05 BIOLOGICAL RESOURCES

INTRODUCTION

This chapter identifies and analyzes the proposed project's impacts to biological resources. The analysis focuses on impacts to wetlands, trees, and special status plant and animal species.

ENVIRONMENTAL SETTING

The project site is a 128.2-acre property surrounded by commercial and residential development at elevations ranging from approximately 120 to 155 feet above sea level. The project site drains to the west and consists of gently hilly to undulating terrain. Historically the site was utilized as livestock pasturage, and most of the property has been disked in recent years. There are several informal path and roadways through the site, used by both vehicles and pedestrians. Don Julio Boulevard traverses the property across the easternmost section of the survey area from north to south.

The property is characterized by undulating low hills and terraces that support annual grassland habitat dominated by non-native annuals, including wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), vetch (*Vicia villosa*), little quaking grass (*Briza minor*), yellow star-thistle (*Centaurea solstitialis),* filaree (*Erodium sp*.), soft chess (*Bromus mollis*), loosestrife (*Lythrum hyssopifolia*), seaside barley (*Hordeum marinum*), rabbitsfoot grass (*Polypogon monspeliensis*), italian ryegrass (*Lolium multiflorum*) and curly dock (*Rumex crispus*).[1]

Some native annuals commonly associated with vernal pools (explained below) occur on site, including Lemmon's canary grass (*Phalaris lemmonii*), toad rush (*Juncus bufonius*), rusty popcorn flower (*Plagiobothrys nothofulvus*), stalked popcorn flower (*P. stipitatus*), and Carter's buttercup (*Ranunculus alveolatus*).

Several vernal pools and associated wetland areas lie along the western edge of the property. Vernal pools are wetlands that sustain long-term ponding and/or saturated soil conditions during and following periods of heavy precipitation in the winter and early spring. Additional water is provided by surface sheet flow and subsurface discharge onto the perched water tables or impermeable surfaces that underlie vernal pools. The pools on the project site do not have well-defined edges, and exhibit disturbance by vehicles (likely the agricultural disking equipment) during the dry season. There is a

[1] Gibson & Skordal, LLC, *Jurisdictional Delineation Report, Barrett Ranch East*, January 2012; *Listed Wet-Season Branchiopod Survey 90-Day Report*, Barrett Ranch East, April 2013; *Special Status Species Habitat Assessment*, Barrett Ranch East, October 2011; on file with Sacramento County Department of Community Development, Division of Planning and Environmental Review.

northwest-trending seasonal wetland swale/drainage in the southeast portion of the property, east of Don Julio Boulevard and south of Poker Lane. Seasonal wetland swales typically occur in linear sloping drainages and support a "facultative" wetland plant community, with plants that do not require permanently-saturated soils but adapt to them. Unlike creeks or streams, swales lack a defined bed and bank.

There are 40 trees on the property, many native species, distributed primarily along the site's margins and along the seasonal drainage. A large single-trunk blue oak (*Quercus douglasii*) west of the intersection of Poker Lane and Don Julio Boulevard, which measures approximately 119 inches in circumference or girth (38 inches in diameter) with a dripline radius of 41 feet. A second native oak, a large single-trunk valley oak (*Quercus lobata*), measuring 135 inches in circumference (43 inches in diameter), and with a dripline radius of 40 feet, grows at the northwest corner of the property approximately on Lot No. 17 of Village No. 1.[2,3] Thirty-eight other trees, most of them smaller in stature, grow on the site's perimeter and along a drainage on the southeastern portion of the property, east of Don Julio Road and along the property's south boundary south of the Antelope Road alignment. These include native valley oaks, blue oaks, Pacific willows (*Salix lasiandra*) and Fremont's cottonwoods (*Populus fremontii*), chinese elms (*Ulmus parvifolia*) and brazilian peppers (*Schinus terebinthifolius*).

REGULATORY SETTING

SACRAMENTO COUNTY GENERAL PLAN

The General Plan contains numerous goals, policies, concepts and strategies to protect and/or preserve biological resources. The following goals and policies apply to the proposed Project:

CO-58: Ensure no net loss of wetlands, riparian woodlands, and oak woodlands.

[2] Edwin E. Stirtz, *Initial Arborist Report and Tree Inventory Summary for the Barrett Ranch East Project Site*, p. A-1, Trees No. 636 and 635, respectively (November 11, 2011) (on file with the Sacramento County Department of Community Development, Division of Planning and Environmental Review).

[3] Walters Land Planning, *Tree Exhibit, Barrett Ranch East* (January 19, 2012); on file at Sacramento County Department of Community Development, Division of Planning and Environmental Review.

CO-59: Ensure mitigation occurs for any loss of or modification to the following types of acreage and habitat function:

1. Vernal pools,
2. Wetlands,
3. Riparian areas,
4. Native vegetative habitat, and
5. Special status species habitat.

CO-60: Mitigation should be directed to lands identified on the Open Space Vision Diagram and associated component maps (please refer to the Open Space Element).

CO-67: Preserves and conservation areas should have an established funding mechanism, and where needed, an acquisition strategy for its operation and management in perpetuity. This includes existing preserves such as the American River Parkway, Dry Creek Parkway, Cosumnes River Preserve and other plans in progress for riparian areas like Laguna Creek.

CO-70: Community Plans, Specific Plans, Master Plans and development projects shall:

- Include the location, extent, proximity and diversity of existing natural habitats and special status species in order to determine potential impacts, necessary mitigation and opportunities for preservation and restoration.
- Be reviewed for the potential to identify non-development areas and establish preserves, mitigation banks and restore natural habitats, including those for special status species, considering effects on vernal pools, groundwater, flooding, and proposed fill or removal of wetland habitat.
- Be reviewed for applicability of protection zones identified in this element, including the floodplain protection zone, stream corridor ordinance, Cosumnes river protection combining zone and the Laguna creek combining zone.

CO-71: Development design shall help protect natural resources by:

- Minimizing total built development in the floodplain, while designing areas of less frequent use that can support inundation to be permitted in the floodplain, Ensuring development adjacent to stream corridors and vernal pools provide, where physically reasonable, a public street paralleling at least one side of the corridor with vertical curbs, gutters, foot path, street lighting, and post and cable barriers to prevent vehicular entry.
- Projects adjacent to rivers and streams shall integrate amenities, such as trail connectivity, that will serve as benefits to the community and ecological function.

- Development adjacent to stream corridors and vernal pools shall be designed in such a manner as to prevent unauthorized vehicular entry into protected areas.

CO-83: Preserve a representative portion of vernal pool resources across their range by protecting vernal pools on various geologic landforms, vernal pools that vary in depth and size, and vernal pool complexes of varying densities; in order to maintain the ecological integrity of a vernal pool ecosystem.

CO-91: Discourage introductions of invasive non-native aquatic plants and animals.

CO-134: Maintain and establish a diversity of native vegetative species in Sacramento County.

CO-135: Protect the ecological integrity of California Prairie habitat.

CO-138: Protect and preserve non-oak native trees along riparian areas if used by Swainson's Hawk, as well as landmark and native oak trees measuring a minimum of 6 inches in diameter or 10 inches aggregate for multi-trunk trees at 4.5 feet above ground.

CO-139: Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed.

CO-145: Removal of non-native tree canopy for development shall be mitigated by creation of new tree canopy equivalent to the acreage of non-native tree canopy removed. New tree canopy acreage shall be calculated using the 15-year shade cover values for tree species.

CO-146: If new tree canopy cannot be created onsite to mitigate for the non-native tree canopy removed for new development, project proponents (including public agencies) shall contribute to the Greenprint funding in an amount proportional to the tree canopy of the specific project.

CO-147: Increase the number of trees planted within residential lots and within new and existing parking lots.

