia	*Navarretia myersii ssp. myersii*	-	-	1B.1	vernal pools, often on acidic soils (66' - 1,083')	April-May	Absent-Not found during 2009 or 2015 surveys	Absent-Not found during 2015 survey	Absent- Not found during 2014 survey	Absent-Not found during 2015 surveys

Common Name	Scientific Name	Federal ESA Status	CA ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential to occur on Amoruso Ranch Property	Potential to occur on off-site AT&T Alternatives	Potential to occur on off-site Reason Farms Improvements Area	Potential to occur on off-site Mitigation Properties
Slender Orcutt grass	*Orcuttia tenuis*	FT	CE	1B.1	Often gravelly vernal pools (115' - 5,774')	May-October	Absent-Not found during 2009, 2011, or 2015 surveys	Absent-Not found during 2015 survey	Absent-Not found during 2014 survey	Absent-Not found during 2015 surveys
Sacramento Orcutt grass	*Orcuttia viscida*	FE	CE	1B.1	vernal pools (98' - 328')	April-July	Absent-Not found during 2009, 2011, or 2015 surveys	Absent-Not found during 2015 survey	Absent-Not found during 2014 survey	Absent-Not found during 2015 surveys
Sanford's arrowhead	*Sagittaria sanfordii*	-	-	1B.2	assorted shallow freshwater marshes and swamps (0' - 2,133')	May-October	Absent-Not found during 2009, 2011, or 2015 surveys	Absent-Not found during 2015 survey	Absent-Not found during 2014 survey	Absent-Not found during 2015 surveys
Invertebrates										
Conservancy fairy shrimp	*Branchinecta conservatio*	FE	-	-	vernal pools/wetlands	November-April	Absent-Not found during 2007-08 and 2008-09 guideline-level surveys	Low Potential-Surveys not conducted	Absent-Not found during 2014 guideline-level surveys	Low Potential-Not found during 2007-08 assessment-level surveys at Mourier East and Mourier West
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT	-	-	vernal pools/wetlands	November-April	Present-Found during 2007-08 and 2008-09 guideline-level surveys	Potential-Surveys not conducted	Absent-Not found during 2014 guideline-level surveys	Present-Found during 2007-08 assessment-level surveys at Mourier East and Mourier West
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE	-	-	vernal pools/wetlands	November-April	Absent-Not found during 2007-08 and 2008-09 guideline-level surveys	Low Potential-Surveys not conducted	Absent-Not found during 2014 guideline-level surveys survey	Low Potential-Not found during 2007-08 assessment-level surveys at Mourier East and Mourier West
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT, FPD	-	-	elderberry shrubs	any season	Potential-Habitat found only within Placer Parkway alignment	Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present
Fish										

Common Name	Scientific Name	Federal ESA Status	CA ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential to occur on Amoruso Ranch Property	Potential to occur on off-site AT&T Alternatives	Potential to occur on off-site Reason Farms Improvements Area	Potential to occur on off-site Mitigation Properties
Chinook salmon (Central Valley spring-run ESU)	*Oncorhynchus tshawytscha*	FT	CT	-	undammed rivers, streams, creeks		Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present
Steelhead (CA Central Valley ESU)	*Oncorhynchus mykiss*	FT	-	-	undammed rivers, streams, creeks		Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present
Delta smelt	*Hypomesus transpacificus*	FT	CE	-	Sac-San Joaquin delta		Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present
Amphibians										
California tiger salamander (Central California DPS)	*Ambystoma californiense*	FT	CT	CSC	Vernal pools, wetlands (breeding) and adjacent grassland or oak woodland; needs underground refuge (e.g., ground squirrel. gopher burrows). Largely terrestrial as adults.	March-May	Absent-Outside of known distribution of the species	Absent-Outside of known distribution of the species	Absent-Outside of known distribution of the species	Absent-Outside of known distribution of the species
Western spadefoot	*Spea hammondii*	-	-	CSC	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.	March-May	Potential-Not found during 2011 survey	Potential-Surveys not conducted	Potential-Surveys not conducted	Potential-Surveys not conducted
California red-legged frog	*Rana draytonii*	FT	-	CSC	Lowlands or foothills at waters with dense shrubby or emergent riparian vegetation. Adults must have aestivation habitat to endure summer dry down.	May 1-November 1	Absent-Outside of known distribution of the species	Absent-Outside of known distribution of the species	Absent-Outside of known distribution of the species	Absent-Outside of known distribution of the species
Reptiles										

Common Name	Scientific Name	Federal ESA Status	CA ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential to occur on Amoruso Ranch Property	Potential to occur on off-site AT&T Alternatives	Potential to occur on off-site Reason Farms Improvements Area	Potential to occur on off-site Mitigation Properties
Northwestern pond turtle	*Actinemys marmorata*	-	-	CSC	The only extant freshwater turtle in California. The northwestern and southwestern subspecies intergrade in central California. This turtle requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches.	April-October	Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present	Potential-Habitat within Mourier West along Pleasant Grove Creek and the ditch at Skover; surveys not conducted
Giant garter snake	*Thamnophis gigas*	FT	CT	-	Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range.	April-October	Absent-Outside of known distribution of the species	Absent-Outside of known distribution of the species	Absent-Outside of known distribution of the species	Absent-Outside of known distribution of the species
Birds										
Tricolored blackbird (nesting colony)	*Agelaius tricolor*	-	-	BCC, CSC	marsh, grassland	April-June	Absent-Found foraging on-site but appropriate nesting habitat not present; not nesting during 2011 surveys	Absent-No suitable nesting habitat present	Low Potential- low-quality nesting habitat present; surveys not conducted	Present-Nesting colony incidentally observed on Mourier East Property; surveys not conducted
Grasshopper sparrow	*Ammodramus savannarum*	-	-	CSC	grassland	May-July	Potential-Not found during 2011 surveys	Potential-Surveys not conducted	Potential-Surveys not conducted	Potential-Surveys not conducted
Burrowing owl	*Athene cunicularia*	-	-	BCC, CSC	grassland	March-August	Potential-Found on-site , presumably nesting during 2011 surveys	Potential-Surveys or habitat assessment not conducted	Potential-Surveys or habitat assessment not conducted	Present-individual incidentally observed on Mourier West Property; surveys not conducted

Common Name	Scientific Name	Federal ESA Status	CA ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential to occur on Amoruso Ranch Property	Potential to occur on off-site AT&T Alternatives	Potential to occur on off-site Reason Farms Improvements Area	Potential to occur on off-site Mitigation Properties
Oak titmouse	*Baelophus inornatus*	-		BCC	oak woodland, riparian	March-July	Potential-Found on-site but not nesting during 2011 surveys	Potential-Surveys not conducted	Potential-Surveys not conducted	Present--individual incidentally observed on Mourier West Property; surveys not conducted
Swainson's hawk (nesting)	*Buteo swainsoni*	-	CT	BCC	grassland, riparian	March-August	Potential-Found foraging but not nesting during 2011 surveys	Potential-Surveys not conducted	Potential-Surveys not conducted	Potential-Surveys not conducted
Costa's hummingbird	*Calypte costae*	-	-	BCC	Breeds in coastal scrub and chaparral	February-June	Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present
Mountain plover (wintering)	*Charadrius montanus*	-	-	BCC, CSC	winters in California; habitat includes tilled fields, heavily grazed open grassland, burned fields, and alfalfa fields	September-March	Absent-Habitat not present	Absent-Habitat not present	Potential-Surveys not conducted	Potential-Surveys not conducted
Northern harrier (nesting)	*Circus cyaneus*	-	-	CSC	marsh, grassland	April-September	Potential-Found on-site but not nesting during 2011 surveys	Potential- Surveys not conducted	Potential-Surveys not conducted	Present-individual incidentally observed on Mourier East Property; surveys not conducted
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FC	CE	BCC	riparian	June 15-August 15	Absent-Habitat not present	Low Potential- Surveys or habitat assessment not conducted	Low Potential- Surveys or habitat assessment not conducted	Low Potential-Surveys or habitat assessment not conducted
White-tailed kite (nesting)	*Elanus leucurus*	-	-	CFP	woodland, grassland	March-June	Potential-Found on-site but not nesting during 2011 surveys	Potential-Surveys not conducted	Potential-Surveys not conducted	Potential-Surveys not conducted
Greater sandhill crane	*Grus canadensis tabida*	-	CT	-	seasonal wetlands, irrigated pastures, alfalfa and corn fields	December-February	Low Potential-Not found during 2011 surveys	Potential-Surveys not conducted	Potential-Surveys not conducted	Potential-Surveys not conducted
Bald eagle (nesting and wintering)	*Haliaeetus leuco-cephalus)*	Fd	CE	CFP, BCC	breeds in forested areas near large bodies of water; nest in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies	February – July (nesting); October-March (winters)	Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present

Common Name	Scientific Name	Federal ESA Status	CA ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential to occur on Amoruso Ranch Property	Potential to occur on off-site AT&T Alternatives	Potential to occur on off-site Reason Farms Improvements Area	Potential to occur on off-site Mitigation Properties
Loggerhead shrike	*Lanius ludovicianus*	-	-	BCC, CSC	grassland, woodland	March-July	Potential-Found on-site but not nesting during 2011 surveys	Potential-Surveys not conducted	Potential-Surveys not conducted	Present-individual incidentally observed on Mourier West Property; surveys not conducted
California black rail	*Laterallus jamaicensis coturniculus*	-	CT	BCC, CFP	marsh	March-July	Absent-Habitat not present	Low Potential- Surveys or habitat assessment not conducted	Low Potential- Surveys or habitat assessment not conducted	Low Potential-Surveys or habitat assessment not conducted
Lewis' woodpecker (nesting)	*Melanerpes lewis*	-	-	BCC	open ponderosa pine forest, open riparian woodland, oak woodland within mountain ranges	May-July	Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present
Yellow-billed magpie (nesting)	*Pica nuttallii*	-		BCC	oak woodland, riparian	February-July	Potential-Found on-site but not nesting during 2011 surveys	Potential-Surveys not conducted	Potential-Surveys not conducted	Present-individual incidentally observed on Mourier West Property; surveys not conducted
Nuttall's woodpecker	*Picoides nuttallii*	-		BCC	oak woodland, riparian	March-July	Potential-Found on-site but not nesting during 2011 surveys	Potential-Surveys not conducted	Potential-Surveys not conducted	Present-individual incidentally observed on Mourier West Property; surveys not conducted
Purple martin	*Progne subis*	-	CSC	-	riparian woodland, oak woodland, cavity nester	April-Aug	Low Potential-Not found during 2011 surveys	Low Potential- Surveys not conducted	Low Potential-Surveys not conducted	Low Potential-Surveys not conducted
Great egret (rookery)	*Ardea alba*	-	-	*	rookery sites (marsh, riparian)	March-July	Potential-Not found during 2011 survey	Potential-Surveys not conducted	Potential-Surveys not conducted	Potential-Surveys not conducted
Great blue heron (rookery)	*Ardea herodias*	-	-	*	rookery sites (marsh, riparian)	February-July	Potential-Not found during 2011 survey	Absent-Habitat not present	Potential-Surveys not conducted	Potential-Surveys not conducted
Snowy egret (rookery)	*Egretta thula*	-	-	*	Rookery sites (marsh, riparian)	March-July	Low Potential-Not found during 2011 survey	Potential-Surveys not conducted	Potential-Surveys not conducted	Potential-Surveys not conducted
Black-crowned night heron (rookery)	*Nycticorax nycticorax*	-	-	*	rookery sites (trees, marsh, riparian)	February-July	Low Potential-Not found during 2011 survey	Potential-Surveys not conducted	Potential-Surveys not conducted	Potential-Surveys not conducted

Common Name	Scientific Name	Federal ESA Status	CA ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential to occur on Amoruso Ranch Property	Potential to occur on off-site AT&T Alternatives	Potential to occur on off-site Reason Farms Improvements Area	Potential to occur on off-site Mitigation Properties
Williamson's sapsucker	*Sphyrapicus thyroideus*	-	-	BCC	breeds in middle to high elevation conifer and mixed conifer-deciduous forests	May-July	Absent-Does not nest in the region	Absent-Does not nest in the region	Absent-Does not nest in the region	Absent-Does not nest in the region
Golden eagle (nesting and wintering)	*Aquila chrysaetos*	-	-	BCC, CFP	grassland	nest (February-August); winter CV (October-February)	Potential-Foraging habitat potential, but does not nest in the region; found foraging during 2011 survey	Potential-Foraging habitat potential, but does not nest in the region; surveys not conducted	Potential-Foraging habitat potential, but does not nest in the region; surveys not conducted	Potential-Foraging habitat potential, but does not nest in the region; surveys not conducted
Short-eared owl (nesting)	*Asio flammeus*	-	-	CSC	marsh, grassland	March-July (nesting)	Potential-Foraging habitat potential, but does not nest in the region; not found during 2011 survey	Potential-Foraging habitat potential, but does not nest in the region; surveys not conducted	Potential-Foraging habitat potential, but does not nest in the region; surveys not conducted	Potential-Foraging habitat potential, but does not nest in the region; surveys not conducted
Ferruginous hawk (wintering)	*Buteo regalis*	-	-	SSC	grassland	November-February	Potential-Foraging habitat potential, but does not nest in the region; found foraging during 2011 survey	Potential-Foraging habitat potential, but does not nest in the region; surveys not conducted	Potential-Foraging habitat potential, but does not nest in the region; surveys not conducted	Potential-Foraging habitat potential, but does not nest in the region; surveys not conducted
Prairie falcon (wintering)	*Falco mexicanus*	-	-	BCC	grassland	October-February	Potential-Foraging habitat potential, but does not nest in the region; not found during 2011 surveys	Potential-Foraging habitat potential, but does not nest in the region; surveys not conducted	Potential-Foraging habitat potential, but does not nest in the region; surveys no conducted	Potential-Foraging habitat potential, but does not nest in the region; surveys not conducted
Peregrine falcon (wintering)	*Falco peregrinus anatum*	Fd	Cd	BCC, CFP	Forages in areas with large concentrations of shorebirds, waterfowl, pigeons, or doves	February-June (nesting)	Absent-Does not nest in the region, no suitable wintering habitat	Absent-Does not nest in the region, no suitable wintering habitat	Absent-Does not nest in the region, no suitable wintering habitat	Absent-Does not nest in the region, no suitable wintering habitat
Long-billed curlew (nesting)	*Numenius americanus*	-	-	BCC	grassland, pasture	September-March	Potential-Foraging habitat potential, but does not nest in the region; not found during 2011 survey	Potential-Foraging habitat potential, but does not nest in the region; surveys no conducted	Potential-Foraging habitat potential, but does not nest in the region; surveys not conducted	Potential-Foraging habitat potential, but does not nest in the region; surveys not conducted

Common Name	Scientific Name	Federal ESA Status	CA ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential to occur on Amoruso Ranch Property	Potential to occur on off-site AT&T Alternatives	Potential to occur on off-site Reason Farms Improvements Area	Potential to occur on off-site Mitigation Properties
Fox Sparrow (wintering)	*Passerella iliaca*	-	-	BCC	Winters in riparian habitat with thick cover, chaparral with thick vegetation	May-July (breeding), September-April (wintering)	Absent-Habitat not present	Absent-Habitat not present	Absent-Habitat not present	Potential- Wintering habitat potential, but does not nest in the region; surveys not conducted
Mammals										
American badger	*Taxidea taxus*	-	-	CSC	drier open stages of most shrub, forest, and herbaceous habitats with friable soils	year round res. (breeds summer-early fall)	Low Potential-Burrows not found during 2011 surveys	Low Potential- Surveys not conducted	Low Potential- Surveys not conducted	Low Potential-Surveys not conducted
Pallid bat	*Antrozous pallidus*	-	-	CSC	mines, man-made structures, rock outcrops, and woodland near open grasslands for foraging	April-September	Potential-Roosts not found during 2011 surveys	Potential-Surveys not conducted	Potential-Surveys not conducted	Potential-Surveys not conducted
Townsend's big-eared bat	*Corynorhinus townsendii*	-	CC	CSC	caves, mines, buildings, rock crevices, trees	April-September	Potential-Roosts not found during 2011 surveys	Potential-Surveys not conducted	Potential-Surveys not conducted	Potential-Surveys not conducted

Status Codes:
FE = Federal ESA listed, Endangered.
FT = Federal ESA listed, Threatened.
FPD = Listed under Federal ESA, but formally proposed for delisting.
FC = Candidate for federal ESA listing as Threatened or Endangered.
Fd = Formally delisted
BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern (USFWS 2008).
CE = California ESA or Native Plant Protection Act listed, Endangered.
CT = California ESA or Native Plant Protection Act listed, Threatened.
CC = Candidate for California ESA listing as Endangered or Threatened.
CFP = Fish and Game Code of California Fully Protected Species (§3511-birds, §4700-mammals, §5050-reptiles/amphibians).
Cd = Formally delisted by the state of California
CSC = California Department of Fish and Game Species of Special Concern (CDFG 2011).
* Rookeries are tracked and are of special interest to the California Department of Fish and Wildlife (CDFW).
1B.1 = California Rare Plant Rank/Rare or Endangered in California and elsewhere, seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat).
1B.2 = California Rare Plant Rank/Rare or Endangered in California and elsewhere, fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).
1B.2 = California Rare Plant Rank/Rare or Endangered in California and elsewhere, fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).
2B.2 = California Rare Plant Rank/Rare or Endangered in California, more common elsewhere, fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).
Potential Occurrence Codes:
Present-Species was observed during the site visit or is known to occur within the project boundary based on documented occurrences within the CNDDB.
Potential-Habitat (including soils and elevation requirements) for the species occurs within the project boundary.
Low Potential-Marginal or limited amounts of habitat occur and/or the species is not known to occur in the vicinity based on CNDDB records and other available documentation.
Absent-No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur in the vicinity based on CNDDB records and other available documentation.

4.0 RESULTS

Representative site photos are shown in Attachment D.

4.1 Site Characteristics and Land Use

The overall Amoruso Ranch Property, Mourier East Property, and Mourier West Property are comprised of undeveloped annual grassland and are located in an undeveloped portion of Placer County and west of the current limits of the City of Roseville. The off-site AT&T infrastructure alternatives are situated along West Sunset Boulevard (north and/or south of the road depending on the alternative). The Reason Farms improvements area consists of leveled, actively farmed agricultural fields that are currently in active agriculture (wheat). The Skover Property is comprised of actively farmed rice fields. Most of the surrounding parcels are undeveloped or contain rural residences, with the exception of Toad Hill Ranches #1, a residential development on Amoruso Way, north of the Amoruso Ranch Property.

4.2 Plant Communities

4.2.1 Amoruso Ranch Property/AT&T Infrastructure Alternatives

Annual grassland is the dominant vegetation community on-site and within the Amoruso Ranch Property and the off-site AT&T infrastructure alternatives. The annual grassland community is comprised primarily of non-native, naturalized Mediterranean grasses. These include soft brome (*Bromus hordeaceus*), perennial ryegrass (*Festuca perennis*), wild oat (*Avena fatua*), barbed goatgrass (*Aegilops triuncialis*), little quaking grass (*Briza minor*), and medusahead grass (*Elymus caput-medusae*). Other herbaceous species in this community include rose clover (*Trifolium hirtum*), little hop clover (*Trifolium dubium*), yellow star-thistle (*Centaurea solstitialis*), filaree (*Erodium botrys*), winter vetch (*Vicia villosa*), sticky tarweed (*Holocarpha virgata*), chicory (*Cichorium intybus*), and cut-leaved geranium (*Geranium dissectum*). Valley oak (*Quercus lobata*) and Fremont's cottonwood (*Populus fremontii*) trees are scattered along the drainage. The northeastern ±108-acre portion of the Amoruso Ranch Property consists of irrigated pasture. Plant species occurring in the irrigated pasture include Bermuda grass (*Cynodon dactylon*) and tall flatsedge (*Cyperus eragrostis*).

4.2.2 Reason Farms Improvements Area

The Reason Farms improvements area consists of leveled agricultural fields separated by earthen berms; berm heights vary due to varying elevations of each field, and many are used also as ruderal roads. The fields are currently planted with wheat (*Triticum aestivum*), with scattered cut-leaved geranium and filaree. Ruderal weedy vegetation was found along the upper edges of the fields, berms, and roadsides, including Plant species found in these areas include Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), filaree, cut-leaved geranium, and pineapple weed (*Matricaria discoidea*). The portion of University Creek within the improvements area was realigned during historic farming practices into a linear ditch and supports maturing riparian vegetation such as Valley oak, Gooding's black willow (*Salix gooddingii*), and Fremont's cottonwood, and wetland

species such as broad-leaf water plantain (*Alisma triviale*) and fringed water-plantain (*Damasonium californicum*).

4.2.3 Mourier East Property

Annual grassland is the dominant vegetation community on-site. The annual grassland community is comprised primarily of non-native, naturalized Mediterranean grasses including soft brome, perennial ryegrass, little quaking grass, and medusahead grass. Other herbaceous species in this community include rose clover, little hop clover, yellow star-thistle, filaree, winter vetch, sticky tarweed, and cut-leaved geranium.

4.2.4 Mourier West Property

The majority of the site is annual grassland. The annual grassland community is comprised primarily of non-native, naturalized Mediterranean grasses including medusahead grass, soft brome, ripgut brome (*Bromus diandrus*), wild oat, yellow star-thistle, filaree, perennial ryegrass, Mediterranean barley, and vetch (*Vicia* sp.). Riparian woodland habitat is present along Pleasant Grove Creek, which occurs on the southern boundary of the site. Dominant trees within the riparian woodland include Valley oak, interior live oak (*Quercus wislizenii*), and Gooding's black willow. The understory of the woodland is made up of Himalayan blackberry (*Rubus armeniacus*), soap plant (*Chlorogalum* species), Dallis grass (*Paspalum dilatatum*), and curly dock (*Rumex crispus*). A grove of blue gum occurs around a rural residence and associated barns in the northern portion of the site.

4.2.5 Skover Property

Since the mid-1970s, the majority of the site has been historically leveled and farmed for cultivated rice production. Irrigation water is mechanically pumped into the rice fields and all of the fields are connected by culverts or ditches. The fields typically remain flooded until the late summer/fall and harvested when each field is drained into man-made ditches. Individual fields are separated by small upland checks or larger levees, some of which are used as access roads.

Vegetation associated with upland check/levees tends to be ruderal in nature. Representative species include dallisgrass, wild radish (*Raphanus sativa*), Bermuda grass, panicled willow-herb (*Epilobium brachycarpum*), mannagrass (*Glyceria declinata*), Johnson grass (*Sorghum halepense*), yellow bristlegrass (*Setaria pumila*), barnyard grass (*Echinochloa crus-galli*), and ripgut brome. Rice cells have been leveled to facilitate uniform-depth flooding during the growing season. The rice fields are rotated in and out of production and may remain in production for several years followed by fallow periods. After the harvest, the soil may remain saturated as a result of flood irrigation prior to the onset of the winter rainy season.

4.3 Wildlife

The Study Area is located within an area of pastures and undeveloped grasslands, with scattered rural residences and agricultural operations. This area is considered important for wintering raptors in the Central Valley (Jones & Stokes 2003). Burrowing owls (*Athene cunicularia*) have been found on the Amoruso Ranch Property, a colony of nesting tricolored blackbirds has been observed within the Mourier East Property, and several raptor nests have been documented to occur immediately

south of the Amoruso Ranch Property within the Creekview Specific Plan (ECORP 2011b) (City of Roseville 2011).

The grassland community within the Amoruso Ranch Property, the off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, and the three off-site Mitigation Properties supports other birds, including mourning dove (*Zenaida macroura*), Western meadowlark (*Sturnella neglecta*), savannah sparrow (*Passerculus sandwichensis*), and foraging habitat for tricolored blackbirds (*Agelaius tricolor*). Other wildlife species observed in the grassland community include western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis catenifer*), deer mouse (*Peromyscus maculatus*), California vole (*Microtus californicus*), and coyote (*Canis latrans*).

Trees may provide suitable nesting habitat for a variety of birds. Within the Amoruso Ranch Property, trees are limited to a small area along the intermittent drainage (University Creek) at the southern portion of the and around the rural residence located within the northwest corner of the site. As the intermittent drainage (University Creek) leaves the Amoruso Ranch Property in the southwest corner of the site, it enters the off-site Reason Farms improvements area and supports riparian trees along its banks including Valley oak, Gooding's black willow, and Fremont's cottonwood. No active raptor nests were observed in the trees on the Amoruso Ranch Property during spring 2011 surveys. Other birds that may nest in these trees include mourning dove, white-breasted nuthatch (*Sitta carolinensis*), and house finch (*Haemorhous mexicanus*). For the off-site Mitigation Properties, trees include a grove of blue gum and riparian habitat along Pleasant Grove Creek on the Mourier West Property. The off-site alternatives north of the West Sunset Boulevard ROW support non-native landscape trees and shrubs that may provide nesting habitat for birds protected under the Migratory Bird Treaty Act, such as Northern mockingbird (*Mimus polyglottos*) and house finch. Raptor surveys have not been conducted within the off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, or the off-site Mitigation Properties. The rice fields within the Skover Property support a variety of wintering waterfowl that likely includes Northern pintail (*Anas acuta*), tundra swan (*Cygnus columbianus*), greater white-fronted geese (*Anser albifrons*), American widgeon (*Anas americana*), and green-winged teal (*Anas carolinensis*), among many others.

4.4 Soils

There are seven soil units, or types, mapped within the Study Area (Figure 5. *Natural Resources Conservation Service Soil Types*) (NRCS 2014). These are: (104) Alamo-Fiddyment complex, 0 to 5 percent slopes; (141) Cometa- Fiddyment complex, 1 to 5 percent slopes; (146) Fiddyment loam, 1 to 8 percent slopes; (147) Fiddyment-Kaseberg loams, 2 to 9 percent slopes; (193) Xerofluvents, occasionally flooded; (194) Xerofluvents, frequently flooded; (195) Xerofluvents, hardpan substratum. Units (104) consist of hydric components, and units (141), (146), (147), (193), (194), and (195) may contain hydric inclusions (NRCS 2014).

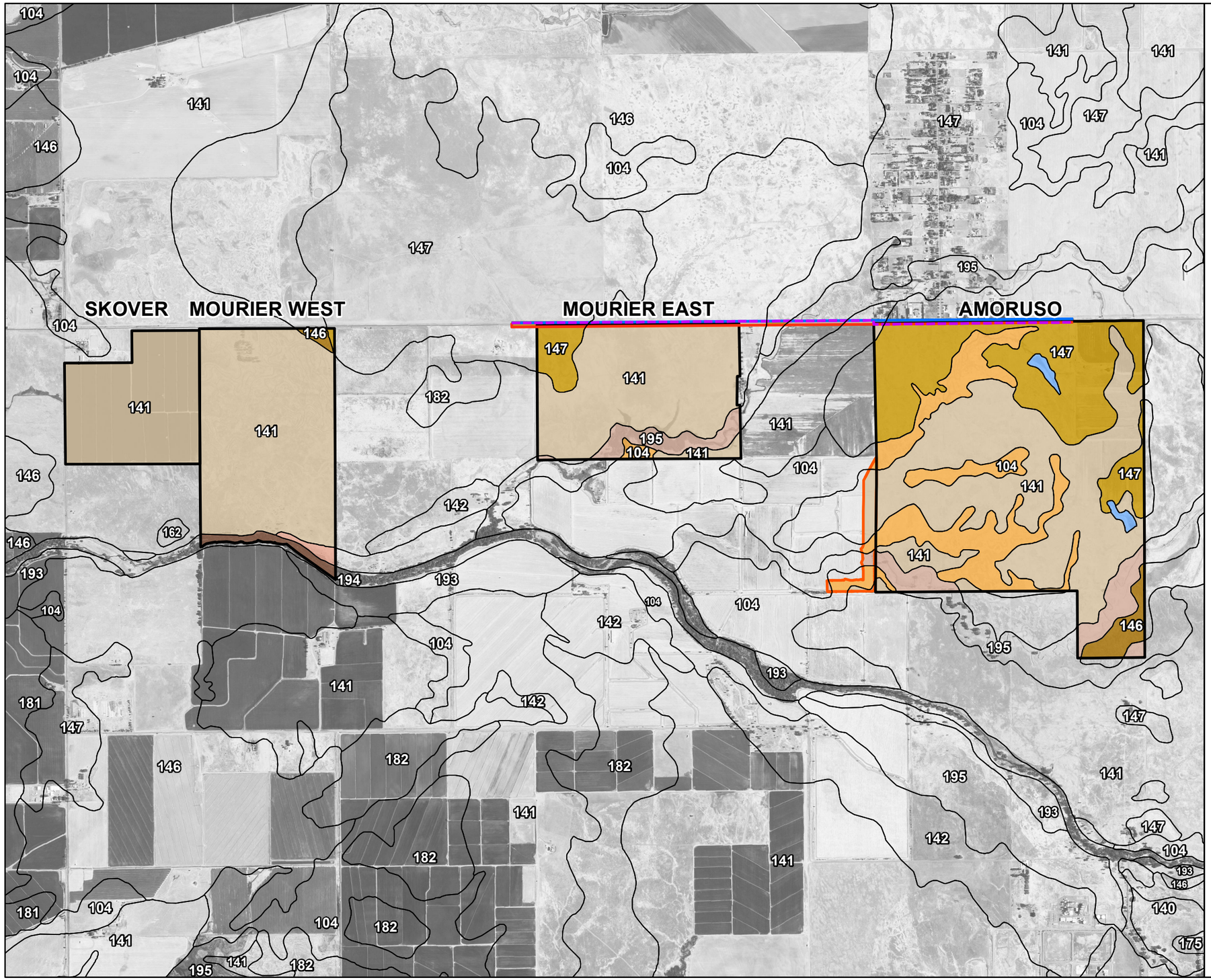


Figure 5.
Natural Resources Conservation Service Soils Types

Map Features

- Property Boundary
- Reason Farms Improvements Area
- AT&T Line - Alternative 1
- AT&T Line - Alternative 2
- AT&T Line - Alternative 3

NRCS SSURGO Soils

Series Number - Series Name

- 104 - Alamo-Fiddyment complex, 0 to 5 percent slopes
- 141 - Cometa-Fiddyment complex, 1 to 5 percent slopes
- 146 - Fiddyment loam, 1 to 8 percent slopes
- 147 - Fiddyment-Kaseberg loams, 2 to 9 percent slopes
- 193 - Xerofluvents, occasionally flooded
- 194 - Xerofluvents, frequently flooded
- 195 - Xerofluvents, hardpan substratum
- 198 - Water

Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) Database for Placer County, CA

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: N:\2007\2007-224 Amoruso\MAPS\SOILS\BRA_Properties_SoilsOverview_v4.mxd (ECK/JDS)-elawson 10/2/2015

2007-224 Amoruso Ranch

Feet
0 2,000

Photo Source: NAIP 2012

Map Date: 10/2/2015

4.5 Waters of the U.S.

4.5.1 Amoruso Ranch Property/AT&T Infrastructure Alternatives

ECORP completed a wetland delineation of the ±674-acre Amoruso Ranch Property and adjacent ±5-acre West Sunset Boulevard ROW in 2010 (Figure 6. *Amoruso Ranch Property Wetland Delineation*). The wetland delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Region Supplement) (USACE 2006). The USACE issued a Preliminary Jurisdictional Determination (PJD) for the site on March 30, 2011 (Regulatory #2004-00888).

The Amoruso Ranch Property supports jurisdictional waters of the U.S., including 9.773 acres of vernal pools, 4.759 acres of seasonal wetlands, 19.720 acres of seasonal wetland swales, 1.822 acres of marsh, 1.920 acres of intermittent drainage, 0.002 acre of ephemeral drainage, and 0.243 acre of stock pond. An additional 0.040 acre of vernal pools, 0.069 acre of seasonal wetlands, 0.024 acre of seasonal wetland swale, and 0.121 acre of pond occur within the West Sunset Boulevard ROW.

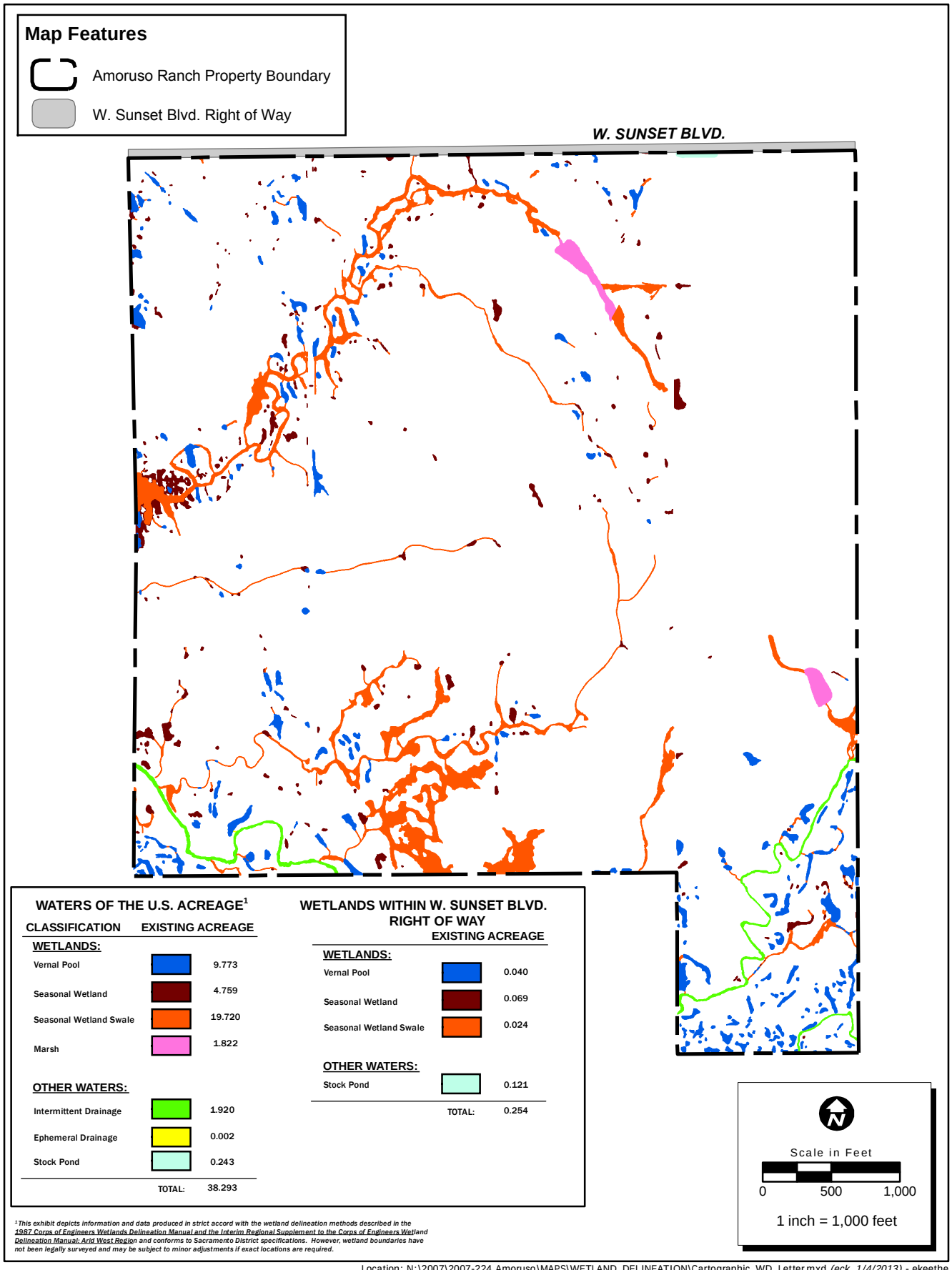
To date, no wetland studies have been conducted for the off-site AT&T infrastructure alternatives. Aquatic features within the off-site areas are expected to be similar to those found within the Amoruso Ranch Property.

4.5.2 Reason Farms Improvements Area

ECORP completed a wetland delineation of the ±17-acre Reason Farms improvements area in the spring of 2014 (Figure 7. *Reason Farms Improvements Area Wetland Delineation*). The wetland delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Region Supplement) (USACE 2006). The delineation has not been verified by the USACE to date (Regulatory # SPK-2014-00034). The off-site Reason Farms improvements area supports jurisdictional waters of the U.S. including 0.002 acre farmed wetlands, 0.001 acre of vernal pools, and 0.023 acre of seasonal creek.

4.5.3 Mourier East Property

ECORP completed a wetland delineation of the Mourier East Property and the adjacent West Sunset Boulevard ROW in 2005 (Figure 8. *Mourier East Wetland Delineation*). The wetland delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). The USACE issued a PJD for this site on September 1, 2011 (Regulatory # SPK-2004-00898). The Mourier East Property supports jurisdictional waters of the U.S. including 3.810 acres of vernal pools, 2.762 acres of seasonal wetlands, 2.926 acres of drainage swales, 19.676 acres of marsh, and 0.969 acre of intermittent creek. An additional 0.007 acre of drainage swale occur within the West Sunset Boulevard ROW.



[1] This exhibit depicts information and data produced in strict accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetlands Delineation Manual and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region and conforms to Sacramento District specifications. However, wetland boundaries have not been legally surveyed and may be subject to minor adjustments if exact locations are required.

Location: N:\2007\2007-224 Amoruso\MAPS\WETLAND_DELINEATION\Cartographic_WD_Letter.mxd *(eck, 1/4/2013)* - ekeethe

Map Date: 1/4/2013

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 6. Amoruso Ranch Property Wetland Delineation

2007-224 Amoruso Ranch

Figure 7.
Reason Farms Improvements Area Wetland Delineation

Map Features

- Reason Farms Improvements Area
- Culverts

Wetlands/Waters [1]

- Vernal Pool - 0.001 ac.
- Farmed Wetland - 0.002 ac.
- Seasonal Creek - 0.023 ac.
- Total - 0.026 ac.

[1] Subject to U.S. Army Corps of Engineers verification
This exhibit depicts information and data produced in strict accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region and conforms to Sacramento District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.

[2] Boundary Source: Kimley-Horn and Associates, Inc.