CO-149: Trees planted within new or existing parking lots should utilize pervious cement and structured soils in a radius from the base of the tree necessary to maximize water infiltration sufficient to sustain the tree at full growth.

The major goal outlined in the Conservation Element of the General Plan is for the management and protection of natural resources for the use and enjoyment of present and future generations, while maintaining the long-term ecological health and balance of the environment. In addition to the Conservation Element goals and objectives, the Open Space Element further identifies two key concepts that form the basis of the goals, objectives and policies contained in the element: (1) protecting the urban edge and (2) establishing natural area linkages.

The urban edge is defined as the Urban Services Boundary (USB) in the Land Use Element. This boundary is the ultimate boundary of the urban area and is based upon natural and environmental constraints to urban growth. Protection of the urban edge allows accommodation of large-scale urban development, while maintaining substantial rural, natural open space areas. Confining urban development within the USB prevents urban sprawl into the rural and open space areas of the County; protecting the urban edge protects the existing open space and rural areas of the County from being lost to development.

SACRAMENTO COUNTY TREE ORDINANCE

The Sacramento County Tree Preservation and Protection Ordinance (Chapter 19.12 of the County Code) states that "it shall be the policy of the County to preserve all trees possible through its development review process." In addition, the "approving body shall have the authority to adopt mitigation measures as conditions of approval for projects in order to protect other species of trees." This protection is afforded to native oak trees, other native trees, and landmark trees (defined in Section 19.04.030 of the County Code as "an especially prominent or stately tree on any land in Sacramento County"). Furthermore, the Sacramento County General Plan Conservation Element Policy CO-138 states that the County "protect and preserve non-oak native trees along riparian areas if used by Swainson's Hawk, as well as landmark and native oak trees measuring a minimum of 6 inches in diameter or 10 inches aggregate for multi-trunk trees at 4.5 feet above ground." County policy identifies a list of native oak and specific non-oak native trees, which are listed below.

- Valley oak/*Quercus lobata*
- Interior live oak/*Quercus wislinzenii*
- Blue oak/*Quercus douglasii*
- Coast live oak/*Quercus agrifolia* (in Delta area)
- Oracle oak/*Quercus X morehus*
- Native oak hybrids
- California sycamore/*Platanus racemosa*
- Northern California black walnut/*Juglands californica v. hidsii*
- Oregon ash/*Fraxinus latifolia*
- Goodding's black willow/*Salix goddingii*
- Box elder Acer/*Negundo v. caifornicum*
- White alter/*Alnus rhombifolia*
- California buckeye/*Aesculus califnornica*

SWAINSON'S HAWK IMPACT MITIGATION FEE PROGRAM ORDINANCE

The California Department of Fish and Wildlife (Cal Fish and Wildlife) requires that mitigation for foraging habitat be provided within the known foraging radius of a nesting Swainson's hawk (emphasis added). In 1997, in response to the need to mitigate for the loss of Swainson's hawk foraging habitat in Sacramento County, the Board of Supervisors adopted an ordinance that established a Swainson's Hawk Impact Mitigation Program (Chapter 16.130 of the Sacramento County Code). The Program

has been amended several times; the latest amendment went into effect December 2009. By adopting the Program, the Board of Supervisors found that "the most effective means of mitigation for the loss of suitable Swainson's hawk foraging habitat is the direct preservation, in perpetuity, of equally suitable foraging habitat on an acre-per-acre basis based on the Project's determined acreage impact."

The Program applies to projects requiring a zone change from agriculturally-designated lands to an agricultural zone that allows for smaller parcel sizes, or to an urban land use designation, or where there is a request for land use entitlements for non-agricultural uses that are incompatible with the maintenance of Swainson's Hawk foraging habitat.

Under the Swainson's Hawk Impact Mitigation Program, only projects which have an impact of fewer than 40 acres are eligible to pay fees. Projects impacting 40 acres or more of foraging habitat that are within 10 miles of an identified Swainson's hawk nest must provide land acceptable to California Fish and Wildlife and the County. Land can be provided in fee title or through conservation easement. However, the County Board of Supervisors retains the authority under the ordinance to determine, based on specific economic, social, legal, technical or other considerations, that mitigation for Swainson's Hawk foraging habitat is infeasible or that evidence has been presented to the Board which the Board determines eliminates the need for such mitigation.

Sacramento County Department of Community Development, Planning and Environmental Review Division (PER) administers the Swainson's Hawk Impact Mitigation Program and more information on lands likely to be determined as acceptable replacement habitat can be found at http://www.per.saccounty.net/EnvironmentalDocuments/Pages/SwainsonsHawkOrdinance.aspx (last accessed May 19, 2016).

FEDERAL AND STATE REGULATORY AUTHORITY

The two major federal laws regulating impacts to wetlands and wildlife species are the Clean Water Act (Section 404 and 401) and the Endangered Species Act (Section 7, 9, and 10). The U.S. Army Corps of Engineers (Army Corps) is responsible for administering the Clean Water Act (CWA), Section 404, with the US Environmental Protection Agency serving in an oversight capacity. The US Fish and Wildlife Service (US Fish and Wildlife) is responsible for administering the Endangered Species Act, Sections 7, 9, and 10. The state Regional Water Quality Control Board is the regulatory agency that enforces Section 401 of the CWA. The three most important state laws regulating wildlife species, streams, and wetlands are the California Endangered Species Act (Section 2081), Section 1600 of the Cal Fish and Wildlife code, and the Porter-Cologne Water Quality Control Act. The first two are administered by the California State Department of Fish and Wildlife (Cal Fish and Wildlife), and the latter is administered by the Regional Water Quality Control Board (Regional Water Board).

CLEAN WATER ACT SECTION 404 PERMIT GUIDELINES

The Army Corps regulates discharge of dredged or fill material into waters of the United States under Section 404 of the CWA. Waters of the U.S. are generally defined as "navigable waters," which are defined as traditional navigable waters that are or were

used for commerce, or may be used for interstate commerce; tributaries of navigable waters; and wetlands adjacent to navigable waters. “Discharge of fill material” is defined as the addition of fill material into waters of the U.S., including, but not limited to the following placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. The Solid Waste Agency of Northern Cook County (SWANCC) vs. United States Army Corps of Engineers decision made by the Supreme Court in 2001 altered the types of wetlands that can be regulated by Section 404. Isolated wetlands, that is, wetlands that are not hydrologically connected to other “navigable” surface waters (or their tributaries), are not considered to be subject to Federal jurisdiction. However the SWANCC decision only prohibits Federal jurisdiction over isolated waters; State and local jurisdiction still applies.

The California State Regional Water Quality Control Board (Regional Water Board) regulates wetlands pursuant to Section 401 of the CWA. Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

FEDERAL ENDANGERED SPECIES ACT

Under the Federal Endangered Species Act (FESA) of 1973, the Secretary of the Interior and the Secretary of Commerce jointly have the authority to list a species as endangered or threatened. FESA defines “endangered” species as any species in danger of extinction throughout all or a significant portion of its range. A “threatened” species is any species that is likely to become an “endangered” species within the foreseeable future throughout all or a significant portion of its range. Additional special-status species include “candidate” species and “species of concern.” “Candidate” species are those for which US Fish and Wildlife has enough information on file to propose listing as endangered or threatened. “Species of concern” are those for which listing is possibly appropriate but for which US Fish and Wildlife lacks sufficient information to support a listing proposal. A species that has been “delisted” is one whose population has met its recovery goal target and is no longer in jeopardy of extinction. Taking of federally listed species is prohibited under Section 9 of FESA. To “take” is defined by FESA (Section 2[19]) to mean “to harass, harm, pursue, hunt, shoot, would, kill, trap, capture, or collect, or attempt to engage in any such conduct.”

All government agencies must review their actions and determine if a “may affect” situation occurs with respect to a federally listed or proposed species. If the agency makes a “may affect” determination, it is then required to formally consult with National Oceanic and Atmospheric Administration, Fisheries (NOAA Fisheries) and/or US Fish and Wildlife.

For federal agencies, the consultation is conducted under Section 7 of FESA. The agency submits a Biological Assessment to US Fish and Wildlife that evaluates the potential adverse effects to federally listed species. US Fish and Wildlife then prepares a Biological Opinion that addresses the requirements that must be followed to avoid, minimize, and compensate for impacts to federally listed species and their habitats.

For non-federal agencies or individuals (i.e. private applicants), the consultation is conducted under Section 10 of FESA. The agency or individual submits an incidental take1 permit application to US Fish and Wildlife accompanied by a habitat conservation plan (HCP). The purpose of the habitat conservation planning process associated with the permit is to ensure there is adequate minimization and mitigation of the effects of the authorized incidental take. The purpose of the permit is to authorize the incidental take of a listed species, not to authorize the activities that result in take (USFWS 2005).

Further explanation is provided in the following notification, which was submitted to the County by US Fish and Wildlife for inclusion into all environmental documents when threatened or endangered species may be adversely affected:

As a requirement of the Department of Interior, US Fish and Wildlife Service, the following notification is provided to proponents of any Project that has the potential to adversely affect threatened or endangered species:

> The applicant is hereby notified of additional conditions as stipulated by the U.S. Fish and Wildlife Service. Features of the applicant's Project may adversely affect federally listed threatened or endangered species. An applicant must go through one of two processes to obtain authorization to take federally listed species incidental to completing his or her Project. One of the processes is formal consultation. When the authorization or funding of a Federal agency is an aspect of a Project that may affect federally listed species, Section 7 of the Endangered Species Act requires the Federal agency to formally consult with the Service.

Formal consultation is concluded when the Service issues a Biological Opinion to the Federal agency. The Biological Opinion includes terms and conditions to minimize the effect of take on listed species. The Federal agency must make the terms and conditions of the Biological Opinion into binding conditions of its own authorization to the Project applicant. An example of this process is when the U.S. Army Corps of Engineers consults with the Service prior to issuing a permit to fill jurisdictional waters under Section 404 of the Clean Water Act. The terms and conditions of the biological opinion become binding on the Project applicant through the Corps' 404 authorization. When no Federal funding or authorization is involved in a Project, an applicant must prepare a habitat conservation plan and obtain a permit directly from the Service in accordance with Section 10(a)(1)(B) of the Act. For additional information on these processes please contact the Endangered Species Division of the U.S. Fish and Wildlife Service's Sacramento Fish and Wildlife Office at (916) 414-6600".

MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) of 1916 established federal responsibilities for the protection of nearly all species of birds, their eggs, and nests. Section 16 U.S.C. 703–712 of the Act states “unless and except as permitted by regulations, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill” a migratory bird. A migratory bird is any species or family of birds that lives, reproduces or migrates within or across international borders at some point during its annual life cycle. Currently, there are 836 migratory birds protected nationwide by the MBTA, of which 58 are legal to hunt.

CALIFORNIA ENDANGERED SPECIES ACT (CESA)

The California Endangered Species Act (established in Cal Fish and Wildlife Code §2050) generally parallels the main provisions of the FESA and is administered by Cal Fish and Wildlife for most terrestrial species, with assistance from the NOAA Fisheries (formerly known as the National Marine Fisheries Services, or NMFS) for most freshwater fishery species. The CESA prohibits the taking of state-listed species except as otherwise provided by state law. Unlike the federal ESA, the CESA extends the take prohibitions to not only listed species but also for species petitioned for listing. “Take” is defined in Section 86 of the Cal Fish and Wildlife Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Section 2081 of the CESA identifies the following criteria that must be met for Cal Fish and Wildlife to authorize the take of endangered, threatened or candidate species:

- The taking of a listed or candidate species can be minimized and fully mitigated.
- The take would not jeopardize the continued existence of the species.
- Authorization for take must be based on the best scientific material that is reasonably available, and that due consideration will be given to the species’ ability to survive and reproduce.

CALIFORNIA FISH AND WILDLIFE CODE

ANIMALS AND PLANTS

Section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Cal Fish and Wildlife Code or any regulation made pursuant thereto. Section 3503.5 make it unlawful to take, possess, or destroy any birds in the orders *Falconiformes* or *Strigiformes* or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by the Cal Fish and Wildlife Code or any regulation adopted pursuant thereto. Sections 1908, 3511, 4700, 5050 state that Fully Protected plant and animals or parts thereof may not be taken or possessed at any time.

Surface Waters

Cal Fish and Wildlife Code Section 1602 requires any person, state or local governmental agency, or public utility to notify Cal Fish and Wildlife before beginning any activity that will do one or more of the following: 1) substantially obstruct or divert the natural flow of a river, stream, or lake; 2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. Cal Fish and Wildlife Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state. Notification is generally required for any project that will take place in the vicinity of a river, stream, or lake. Cal Fish and Wildlife will determine whether a Lake or Streambed Alteration Agreement is required for the activity. An agreement will be required if the activity could substantially adversely affect an existing fish and wildlife resource. If an agreement is required, it will be prepared by Cal Fish and Wildlife in coordination with the applicant. The agreement will include measures, as necessary, to protect fish and wildlife resources while conducting the project.

Porter-Cologne Water Quality Control Act

This Act (State Water Code Section 13020) mandates that all the waters of the state be protected, that activities and factors affecting water quality be regulated to attain the highest water quality "within reason", and that the state be prepared to exercise its power and jurisdiction to protect water quality from degradation. Waters of the state are defined as any surface or groundwater within the boundaries of the state. The Regional Water Board issues permits, with varying conditions, to allow the discharge of dredge or fill material or a waiver of waste discharge into waters of the state (the Project would not qualify for a waiver). Any "isolated" waters not subject to the Clean Water Act as a result of the SWANCC decision are still subject to the Porter-Cologne Water Quality Control Act, and still require mitigation pursuant to the state's no net-loss policy. In such a case, fill of isolated wetlands would be permitted through Waste Discharge Requirements rather than a Section 401 Water Quality Certification.

Methodology

Determining whether an impact on a biological resource is significant relies on thresholds established or endorsed by regulatory agencies, and on the results of field work and records searches by professional biologists. Several field studies were performed for the proposed project (listed below), and are hereby incorporated by reference. In the absence of agency-published lists or studies, the analyses rely on the general CEQA significance definitions. Each study listed below fully describes the methods involved in gathering relevant data, including records searches and field observation.

The following studies were used for preparing this section:

- Gibson and Skordal, LLC, Wetland Consultants, *Jurisdictional Delineation Report* (January 2012).
- Gibson and Skordal, LLC, Listed Wet-Season Branchiopod Survey: 90-Day Report (April 2013).
- Gibson and Skordal, LLC, *Special Status Species Habitat Assessment* (January 2012).
- Gibson and Skordal, LLC, *Wetland Preservation/Compensation Plan, Barrett Ranch East* (January 2012).
- Sierra Nevada Arborists/Edwin E. Stirtz ISA, *Updated Arborist Report and Tree Inventory Summary*, Barrett Ranch East Project Site (November 2015).

The Gibson and Skordal, LLC reports are included in Appendix C of this EIR. The Sierra Nevada Arborist/Edwin E. Stirtz Updated Arborist Report is included in Appendix D of this EIR.