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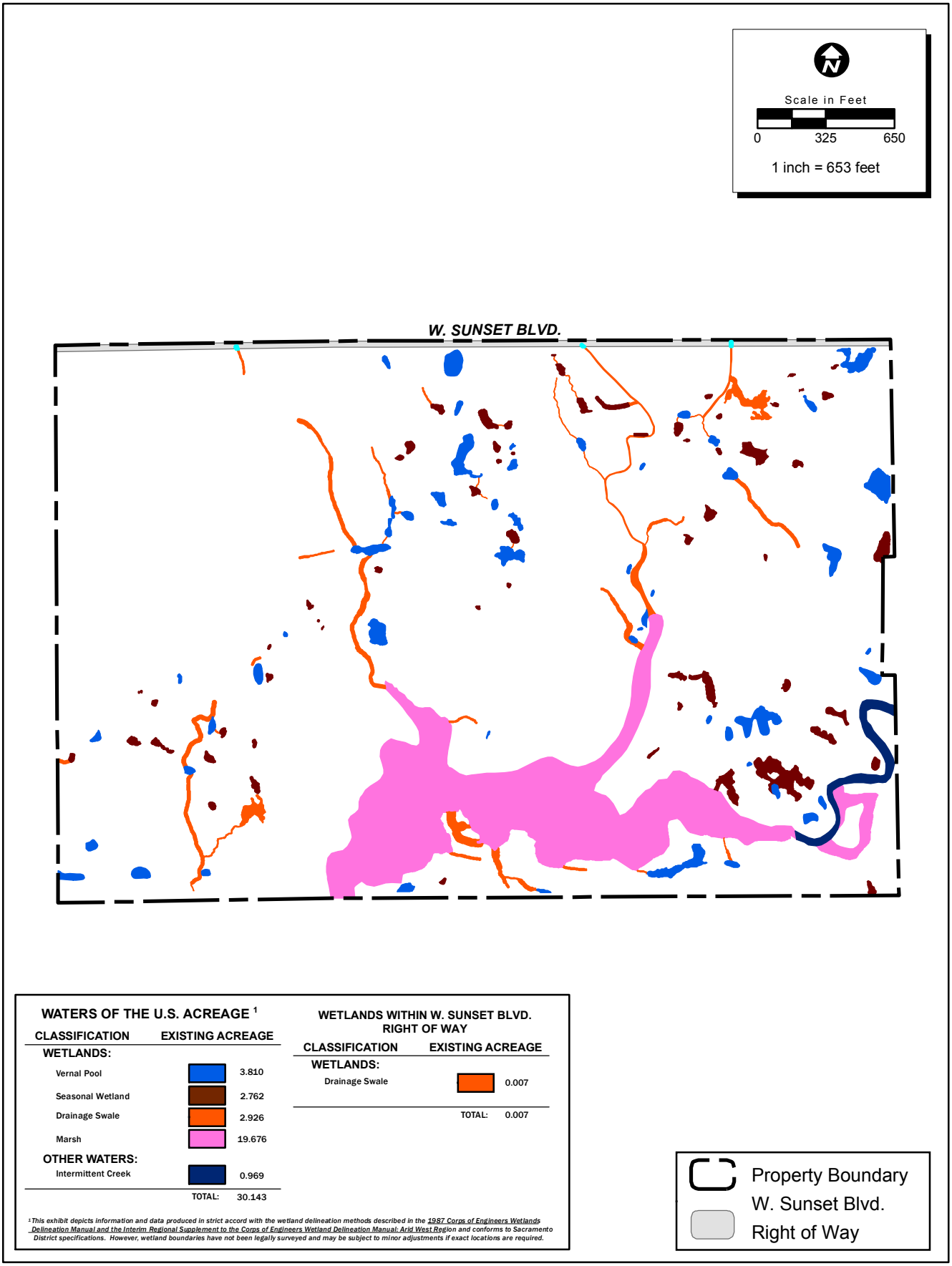
Location: N:\2007\2007-224 Amoruso\MAPS\WETLAND_DELINEATION\RFIA_WDv1_11x17.mxd (DW/JDS)-dwagnon 8/21/2014

2007-224 Amoruso Ranch

Scale in Feet
0 300

Map Date: 8/21/2014
Delineators: K. Kwan
Photo: NAIP 2012
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet



WATERS OF THE U.S. ACREAGE [1]

CLASSIFICATION	EXISTING ACREAGE
WETLANDS:	
Vernal Pool	3.810
Seasonal Wetland	2.762
Drainage Swale	2.926
Marsh	19.676
OTHER WATERS:	
Intermittent Creek	0.969
TOTAL:	30.143

WETLANDS WITHIN W. SUNSET BLVD. RIGHT OF WAY

CLASSIFICATION	EXISTING ACREAGE
WETLANDS:	
Drainage Swale	0.007
TOTAL:	0.007

[1] *This exhibit depicts information and data produced in strict accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetlands Delineation Manual and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region and conforms to Sacramento District specifications. However, wetland boundaries have not been legally surveyed and may be subject to minor adjustments if exact locations are required.*

Map Date: 11/11/2013

Location: N:\2007\2007-222 Mourier East\MAPS\WETLAND_DELINEATION\Cartographic_WD_Letter_ME_v2.mxd *(eck, 11/11/2013)* - ekeethe

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 8. Mourier East Wetland Delineation

2007-224 Amoruso Ranch

4.5.4 Mourier West Property

ECORP completed a wetland delineation of the Mourier West Property and the adjacent Sunset West Boulevard ROW in 2008 (Figure 9. *Mourier West Wetland Delineation*). The wetland delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Region Supplement) (USACE 2006). The USACE issued a PJD for this site on February 17, 2012 (Regulatory # SPK-2011-01067). The Mourier West Property supports jurisdictional waters of the U.S. including 8.577 acres of vernal pools, 17.742 acres of seasonal wetlands, 2.892 acres of seasonal wetland swales, 0.110 acre of drainage ditch, and 10.205 acres of creek (Pleasant Grove Creek). The adjacent West Sunset Boulevard ROW supports an additional 0.001 acre of seasonal wetland swale and 0.061 acre of roadside ditch.

4.5.5 Skover Property

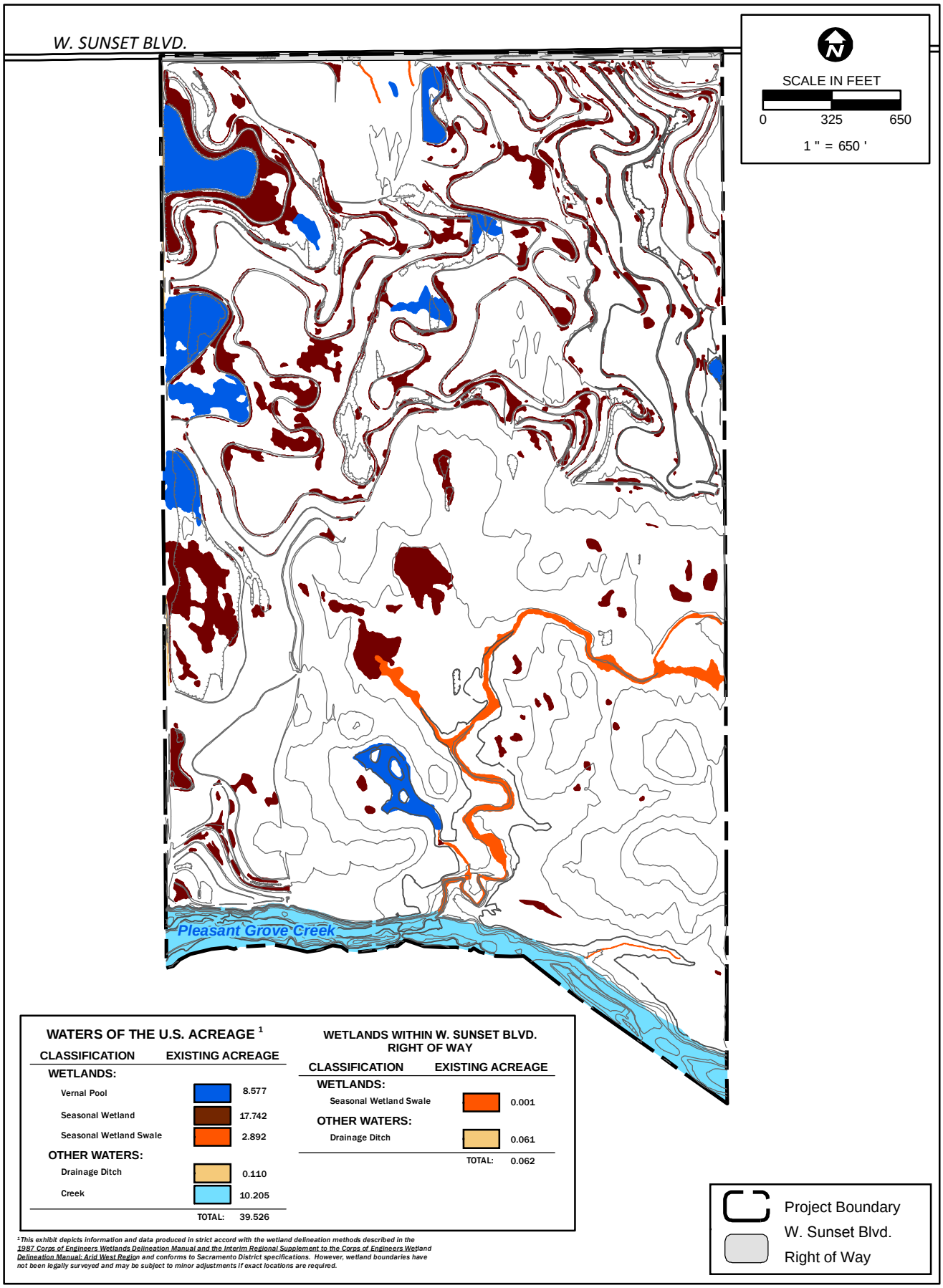
ECORP completed a wetland delineation of the Skover Property and the adjacent West Sunset Boulevard ROW in 2007 (Figure 10. *Skover Wetland Delineation*). The wetland delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Region Supplement) (USACE 2006). The delineation has not been verified by the USACE to date (Regulatory # SPK-2011-01068). The Skover Property supports jurisdictional waters of the U.S. including 0.286 acre of vernal pools, 0.011 acre of seasonal wetland swales, 0.054 acre of drainage ditch, and 0.096 acre of roadside ditch. The adjacent West Sunset Boulevard ROW supports an additional 0.037 acre of roadside ditch.

4.5.6 Description of Waters of the U.S.

4.5.6.1 Vernal Pool

In general, vernal pools are topographic basins that are underlain with an impermeable or semi-permeable hardpan or duripan layer. Direct rainfall and surface runoff inundate the pools during the wet season. The pools remain inundated and/or the soil maintains saturation through spring and is dry by late spring through the following wet season. Vernal pools are scattered throughout the Study Area.

Dominant plants within the vernal pools include creeping spikerush (*Eleocharis macrostachya*), Vasey's coyote-thistle (*Eryngium vaseyi*), slender popcorn flower (*Plagiobothrys stipitatus*), Carter's buttercup (*Ranunculus bonariensis*), smooth goldfields (*Lasthenia glaberrima*), and mannagrass. Other species found within the vernal pools include annual rabbitsfoot grass (*Polypogon monspeliensis*), Fitch's spikeweed (*Centromadia fitchii*), brook spike primrose (*Epilobium torreyi*), Mediterranean barley, green foxtail (*Alopecurus saccatus*), perennial ryegrass, and downingia (*Downingia cuspidata*).



WATERS OF THE U.S. ACREAGE [1]

CLASSIFICATION	EXISTING ACREAGE
WETLANDS:	
Vernal Pool	8.577
Seasonal Wetland	17.742
Seasonal Wetland Swale	2.892
OTHER WATERS:	
Drainage Ditch	0.110
Creek	10.205
TOTAL:	39.526

WETLANDS WITHIN W. SUNSET BLVD. RIGHT OF WAY

CLASSIFICATION	EXISTING ACREAGE
WETLANDS:	
Seasonal Wetland Swale	0.001
OTHER WATERS:	
Drainage Ditch	0.061
TOTAL:	0.062

[1] *This exhibit depicts information and data produced in strict accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetlands Delineation Manual and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region and conforms to Sacramento District specifications. However, wetland boundaries have not been legally surveyed and may be subject to minor adjustments if exact locations are required.*

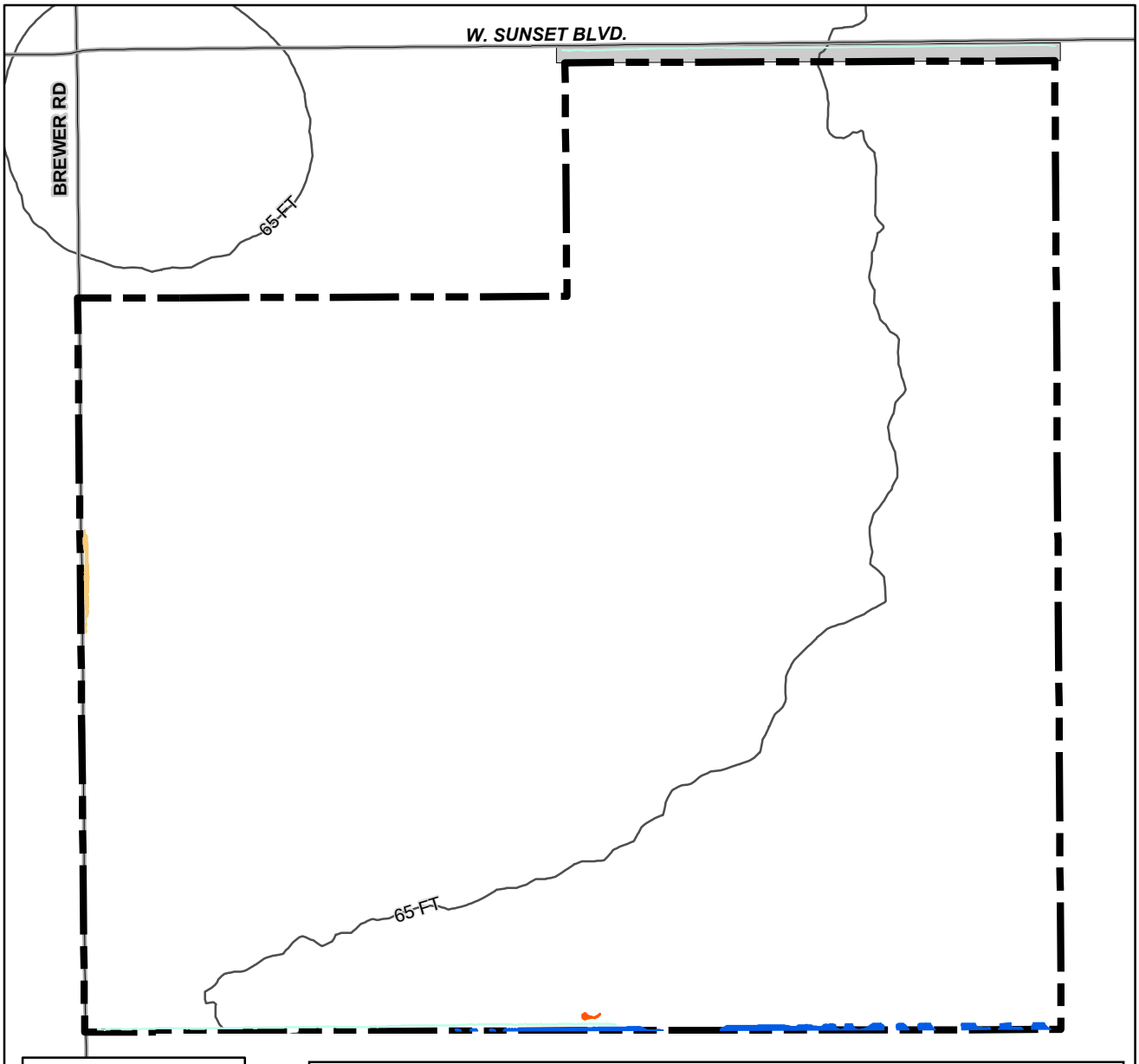
Delineators: D. Sykes, D. Snider, D. Brown & M. Meza
12/06/2010

Location: N:\2007\2007-223 Mourier West\MAPS\WETLAND_DELINEATION\MW_WDv3_B (letter).mxd *(ekeethe 1/4/2013)*

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 9. Mourier West Wetland Delineation

2007-223 Mourier West



N

SCALE IN FEET

0 100 450

1 inch = 450 feet

[1] This exhibit depicts information and data produced in strict accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetlands Delineation Manual and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region and conforms to Sacramento District specifications. However, wetland boundaries have not been legally surveyed and may be subject to minor adjustments if exact locations are required.

WATERS OF THE U.S. ACREAGE [1]

CLASSIFICATION	EXISTING ACREAGE
WETLANDS:	
Seasonal Wetland Swale	0.011
Vernal Pool	0.286
OTHER WATERS:	
Drainage Ditch	0.054
Roadside Ditch	0.096
TOTAL:	0.447

WETLANDS WITHIN W. SUNSET BLVD. RIGHT OF WAY

CLASSIFICATION	EXISTING ACREAGE
OTHER WATERS:	
Roadside Ditch	0.037
TOTAL:	0.037

W. Sunset Blvd. Right of Way

N:\2007\2007-221 Skover\MAPS\WETLAND_DELINEATION\SkoverWD_V3_Letter.mxd

Delineators: D. Sykes, M. Meza

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

FIGURE 10. Skover Wetland Delineation

2007-221 Skover

4.5.6.2 Seasonal Wetland

Seasonal wetlands are ephemerally wet due to accumulation of surface runoff and rainwater within low-lying areas. Inundation periods tend to be relatively short and they are commonly dominated by non-native annual, and sometimes perennial, hydrophytic species. Seasonal wetlands are scattered throughout the Study Area. Plant species identified within the seasonal wetlands included annual hairgrass (*Deschampsia danthonioides*), Mediterranean barley, perennial ryegrass, slender popcorn flower, white-head navarretia (*Navarretia leucocephalus*), hairy hawkbit (*Leontodon saxatilis*), tidy tips (*Layia fremontii*), Fitch's spikeweed, and hop clover.

4.5.6.3 Farmed Wetlands

Farmed wetlands were mapped within the agricultural fields of the Reason Farms improvements area where accumulations of surface runoff and rainwater were observed within low-lying portions of the fields. The fields were at one time used for rice production, but have not been in rice since the City of Roseville purchased the property in 2003. Since then, the fields have been dry farmed with crops such as wheat or perennial ryegrass. Wetland plants found within the farmed wetlands included mannagrass, hyssop loosestrife (*Lythrum hyssopifolia*), Mediterranean barley, and Mediterranean rabbitsfoot grass (*Polypogon maritimus*).

4.5.6.4 Seasonal Wetland Swale/Drainage Swale

Seasonal wetland swales (or drainage swales) are linear wetland features that do not exhibit an ordinary high water mark (OHWM). These features were found throughout the Study Area. Plant species identified within seasonal wetland swales included creeping spikerush, perennial ryegrass, annual rabbitsfoot grass, spiny-fruited buttercup (*Ranunculus muricatus*), Mediterranean barley, Vasey's coyote-thistle, Bermuda grass, and annual hairgrass.

4.5.6. 5 Marsh

The two marshes on the Amoruso Ranch Property are fed by runoff from the on-site irrigated pastures located within the northeastern corner of the site. These features were ponds when the site was actively used for cattle grazing. As the majority of the cattle have been removed from the site, less water is needed for the livestock. As a result, the farmer notched the dams on the ponds so that less water would be retained. Due to the decrease in water elevation, emergent vegetation has established, and these features have been mapped as marshes instead of ponds. A marsh is also found in the southern portion of the Mourier East Property. Plant species observed within these features included sprangletop (*Leptochloa fascicularis*), Bermuda grass, dotted smartweed (*Polygonum punctatum*), barnyard grass, cut-leaved geranium, and clover (*Trifolium* species).

4.5.6.6 Creek

Pleasant Grove Creek runs from east to west along the southern boundary of the Mourier West Property. The limit of the creek was delineated at the OHWM, which was identified based on scour and shifts in vegetation. The channel of the creek is primarily unvegetated due to scour, but plant species observed along the edges of the creek include Valley oak, blunt spikerush, tall flatsedge

(*Cyperus eragrostis*), curly dock, Dallis grass, English plantain (*Plantago lanceolata*), iris-leaved rush, and water primrose (*Ludwigia peploides* var. *peploides*).

4.5.6.7 Intermittent Drainage/Intermittent Creek

Intermittent drainages/intermittent creeks are linear features that exhibit an OHWM. These features tend to be unvegetated due to the depth and scouring effects of flowing water. For the purposes of these delineations, intermittent drainages/intermittent creeks were identified by the apparent influence of groundwater to a given drainage or by the depiction of a broken blue-line feature on the "Pleasant Grove, California" 7.5-minute quadrangle (USGS 1981). University Creek represents the primary intermittent drainage feature on the Amoruso Ranch Property and the off-site Reason Farms improvements area. An un-named creek is the primary interment creek on the Mourier East Property. Both of these features are tributaries to Pleasant Grove Creek. Hydrophytic vegetation was present along the upper edges of the drainage and in areas where sediment accumulation provides a substrate suitable for plant establishment and growth. The limits of these features were delineated at the OHWM, which was identified in the field by water marks and vegetation breaks. Plants species observed near the OHWM on the upper limits of the drainage included barnyard grass, cut-leaved geranium, and clover.