SIGNIFICANCE CRITERIA

Standards for determining thresholds of significance were established based on the State CEQA Guidelines and professional standards. Impacts to biological resources are considered significant if the Project would result in the following:

1. Have a substantial adverse effect, either directly or through habitat or other modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDWF or USFWS.
2. 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.
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pools, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. 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 wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Significance criteria Nos. 4 and 6 are not discussed in this EIR, because:

- The project site is not surrounded by suburban-scale development, contains no streams or rivers, is not part of a wildlife corridor and does not support known nursery sites (significance criteria No. 4); and
- The project site is not within an adopted Habitat Conservation Plan or Natural Community Conservation Plan area, and is not within any other local, regional, or state habitat conservation plan area (significance criteria No. 6).

IMPACTS AND ANALYSIS

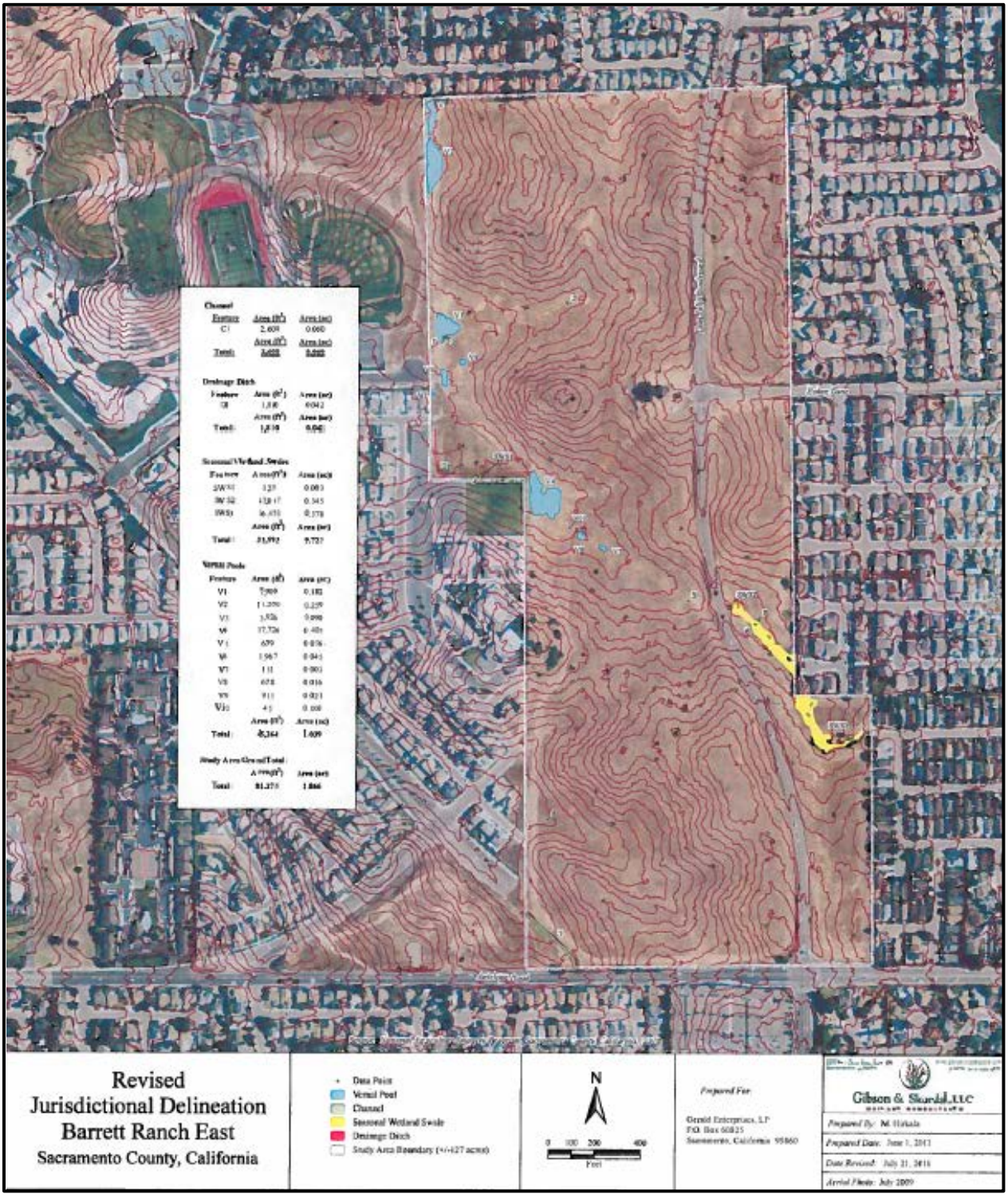
IMPACT: WETLANDS AND SURFACE WATERS

LEVEL OF IMPACT: LESS THAN SIGNIFICANT WITH MITIGATION

The jurisdictional wetland delineation prepared for the project identified 1.866 acres of wetlands/waters, including 1.039 acres comprising 10 vernal pools, a 0.725 acre seasonal wetland swale, a 0.060 acre channel and a 0.042 acre drainage ditch. All of the wetland features except the channel drain into a drop inlet located just west of the western property line south of Titan Drive. This inlet drains to a relatively permanent tributary of Dry Creek, which in turn flows into Steelhead Creek, which flows into the American River, a "Traditional Navigable Water." The channel drains separately northward toward Dry Creek. Because all water features on the subject property ultimately connect to a traditional navigable water, they are potential "waters of the Unities States," and subject to the Clean Water Act. Because they are surface waters within California, they are "Waters of the State," and subject to the Porter-Cologne Water Quality Control Act. **Plate BR-1** below shows the various features on the property.

The delineation identified ten vernal pools on the western property boundary in the northern half of the site. The 0.060-acre channel lies in the southwest corner of the project site. At the time of the field survey, it possessed a distinct bed and bank and ordinary high water mark, and was classified as an "intermittent channel." It was flowing at the time of the field survey, but the primary source of flow appeared to be run-off nuisance water from the adjacent development south of Antelope Road. The channel supported little to no vegetation. The 0.042-acre drainage ditch lies along the eastern edge of the site, south of Titan Drive at the base of the Barrett Ranch Elementary School fill pad. The drainage ditch was apparently constructed to drain runoff from the school's irrigated playing fields. This feature is earthen and is approximately 2-4 feet wide. The 0.725-acre, three-segment seasonal wetland swale lies in the southeast portion of the site, south of Poker Lane. The delineation report observed that the swale exhibited some characteristics of hydric soils, but that they might have been maintained only by irrigation water runoff from residential development on the east.

Plate BR-1: Wetland Jurisdictional Delineation



The proposed project is expected to eliminate the entire on-site wetland habitat except for the seasonal swale on the southeast portion of the site. The property would be drained by a subterranean culvert system, which would connect the existing culverts upstream and downstream from the site. The vernal pools would be ultimately graded and filled as part of site preparation.

The Clean Water Act establishes a "no net loss" policy regarding wetlands for the state and federal governments, and General Plan Policy CO-58 establishes a "no net loss" policy for Sacramento County. Pursuant to these policies, any wetlands to be excavated or filled require 1:1 mitigation, and construction within the wetlands cannot take place until the appropriate permit(s) have been obtained from the Army Corps, the U.S. Fish and Wildlife, the Regional Water Board, the California Fish and Wildlife and any other agencies with authority over surface waters. Any loss of delineated wetlands not mitigated for through the permitting process must be mitigated, pursuant to County policy. Appropriate mitigation may include establishment of a conservation easement over wetlands, purchase of mitigation banking credits, or similar measures.

There are regulatory setbacks established for vernal pools and other seasonal wetlands which may contain vernal pool crustaceans. The purpose of a setback is to buffer the wetland from the indirect impacts of development, such as polluted runoff. According to the Programmatic Consultation for vernal pool crustaceans, all construction activities must remain a minimum of 250 feet from any vernal pool in order to avoid impacts (refer to the discussion "Vernal Pool Crustaceans"). There is no regulatory setback for other surface waters, but the County Planning and Environmental Review Division has typically required a minimum 50-foot setback[4]. Maintenance of these setbacks will avoid indirect impacts to the surface water. A direct impact is the filling or excavation of a surface water.

The project will result in direct impacts to 1.144 acres wetlands, consisting of 0.06 acres of channel, 0.042 acres of drainage ditch, 0.003 acres of seasonal wetland swale, and 1.039 acres of vernal pools. The applicant is required to obtain permits from the Army Corps of Engineers prior directly impacting any onsite wetlands. Mitigation Measure BR-1 requires that all applicable permits be obtained prior to any ground disturbing activity. If mitigation through the permit process results in a 1:1 mitigation then no further mitigation will be required. If a no net loss of wetlands is not achieve through the permit process mitigation though other acceptable means, as detailed in mitigation measure BR-1 will be required.

A total of 0.722 acres of seasonal wetland swales will be preserved within open space Lot H. No indirect impacts to the seasonal swales are anticipated because they are upslope from the impacted wetlands and they receive most of their water from offsite

[4] Research suggests that some of the most common urban runoff pollutants – including sediment, nitrogen, and phosphorus – can be filtered over this distance by intervening vegetation. Source: McElfish, James M. et al. 2008. Planner's Guide to Wetland Buffers for Local Governments. Environmental Law Institute, Washington, D.C.

sources. The swale is located adjacent to Don Julio Boulevard which will be widened as part of this project. In order to prevent direct impacts to the swale, construction fencing must be placed around the swale. No impact to this swale is anticipated; however, given the proximity to construction on Don Julio Boulevard, it should be noted that any direct impact to this swale will require permits from the Army Corps of Engineers as detailed in Mitigation Measure BR-1. The applicant has prepared a Wetland Preservation-Compensation Plan (Appendix C). The plan details the strategy for maintenance and management of the preserved seasonal wetland swales. Mitigation Measure BR-2 requires implementation of that plan, or other approved plan in, order to ensure that Lot H is conserved in perpetuity.

With mitigation, impacts to wetlands and surface waters are *less than significant*.

MITIGATION MEASURES

BR-1: WETLAND COMPENSATION

To compensate for the permanent loss of wetlands, the applicant shall perform one or a combination of the following prior to issuance of building permits, and shall also obtain all applicable permits from the Army Corps of Engineers, the U.S. Fish and Wildlife Service, the Central Valley Regional Water Quality Control Board, and the California Department of Fish and Game:

1. Where a Section 404 Permit has been issued by the Army Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of achieving a no net-loss of wetlands. The required plan shall be submitted to the Sacramento County Environmental Coordinator, U.S. Army Corps of Engineers, and U.S. Fish and Wildlife Service for approval prior to its implementation.
2. If regulatory permitting processes result in less than a 1:1 compensation ratio for loss of wetlands, the applicant shall demonstrate that the wetlands which went unmitigated/uncompensated as a result of permitting have been mitigated through other means. Acceptable methods include payment into a mitigation bank or protection of off-site wetlands through the establishment of a permanent conservation easement, subject to the approval of the Environmental Coordinator.

BR-2: WETLAND PRESERVATION

Implement the applicant's proposed Long Term Maintenance and Management plan, or equivalent plan, subject to the approval of the Environmental Coordinator.

1. Lot H shall be deeded to a public entity or non-profit organization to manage and maintain in perpetuity. Funding for maintenance shall be obtained from an endowment sufficient to cover costs on a yearly basis. Other funding means may be obtained as long as the mechanism is assured. A conservation easement

shall be placed on the open space area (Lot H) to ensure that the site remains undeveloped.

2. Prior to any ground disturbing activity temporary construction fencing shall be placed around Lot H to protect the resources from encroachment by construction equipment. Signage shall be installed on this fencing, subject to the approval of the Division of Planning and Environmental Review, prohibiting entry by vehicles or unauthorized persons. This fencing shall remain in place for the duration of construction.

SPECIAL STATUS SPECIES

A “special status” species is one which has been identified as having relative scarcity and/or declining populations. Special status species include those formally listed as threatened or endangered, those proposed for formal listing, candidates for federal listing, and those classified as species of special concern. Also included are those species considered to be "fully protected" by CDFW, those granted “special animal” status for tracking and monitoring purposes, and those plant species considered to be rare, threatened, or endangered in California by the California Native Plant Society (CNPS).

There are multiple status designations applied to animal and plant species; the relevant definitions are provided below[5]:

Endangered Species: Any species which is in danger of extinction throughout all or a significant portion of its range.

Threatened Species: Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Species of Concern: Any species with declining population levels, limited ranges, and/or other factors that make them vulnerable to extinction and may ultimately qualify the species for threatened or endangered status.

Fully Protected: The classification of Fully Protected was California’s initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Most have subsequently been defined as endangered or threatened, but there are exceptions.

Special Animals: A general term that refers to all of the taxa that CDFW is interested in tracking, regardless of their legal or protection status. Though the species themselves have not declined to the extent that they are listed by one of the

[5] Source: California and Federal Endangered Species Acts, http://www.dfg.ca.gov/wildlife/nongame/ssc/, http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html, and http://www.cnps.org/cnps/rareplants/ranking.php.

classifications noted above (endangered, etc), such species are closely associated with a habitat that is declining in California.

List 1B Plants: Plants that are rare throughout their range, and have declined significantly over the last century. The majority of plants on this list are endemic to California.

List 2 Plants: The same as List 1B plants, except that List 2 plants are common outside of California.

The project site contains potential potential habitat for listed and/or special-status invertebrate, reptile/amphibian, bird, mammal species and plant species as detailed in Table BR-1 below. Where necessary, a detailed discussion of potentially affected species follows the table.

Table BR-1: Special Status Species Matrix

Species	Status[1]	Habitat[1]	Potential for Habitat
BIRDS			
Bald Eagle *Haliaeetus leucocephalus*	SE	Bald eagles both winter and nest along rivers, lakes, or reservoirs that support abundant fish or waterbird prey and that have large trees or snags for perch and roost sites. Nesting is from February through July. Bald eagles are not known to nest in Sacramento County, but have been observed wintering in the County.	Not Present. The site does not contain habitat for the bald eagle and there are no known occurrences within 10 miles of the project site.
Bank Swallow *Riparia riparia*	ST	Requires vertical banks and cliffs with fine-textured or sandy soils near streams, rivers, ponds, lakes, and the ocean for nesting. Feeds primarily over grassland, shrubland, savannah, and open riparian areas. Primarily listed for destruction of nesting habitat.	Not Present. The site does not contain habitat for the bank swallow and there are no known occurrences within 10 miles of the project site.
Black-Crowned Night Heron	SA	Found along rivers and brackish emergent wetlands, the species is a colonial nester. Nests are usually in densely foliaged trees or vine tangles. Nesting season is February to July. Listed for nesting colonies.	Not Present. The site does not contain habitat for the black-crowned night heron and there are no known occurrences within 10 miles of the project site.
Burrowing Owl *Athene cunicularia hypugea*	CSC	Frequents open grasslands and shrublands with perches and burrows. Nests and roosts in old burrows of small mammals and rubble piles. Listed for breeding habitat.	Potentially Present. The site contains nesting and foraging habitat for this species. See the Burrowing Owl section for a detailed discussion.
California Black Rail *Laterallus jamaicensis coturniculus*	ST	A yearlong resident of saline, brackish, and fresh emergent wetlands, the majority of the species are found in the tidal salt marshes of the northern San Francisco Bay region. The only known occurrence in the County is within the Cosumnes River Preserve.	Not Present. The site does not contain habitat for the California black rail and there are no known occurrences within 10 miles of the project site.