4.5.6.8 Ephemeral Drainage

Ephemeral drainages are also linear features that exhibit an OHWM. These are seasonal features that typically convey runoff for short periods during and immediately following rain events and are not influenced by groundwater. At the time of the survey, upland plants had vegetated the ephemeral drainage, and provided approximately 80% cover; however, it is evident that the drainage is unvegetated due to the scouring effects of water in the rainy season. The limits of the ephemeral drainage were delineated at the OHWM, which was identified based on water marks. Plants species observed near the OHWM on the upper limits of the drainage included medusahead grass, cut-leaved geranium, and Mediterranean barley.

4.5.6.9 Drainage Ditch

Drainage ditches are linear, constructed ditches that convey storm water and or irrigation water. These ditches exhibit an OHWM and are typically unvegetated due to the scouring effects of flowing water. Plant species that do establish within the channel are typically upland species because water is not present in these features during the dry season. Plant species observed within the drainage ditches within the Study Area include yellow star-thistle, Medusahead grass, and perennial ryegrass. The limits of the drainage ditches were delineated at the OHWM, which was identified based on evidence of scour.

4.5.5.10 Roadside Ditch

Within the Skover Property, a roadside ditch was mapped along the dirt road that runs parallel to the southern property boundary. The limits of the roadside ditch were delineated at the OHWM, which was identified by scour and drift deposits. Vegetation in the roadside ditch included Bermuda grass, curly dock, and panicled willow-herb.

4.6 Special-Status Plants

A number of special-status plants may occur within the Study Area. Targeted species include big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis)*, Hispid bird's-beak (*Chloropyron molle* ssp. *hispidum)*, dwarf downingia (*Downingia pusilla*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Ahart's dwarf rush (*Juncus leiospermus* ssp. *ahartii*), Red Bluff dwarf rush (*Juncus leiospermus* ssp. *leiospermus*), legenere (*Legenere limosa*), pincushion navarretia (*Navarretia myersii* ssp. *myersii*), slender Orcutt grass (*Orcuttia tenuis*), Sacramento Orcutt grass (*Orcuttia viscida*), and Sanford's arrowhead (*Sagittaria sanfordii*). According to the CNDDB, some of these special-status species have been documented to occur within five miles of the Study Area (Figure 11. *California Natural Diversity Database Occurrences of Special-Status Species*) (CDFW 2014).

Protocol-level special-status plant surveys of Amoruso Ranch Property were conducted during the 2009, 2011, and 2015 growing seasons (ECORP 2013b, 2013c, 2015a). One special-status plant was found within the Amoruso Ranch Property: dwarf downingia. Dwarf downingia was located in a pair of vernal pools along the central eastern boundary of Amoruso Ranch Property, adjacent to the off-site Reason Farms improvements area (Figure 12. *Location of Dwarf Downingia*) (ECORP 2015a).

Protocol-level special-status plant surveys of the off-site Reason Farms improvements area were conducted during the 2014 growing seasons (ECORP 2014b). Dwarf downingia was found in one of the same vernal pools located on the property boundary of the off-site Reason Farms improvements area and Amoruso Ranch Property as was found in 2015 (Figure 12).

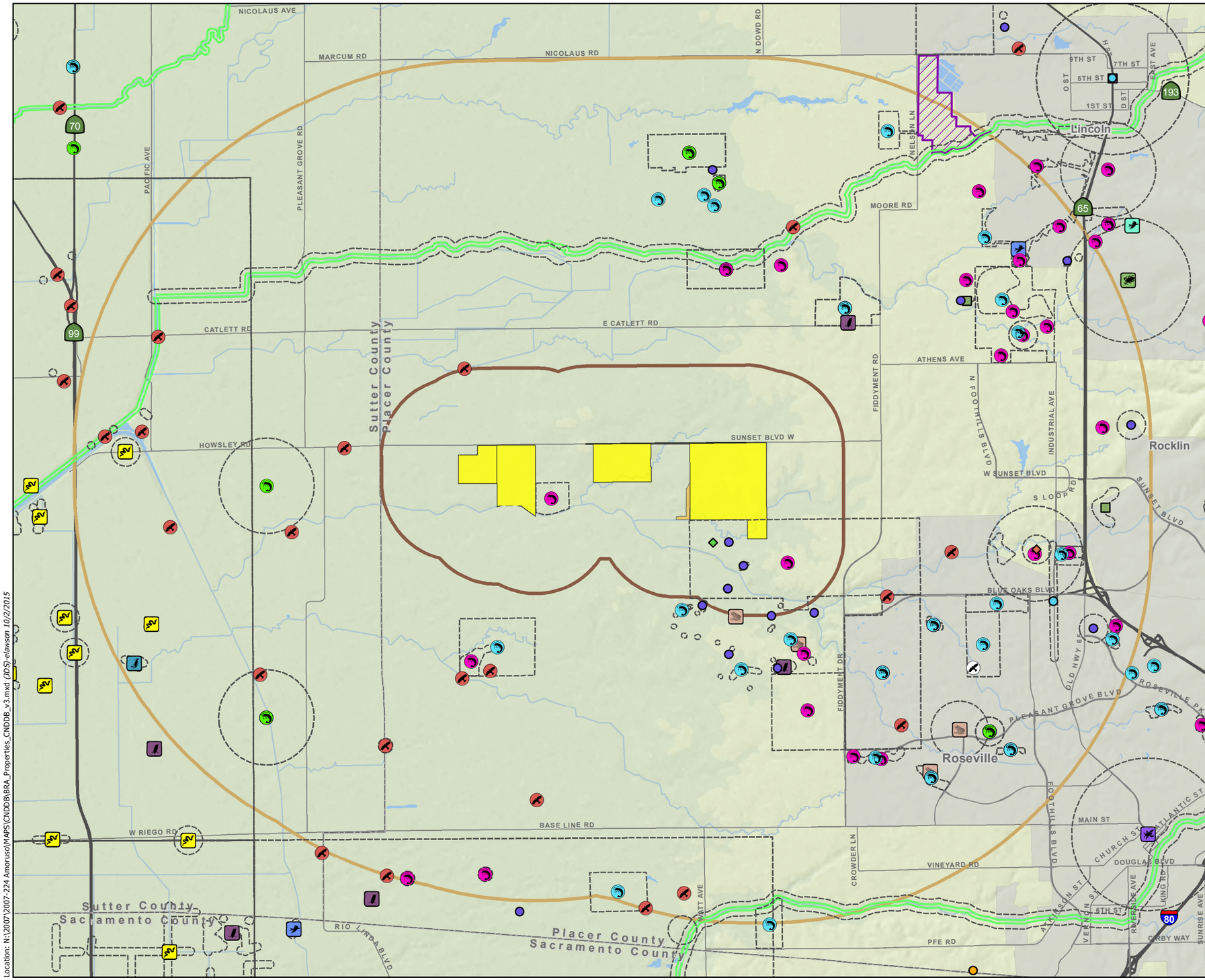
Special-status plant surveys were conducted within the off-site AT&T infrastructure alternatives (spring season only) and all three of the off-site Mitigation Properties. No special-status plants have been found within the off-site AT&T infrastructure alternatives or off-site Mitigation Properties (ECORP 2015b, 2015c, 2015d).

4.6.1 Big-Scale Balsamroot

The big-scale balsamroot is not listed pursuant to either FESA or CEQA, but is designated as a CRPR 1B.2 species. This species is an herbaceous perennial that occurs in chaparral, cismontane woodlands, valley and foothill grasslands, and occasionally on serpentine soils (CNPS 2014). The big-scale balsamroot blooms from March through June, and is known to occur at elevations ranging from 295 to 5,100 feet above MSL (CNPS 2014). The big-scale balsamroot is endemic to California; the current range of this species includes Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, Tuolumne counties (CNPS 2014).

The nearest documented occurrence of big-scale balsamroot (CNDDB Occurrence No. 9) is located approximately 3.7 miles southeast of the Amoruso Ranch Property (CDFW 2014). This population is located along the railroad and U.S. Highway 99, approximately 3.2 miles north of Roseville. The population is presumed extant; however, this record is based on a herbarium specimen from 1957 that was originally labeled as *Balsamorhiza hookeri*.

Figure 11.
California Natural Diversity Database Occurrences of Special-Status Species



Distance From Project
- 1 mile
- 5 miles

Boundaries
- Study Boundary [1]
- Reason Farms Improvements Area [1]

CNDDB Occurrences [2]
- CNDDB Polygon Extent

Plants
- Stinkbells
- Big-scale Balsamroot
- Dwarf Downingia
- Boggs Lake Hedge-hyssop
- Ahart's Dwarf Rush *
- Red Bluff Dwarf Rush
- Legenere
- Pincushion Navarretia
- Sanford's Arrowhead *

Invertebrates
- Vernal Pool Fairy Shrimp
- California Linderiella
- Vernal Pool Tadpole Shrimp
- Ricksecker's Water Scavenger Beetle
- A Vernal Pool Andrenid Bee

Fish
- Steelhead - Central Valley DPS *

Amphibians/Reptiles
- Western Spadefoot
- Giant Garter Snake [3]

Birds
- Black-crowned Night Heron
- Swainson's Hawk
- White-tailed Kite
- Burrowing Owl
- Grasshopper Sparrow
- Tricolored Blackbird

Critical Habitat
- Vernal Pool Fairy Shrimp [4]
- Central Valley Steelhead [5]

This map may include multiple species' occurrences at each location, some of which may not be visible on this graphic. The CNDDB occurrences shown may not reflect the actual location of the occurrence.

**** Species occurrence is represented solely by a polygon. The centroid point is not visible within the map extents.***

[1] Project Boundary: Baker Williams, RBF, Kimley-Horn, VCS
[2] CDFW California Natural Diversity Database (CNDDB), June 2014 Update (GIS Shapefile)
[3] Some locations are supressed. Location only indicates presence on quad.
[4] USFWS
[5] NOAA/NMFS

CNDDB Occurrences Located on USGS 7.5' Quadrangles: Citrus Heights, Lincoln, Nicolaus, Pleasant Grove, Rio Linda, Roseville, Sheridan, Taylor Monument and Verona

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: N:\2007\2007-224 Amoruso\MAPS\CNDDB\BRA_Properties_CNDDB_v3.mxd (JDS)-elawson 10/2/2015

2007-224 Amoruso Ranch

Miles
0 1 2

Map Date: 10/2/2015

Figure 12.
Location of
Dwarf Downingia

General Open Space Avoided Area

General Open Space Avoided Area

NAPOTS (Placer Parkway)

Project Impact Area

Al Johnson Wildlife Area Improvements Area

Map Features

Dwarf Downingia *(Downingia pusilla)* Population

Amoruso Ranch Project Area

Project Component

General Open Space (Avoided Area)

NAPOTS (Placer Parkway)

Project Impact Area

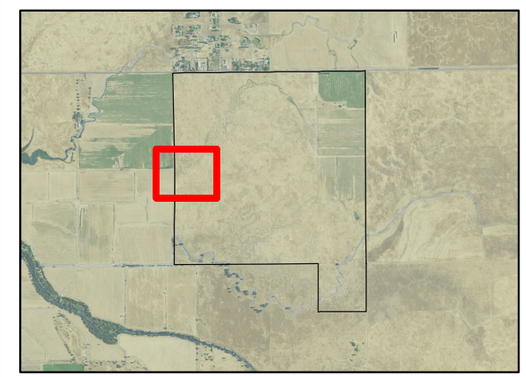
Al Johnson Wildlife Area Improvements Area

Wetlands and Other Waters

Vernal Pool

Seasonal Wetland

Seasonal Wetland Swale



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: N:\2007\2007-224 Amoruso\MAPS\RARE PLANT\AR_RarePlant_DD_v3.mxd (ELL)-elawson 10/15/2015

2007-224 Amoruso Ranch

Scale in Feet
0 75

Photo Source: USGS 2013

Map Date: 10/15/2015

The annual grasslands within the Amoruso Ranch Property, the three off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, and the three off-site Mitigation Properties represent potentially suitable habitat for this species. The big-scale balsamroot was not found on the Amoruso Ranch Property, the off-site Reason Farms improvements, the three off-site AT&T infrastructure alternatives (early season survey), or the three off-site Mitigation Properties area during surveys (ECORP 2013b, 2013c, 2014b, 2015a, 2015b, 2015c, 2015d).

4.6.2 Hispid Bird's-beak

The hispid bird's-beak is not listed pursuant to FESA or CESA, but is designated as a CRPR 1B.1 species. This species is an herbaceous, hemiparasite annual that occurs on alkaline soils in meadows and seeps, playas, and valley and foothill grasslands. The hispid bird's-beak blooms from June through September and is known to occur at elevations ranging from 3 to 508 feet above MSL (CNPS 2014). The hispid bird's-beak is endemic to California; the current range of this species includes Alameda, Fresno, Kern, Merced, Placer, and Solano counties (CNPS 2014).

There are no alkaline wetlands within the Amoruso Ranch Property, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties; therefore, this species is not expected to occur on the sites. Further, it was not located within the Amoruso Ranch Property or the off-site Reason Farms improvements area during surveys (ECORP 2013b, 2013c, 2014b, 2015a, 2015b, 2015c, 2015d). Although a habitat assessment or survey for hispid bird's-beak has not been conducted for the three off-site AT&T infrastructure alternatives, it is unlikely that alkali wetlands are present.

4.6.3 Dwarf Downingia

The dwarf downingia is not listed pursuant to either FESA or CESA, but is designated as a CRPR 2B.2 species. This species is a small herbaceous annual that occurs in vernal pools and mesic areas in valley and foothill grasslands (CNPS 2014). This species also appears to have an affinity for slight disturbance since it has been found in man-made features such as tire ruts, scraped depressions, stock ponds, and roadside ditches (USFWS 2005). This species blooms from March through May, and is known to occur at elevations ranging from three feet to 1,460 feet above MSL (CNPS 2014). The current range of this species in California includes Amador, Fresno, Merced, Napa, Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties (CNPS 2014).

There are several documented occurrences of dwarf downingia within a five-mile radius of the Study Area (CDFW 2014). The nearest documented occurrence of dwarf downingia (CNDDB Occurrence No. 130) is located approximately 0.22 miles south of the Amoruso Ranch Property. This population is located north of Pleasant Grove Creek, about 1.5 miles northwest of Fiddyment Ranch (CDFW 2014). This population is presumed to be extant.

The drainages, seasonal wetlands, seasonal wetland swales, vernal pools, and farmed wetlands present within the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site Mitigation Properties, and the three off-site AT&T infrastructure alternatives represent potentially suitable habitat for this species. Dwarf downingia was found on both the Amoruso Ranch Property and the off-site Reason Farms improvements area within the same complex of vernal pools

during surveys (ECORP 2014b and 2015a). This population is located within the impact area for the Amoruso Ranch Project (Figure 12).

Dwarf downingia was not found on the three off-site AT&T infrastructure alternatives or the three off-site Mitigation Properties during surveys (ECORP 2015a, 2015b, 2015c, 2015d).

4.6.4 Boggs Lake Hedge-Hyssop

Boggs Lake hedge-hyssop is not listed pursuant to FESA, but is listed as endangered pursuant to CEQA. It is also designated as a CRPR 1B.2 species. This species is a small, semi-aquatic, herbaceous annual that occurs on clay soils in vernal pools, marshes, and swamps of lake margins (CNPS 2014, CDFW 2014). Boggs Lake hedge-hyssop blooms from April through August and is known to occur at elevations ranging from 32 to 7,792 feet above MSL (CNPS 2014). The current range of this species in California includes Fresno, Lake, Lassen, Madera, Merced, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, and Tehama counties (CNPS 2014, CDFW 2014).

The nearest documented occurrence of Boggs Lake hedge-hyssop (CNDDB Occurrence No. 96) is located approximately 0.28 miles south of the Amoruso Ranch Property (CDFW 2014). This population is located north of Pleasant Grove Creek and northwest of the City of Roseville and is presumed to be extant (CDFW 2014).

The seasonal wetlands, seasonal wetland swales, vernal pools, and farmed wetlands within the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site Mitigation Properties, and the three off-site AT&T infrastructure alternatives represent potentially suitable habitat for this species. Boggs Lake hedge-hyssop was not found on the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site AT&T infrastructure alternatives (early season survey), or the three off-site Mitigation Properties during surveys (ECORP 2013b, 2013c, 2014b, 2015a, 2015b, 2015c, 2015d).

4.6.5 Ahart's Dwarf Rush

Ahart's dwarf rush is not listed pursuant to either FESA or CEQA, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in mesic areas in valley and foothill grasslands (CNPS 2014). This species also appears to have an affinity for slight disturbance since it has been found on farmed fields and gopher turnings (USFWS 2005). Ahart's dwarf rush blooms from March through May and is known to occur at elevations ranging from 98 to 751 feet above MSL (CNPS 2014, USFWS 2005). Ahart's dwarf rush is endemic to California; the current range of this species includes Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba counties (CNPS 2014).

The nearest documented occurrence of Ahart's dwarf rush (CNDDB Occurrence No. 3) is located approximately 6.6 miles northeast of the Amoruso Ranch Property in the City of Lincoln (CDFW 2014). The population was mapped 0.85 miles north of Nicholas Road and 0.3 mile south of Highway 65 (CDFW 2014), and is presumed to be extant.

The seasonal wetlands, seasonal wetland swales, vernal pools, and farmed wetlands within the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site Mitigation Properties, and the three off-site AT&T infrastructure alternatives represent potentially suitable

habitat for this species. Ahart's dwarf rush was not found on the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site AT&T infrastructure alternatives (early season survey), or the three off-site Mitigation Properties during surveys (ECORP 2013b, 2013c, 2014b, 2015a, 2015b, 2015c, 2015d).

4.6.6 Red Bluff Dwarf Rush

Red Bluff dwarf rush is not listed pursuant to either FESA or CEQA, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in vernally mesic areas in chaparral, cismontane woodland, meadows, seeps, valley and foothill grasslands, and vernal pools (CNPS 2014). Red Bluff dwarf rush blooms from March through June and is known to occur at elevations ranging from 114 to 4001 feet above MSL (CNPS 2014). Red Bluff dwarf rush is endemic to California; the current range of this species includes Butte, Placer, Shasta, and Tehama counties (CNPS 2014).

The nearest documented occurrence of Red Bluff dwarf rush (CNDDB Occurrence No. 10) is located approximately three miles east of the Amoruso Ranch Property in the City of Roseville (CDFW 2014). The population was mapped approximately 0.5 miles north of Scow Road Industrial Boulevard, Roseville and is presumed to be extant; however, according the notes on this occurrence "Witham considers this site to be erroneous" (CDFW 2014).

The seasonal wetlands, seasonal wetland swales, vernal pools, and farmed wetlands within the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site Mitigation Properties, and the three off-site AT&T infrastructure alternatives represent potentially suitable habitat for this species. Red Bluff dwarf rush was not found on the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site AT&T infrastructure alternatives (early season survey), or the three off-site Mitigation Properties during surveys (ECORP 2013b, 2013c, 2014b, 2015a, 2015b, 2015c, 2015d).

4.6.7 Legenere

Legenere is not listed pursuant to either FESA or CEQA, but s designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in a variety of seasonally inundated environments including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (CNPS 2014, USFWS 2005). Legenere blooms from April through June and is known to occur at elevations ranging from 3 to 2,624 feet above MSL (CNPS 2014). Legenere is endemic to California;, the current range of this species includes Alameda, Lake, Monterey, Napa, Placer, Sacramento, Santa Clara, San Joaquin, Shasta, San Mateo, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties (CNPS 2014). However, the species is believed to be extirpated from Stanislaus County (CNPS 2014).

The nearest documented occurrence of legenere (CNDDB Occurrence No. 58) is located approximately 3.2 miles east of the Amoruso Ranch Property (CDFW 2014). This population is located on the north side of Orchard Creek, 1.4 miles northwest of the intersection of Industrial and Athens Avenue, and is presumed to be extant (CDFW 2014).