Species	Status[1]	Habitat[1]	Potential for Habitat
Cooper's Hawk *Accipiter cooperii*	SA	Frequents landscapes with wooded patches and groves, along with woodland edge habitats. Nests in riparian areas. Listed for nesting impacts.	Potentially Present. The site contains nesting habitat for the Cooper's hawk. This species is included in the Nesting Raptor section below.
Double-Crested Cormorant *Phalacrocorax auritus*	SA	Associated with estuaries, rivers, and oceans, the species is known to occur along major rivers in the Central Valley. A colonial nester, the species prefers cliffs, rugged slopes, or tall trees beside water. Range is restricted to 5 – 10 miles of the nesting area. Listed for the protection of nesting colonies.	Not Present. The site does not contain habitat for the double-crested cormorant and there are no known occurrences within 10 miles of the project site.
Ferruginous Hawk *Buteo regalis*	SA	Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. Listed for preservation of wintering habitat.	Not Present. There are no known ferruginous hawk occurrences within 10 miles of the project site.
Golden Eagle *Aquila chrysaetos*	CFP, SA	Found in rolling foothills with open grasslands, scattered trees, and cliff-walled canyons. Nests on cliffs and in large trees in open areas. Listed for nesting habitat.	Not Present. The site does not contain habitat for the golden eagle and there are no known occurrences within 10 miles of the project site.
Grasshopper Sparrow *Ammodramus savannarum*	CSC	Occurs in dry, dense grasslands, especially those with a variety of grasses and tall forbs and scattered shrubs for singing perches. Builds nest of grasses and forbs in a slight depression in ground, hidden at base of an overhanging clump of grasses or forbs. Listed for loss of nesting/breeding habitat.	Not Present. The site does not contain habitat for the grasshopper sparrow and there are no known occurrences within 10 miles of the project site.

Species	Status[1]	Habitat[1]	Potential for Habitat
Great Blue Heron *Ardea herodias*	SA	Associated with estuaries, rivers, and oceans, the species is known to occur along major rivers in the Central Valley. A colonial nester, the species prefers tall trees beside water. The range is restricted to within 10 miles of the nesting area. Listed for the protection of nesting colonies.	Not Present. The site does not contain nesting habitat for the great blue heron.
Great Egret *Ardea alba*	SA	Associated with estuaries, rivers, and oceans, the species is known to occur along major rivers in the Central Valley. A colonial nester, the species prefers cliffs, rugged slopes, or tall trees beside water. Listed for the protection of nesting colonies.	Not Present. The site does not contain nesting habitat for the great egret.
Greater Sandhill Crane *Grus anadensis tabida*	ST	Listed for both nesting and wintering habitat, the species prefers open shortgrass plains, grain fields, and open wetlands for foraging, and typically nests within remote portions of extensive wetlands. The species does not nest in Sacramento County, but does winter in the County.	Not Present. The site does not contain habitat for the greater sandhill crane and there are no known occurrences within 10 miles of the project site.
Loggerhead Shrike *Lanius ludovicianus*	CSC	Listed for loss of breeding habitat, the species places nests in large shrubs or trees. Breed mainly in shrublands or open woodlands with a fair amount of grass cover and areas of bare ground.	Not Present. The site does not contain habitat for the loggerhead shrike and there are no known occurrences within 10 miles of the project site.
Merlin *Falco columbarius*	SA	Listed for loss of wintering habitat, the species will forage in open grasslands, woodlands, and coastal areas. The breeding range does not include California.	Potentially Present. The site contains potential wintering habitat for the merlin. Though the project will be developed with residential uses, the project includes the preservation of 15.7 acres of open space and the species is increasingly common due to its ability to adapt to cities and towns. Impact to this species is unlikely.

Species	Status[1]	Habitat[1]	Potential for Habitat
Northern Harrier *Circus cyaneus*	CSC	Frequents meadows, grasslands, open rangelands, desert sinks, and fresh and saltwater emergent wetlands. Harriers nest on the ground, mostly within patches of dense, often tall, vegetation in undisturbed areas. The species is listed for nesting.	Not Present. The site does not contain habitat for the northern harrier and there are no known occurrences within 10 miles of the project site.
Purple Martin *Progne subis*	CSC	The species is typically a colonial nester, and nest sites include crevices in cliffs and hollow trees, though the species is also known to use nest boxes provided by humans. The species is listed for nesting.	Not Present. The site does not contain habitat for the purple martin.
Snowy Egret *Egretta thula*	SA	Listed for the protection of nesting colonies, the species is common in the Central Valley all year. Colonies will nest on either the ground, in marsh habitat, or at very low heights within trees (5 – 10 feet from the ground). Breeding season is late April to late August.	Not Present. The site does not contain habitat for the snowy egret and there are no known occurrences within 10 miles of the project site.
Suisun Song Sparrow *Melospiza melodia maxillaris*	CSC	The species' year-round range is confined to tidal salt and brackish marshes fringing the Carquinez Strait and Suisun Bay east to Antioch, at the confluence of the San Joaquin and Sacramento rivers.	Not Present. The species only has the potential to be present at the very southernmost tip of the County, where no development is proposed.
Swainson's Hawk *Buteo swainsoni*	ST	Breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannah. Requires adjacent suitable foraging areas such as grasslands or grain fields supporting rodent populations.	Potentially Present. The site contains nesting and foraging habitat for the Swainson's hawk. See the Swainson's Hawk section for a detailed discussion.

Species	Status[1]	Habitat[1]	Potential for Habitat
Tricolored Blackbird *Agelaius tricolor*	CSC	The species is listed for breeding habitat. Known to nest near marshes in large (several hundred to several thousand birds) breeding colonies in habitat made up of blackberry thickets, bulrush (*Scrirpus* sp.) or cattails (*Typha* sp.) patches.	Potentially Present. The site contains nesting habitat for the tricolored blackbird. See the Tricolored Blackbird section for a detailed discussion.
Western Yellow-Billed Cuckoo	FE (state candidate)	Inhabits extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, and which abut on slow-moving watercourses, backwaters, or seeps.	Not Present. Though historically present in Sacramento County, current California Fish and Wildlife range maps exclude the County. The California Natural Diversity Database also lists the species as extirpated from Sacramento County.
White-Tailed Kite *Elanus leucurus*	CFP, SA	Inhabit low-elevation grasslands, wetlands dominated by grasses, oak woodlands, and agricultural and riparian areas. The species is listed for nesting.	Potentially Present. The site contains nesting habitat for the white-tailed kite. This species is included in the Nesting Raptor section below.
MAMMALS			
American Badger *Taxidea taxus*	CSC	Occurs in a variety of habitats, including grasslands and oak woodlands. Requires loose or easily crumbled soils for digging.	Not Present. There are no known occurrences within 10 miles of the project site.
REPTILES			
Giant Garter Snake *Thamnophis gigas*	FT, ST	Endemic to valley floors of the Sacramento and San Joaquin Valleys. Prefers freshwater marsh and low gradient streams. Has adapted to rice agriculture, drainage channels, and irrigation ditches. Requires permanent water, emergent vegetation, and upland habitat for basking and cover.	Not Present. Although the swale in the eastern portion of the project site contains marginal habitat, there is no connectivity to known occurrences of giant garter snake.