The drainages, seasonal wetlands, seasonal wetland swales, vernal pools, farmed wetlands, pond, and marsh within the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site Mitigation Properties, and the three off-site AT&T infrastructure alternatives represent potentially suitable habitat for this species. Legenere was not found on the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site AT&T infrastructure alternatives (early season survey), or the three off-site Mitigation Properties during surveys (ECORP 2013b, 2013c, 2014b, 2015a, 2015b, 2015c, 2015d).

4.6.8 Pincushion Navarretia

Pincushion navarretia is not listed pursuant to either FESA or CEQA, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in vernal pools that are often acidic (CNPS 2014). Pincushion navarretia blooms in April through May and is known to occur at elevations ranging from 65 to 1,082 feet above MSL (CNPS 2014). Pincushion navarretia is endemic to California; the current range of this species includes Amador, Calaveras, Merced, Placer, and Sacramento counties (CNPS 2014).

The nearest documented occurrence of pincushion navarretia (CNDDB Occurrence No. 12) is located approximately 6.5 miles northeast of the Amoruso Ranch Property (CDFW 2014). The exact location of this population is unknown; however, it is located within the northern limits of the City of Lincoln, Placer County (CDFW 2014). It is presumed to be extant.

The seasonal wetlands, seasonal wetland swales, pond, vernal pools, and farmed wetlands within the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site Mitigation Properties, and the three off-site AT&T infrastructure alternatives represent potentially suitable habitat for this species. Pincushion navarretia was not found within the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site AT&T infrastructure alternatives (early season survey), or the three off-site Mitigation Properties during surveys (ECORP 2013b, 2013c, 2014b, 2015a, 2015b, 2015c, 2015d).

4.6.9 Slender Orcutt Grass

Slender Orcutt grass is listed as threatened and endangered pursuant to FESA and CEQA, respectively, and is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in vernal pools (CNPS 2014) primarily on substrates of volcanic origin (Crampton 1959, Corbin and Schoolcraft 1989; as cited in USFWS 2003). This species is known to occur in the same type of vernal pool complexes as Sacramento Orcutt grass in Sacramento County; however, these species have not been observed co-existing in the same vernal pool (USFWS 2003). The median area of pools occupied by populations studied by Stone et al. (1988, as cited in USFWS 2003) was 1.6 acres and ranged from 0.2 acre to 111.0 acres (USFWS 2003). Slender Orcutt grass blooms from May through October and is known to occur at elevations ranging from 115 to 5,775 feet above MSL (CNPS 2014). Slender Orcutt grass is endemic to California; the current range for this species includes Butte, Lake, Lassen, Modoc, Plumas, Sacramento, Shasta, Siskiyou, and Tehama counties (CNPS 2014).

The nearest documented occurrence of slender Orcutt grass (CNDDB Occurrence No. 71) is located approximately 19 miles southeast of the Amoruso Ranch Property in Sacramento County (CDFW 2014). This population of slender Orcutt grass was documented east of Mather Air Force Base, near the intersection of Sunrise Boulevard and Douglas Road (CDFW 2014). This population is presumed to be extant.

While this species is not known to occur within the vicinity of the Study Area, it was included as a target species because the seasonal wetlands, seasonal wetland swales, vernal pools, farmed wetlands, and pond within the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site Mitigation Properties, and the three off-site AT&T infrastructure alternatives represent potentially suitable habitat for this species. Slender Orcutt grass was not found during surveys on the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site AT&T infrastructure alternatives (early season survey), or the three off-site Mitigation Properties during surveys (ECORP 2013b, 2013c, 2014b, 2015a, 2015b, 2015c, 2015d).

4.6.10 Sacramento Orcutt Grass

Sacramento Orcutt grass is listed as endangered pursuant to both FESA and CEQA and is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in vernal pools (CNPS 2014). The median area of occupied pools discovered prior to 1988 was 0.69 acre and ranged from 0.25 acre to 2.03 acres (USFWS 2003). Sacramento Orcutt grass blooms from April through September and is known to occur at elevations ranging from 98 to 328 feet above MSL (CNPS 2014). Sacramento Orcutt grass is endemic to California and to the southeastern Sacramento Valley (Keeler-Wolf et al. 1998, as cited in USFWS 2003), with all known occurrences restricted to Sacramento County. Known occurrences of this species within the general region are limited to a small area east of Mather Field, Phoenix Field Ecological Reserve, Phoenix Park (introduced population), and an area near Rancho Seco Lake (USFWS 2003).

The nearest documented occurrence of Sacramento Orcutt grass (CNDDB Occurrence No. 4) is located approximately 13.2 miles southeast of the Amoruso Ranch Property (CDFW 2014). This population was located 0.4 mile of the Main Avenue and Greenback Lane junction, about two miles east of Orangevale, and it is now extirpated.

The seasonal wetlands, seasonal wetland swales, pond, vernal pools, and farmed wetlands within the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site Mitigation Properties, and the three off-site AT&T infrastructure alternatives and the off-site Reason Farms improvements area represent potentially suitable habitat for this species. Sacramento Orcutt grass was not found on the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site AT&T infrastructure alternatives (early season survey), or the three off-site Mitigation Properties during surveys (ECORP 2013b, 2013c, 2014b, 2015a, 2015b, 2015c, 2015d).

4.6.11 Sanford's Arrowhead

Sanford's arrowhead is not listed pursuant to FESA or CEQA, but is designated as a CRPR 1B.2 species. This species is a rhizomatous, herbaceous perennial that occurs in shallow marshes and freshwater swamps (CNPS 2014). Sanford's arrowhead blooms from May through October and is known to occur at elevations ranging from sea level to 2,132 feet above MSL (CNPS 2014).

Sanford's arrowhead is endemic to California; the current range of this species includes Butte, Del Norte, El Dorado, Fresno, Merced, Mariposa, Orange, Placer, Sacramento, San Bernardino, San Joaquin, Shasta, Solano, Tehama, and Ventura counties (CNPS 2014). However, this species is believed to be extirpated from Orange and Ventura counties (CNPS 2014).

The nearest documented occurrence of Sanford's arrowhead (CNDDB Occurrence No. 72) is located approximately seven miles south of the Amoruso Ranch Property (CDFW 2014). This occurrence is located in an unnamed stream north of U Street near 28th Street in North Highlands, Sacramento County (CDFW 2014). The population is presumed to be extant.

Pleasant Grove Creek, drainages, marsh, and ponds within the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site Mitigation Properties, and the three off-site AT&T infrastructure alternatives represent potentially suitable habitat for this species. This species was not found on the Amoruso Ranch Property, the off-site Reason Farms improvements area, the three off-site AT&T infrastructure alternatives (early season survey), or the three off-site Mitigation Properties during surveys (ECORP 2013b, 2013c, 2014b, 2015a, 2015b, 2015c, 2015d).

4.6.12 Arborist Survey

While not special-status plants, as defined, the Study Area may support trees that are subject to protection/mitigation under the City of Roseville Tree Preservation Ordinance (City of Roseville Municipal Code/Title 19 Zoning/Chapter 19.66-Tree Preservation). An arborist survey of the Amoruso Ranch Property was performed in 2011 (ECORP 2013a). A total of 28 Valley oak trees were found on-site that meet the jurisdictional requirements of protection/mitigation under the City of Roseville Tree Preservation Ordinance. The DBH of the Valley oaks ranged from six to 62 inches. Most of the oaks were of good to fair health and good to fair structure. Only five oaks had either poor health or structure. All 28 Valley oak trees were located in the southwest corner of the Amoruso Ranch Property, within the proposed open space preserve of the Amoruso Ranch Development. As such, no impacts to trees subject to protection/mitigation under the City of Roseville Tree Preservation Ordinance will occur as part of the Amoruso Ranch Development.

An arborist survey of the off-site Reason Farms improvements area was performed in 2014 (ECORP 2014d). A total of 39 Valley oak trees were found on-site that meet the jurisdictional requirements of protection/mitigation under the City of Roseville Tree Preservation Ordinance. The DBH of the Valley oaks ranged from six to 16.6 inches. All of the oaks were of good to fair health and most of the oaks had good to fair structure. Only three oaks had poor structure. All 39 of these Valley oak trees are may be removed during the implementation of the off-site Reason Farms improvements, and are therefore may be subject to protection/mitigation under the City of Roseville Tree Preservation Ordinance as part of the Amoruso Ranch Development.

Arborist surveys/tree impact analyses have not been conducted for the off-site AT&T infrastructure alternatives or the three off-sites Mitigation Properties. AT&T Alternative One may affect trees at the edge of the rural residential development north of West Sunset Boulevard (Toad Hill Ranches #1), and there are trees present on the Mourier West Property.

4.7 Special-Status Wildlife

A number of special-status invertebrates, fish, amphibians, reptiles, and birds may occur within the Study Area. Some special-status species have been found incidentally and during targeted species surveys within the Amoruso Ranch Property and the off-site Mitigation Properties. In addition, according to the CNDDB, these and other special-status species have been documented to occur within five miles of the Study Area (Figure 9) (CDFW 2014). These are discussed in more detail below.

4.7.1 Invertebrates

Three listed branchiopod species have the potential to occur within the Amoruso Ranch Property, the three off-site AT&T infrastructure alignments, the off-site Reason Farms improvements area, and the three off-site Mitigation Properties. These are the federally endangered Conservancy fairy shrimp (*Branchinecta conservatio*), the federally threatened vernal pool fairy shrimp, and the federally endangered vernal pool tadpole shrimp (*Lepidurus packardi*) (collectively "listed large branchiopods"). ECORP conducted two wet season surveys of the Amoruso Ranch Property during the 2007-2008 and 2008-2009 wet seasons in accordance with the April 19, 1996 *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods* (Guidelines; USFWS 1996a) (ECORP 2008a, 2009). ECORP also conducted surveys for listed large branchiopods for the off-site Reason Farms improvements area during the 2014 wet season followed by a dry season survey in 2014 in accordance with the April 19, 1996 *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods* (Guidelines; USFWS 1996a) (ECORP 2014a). Pursuant to the Guidelines, a guideline-level listed large branchiopod survey consists of two wet season surveys done within a five-year period, or two consecutive seasons of one full wet season survey and one dry season survey (or one dry season survey and one full wet season survey). Therefore, the wet season surveys conducted by ECORP in 2007-2008 and 2008-2009 and the wet and dry season surveys conducted by ECORP in 2014 provide guideline-level survey results for listed large branchiopods at the Amoruso Ranch Property and the off-site Reason Farms improvements area.

In addition, ECORP conducted one wet season survey of the Mourier East and Mourier West Properties during the 2007-2008 wet season, with a total of nine sample dates at each site (ECORP 2008b, 2008c). While these surveys provide information of the listed large branchiopod species present within these two sites, they are not guideline-level surveys.

During the aforementioned surveys, the vernal pool fairy shrimp was found within the Amoruso Ranch Property, the Mourier East Property, and the Mourier West Property. Therefore, the majority of vernal pools, seasonal wetlands, and seasonal wetland swales within these sites represent potentially suitable habitat for the vernal pool fairy shrimp. No listed large branchiopods were found within the off-site Reason Farms improvements area during the wet and dry season surveys (ECORP 2014a). While the vernal pool tadpole shrimp and Conservancy fairy shrimp may also occur within the AT&T infrastructure alternatives and off-site Mitigation Properties, they have a low potential to occur (as discussed below) and were not found during the wet season surveys (ECORP 2008a, 2008b, 2008c, 2009). To date, no field surveys for federally-listed vernal pool branchiopods have

been conducted within the off-site AT&T infrastructure alternatives or the Skover Property, but these areas may also support potential habitat.

Protocol-level surveys for the federally threatened VELB (*Desmocerus californicus dimorphus*) were conducted within the Amoruso Ranch Property by ECORP in 2011, the off-site Reason Farms improvements area in 2014 (ECORP 2013d, 2014c), and the three off-site Mitigation Properties (ECORP 2015g, 2015h, 2015i). During these surveys, one elderberry shrub (*Sambucus nigra* ssp. *caerulea*), the exclusive host plant for the federally-threatened VELB, was located within the Amoruso Ranch Property. However, the shrub is located within the Placer Parkway alignment (not within the proposed Amoruso Ranch Development/Study Area), so it is not a part of this assessment. No elderberry shrubs were located within the off-site Reason Farms improvements area.

4.7.1.1 Conservancy Fairy Shrimp

Conservancy fairy shrimp is federally listed as endangered under FESA. Conservancy fairy shrimp is most similar to the versatile fairy shrimp (*Branchinecta lindahli*) (USFWS 1994) and is a freshwater crustacean within the class Branchiopoda (branchio = gill; poda = feet) belonging to the order of fairy shrimp (Anostraca). Fairy shrimp are so called because they are translucent in color and gracefully swim through the water on their backs thus “fairy-like”. The conservancy fairy shrimp is the largest of the endemic Central Valley fairy shrimp and can reach lengths of slightly over one inch. The female is quite easy to differentiate from other Central Valley endemic anostracans due to its elongated spindle-shaped ovisac. Conservancy fairy shrimp cysts/eggs lie dormant over the dry season and hatch soon after the habitat is inundated and suitable environmental conditions (e.g., water temperature, water depth) prevail in the wet season (Lanway 1974, Patton 1984).

This species has a relatively long maturation (36 days) and reproductive (46 days) period, and is typically found with other large branchiopod species with long maturation and reproductive periods such as vernal pool tadpole shrimp and California fairy shrimp (*Linderiella occidentalis*) (Helm 1998). This species often co-occurs with endemic vernal pool grasses such as Colusa grass (*Neostafia colusana*) and Orcutt grasses (*Orcuttia* spp.) (Helm 1998). The recorded overall longevity of the population within a pool is 114 days (as measured from the first hatching to the last death of an individual within the pool) (Helm 1998). Conservancy fairy shrimp is most often found in large (3,900 to 7,500 meters square) clay bottom vernal pools to very large (356,253 meters square) vernal lakes on Anita, Pescadero, or Peters clay soils on High Terrace, Basin Rim, and Volcanic Mudflow landforms (Helm 1998). The conservancy fairy shrimp inhabits highly turbid vernal pools that are often large, such as the 89-acre (36-hectare) Olcott Lake at Jepson Prairie (Helm 1998). Pools that are occupied by the species typically have very low conductivity, total dissolved solids (TDS), and alkalinity (USFWS 1994). The conservancy fairy shrimp occasionally occurs with vernal pool fairy shrimp and California fairy shrimp (Helm 1998, Eng et al. 1990).

The conservancy fairy shrimp is currently known from eight disjunct localities in California, including Butte and Tehama counties, in one large playa pool at the Sacramento National Wildlife Refuge in Glenn County, in one vernal pool in western Placer County at the Mariner Conservation Bank, in one playa pool at the Glide Tule Elk Reserve in Yolo County, at Jepson prairie and surrounding areas in Solano County, and in Eastern and Western Merced County (Helm pers. comm.).

The historical factors that lead to the listing of conservancy fairy shrimp were primarily the loss of habitat due to urban development and conversion of native habitat to agriculture (USFWS 1994). The continued loss of vernal pool terrain throughout the Central Valley from urban development and agriculture continues the decline of this species.

The nearest documented occurrence of conservancy fairy shrimp (CNDDB Occurrence No. 36) is located approximately six miles north of the Amoruso Ranch Property at the Mariner Conservation Bank in Placer County (CNDDB 2014). This occurrence was documented during the 2007 wet season by Dr. Brent Helm (Wood pers. comm.). Dr. Helm observed only one male specimen in the vernal pool and figured the occurrence was an anomaly because the habitat was atypical for conservancy fairy shrimp (Wood pers. comm.). Subsequent visits by Todd Wood in 2008 and by Dr. Helm and Mr. Wood in 2011 proved this population to be persisting (Wood pers. comm.). This occurrence expanded the range of conservancy fairy shrimp into Placer County, however since 2007 no other populations of conservancy fairy shrimp have been found in Placer County. The second closest occurrence of conservancy fairy shrimp is approximately 30 miles southwest of the Study Area (CNDDB Occurrence No. 19) (CDFW 2014), in the Yolo Bypass Wildlife refuge within a large turbid playa pool, more typical of the habitat of conservancy fairy shrimp.

Many of the seasonal wetlands, seasonal wetland swales, vernal pools, and farmed wetlands within the Study Area represent potentially suitable habitat for this species. However, guideline-level surveys for listed large branchiopods did not detect this species within the Amoruso Ranch Property (ECORP 2008a, 2009) or the off-site Reason Farms improvements area (ECORP 2014a), so it is considered absent from those sites. In regard to the three off-site AT&T infrastructure alternatives and the three off-site Mitigation Properties, guideline-level surveys for this species have not been conducted. However, given that there are no claypan playa pools in the area and the fact that this species was not located during wet-season surveys conducted at Mourier East and Mourier West Properties and the Study Area is outside of the typical range of the species, it has a low potential to occur within these properties.

4.7.1.2 Vernal Pool Fairy Shrimp

The vernal pool fairy shrimp is federally listed as threatened under FESA. The vernal pool fairy shrimp is a small (< one inch) freshwater crustacean within the class Branchiopoda belonging to the order Anostraca. The common name “fairy shrimp” was obtained from their graceful swimming appearance. Like all fairy shrimp, the males of vernal pool fairy shrimp have an enlarged second antennae used for clasping the female during mating. Males tend to swim low in the water column awaiting passing females.

Fairy shrimp are ephemeral crustaceans. When the temporary water bodies that they inhabit dry up, the population remains in the dry basin as cysts (embryonic eggs). These cysts can withstand harsh conditions (e.g., summer heat, freezing, desiccation) while they await winter rains to fill their basin. After the appropriate conditions (e.g., water temperature, water depth) are present, the cysts hatch instars (immature fairy shrimp), that quickly mature and then mate to ensure the next generation.

This species has a short average maturation period (18 days), and a short average number of days to reproduction (39 days), which explains its ability to survive in some of the most ephemeral wetland habitats (Helm 1998). This species generally cannot withstand warm water (24°C), which may explain why it is typically observed during the cooler months (i.e., January, February, and early March) (Helm 1998).

Vernal pool fairy shrimp are most often observed in vernal pools (79% of observations), however they have also been observed in other natural and artificial habitats, including seasonal wetlands, alkali pools, ephemeral drainages, stock ponds, roadside ditches, railroad ditches, vernal swales, and rock outcrop vernal pools (Helm 1998). The species occurs on many geologic formations and landforms. This species is most often found in small (less than 200 meters square) and shallow (five centimeters deep) habitats, although it also can occur in large and deep vernal pools (Helm 1998, Helm and Vollmar 2002).

Vernal pool fairy shrimp have one of the broadest distributions of the California endemic fairy shrimp species. It occurs most of the length of the Central Valley, from the Millville Plains and Stillwater Plains in Shasta County south to Pixley in Tulare County, and the eastern margin of the central Coast Range from San Benito County south to Ventura County (Helm 1998, Eng et al. 1990, Sugnet and Associates 1991). Disjunct populations occur on the Santa Rosa Plateau and near Rancho Santa Rosa, California in Riverside County (Eriksen and Belk 1999). The species also occurs within the Medford area of southern Oregon (Helm and Fields 1998).

Threats to vernal pool fairy shrimp include agricultural conversion and development that result in habitat loss. Habitat loss also occurs through changes in natural hydrology, incompatible livestock grazing, pollution by storm water, and disturbance from recreational activities (USFWS 2005a).

Many of the seasonal wetlands, seasonal wetland swales, vernal pools, and farmed wetlands within the Study Area provide potential habitat for this species. Wet season surveys conducted by ECORP in 2007-2008 and 2008-2009 on the Amoruso Ranch Property, the Mourier East Property, and the Mourier West Property documented this species on-site (ECORP 2008a, 2008b, 2008c, 2009), and there are several other documented occurrences of this species within the vicinity of the Study Area (Figure 9) (CDFW 2014). Guideline-level surveys for listed large branchiopods on the off-site Reason Farms improvements area did not detect this species so it is considered absent from the site (ECORP 2014a). The three off-site AT&T infrastructure alternatives and the Skover Property have not been surveyed for this species.