Species	Status[1]	Habitat[1]	Potential for Habitat
Western Pond Turtle *Emys marmorata*	CSC	Occurs in perennial ponds, lakes, rivers, and streams with suitable basking habitat (mud banks, mats of floating vegetation, partially submerged logs) and submerged shelter. Require some slack- or slow-water aquatic habitat. Nests upland, on unshaded south-facing slopes with friable soils that have a high percentage of clay or silt.	Not Present. The site does not contain any ponds, lakes, rivers, or streams.
AMPHIBIANS			
California Tiger Salamander *Ambystoma californiense*	FT, ST	Endemic to annual grasslands and valley-foothill habitats in California. Adults spend most time in subterranean refugia, particularly in ground squirrel burrows. Seasonal ponds or vernal pools are required for breeding.	Not Present. There are no recorded occurrences within 10 miles of the project site.
California Red-Legged Frog *Rana draytonii*	FT, CSC	Adults prefer dense, shrubby or emergent riparian vegetation near deep (at least two feet), still, or slow-moving water. The species aestivate in upland burrows and in leaf litter.	Not Present. The nearest confirmed, documented breeding population is located near Pollock Pines in El Dorado County (CNDDB occurrence 586). There are no occurrences documented in Sacramento County, and the species is considered extirpated in the Central Valley (USFWS, Recovery Plan for the California Red-legged Frog, 2002).
Western Spadefoot Toad *Scaphiopus (Spea) hammondii*	CSC	Occurs primarily in grasslands but occasionally populates valley-foothill hardwood woodlands. Almost entirely terrestrial, but requires temporary rain pools that lack predators (fish, bullfrogs, crayfish) for breeding. Also needs burrows for refuge.	Potentially Present. The site contains potential habitat for this species. See the Western Spadefoot Toad section for a detailed discussion.

Species	Status[1]	Habitat[1]	Potential for Habitat
INVERTEBRATES			
California Linderiella *Linderiella occidentalis*	SA	A fairy shrimp which most often occupies pools that are vegetated and contain clear water. Not uncommon to observe the species in mud-bottomed pools with slightly turbid water.[2]	Potentially Present. The vernal pools on the site provide potential habitat. See the Vernal Pool Invertebrate section for a detailed discussion.
Conservancy Fairy Shrimp *Branchinecta longiantenna*	FE	Typical habitat has been described as large, deep, turbid, playa-type vernal pools. Requires a somewhat longer inundation period (life cycle may be 46 days). [2]	Not Present. Despite numerous surveys for vernal pool invertebrates conducted throughout the County, there are no recorded occurrences of the species in Sacramento County. From this data, it is reasonable to conclude that the species is extirpated from the County.
Delta Green Ground Beetle *Elaphrus viridis*	FT	Researchers have usually found adults around the margins of vernal pools and in bare areas along trails and roadsides. The species is on the U.S. Fish and Wildlife species list for Sacramento County, but has only been found in the greater Jepson Prairie area in south-central Solano County. [2]	Not Present. Though included here due to the presence of the species on the U.S. Fish and Wildlife list for Sacramento County, as noted by the Vernal Pool Recovery Plan for California and Southern Oregon, the species has never been observed outside of the Jepson Prairie.
Midvalley Fairy Shrimp *Branchinecta mesovallensis*	SA	Inhabit shallow vernal pools, vernal swales, and various artificial ephemeral wetland habitats in the Sacramento, Solano, Contra Costa, San Joaquin, Madera, Merced, and Fresno Counties. [2]	Potentially Present. The vernal pools on the site provide potential habitat. See the Vernal Pool Invertebrate section for a detailed discussion.
Ricksecker's Water Scavenger Beetle *Hydrochara ricksecker*i	SA	The species is an aquatic beetle dependent upon wetland habitats. [2] Based on CNDDB records, the species has been observed at Mather Field.	Potentially Present. The vernal pools on the site provide potential habitat.
Sacramento Anthicid Beetle *Anthicus sacramento*	SA	Anthicid beetles somewhat resemble ants in general appearance. They are found in several locations along the Sacramento and San Joaquin rivers in the Delta on interior sand dunes and sand bars.	Not Present. The site does not contain suitable habitat, as it does not include interior Delta areas of the Sacramento or San Joaquin rivers.

Species	Status[1]	Habitat[1]	Potential for Habitat
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*	FT	Associated with mature elderberry (*Sambucus* spp.) trees/shrubs found in riparian forests in the Central Valley (USFWS, 1999).	Not Present.
Vernal Pool Andrenid Bee *various species*	SA	Andrenid bees are solitary, and nest in the ground within the uplands nearby vernal pools. They are noted as a special animal due to their association with and pollination of special status wetland plants.	Potentially Present. There are no guidelines published by any regulatory agency for the treatment of this species. The Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon, published by U.S. Fish and Wildlife, does not list andrenid bees among the covered species of concern. [2] On this basis, it is concluded that protective measures which already apply to wetland habitats and other wetland-associated species are sufficient to protect this species.
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	FT	Inhabit alkaline pools, ephemeral drainages, rock outcrop pools, ditches, stream oxbows, stockponds, vernal pools, vernal swales, and other seasonal wetlands. Also found in basalt flow depression pools in unplowed grasslands. [2]	Potentially Present. The vernal pools on the site provide potential habitat. See the Vernal Pool Invertebrate section for a detailed discussion.
Vernal Pool Tadpole Shrimp *Lepidurus packardi*	FE	Inhabits small to large vernal pools containing clear to highly turbid water. [2]	Potentially Present. The vernal pools on the site provide potential habitat. See the Vernal Pool Invertebrate section for a detailed discussion.
PLANTS			
Boggs Lake Hedge-Hyssop *Gratiola heterosepala*	SE, List 1B	Marshes and swamps, vernal pools/clay; elevation 30 – 7,790 ft (blooms Apr. – Aug.)	Potentially Present. The vernal pools on the site provide potential habitat.
Dwarf Downingia *Downingia pusilla*	List 2	Vernal pools and mesic areas in valley and foothill grasslands; elevation 3 – 1,460 ft (blooms Mar. – May)	Potentially Present. The vernal pools on the site provide potential habitat.
Legenere *Legenere limosa*	List 1B	Vernal pools; elevation 0 – 2,900 ft (blooms Apr. – Jun.)	Potentially Present. The vernal pools on the site provide potential habitat.

Species	Status[1]	Habitat[1]	Potential for Habitat
Pincushion Navarretia *Navarretia myersii*	List 1B	Vernal pools; elevation 65 – 1,100 ft (blooms May)	Potentially Present. The vernal pools on the site provide potential habitat.
Sacramento Orcutt Grass *Orcuttia viscida*	FE, SE, List 1B	Vernal pools; elevation 100 – 330 ft (blooms Apr. – Jul.)	Potentially Present. The vernal pools on the site provide potential habitat.
Sanford's Arrowhead *Sagittaria sanfordii*	List 1B	Marshes and swamps; elevation 0 – 2,000 ft (blooms May – Oct.)	Potentially Present. The drainage ditches on the site provide potential habitat.

1. Listing status sources and some habitat description sources (life history accounts) are:

California Species: http://www.dfg.ca.gov/wildlife/nongame/list.html

Federal Species: http://www.fws.gov/sacramento/ES_Species/Accounts/Home/es_species.htm and http://www.fws.gov/sacramento/y_old_site/es/spp_concern.htm

California Native Plant Society: http://www.rareplants.cnps.org/

FE = Federal Endangered; FT = Federal Threatened; FC = Federal Candidate, FSC= Federal Species of Concern

SE = State of California Endangered; ST = State of California Threatened; CSC = State of California Species of Special Concern; CFP = State of California Fully Protected; SA = Special Animal

List 1B = California Native Plant Society Endangered, Threatened, or Rare in California

List 2 = California Native Plant Society Endangered, Threatened, or Rare in California but more common elsewhere

1. Listing status sources and some habitat description sources (life history accounts) are:

California Species: http://www.dfg.ca.gov/wildlife/nongame/list.html

Federal Species: http://www.fws.gov/sacramento/ES_Species/Accounts/Home/es_species.htm and http://www.fws.gov/sacramento/y_old_site/es/spp_concern.htm

California Native Plant Society: http://www.rareplants.cnps.org/

IMPACT: VERNAL POOL INVERTEBRATES

LEVEL OF IMPACT: LESS THAN SIGNIFICANT

The vernal pools and seasonal wetlands on the site are potential habitat for the following invertebrate specie, which are associated with vernal pools: California linderiella, midvalley fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, and Ricksecker's water scavenger beetle. All of these species spend their life cycle within the margins of the vernal pool. None of these species are readily observed through casual observation. Thus, lack of recorded sightings is not cause to conclude that the species is not present. If suitable habitat is present, the species should be assumed to be present unless surveys have found the species to be absent. Discussion of the California linderiella, midvalley fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp are grouped under the heading of Vernal Pool Crustaceans, because the survey protocols and mitigation requirements are applied to all four species.