4.7.1.3 Vernal Pool Tadpole Shrimp

The vernal pool tadpole shrimp is federally listed as endangered under FESA. The vernal pool tadpole shrimp is a small (< three inches in length) aquatic crustacean within the class Branchiopoda and the order Notostraca. The common name “tadpole shrimp” was obtained from the shape of the crustacean when viewed from above. The animal is covered by a plate-like carapace, with only the posterior portion being exposed. It can be distinguished from other tadpole shrimp within California (i.e., *Triops* sp.) by the presence of a supra-anal plate.

The vernal pool tadpole occurs in seasonally inundated basins. When basins are dry, the species' cysts (embryonic eggs) lie dormant in the basin. After winter rainwater fills the pools, populations of the species re-emerge from their cysts (Lanway 1974, Ahl 1991). Unlike the cysts of many of the fairy shrimp species, the cysts of vernal pool tadpole shrimp do not require a freezing or drying period to hatch (Ahl 1991). Adult tadpole shrimp can have multiple generations during a single ponding period and are often present in vernal pools until the pools dry up in late spring (Helm 1998). Vernal pool tadpole shrimp mature slowly and are long lived in comparison to other California endemic branchiopod species (Helm 1998, Ahl 1991).

The vernal pool tadpole shrimp occurs in small (two meters square) to very large (356,253 meters square) vernal pools with a variety of depths and volumes of water during ponding (Helm 1998, Helm and Vollmar 2002). The species is associated with vernal pools and other seasonally inundated basins on the following geomorphologic surfaces: alluvial fan, basin, basin rim, floodplain, marine terrace, high terrace, stream terrace, very high terrace, low terrace, and volcanic mudflow landforms.

The vernal pool tadpole shrimp has been observed in stock ponds, vernal pools, grass bottom swales, mud-bottomed pools, roadside ditches, railroad ditches, and other seasonal inundated wetlands. The vernal pool tadpole shrimp has been found with other California endemic branchiopods, including California fairy shrimp, vernal pool fairy shrimp, longhorn fairy shrimp (*Branchinecta longiantenna*), and Conservancy fairy shrimp (Helm 1998, Helm Biological Consulting, LLC 2009).

The vernal pool tadpole shrimp is found in the Central Valley from Stillwater Plains and Millville Plains in Shasta County, south to Kings County (Bohonak et al. 2012, Helm 1998, USFWS 1992), and from one single wetland complex on the San Francisco Bay National Wildlife Refuge in the City of Fremont, Alameda County (USFWS 1994, Helm Biological Consulting 2002).

The largest threats to vernal pool tadpole shrimp are loss of habitat through urbanization. Other threats include encroachment of non-native annual grasses, agricultural conversion, and parasitism by flukes (Trematoda) of an undetermined species (Ahl 1991). Some populations are also threatened by pesticide drift from adjacent farmlands (USFWS 2005).

There are occurrences of vernal pool tadpole shrimp within five miles of the Study Area, with the closest occurrence approximately two miles west of the Skover Property (CNDDB Occurrence No. 103) (CDFW 2014). This occurrence was located in a man-made roadside ditch southwest of the intersection of Pleasant Grove Road and is presumed extant.

Many of the seasonal wetlands, seasonal wetland swales, vernal pools, and farmed wetlands within the Study Area represent potentially suitable habitat for this species. However, guideline-level surveys for listed large branchiopods did not detect this species within the Amoruso Ranch Property or the off-site Reason Farms improvements area (ECORP 2008a, 2009, 2014a), so it is considered absent from these sites. In regard to the three off-site AT&T infrastructure alternatives and the three off-site Mitigation Properties, guideline-level surveys for this species have not been conducted. However, given that this species was not located during wet-season surveys conducted at Mourier East and Mourier West Properties, this species has a low potential to occur within these properties.

4.7.1.4 Valley Elderberry Longhorn Beetle (VELB)

The VELB is listed as threatened in accordance with the FESA (USFWS 1980). The Valley elderberry longhorn beetle is completely dependent on its host plant, elderberry (*Sambucus* species), which occurs in riparian and other woodland and scrub communities (USFWS 1999). Elderberry plants, located within the range of the beetle, with one or more stems measuring 1.0 inch or greater in diameter at ground level are considered to be habitat for the species (USFWS 1999). The adult flight season extends from late March through June. During that time, the adults feed on foliage and perhaps flowers, mate, and females lay eggs on living elderberry plants (Barr 1991). The first instar larvae bore into live elderberry stems, where they develop for one to two years feeding on the pith. The fifth instar larvae create exit holes in the stems and then plug the holes and remain in the stems through pupation (Talley et al. 2007). The beetle's current distribution is patchy throughout California's Central Valley, from Shasta County to Kern County, and associated foothills up to an elevation of approximately 3,000 feet (USFWS 1999).

One elderberry shrub was found within the Amoruso Ranch Property (ECORP 2013d). This elderberry shrub is located within the proposed alignment of the Placer Parkway regional transportation improvement project and is outside of the Amoruso Ranch Development/Study Area. No elderberry shrubs were found within the off-site Reason Farms improvements area or the three off-site Mitigation Properties (ECORP 2014c, 2015g, 2015h, 2015i). Elderberry surveys have not been performed for the off-site AT&T infrastructure alternatives, but these areas may support potential habitat.

4.7.2 Fish

Suitable habitat for the federally listed fish species Delta smelt (*Hypomesus transpacificus*), Central Valley steelhead (*Oncorhynchus mykiss*), winter-run Chinook salmon (*Oncorhynchus tshawytscha*), and Central Valley spring-run Chinook salmon does not occur within the Amoruso Ranch Property, the off-site AT&T infrastructure alternatives, the Reason Farms improvements area, or the three off-site Mitigation Properties. Also, the Study Area is out of the range of Delta smelt. ECORP assessed the potential for Central Valley steelhead and Central Valley spring-run Chinook salmon to occur within Pleasant Grove Creek in the vicinity of the Amoruso Ranch Property, the Reason Farms improvements area, and the off-site Mitigation Properties. During this assessment, ECORP conducted research that determined that federally-listed salmonids had not previously been documented within Pleasant Grove Creek and that the potential occurrence for these salmonids to occur within the Pleasant Grove Creek watershed is highly unlikely. This research concluded the following:

- Salmonids have not been documented within Pleasant Grove Creek (Bailey Environmental 2003, City of Roseville 2011, DWR 2005, NMFS 2008, Sullivan pers. comm.);
- Pleasant Grove Creek is a warm water fishery (Sullivan pers. comm., City of Roseville 2011);
- There is no substantial spawning substrate (Sullivan pers. comm.); and
- High spring/summer water temperature likely limits ability of salmonids rearing potential (Bailey Environmental 2003, Sullivan pers. comm.).

Therefore, construction within the Study Area will not affect steelhead, salmon, or Delta smelt. Measures developed to minimize potential downstream indirect effects to federally-listed fish species resulting from water quality impacts (e.g., increased sedimentation, temperature increase, and pollution runoff) will be mandated in the Study Area's Storm Water Pollution and Prevention Plan (SWPPP) and implemented as a condition of Study Area construction approval and compliance. As such, federally listed fish species will not be affected by activities within the Study Area. No further discussion of federally listed fish species is presented in this document.

4.7.3 Amphibians and Reptiles

The Study Area may support potentially suitable habitat for one special status amphibian species and one special status reptilian species, specifically the Western spadefoot (*Spea hammondii*) and the northwestern pond turtle (*Actinemys marmorata*). The Western spadefoot was not found within the Amoruso Ranch Property during a field survey conducted in 2011 (ECORP 2011a), and surveys for this species have not occurred within the off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties. Surveys for the northwestern pond turtle have not been performed within the Study Area.

The Study Area is not within the current know range of the California tiger salamander (*Ambystoma californiense*), the California red-legged frog (*Rana draytonii*), and giant garter snake (*Thamnophis gigas*). As such, these species are considered absent from the Study Area and are not discussed further.

4.7.3.1 Western Spadefoot

The Western spadefoot is not listed pursuant to either CESA or FESA, but is designated as a CDFW species of special concern. Necessary habitat components of the Western spadefoot include suitable underground retreats and breeding ponds. Suitable breeding sites include temporary rain pools, such as vernal pools and seasonal wetlands, or pools within portions of intermittent drainages (Jennings and Hayes 1994). The Western spadefoots spend most of their adult life within underground burrows or other suitable refugia, such as rodent burrows. In California, Western spadefoots are known to occur from the Redding area in Shasta County southward to northwestern Baja California, at elevations below 4,475 feet (Jennings and Hayes 1994).

The nearest documented occurrence of Western spadefoot (CNDDB Occurrence No. 174) is located approximately one mile south of the Amoruso Ranch Property (CDFW 2014). This occurrence included one adult crossing Phillip Road at a bend, approximately 1.5 miles west of the junction of Fiddyment Road and 0.3 miles west where Phillip Road parallels Pleasant Grove Creek. The population is presumed to be extant.

This species was not found within the Amoruso Ranch Property during a field survey conducted in 2011 (ECORP 2011a). Surveys for this species have not been performed for the off-site AT&T infrastructure alternatives, the off-site Reason Farms Improvements area, or the three off-site Mitigation Properties, but wetlands within these sites may represent potentially suitable habitat.

4.7.3.2 Northwestern Pond Turtle

The northwestern pond turtle is not listed pursuant to either CESA or FESA, but is designated as a CDFW species of special concern. Northwestern pond turtles occur in a variety of fresh and brackish water habitats including marshes, lakes, ponds, and slow moving streams (Jennings and Hayes 1994). This species is primarily aquatic; however, they typically leave aquatic habitats in the fall to reproduce and to overwinter (Jennings and Hayes 1994). Deep, still water with abundant emergent woody debris, overhanging vegetation, and rock outcrops is optimal for basking and thermoregulation. Although adults are habitat generalists, hatchlings and juveniles require specialized habitat for survival through the first few years. Hatchlings require shallow water habitat with relatively dense submergent or short emergent vegetation in which to forage.

Northwestern pond turtles are typically active between March and November. Mating generally occurs during late April and early May and eggs are deposited between late April and early August (Jennings and Hayes 1994). Eggs are deposited within excavated nests in upland areas, with substrates that typically have high clay or silt fractions, usually in the vicinity of aquatic habitats (Jennings and Hayes 1994). The majority of nesting sites are located within 650 feet (200 meters) of the aquatic habitat; however, sites have been documented as far as 1,310 feet (400 meters) from the aquatic habitat.

There are no documented occurrences of northwestern pond turtle within five miles of the Study Area (CNDDB 2014). The portion of Pleasant Grove Creek within the Mourier West Property and the ditch within the Skover Property may represent northwestern pond turtle habitat. Surveys for this species have not been performed within the Study Area.

4.7.4 Birds

Special-status birds that have been observed within the Amoruso Ranch Property include white-tailed kite (*Elanus leucurus*), Northern harrier (*Circus cyaneus*), Swainson's hawk (*Buteo swainsoni*), ferruginous hawk (*Buteo regalis*), burrowing owl (*Athene cunicularia*), Nuttall's woodpecker (*Picoides nuttallii*), yellow-billed magpie (*Pica nuttalli*), loggerhead shrike (*Lanius ludovicianus*), and tricolored blackbird (ECORP 2011b). Of these, only burrowing owl was found nesting on-site during field surveys conducted in 2011 (ECORP 2011b). The Swainson's hawk appeared to be nesting on the Creekview Specific Plan area south of the Amoruso Ranch Property (City of Roseville 2011). To date, no bird surveys have been performed for the off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties.

4.7.4.1 Tricolored Blackbird

The tricolored blackbird is not listed pursuant to either CESA or FESA, but is designated as a species of special concern by the CDFW. This colonial nesting species is distributed widely throughout the Central Valley, Coast Range, and into Oregon, Washington, Nevada, and Baja California (Beedy and Hamilton 1999). Tricolored blackbird nests in colonies that can range from several pairs to several thousand pairs, depending on prey availability, the presence of predators, or level of human disturbance. This nomadic species typically nests in emergent marsh, riparian thickets, and blackberry brambles, usually with some nearby standing water or ground saturation. Open grassland and agricultural fields are typical foraging areas, with nesting generally occurring from April through

June. Tricolored blackbird has been found foraging within the Amoruso Ranch Property during surveys (ECORP 2011b). However, there is no suitable nesting habitat within the Amoruso Ranch Property, and it is unlikely to be found nesting within the off-site AT&T infrastructure alternatives or the off-site Reason Farms improvements area. There is an established colony of nesting tricolored blackbirds located within Mourier East (UCD 2015). Tricolored blackbirds were also incidentally observed nesting within the marsh located on the Mourier West Property during the 2014 listed large branchiopods surveys on the adjacent Reason Farms Property (Collins pers. comm.). Tricolored blackbird surveys or habitat assessments have not been performed for the off-site AT&T infrastructure alignments, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties.

4.7.4.2 Grasshopper Sparrow

The grasshopper sparrow (*Ammodramus savannarum*) is not listed pursuant to either CESA or FESA, but is designated as a species of special concern by the CDFW. The grasshopper sparrow is an uncommon and local summer resident and breeder along the western edge of the Sierra Nevada and most coastal counties south to Baja California (where resident) (Small 1994). This species generally inhabits moderately open grasslands and prairies with patchy bare ground and scattered shrubs (Vickery 1996. Grasshopper sparrow is more likely to occupy large tracts of habitat than small fragments (Vickery 1996). Breeding generally occurs from early April to mid-July, with a peak in May and June. Grasshopper sparrow was not found on the Amoruso Ranch Property during surveys (ECORP 2011b). Potential nesting habitat includes the annual grassland community within the Amoruso Ranch Property, the AT&T infrastructure alignments, the off-site Reason Farms improvements area, and the Mitigation Properties. Grasshopper sparrow surveys or habitat assessments have not been performed for the off-site AT&T infrastructure alignments, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties.

4.7.4.3 Burrowing Owl

The burrowing owl is not listed pursuant to either CESA or FESA, but is designated as a bird of conservation concern by the USFWS and a species of special concern by the CDFW. Burrowing owls inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. They can also inhabit developed areas such as golf courses, cemeteries, roadsides within cities, airports, vacant lots in residential areas, school campuses, and fairgrounds (Haug et al. 1993). This species typically uses burrows created by fossorial mammals, most notably the California ground squirrel, but may also use man-made structures such as cement culverts or pipes, cement, asphalt, or wood debris piles, or openings beneath cement or asphalt pavement (CDFW 2012). The breeding season typically occurs February 1 through August 31 (CDFW 2012). The annual grasslands within the Study Area represent potential habitat for burrowing owl. Burrowing owls have been found within the Amoruso Ranch Property, presumably nesting (ECORP 2011b). Burrowing owl was incidentally observed within the Mourier West Property during a site visit in 2014. Burrowing owl surveys or habitat assessments have not been performed for the off-site AT&T infrastructure alignments, the Reason Farms improvements area, or the three off-site Mitigation Properties.

4.7.4.4 Oak Titmouse

The oak titmouse (*Baeolophus inornatus*) is not listed pursuant to either CESA or FESA, but is considered a USFWS bird of conservation concern. The oak titmouse is usually found in association with oak trees, but may also be found in conifers (Cicero 2000). Nesting occurs during March through July. The oak titmouse was observed within the Amoruso Ranch Property during surveys, but was not nesting (ECORP 2011b). Potential nesting habitat includes the trees in the southern portion of the Amoruso Ranch Property, along the rural residential development north of West Sunset Boulevard (Toad Hill Ranches #1), and within the Mourier West Property. Oak titmouse was incidentally observed near Pleasant Grove Creek within the Mourier West Property during assessment level surveys in 2015 (ECORP 2015f). To date, no bird surveys have been performed for the off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties.

4.7.4.5 Swainson's Hawk

The Swainson's hawk is listed as a threatened species and is protected pursuant to CESA. This species nests in North America (Canada, western U.S., and Mexico) and typically winters from South America north to Mexico. However, a small population has been observed wintering in the Sacramento-San Joaquin River Delta (Bechard et al. 2010). In California, the nesting season for Swainson's hawk ranges from mid-March to late August.

Swainson's hawk nests within tall trees in a variety of wooded communities including riparian, oak woodland, roadside landscape corridors, urban areas, and agricultural areas, among others. Foraging habitat includes open grassland, savannah, low-cover row crop fields, and livestock pastures. In the Central Valley, Swainson's hawks typically feed on a combination of California vole, California ground squirrel (*Spermophilus beecheyi*), ring-necked pheasant (*Phasianus colchicus*), many passerine birds, and grasshoppers (*Melanopulus* spp.). Swainson's hawks are opportunistic foragers and will readily forage in association with agricultural mowing, harvesting, discing, and irrigating (Estep 1989). The removal of vegetative cover by such farming activities results in more readily available prey items for this species.

Swainson's hawk has been observed foraging but not nesting within the Amoruso Ranch Property (ECORP 2011b). ECORP Consulting incidentally observed an active Swainson's hawk nest in June of 2015 within a lone tree south of West Sunset Boulevard, east of the Amoruso Ranch Property. The active nest lies within a half-mile of the eastern edge of the Amoruso Ranch Property (ECORP 2015g). Nesting is presumed to have occurred in the Creekview Specific Plan area to the south of the Amoruso Ranch Property (City of Roseville 2011). Potential nesting habitat includes the larger trees in the southern portion of the Amoruso Ranch Property and the Reason Farms improvements area along University Creek, as well as trees along Pleasant Grove Creek and near the rural residence on the Mourier West Property, while the annual grasslands within the entire Study Area represent potential foraging habitat. To date, no bird surveys have been performed for the off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties.

4.7.4.6 Northern Harrier

The northern harrier is not listed pursuant to either CESA or FESA, but is considered to be a species of special concern by the CDFW. This species is known to nest within the Central Valley, along the Pacific Coast, and in northeastern California. The northern harrier is a ground-nesting species, and typically nests in emergent wetland/marsh, open grasslands, or savannah communities usually in areas with dense vegetation (Macwhirter and Bildstein 1996). Foraging occurs within a variety of open environments such as marshes, agricultural fields, and grasslands. Nesting occurs during April-September. Northern harrier has been found within the Amoruso Ranch Property, but was not nesting during surveys (ECORP 2011b). Potential nesting and foraging habitat for Northern harrier include the annual grasslands within the Amoruso Ranch Property, the off-site AT&T infrastructure alignments, the off-site Reason Farms improvements area, and Mitigation Properties. Northern harrier was incidentally observed within the Mourier East Property during assessment level surveys in 2015 (ECORP 2015e). To date, no bird surveys have been performed for the off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties.

4.7.4.7 Western Yellow-billed Cuckoo

The Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is listed as an endangered species pursuant to CESA, is proposed for listing under FESA, and is a USFWS bird of conservation concern. Typical nesting habitat includes dense riparian thicket/woodland. This migratory species arrives from its wintering grounds in South America during June and departs from California during September (Small 1994). In northern California, current nesting populations occur along the upper Sacramento River (Tehama, Butte, Colusa, Glenn and Sutter Counties), Feather River, and the Butte Sink (Sutter and Butte Counties) (Small 1994). There is no suitable nesting habitat for Western yellow-billed cuckoo on the Amoruso Ranch Property or the off-site AT&T infrastructure alternatives. However, a habitat assessment or surveys have not been conducted for the riparian corridors along University Creek within the Reason Farms improvement area and along Pleasant Grove Creek within the Mourier East Property. These locations are not likely a potential nesting site as none are known from Placer County, but this does not preclude the potential for the rare occurrence of a migrant Western yellow-billed cuckoo.

4.7.4.8 White-tailed Kite

The white-tailed kite is not listed pursuant to either CESA or FESA, but is fully protected under Section 3511 of the California Fish and Game Code. This species is a common resident in the Central Valley and the entire length of the California coast (Dunk 1995). In northern California, white-tailed kite typically nests from March through June. Nesting occurs in trees within riparian, oak woodland, savannah, and agricultural communities that are found in or near foraging areas such as open grasslands, meadows, farmlands, savannahs, and emergent wetlands. The white-tailed kite has been found within the Amoruso Ranch Property, but was not nesting during surveys (ECORP 2011b). Potential nesting habitat includes the trees along University Creek on the Amoruso Ranch Property and the Reason Farms improvements area, the rural residential development north of West Sunset Boulevard (Toad Hill Ranches #1), and the Mourier West Property, while the annual grassland represents potential foraging habitat. To date, no bird surveys have been performed for the off-site

AT&T infrastructure alternatives, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties.

4.7.4.9 Greater Sandhill Crane

The greater sandhill crane (*Grus canadensis tabida*) is listed as a threatened species by the CDFW, is protected pursuant to CEQA, but has no federal special-status. In addition, the greater sandhill crane is fully protected pursuant to the Fish and Game Code of California. This subspecies nests in northeastern California (Modoc, Siskiyou, Lassen, and Shasta Counties and formerly in the Sierra Valley, Sierra and Plumas Counties) (Small 1994) and winters in the Central Valley. It prefers to winter in treeless grasslands, partially flooded croplands, and wetlands (CDFG 1990). The greater sandhill crane was not observed within the Amoruso Ranch Property during surveys (ECORP 2011b), and has a low potential to occur within the Study Area as foraging habitat is marginal. To date, no bird surveys have been performed for the off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area or the three off-site Mitigation Properties.

4.7.4.10 Loggerhead Shrike

The loggerhead shrike is not listed pursuant to either CESA or FESA, but is considered a bird of conservation concern by the USFWS and a species of special concern by the CDFW. Loggerhead shrikes nest throughout California except the northwestern corner, montane forests, and high deserts (Small 1994). Loggerhead shrikes nest in small trees and shrubs in open country with short vegetation such as pastures, old orchards, mowed roadsides, cemeteries, golf courses, agricultural fields, riparian areas, and open woodlands (Yosef 1996). The nesting season extends from March through June. The loggerhead shrike has been found within the Amoruso Ranch Property during surveys but was not nesting (ECORP 2011b). Potential nesting habitat includes the smaller trees along University Creek on the Amoruso Ranch Property and the Reason Farms improvements area, along the rural residential development north of West Sunset Boulevard (Toad Hill Ranches #1), and within the Mourier West Property. Loggerhead shrike was incidentally observed within the Mourier West Property during assessment level surveys in 2015 (ECORP 2015f).To date, no bird surveys have been performed for the off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties.

4.7.4.11 California Black Rail

The California black rail (*Laterallus jamaicensis coturniculus*) is listed as a threatened species and protected pursuant to CESA, is fully protected pursuant to California Fish and Game Code Section 3511, and is a USFWS bird of conservation concern. Typical habitat for black rails includes coastal saltmarsh, delta emergent marsh, and interior freshwater emergent marsh. The California black rail is a year-round resident in the San Francisco Bay region and a discontinuous resident breeding population in the Sierra Nevada foothills, within Placer, Yuba, Butte, and Nevada Counties (CDFW 2014). Nesting typically occurs during March through July (Eddleman et al. 1994). The California black rail was not observed on the Amoruso Ranch Property during previous surveys (ECORP 2011b). There is no suitable breeding or foraging habitat for California black rail within the Amoruso Ranch Property, and it is extremely unlikely to be found along the roadside habitat of the off-site AT&T infrastructure alternatives. California black rail habitat assessments or surveys have not been

performed for the three off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, and the three off-site Mitigation Properties.

4.7.4.12 Yellow-Billed Magpie

The yellow-billed magpie is not listed pursuant to either CESA or FESA, but is considered a USFWS bird of conservation concern. This endemic species is a yearlong resident of the Central Valley and Coast Ranges from San Francisco Bay to Santa Barbara County. Yellow-billed magpie builds large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures, or cropland. Nest building begins in late-January to mid-February, and may take up to six to eight weeks to complete (Koenig and Reynolds 2009). The young leave the nest at about 30 days after hatching (Koenig and Reynolds 2009). Yellow-billed magpies are highly susceptible to West Nile Virus, which may have been the cause of death to thousands of magpies during 2004-2006 (Koenig and Reynolds 2009). Yellow-billed magpie was observed within the Amoruso Ranch Property during surveys, but was not nesting (ECORP 2011b). Potential nesting habitat includes the trees along University Creek in the Amoruso Ranch Property and the Reason Farms improvements area, along the rural residential development north of West Sunset Boulevard (Toad Hill Ranches #1), and within the Mourier West Property. Yellow-billed magpie was incidentally observed near Pleasant Grove Creek within the Mourier West Property during assessment level surveys in 2015 (ECORP 2015f). To date, no bird surveys have been performed for the off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties.

4.7.4.13 Nuttall's Woodpecker

The Nuttall's woodpecker is not listed and protected under either CESA or FESA, but is considered a USFWS bird of conservation concern. They are resident from Siskiyou County south to Baja California. Nuttall's woodpeckers nest in tree cavities primarily within oak woodlands, but also can be found in riparian woodlands (Lowther 2000). Breeding occurs from March through June. Potential nesting habitat includes the trees along University Creek on the Amoruso Ranch Property and the Reason Farms improvements area, the Mourier West Property, and along the rural residential development north of West Sunset Boulevard (Toad Hill Ranches #1). Nuttall's woodpeckers were observed on the Amoruso Ranch Property during surveys but were not nesting (ECORP 2011b). Nuttall's woodpecker was incidentally observed near Pleasant Grove Creek within the Mourier West Property during assessment level surveys in 2015 (ECORP 2015f). To date, no bird surveys have been performed for the off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties.

4.7.4.14 Purple Martin

The purple martin (*Progne subis*) is a CDFW species of special concern but has no federal special status. It occurs within the foothills of the Sierra Nevada and the Coast Range to the Pacific Coast, with several small sub-populations occurring within the city limits of Sacramento. The purple martin typically nests in woodlands where tree cavities are utilized to raise broods. Potential marginal habitat includes the trees along University Creek on the Amoruso Ranch Property and the Reason Farms improvements area and along the rural residential development north of West Sunset

Boulevard (Toad Hill Ranches #1), while the riparian habitat along Pleasant Grove creek within the Mourier West Property may represent potential habitat for the purple martin. This species was not observed on the Amoruso Ranch Property during surveys (ECORP 2011b). To date, no bird surveys have been performed for the off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties.

4.7.4.15 Heron/Great Rookeries

The great egret (*Ardea alba*), great blue heron (*Ardea herodias*), snowy egret (*Egretta thula*), and black-crowned night heron (*Nycticorax nycticorax*) are colonial nesting birds that typically nest in trees and/or riparian areas. While these species are not formally listed and protected pursuant to either CESA or FESA, their rookeries are of interest to CDFW and are subject to CEQA review. No rookery sites were found within the Amoruso Ranch Property during 2011 surveys and there is no suitable habitat to support a rookery within the off-site AT&T infrastructure alternatives. No bird surveys have been performed for the riparian area along University Creek within the off-site Reason Farms improvements area or the off-site Mitigation Properties, including Mourier West, which supports a riparian corridor.

4.7.4.16 Wintering Special-Status Birds

Several special-status birds may forage within the Amoruso Ranch Property, the off-site AT&T infrastructure alternatives, the Reason Farms improvements area, and/or the three off-site Mitigation Properties during the non-nesting season. These include golden eagle (*Aquila chrysaetos*), short-eared owl (*Asio flammeus*), mountain plover (*Charadrius montanus*), ferruginous hawk, prairie falcon (*Falco mexicanus*, long-billed curlew (*Numenius americanus*), and fox sparrow (*Passerella iliaca*). These species do not nest in the Central Valley but may occur as post-breeding dispersers, migrants, or winter residents. The ferruginous hawk was observed on the Amoruso Ranch Property during previous surveys (ECORP 2011b). To date, no bird surveys have been performed for the off-site AT&T infrastructure alternative, the off-site Reason Farms improvements areas, or the three off-site Mitigation Properties.

4.7.5 Mammals

The annual grassland community found within the Study Area represents marginally suitable habitat for regionally occurring special-status mammals, including American badger (*Taxidea taxus*) and two bat species: pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*).

4.7.5.1 American Badger

The American badger is not listed pursuant to either CESA or FESA, but is designated as a species of special concern by the CDFW. In California, American badgers ranged throughout the state except for the humid coastal forests of northwestern California in Del Norte County and the northwestern portion of Humboldt County (Long 1973; unpublished data). No current data exist on the status of American badger populations in California, but they have declined or disappeared in large sections of the state (Zeiner et al. 1990). American badgers occupy diverse habitats. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated ground, and they prefer

grasslands, savannas, and mountain meadows near timberline. Badgers prey primarily on burrowing rodents (Zeiner et al. 1990). American badgers dig burrows in friable soil for cover and frequently reuse old burrows, although some may dig a new den each night, especially in summer (Messick and Hornocker 1981).

The nearest documented occurrence of the American badger (CNDDB Occurrence No. 304) is located approximately 17.5 miles south of the Amoruso Ranch Property (CDFW 2014). This occurrence involved a male specimen that was collected on an unknown date for the U.S. Davis Museum of Zoology at Polk, 21st Avenue at Power Inn Road, Sacramento (CDFW 2014).

This species has a low potential to occur within the Study Area. No potential American badger burrows were found during raptor survey transects within the Amoruso Ranch Property searching for nesting burrowing owls (ECORP 2011b). To date, no surveys for this species or its burrows have been performed for the off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties.

4.7.5.2 Bats

The pallid bat is a CDFW species of special concern; Townsend's big-eared bat is both a CDFW species of special concern and a candidate species proposed for listing under CEQA. These special-status bat species may occur within the Study Area. Potential roosting habitat within the Amoruso Ranch Property includes the larger trees in the southern portion of the site along University Creek and the rural residence-associated dilapidated barn and trees in the northwest corner of the site. Potential roosting habitat within the off-site AT&T infrastructure alternatives includes trees along the rural residential development north of Sunset Boulevard West (Toad Hill Ranches #1). Potential roosting habitat within the Reason Farms improvements area includes the larger trees along University Creek. Potential roosting habitat within the Mitigation Properties includes the larger trees along Pleasant Grove Creek in the southern portion of the site and the grove of blue gum trees, the rural residence, and associated barns in the northern portion of the Mourier West Property. No bat roosts were observed in the trees during tree inspections for nesting raptor surveys within the Amoruso Ranch Property (ECORP 2011b). Targeted surveys for bats have not occurred within the off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, or the three off-site Mitigation Properties.

4.7.6 Wildlife Movement/Corridors

The Amoruso Ranch Property, the three off-site AT&T infrastructure alternatives, the off-site Reason Farms improvements area, and the three off-site Mitigation Properties are located in an undeveloped landscape with irrigated pastures and annual grassland (non-irrigated) used for livestock (primarily cattle) grazing and actively farmed wheat and rice fields. The annual grassland community in this region has been documented as an important resource for wintering raptors (Jones & Stokes 2003). The Study Area has the potential to support ephemeral wetlands and intermittent drainages that likely support wildlife (e.g., waterfowl, waders, and shorebirds) movement during the wet season and less so during the dry summer/fall months. The Skover Property rice fields are usually flooded during the dry season, and occasionally during the wet season for hunting. The flooded rice fields support waterfowl, waders, and shorebirds during the flooded periods and raptor foraging habitat

during the drier harvest and post-harvest period. The proposed Amoruso Ranch Development identifies proposed open space preserve in the southern portion of the Amoruso Ranch Property, including University Creek... Once development occurs, the urbanized portion of the Amoruso Ranch Property may support feral and urban wildlife, but most wildlife use will be restricted to the open space preserve.

5.0 RECOMMENDATIONS

Recommendations to minimize potential impacts are included for all potential regulated resources within the Amoruso Ranch Property, Mourier East Property, Mourier West Property, Skover Property, and Reason Farms improvement area. The off-site AT&T infrastructure alternatives are not included due to the removal of these options by AT&T from the Study Area in August 2015. The analysis of new off-site infrastructure alternatives was no longer needed as phone service will come from existing infrastructure.

5.1 Waters of the U.S.

The Amoruso Ranch Property supports Waters of the U.S. that were verified in a PJD by the USACE. Waters of the U.S. have also been verified by the USACE for the Mourier West and Mourier East Properties. Jurisdictional determinations for the Skover Property and the off-site Reason Farms improvement area are under review by the USACE and are pending.

The following is recommended to minimize potential impacts to Waters of the U.S.:

- A permit authorization to fill wetlands under the Section 404 of the federal Clean Water Act (Section 404 Permit) must be obtained from the USACE prior to discharging any dredged or fill materials into any waters of the U.S. Mitigation measures will be developed as part of the Section 404 Permit to ensure no-net-loss of wetland function and values. An application for a Section 404 Permit for the Amoruso Ranch Development has been prepared and submitted to the USACE and includes direct, avoided, and preserved acreages to Waters of the U.S. Mitigation for impacts to Waters of the U.S. within the Amoruso Ranch Development is proposed at the following ratio: 1:1 creation for direct impacts; however final mitigation requirements will be developed in consultation with the USACE.
- Prior to the off-site Reason Farms improvements, obtain USACE concurrence in a PJD. A Section 404 Permit must be obtained prior to discharging any dredged or fill materials into any Waters of the U.S. Mitigation for impacts to Waters of the U.S. within the Amoruso Ranch improvements area is proposed at the following ratio: 1:1 creation for direct impacts; however final mitigation requirements will be developed in consultation with the USACE.
- If unavoidable impacts to Waters of the U.S. would occur within the Mitigation Properties as part of wetland restoration activities, amend the Section 404 Permit application for the Amoruso Ranch Development to include impacts to Waters of the U.S. associated with restoration activities within the Mitigation Properties to ensure no-net-loss of wetland function and values. A Section 404 permit must be obtained prior to discharging any dredged or fill materials into any waters of the U.S.

5.2 Special-Status Plants

The Study Area may support potential habitat for several special-status plants (Section 4.6). Surveys have been conducted within the Amoruso Ranch Property, the off-site Reason Farms improvement area, the three off-site AT&T infrastructure alternatives (early season survey), and the three off-site Mitigation Properties area (ECORP 2013b, 2013c, 2014b, 2015a, 2015b, 2015c, 2015d). One special-status plant, dwarf downingia, was found within the Amoruso Ranch Property (ECORP 2015a) and in the off-site Reason Farms improvements area (ECORP 2014b) within the same vernal pool complex. The following is recommended:

- Dwarf downingia was found in 2 vernal pools within Amoruso Ranch and Reason Farms. Based on the current land use plan for the Project, all of these features will be impacted by project development. Recommendations for this plant include collection of source pool inoculum for transfer to created and/or restored wetlands within the proposed off-site Mitigation Properties. A botanist or qualified biologist will assist with determining which created pools will provide the best suitable habitat. Created and/or restored wetlands will require monitoring according to Section 404 permit guidelines and therefore transferred inoculum would be covered under such efforts. No additional species-specific monitoring or success criteria are recommended at this time.
- For the remaining special-status species, none were found during surveys. Therefore no recommendations are provided. The USFWS generally considers survey results valid for approximately three years. Therefore, follow-up surveys may be requested by agencies in the future. This will be determined during consultation with the agencies.
- If follow-up surveys are requested by agencies, the presence or absence of special-status plant species shall be determined through rare plant surveys conducted according to CDFW, CNPS and USFWS protocols (CDFG 2000, CNPS 2001, Cypher 2002, USFWS 1996b). Surveys will be timed according to the blooming period for target species and known reference populations will be visited prior to surveys to confirm the species is blooming where known to occur.
- If special-status plant species are found within the Study Area, avoidance zones may be established around plant populations to clearly demarcate areas for avoidance. Avoidance measures and buffer distances may vary between species and the specific avoidance zone distance will be determined in coordination with appropriate resource agencies (CDFW and USFWS).
- If special-status plant species are found within the Study Area and avoidance of the species is not possible, then additional measures such as seed collection and/or transplantation may be developed in consultation with the appropriate agencies (CDFW and USFWS).

5.3 Native Oak Tree Preservation

Trees may occur within the Study Area that warrant protection/mitigation under the City of Roseville Tree Preservation Ordinance (Municipal Code Title 19, Zoning-Chapter 19.66). The 28 Valley oak trees within Amoruso Ranch Property are located in the proposed Amoruso Ranch Development's on-site open space preserve and will not be impacted. The 39 Valley oak trees within the off-site Reason Farms improvements area may need to be removed during the implementation of the off-

site Reason Farms improvements. An arborist survey has not been completed for the off-site Reason Farms or the three off-site Mitigation Properties. The following recommendations will help ensure that there are no significant impacts to protected oak trees:

- Conduct an arborist survey for the three off-site Mitigation Properties to determine if they support any protected trees.
- If protected trees are present and proposed for impact, prepare City of Roseville tree permit application, and mitigate on an inch-per-inch replacement ratio at a City-approved site or pay the City's in-lieu fee pursuant to Resolution No.03-546 (currently $118/inch DBH).

5.4 Invertebrates

The Study Area may support potential habitat for three federally-listed branchiopod species: conservancy fairy shrimp, vernal pool fairy shrimp, and tadpole shrimp (listed large branchiopods). Within the Amoruso Ranch Property, guideline-level surveys determined that only vernal pool fairy shrimp are present (ECORP 2008a, 2009). No federally-listed large branchiopods were found during protocol-level surveys for the off-site Reason Farms improvements area (ECORP 2014a). Protocol-level surveys for federally-listed branchiopods have not been performed within three off-site Mitigation Properties, although wet-season surveys have found vernal pool fairy shrimp within Mourier East and Mourier West.

The following recommendations will help ensure that there are no significant impacts to listed large branchiopods:

- Prior to issuing a Section 404 permit, the USACE will initiate Section 7 consultation with the USFWS to address potential impacts to federally-protected species. As part of the application for a Section 404 Permit for the Amoruso Ranch Development, a Biological Assessment (BA) has been prepared for the Amoruso Ranch Development and submitted to the USACE to be used in the development of a BO, and includes direct, indirect, avoided, and preserved acreages to vernal pool fairy shrimp habitat. Mitigation for impacts to vernal pool fairy shrimp habitat within the Amoruso Ranch Development is proposed at the following ratios: 2:1 preservation for direct impacts, 1:1 preservation for indirect impacts, and 1:1 creation for direct impacts; however final mitigation requirements will be developed in consultation with the USFWS and identified in the BO for the Amoruso Ranch Development issued by the USFWS. The BO will be incorporated into Section 404 Permit for the Amoruso Ranch Development. A Section 404 Permit must be obtained prior to impacting any vernal pool fairy shrimp habitat.
- If unavoidable impacts to potential listed large branchiopod habitat would occur within the Mitigation Properties as part of wetland restoration activities, conduct guideline-level surveys for listed large branchiopods within the Mitigation Properties according to USFWS protocol (USFWS 1996a) (in lieu of conducting guideline-level surveys, the Applicant may choose to assume presence). If listed large branchiopods are present and are proposed for impact, amend the Amoruso Ranch Development BA to address potential impacts to listed large branchiopods within the Mitigation Properties. A Section 404 Permit must be obtained prior to impacting any vernal pool fairy shrimp habitat.

One elderberry shrub, habitat for the VELB, was located within the Amoruso Ranch Property (ECORP 2013d). This elderberry shrub is located within the proposed alignment of the Placer Parkway regional transportation improvement project. Consequently, any impacts and mitigation for this shrub will be addressed in a separate BO issued for the Placer Parkway regional transportation improvement project. No elderberry shrubs were located within the off-site Reason Farms improvements area or three off-site Mitigation Properties during protocol-level surveys (ECORP 2014c, 2015g, 2015h, 2015i).

The following recommendations will help ensure that there are no significant impacts to the VELB:

- If no elderberry shrubs supporting stems greater than one inch in diameter are found, no further measures pertaining to this species are necessary.
- If elderberry shrubs supporting stems greater than one inch in diameter are found within the three off-site Mitigation Properties and are proposed for impact, amend the BA to address potential impacts to the VELB. Mitigation, if any, for any impacts to VELB will be identified in the BO issued by the USFWS.

5.5 Northwestern Pond Turtle

Pleasant Grove Creek within the Mourier West Property and the ditch on the Skover Property may support northwestern pond turtle. To date, no surveys for this species have been performed within these sites. The following is recommended to minimize potential impacts to protected northwestern pond turtles:

- If potential northwestern pond turtle habitat is proposed for impact by a construction activity, conduct a pre-construction survey for northwestern pond turtle. The survey should be performed within 24 hours of the start of construction.
- If no northwestern pond turtles are found, no further measures pertaining to this species are necessary.
- If northwestern pond turtles are found within an area proposed for impact, a qualified biologist shall relocate the northwestern pond turtle to a suitable location away from the proposed construction, in consultation with CDFW.

5.6 Western Spadefoot

The Study Area supports wetland features that may represent potential habitat for the Western spadefoot (CDFW species of special concern). Targeted surveys conducted within the Amoruso Ranch Property in 2011 and guideline-level wet-season surveys for listed large branchiopods conducted during 2007-2008 and 2008-2009 wet season were negative for Western spadefoot (ECORP 2008a, 2009, 2011a). Given these results, the Western spadefoot is not likely to occur within the Amoruso Ranch Development. However, follow-up surveys may be required given the duration from the last survey to the potential start of construction within Amoruso Ranch Development. Targeted surveys for this species have not been performed for the off-site Reason Farms improvements area, or the three off-site Mitigation Properties; however, Western spadefoot was not located within the Reason Farms improvements areas during guideline-level wet-season

surveys for listed large branchiopods conducted during 2013-2014 (ECORP 2014a). Further, this species was not observed within the Mourier East and Mourier West Properties during wet-season surveys for listed large branchiopods conducted during the 2007-2008 wet season (ECORP 2008b, 2008c). The following is recommended to minimize potential impacts to protected Western spadefoots:

- Perform preconstruction surveys for Western spadefoot within the limits of construction to detect adults, larvae, and/or egg masses, within 14 days prior to the start of construction. If adults, larvae, or egg masses are found, relocate to suitable habitat within an on-site or off-site preserve(s), in consultation with CDFW.
- If no Western spadefoots are found, no further measures pertaining to this species are necessary.

5.7 Nesting Raptors

All raptors and their active nests, are protected under the California Fish and Game Code and federal MBTA. To ensure that there are no impacts to protected active nests, the following is are recommended:

- Conduct a pre-construction nesting bird survey of all suitable habitats within the limits of construction of the Study Area and all accessible areas within 300 feet of the limits of construction activity within 14 days of the initiation of construction activity during the nesting season (February 1 through August 31).
- If no active raptor nests are found, no further measures pertaining to raptors nests are necessary.
- If active nests are found, the active nests will be monitored for the first 24 hours prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in accordance with CDFW's recommendations for buffer distances relative to the species identified. Once construction activities commence within the Study Area, all nests will be monitored by a qualified biologist to detect any behavioral changes as a result of construction. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures. Pre-construction raptor nesting surveys are not required for construction activity outside the nesting season.

5.8 Burrowing Owl

Burrowing owls have been detected within the Amoruso Ranch Property during surveys (ECORP 2011b). Targeted surveys for this species have not been performed for the off-site Reason Farms improvements area or the three off-site Mitigation Properties. To minimize impacts to protected burrowing owls and their burrows, the following is recommended:

- If possible, initiate construction activities during the non-breeding season, September 1 through January 31.

- Conduct a take avoidance (pre-construction) burrowing owl survey of all suitable habitats within the limits of construction of the Study Area and all accessible areas within 150 meters (492 feet) of the limits of construction within 14 days of the initiation of construction activity, according to the Staff Report on Burrowing Owl Mitigation (CDFW 2012). If no burrowing owls or sign are observed, construction may proceed.
- If burrowing owls or sign are found, implement avoidance setbacks according to CDFW (2012).
- If avoidance setbacks are infeasible, coordinate with CDFW to conduct passive relocation according to protocol outlined in the Staff Report on Burrowing Owl Mitigation (CDFW 2012). If passive relocation methods are employed, the project impact site should be rendered inhospitable for further burrowing owl re-occupation.

5.9 Swainson's Hawk

Swainson's hawks have been found nesting on the adjacent Creekview Specific Plan area to the south and Placer Ranch area to the east of the Amoruso Ranch Property (City of Roseville 2011, ECORP 2015g). Targeted surveys for this species have not been performed for the off-site Reason Farms improvements area or the three off-site Mitigation Properties. To minimize impacts to protected Swainson's hawks and their nests, the following is recommended:

- If possible, initiate site construction activities during the non-breeding season, September 1- through February 28.
- Conduct a pre-construction nesting bird survey of all suitable habitats within the limits of construction of the Study Area and all accessible areas within 0.5 mile of the limits of construction within 14 days of the initiation of construction activity during the nesting season (March 1 through -August 31).
- If no active Swainson's hawk nests are found, no further measures pertaining to Swainson's hawk nests are necessary.
- If active nests are found, the active nests will be monitored for the first 24 hours prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in accordance with CDFW's recommendations. Once construction activities commence on-site, all nests will be monitored by a qualified biologist to detect any behavioral changes as a result of construction within the Study Area. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures. Pre-construction Swainson's hawk nesting surveys are not required for construction activity outside the nesting season.
- The annual grassland community within the Amoruso Ranch Development and the off-site Reason Farms improvements area represent potential foraging habitat for Swainson's hawk. The preservation of the grassland communities within the three off-site Mitigation Properties are expected to offset the loss of foraging habitat pursuant to the CDFW-established formula for Swainson's hawk foraging habitat replacement.

5.10 California Black Rail

There is no potential California black rail habitat with the Amoruso Ranch Property. However, surveys or habitat assessments for this species have not been performed within the off-site Reason Farms improvements area or the three off-site Mitigation Properties. To ensure that there are no impacts to California black rail, the following is recommended:

- Conduct a habitat assessment of the off-site Reason Farms improvements area and the three off-site Mitigation Properties to identify suitable California black rail habitat. Prepare a map identifying areas that support suitable habitat.
- If suitable habitat is within areas proposed for construction during the breeding season (February 1-July 31), conduct a pre-construction survey for the California black rail. The survey should be conducted by a qualified biologist. Three surveys should be conducted (at least seven days apart) during peak calling times (one half hour before dawn until three hours after, and three hours before sunset until one half hour after) using playback of taped breeding calls, with the last survey occurring within 14 days of the start of construction.
- If no California black rail is detected, no further measures pertaining to this species are necessary.
- If a California black rail is detected, impacts shall be avoided by establishing an appropriate buffer, as determined by the qualified biologist in consultation with CDFW. No project activity shall commence within the buffer area until a qualified biologist confirms that the rail has evacuated the area. The size of the buffer shall be determined by the biologist and confirmed by CDFW; buffer size may vary, depending on the nest location, nest stage, and construction activity.

5.11 Western Yellow-billed Cuckoo

There is no potential Western yellow-billed cuckoo habitat with the Amoruso Ranch Property. However, surveys or habitat assessments have not been performed within the off-site Reason Farms improvements area or the three off-site Mitigation Properties. To ensure that there are no impacts to Western yellow-billed cuckoo, the following is recommended:

- Conduct a habitat assessment of the off-site Reason Farms improvements area and the three off-site Mitigation Properties to identify suitable Western yellow-billed cuckoo habitat. Prepare a map identifying areas that support suitable habitat.
- If suitable habitat is proposed for construction during the breeding season (June 15-August 31), prior to construction, conduct a pre-construction survey for Western yellow-billed cuckoo. The survey should be conducted by a qualified biologist.
- The survey should include three visits at least 10 days apart. Each survey should be conducted during peak activity times (6:30 a.m.-noon) by using playback of taped “kowlp” calls. Five taped calls (each at least 30 seconds apart) should be played every 100 meters of linear habitat.
- If a Western yellow-billed cuckoo is detected, impacts shall be avoided by establishing an appropriate buffer, as determined by the qualified biologist in consultation with CDFW. No

project activity shall commence within the buffer area until a qualified biologist confirms that the cuckoo has evacuated the area. The size of the buffer shall be determined by the biologist and confirmed by CDFW; buffer size may vary, depending on the nest location, nest stage, and construction activity.

- If no Western yellow-billed cuckoos are detected, no further measures pertaining to Western yellow-billed cuckoos are necessary.

5.12 Nuttall's Woodpecker/Loggerhead Shrike/Yellow-billed Magpie/Oak Titmouse/ Grasshopper Sparrow/ Tricolored Blackbird

The Study Area supports potential nesting habitat for one special-status woodpecker and six special-status passerine bird species: Nuttall's woodpecker (USFWS conservation concern), loggerhead shrike (USFWS conservation concern and CDFW species of special concern) yellow-billed magpie (USFWS conservation concern), oak titmouse (USFWS conservation concern), grasshopper sparrow (CDFW species of special concern), and tricolored blackbird (USFWS conservation concern and CDFW species of special concern). To help ensure that there are no impacts to protected active nests of these species, the following is recommended:

- Conduct a pre-construction nesting bird survey of all suitable habitats within the limits of construction within the Study Area and all accessible areas within 50 feet of the limits of construction within 14 days of the initiation of construction activity during the nesting season (Nuttall's woodpecker, March-July; loggerhead shrike, March-May; yellow-billed magpie, late February-mid-July; oak titmouse, March-July; grasshopper sparrow, May-July; tricolored blackbird, April-June).
- If no active special-status bird nests are found, no further measures pertaining to special-status birds are necessary.
- If active nests are found, the active nests will be monitored prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with CDFW. Once construction activities commence on-site, all nests will be monitored by a qualified biologist to detect any behavioral changes as a result of construction of the Proposed Project. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures. Pre-construction bird nesting surveys are not required for construction activity outside the nesting season.

5.13 Migratory Bird Treaty Act Birds

Many birds, including commonly occurring species, are protected under the California Fish and Game Code and the Federal MBTA. A complete list of protected birds can be found in 50 CFR 10.13. As such, to ensure that there are no impacts to protected birds or their active nests, the following is recommended:

- Conduct a pre-construction nesting bird survey of all suitable habitats within the limits of construction within the Study Area and all accessible areas within 50 feet of the limits of

construction within 14 days of the initiation of construction activity during the nesting season (February 1-August 31).

- If no protected birds are found, no further measures pertaining to protected birds are necessary.
- If active nests are found, the active nests will be monitored prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with CDFW. Once construction activities commence on-site, all nests will be monitored by a qualified biologist to detect any behavioral changes as a result of construction of the Proposed Project. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures. Pre-construction bird nesting surveys are not required for construction activity outside the nesting season.

5.14 Wintering Raptors and Other Non-nesting Special-status Birds

The Study Area supports potential foraging habitat for a variety of special-status birds that do not nest in the region, or suitable nesting habitat is absent (e.g., long-billed curlew, ferruginous hawk, golden eagle, prairie falcon, and mountain plover). The annual grassland community planned for development within the Amoruso Ranch Development and the off-site Reason Farms improvements area represent potential foraging habitat for these species. The preservation of the grassland communities within the three off-site Mitigation Properties is expected to offset the loss of foraging habitat for these species.

5.15 Mammals

The annual grasslands within the Study Area have a low potential to support habitat for American badger, and a number of trees and the dilapidated barn/residences within Study Area represents potential roosting habitat for two special-status bats.

To ensure that there are no impacts to American badgers and their burrows, the following is recommended:

- In conjunction with pre-construction burrowing owl surveys (Section 5.8), conduct pre-construction surveys for American badgers, including burrows. If no American badgers or sign are observed, construction may proceed.
- If no American badgers/active burrows are found, no further measures pertaining to this species are necessary.
- If American badgers are found on-site during the surveys, avoid direct and indirect impacts to burrows by establishing a no-disturbance buffer of 100 feet around burrows, in consultation with CDFW.

To ensure that there are no impacts to active bat roosts, the following mitigation measures are recommended:

- A qualified biologist shall conduct a dusk emergence survey (start one hour before sunset and last three hours), followed by a pre-dawn re-entry survey (start one hour before sunrise and last for two hours), in addition a daytime visual inspection of all potential bat roosting habitat within the limits of construction within the Study Area included as part of the pre-construction clearance survey. If no active bat roosts or sign are observed, construction may proceed.
- If no active special-species bat roosts are found, no further measures pertaining to special-species bats are necessary.
- If roosting special-species bats are found on-site during the surveys, avoid direct and indirect impacts to roosting sites by establishing a no-disturbance buffer of 100 feet around roost sites, in consultation with CDFW.
- Clearing and grubbing adjacent to the roost site and lighting use near the roost site where it would shine on the roost or interfere with bats entering or leaving the roost shall be prohibited.
- Operation of internal combustion equipment, such as generators, pumps, and vehicles within 100 feet of the roost site shall be prohibited.

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LIST OF ATTACHMENTS

Attachment A - California Natural Diversity Database List for the Roseville, CA Quadrangle

Attachment B - California Native Plant Society Electronic Inventory List for the Roseville, CA Quadrangle

Attachment C - U.S. Fish and Wildlife Service List for the Roseville, CA Quadrangle and Placer County

Attachment D - Representative Site Photos

ATTACHMENT A

California Natural Diversity Database List for the Roseville, CA Quadrangle

California Department of Fish and Game
Natural Diversity Database
Roseville, CA 7.5-minute Quadrangle

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	Agelaius tricolor tricolored blackbird	ABPBXB0020			G2G3	S2	SC
2	Alkali Meadow	CTT45310CA			G3	S2.1	
3	Alkali Seep	CTT45320CA			G3	S2.1	
4	Ammodramus savannarum grasshopper sparrow	ABPBXA0020			G5	S2	SC
5	Andrena subapasta vernal pool andrenid bee	IIHYM35210			G1G3	S1S3	
6	Athene cunicularia burrowing owl	ABNSB10010			G4	S2	SC
7	Balsamorhiza macrolepis big-scale balsamroot	PDAST11061			G2	S2	1B.2
8	Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3	
9	Buteo swainsoni Swainson's hawk	ABNKC19070		Threatened	G5	S2	
10	Chloropyron molle ssp. hispidum hispid salty bird's-beak	PDSCR0J0D1			G2T2	S2	1B.1
11	Downingia pusilla dwarf downingia	PDCAM060C0			GU	S2	2B.2
12	Elanus leucurus white-tailed kite	ABNKC06010			G5	S3	
13	Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060		Endangered	G2	S2	1B.2
14	Hydrochara ricksecker i Ricksecker's water scavenger beetle	IICOL5V010			G1G2	S1S2	
15	Juncus leiospermus var. leiospermus Red Bluff dwarf rush	PMJUN011L2			G2T2	S2	1B.1
16	Legenere limosa legenere	PDCAM0C010			G2	S2.2	1B.1
17	Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered		G3	S2S3	
18	Linderiella occidentalis California linderiella	ICBRA06010			G3	S2S3	
19	Northern Hardpan Vernal Pool	CTT44110CA			G3	S3.1	
20	Northern Volcanic Mud Flow Vernal Pool	CTT44132CA			G1	S1.1	
21	Progne subis purple martin	ABPAU01010			G5	S3	SC
22	Spea hammondii western spadefoot	AAABF02020			G3	S3	SC

ATTACHMENT B

California Native Plant Society Electronic Inventory List for the Roseville, CA Quadrangle

Inventory of Rare and Endangered Plants - 7th edition interface

v7-14jan 1-8-14

Status: search results - Mon, Feb. 3, 2014, 17:41 ET b

{QUADS_123} =~ m/528C|512A|512B|529D|529A|513A|528D|528A Search

Tip: Want to search by habitat? Try the **Checkbox and Preset** search page.[all tips and help.] [search history]

Your Quad Selection: Pleasant Grove (528C) 3812174, Citrus Heights (512A) 3812163, Rio Linda (512B) 3812164, Verona (529D) 3812175, Nicolaus (529A) 3812185, Taylor Monument (513A) 3812165, Roseville (528D) 3812173, Lincoln (528A) 3812183, Sheridan (528B) 3812184

Hits 1 to 9 of 9

Requests that specify topo quads will return only Lists 1-3.

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press | check all | check none

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
		1	**Balsamorhiza macrolepis**	big-scale balsamroot	Asteraceae	List 1B.2
		1	**Chloropyron molle ssp. hispidum**	hispid bird's-beak	Orobanchaceae	List 1B.1
		1	**Downingia pusilla**	dwarf downingia	Campanulaceae	List 2B.2
		1	**Gratiola heterosepala**	Boggs Lake hedge-hyssop	Plantaginaceae	List 1B.2
		1	**Juncus leiospermus var. ahartii**	Ahart's dwarf rush	Juncaceae	List 1B.2
		1	**Juncus leiospermus var. leiospermus**	Red Bluff dwarf rush	Juncaceae	List 1B.1
		1	**Legenere limosa**	legenere	Campanulaceae	List 1B.1
		1	**Navarretia myersii ssp. myersii**	pincushion navarretia	Polemoniaceae	List 1B.1
		1	**Sagittaria sanfordii**	Sanford's arrowhead	Alismataceae	List 1B.2

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press | check all | check none

Selections will appear in a new window.

No more hits.

ATTACHMENT C

U.S. Fish and Wildlife Service List for the Roseville, CA Quadrangle and Placer County

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 140203034340

Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Candidate Species

Birds

Coccyzus americanus occidentalis
Western yellow-billed cuckoo (C)

Quads Containing Listed, Proposed or Candidate Species:

PLEASANT GROVE (528C)

County Lists

Placer County

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
Critical habitat, valley elderberry longhorn beetle (X)
valley elderberry longhorn beetle (T)

Lepidurus packardi
Critical habitat, vernal pool tadpole shrimp (X)
vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus (=Salmo) clarki henshawi
Lahontan cutthroat trout (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Rana sierrae
Mountain yellow legged frog (PX)

Reptiles

Thamnophis gigas
giant garter snake (T)

Plants

Calystegia stebbinsii
Stebbins's morning-glory (E)

Ceanothus roderickii
Pine Hill ceanothus (E)

Galium californicum ssp. sierrae
El Dorado bedstraw (E)

Orcuttia viscida
Critical habitat, Sacramento Orcutt grass (X)
Sacramento Orcutt grass (E)

Senecio layneae
Layne's butterweed (=ragwort) (T)

Candidate Species

Amphibians

Rana muscosa
mountain yellow-legged frog (C)

Birds

Coccyzus americanus occidentalis
Western yellow-billed cuckoo (C)

Mammals

Martes pennanti
fisher (C)

Plants

Rorippa subumbellata
Tahoe yellow-cress (C)

Key:

(E) *Endangered* - Listed as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** proj within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by list. Plants may exist in an area without ever having been detected there. You can find ou what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. W recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmer documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species A 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the tak a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of tw procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together avoid or minimize the impact on listed species and their habitat. Such consultation would res in a biological opinion by the Service addressing the anticipated effect of the project on listec proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken a part of the project, then you, the applicant, should apply for an incidental take permit. The

Service may issue such a permit if you submit a satisfactory conservation plan for the specie that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct indirect impacts to listed species and compensates for project-related loss of habitat. You sh include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essent to its conservation may be designated as critical habitat. These areas may require specia management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination o seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harr listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and anima on our candidate list when we have enough scientific information to eventually propose t for listing as threatened or endangered. By considering these species early in your planni process you may be able to avoid the problems that could develop if one of these candid was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. Thes lists provide essential information for land management planning and conservation effort More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as def by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, y will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be May 2014.

ATTACHMENT D

Representative Site Photos

Seasonal wetland, 12 April 2011

Vernal pool VP-4, 12 April 2011

University Creek, intermittent drainage, 15 May 2012

Irrigated pasture, 12 April 2011

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Representative Site Photographs

2007-224 Amoruso Ranch