VERNAL POOL CRUSTACEANS

According to the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (vernal pool recovery plan)[6], California linderiella, midvalley fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp use the same habitat types, though California linderiella tends to prefer deeper pools. The shrimp feed on algae, bacteria, protozoa, rotifers and bits of detritus. The females carry their eggs in a ventral brood sac until they are dropped to the bottom of the pool, or the mother dies and sinks. At the end of the rainy season, as the pool dries up, the eggs remain in a dormant stage in the dried pool until the rains of the next season, or other environmental stimuli cause them to hatch. Cysts will hatch when the pool refills, although not all cysts present will hatch during the following rainy season, and they may remain dormant in the soil for multiple seasons.

Survey requirements and mitigation protocols published by U.S. Fish and Wildlife ("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" published April 19, 1996 and the Programmatic Formal Endangered Species Act Consultation published on February 28, 1996) are only required by U.S. Fish and Wildlife for the two species listed under the ESA: vernal pool fairy shrimp and vernal pool tadpole shrimp. However, the discussions and mitigation below apply them to the two Species of Concern, California linderiella and midvalley fairy shrimp. Surveys to determine presence or absence of the species must include either 2 years of wet season surveys completed within a 5-year period or consecutive wet season and dry season surveys. In the absence of surveys, presence should be assumed.

[6] United States Fish and Wildlife Service, "Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon", December 2005.

A U.S. Fish and Wildlife programmatic consultation was published for vernal pool fairy shrimp and vernal pool tadpole shrimp on February 28, 1996. The Programmatic Consultation can only be used by projects involving a maximum impact of one acre; all other projects must be individually permitted through the Army Corps and the U.S. Fish and Wildlife, but it is reasonable to assume that vernal pool avoidance and mitigation requirements developed during the individual permitting process would be similar to those found in the programmatic consultation.

Vernal pool habitats may be subject to either direct or indirect impacts. Indirect impacts may be caused because development in proximity of a vernal pool could deliver runoff polluted with urban contaminants and introduce non-native species associated with development landscaping. Development may also reduce the size of the watershed which supports the vernal pool, by diverting runoff which once went into the vernal pool into a storm drainage system. This watershed reduction could cause a reduction in the depth and/or duration of ponding. Shorter inundation durations may mean a change in pool temperature, depth, and pH. Features that may have been utilized by species that required specific inundation durations for the completion of breeding cycles may no longer provide suitable habitat. The programmatic consultation indicates that all habitats within 250 feet of proposed development may be subject to indirect impacts. Thus, all development must occur a minimum of 250 feet from the margin of any vernal pool in order to achieve total avoidance of impacts, unless a lesser buffer is approved by U.S. Fish and Wildlife.

A direct impact is the filling or excavation of a vernal pool. Programmatic consultation specifies that if filling or excavation occurs within any portion of a vernal pool, the entire vernal pool should be considered directly impacted. Programmatic consultation also indicates that mitigation for direct impacts (removal of wetlands) requires both preservation of existing wetlands and creation of wetlands, at ratios that vary depending on whether the mitigation bank credits are at banks approved by U.S. Fish and Wildlife (2:1 and 1:1 preservation and creation at approved banks, and 3:1 and 2:1 preservation and creation at non-approved banks). Encroachment within the 250-foot buffer requires 2:1 preservation mitigation.

Two wet-season branchiopod surveys were prepared for the project. The surveys were conducted specifically for four endangered and threatened vernal pool species, which included the conservancy fairy shrimp, the longhorn fairy shrimp, the vernal pool tadpole shrimp, and the vernal pool fairy shrimp. These surveys were conducted over a five-month period from December 2012 through April 2013, with samples taken every two weeks. No branchiopods were discovered in any of the vernal pool features on the property. Mitigation requiring a minimum of 1:1 compensation for all wetlands directly impacted is already included. This mitigation is sufficient to ensure impacts to vernal pool crustaceans are *less than significant*.

MITIGATION MEASURES

None required.

IMPACT: WESTERN SPADEFOOT TOAD

LEVEL OF IMPACT: LESS THAN SIGNIFICANT

The western spadefoot (*Scaphiopus (Spea) hammondii)* occurs in shallow, seasonal wetlands in valley and foothill habitats such as grasslands, open chaparral, sage scrubland, short-grass plains, and pine woodlands. Spadefoot occur in both grazed and ungrazed habitat. Adult spadefoot occupy burrows up to three feet in depth in upland habitat during dry periods to avoid desiccation. Individuals may remain in these burrows for eight to nine months. Most surface activity is nocturnal. The spadefoot leave their upland burrows for wetlands during the breeding season, which lasts from January to August, depending on rainfall. It appears that vernal pools and other temporary wetlands may be optimal for breeding due to the absence or reduced abundance of both native and nonnative predators (bullfrogs, fish, and crawfish), many of which require more permanent water sources. Current research on amphibian conservation suggests that average habitat utilization falls within 1,200 feet of aquatic habitats[7].

The project site may provide suitable habitat to support the toad; however, there is no published regulatory guidance on habitat mitigation for this species. According to the Recovery Plan for Vernal Pool Ecosystems of California and Sou

thern Oregon, the western spadefoot was added as a Species of Special Concern in 2004. Western spadefoot has been observed in several counties across the state, and a number of sites with suitable habitat for western spadefoot are already being protected through National Wildlife Refuges, National Monuments, State Parks, State Ecological Reserves, private preserves, mitigation banks, and conservation easements. Additionally, 23 vernal pool species are federally protected; preservation efforts for those species and associated habitats will contribute to the conservation of the western spadefoot.

While a localized population of the western spadefoot may be reduced through development of the project site, the regional population will not be reduced significantly because of regional conservation efforts and the wetland habitat mitigation requirements for this project. Locally, conservation lands which provide habitat for the western spadefoot include the Mather Regional Park, Burke Ranch (1,000 acres), Gill Ranch Conservation bank (1,800 acres) and Sunrise Douglas Preservation Bank (480 acres). Mitigation is already required for the project's impacts to wetland resources, and no additional mitigation is required in order to avoid significant impacts to the species; impacts are *less than significant*.

MITIGATION MEASURES

None required.

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[7] United States Fish and Wildlife Service, 2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Portland, Oregon.

IMPACT: IMPACTS TO SPECIAL STATUS PLANT SPECIES
LEVEL OF SIGNIFICANCE: LESS THAN SIGNIFICANT

VERNAL POOL ASSOCIATED SPECIAL STATUS SPECIES

A variety of plant species are adapted to the hydrologic and soil conditions present in vernal pools, and generally do not occur elsewhere. Vernal pool habitats have dramatically declined in California, and as a result many of the plant species associated with the habitat have likewise declined. Vernal pool associated special-status plant species found in Sacramento County are: Ahart's dwarf rush, Boggs Lake hedge-hyssop, dwarf downingia, legenere, pincushion navarretia, Sacramento Orcutt grass, and slender Orcutt grass.

The field studies prepared for the project did not observe any special-status plant species, although suitable habitat exists for pincushion navarretia, Sacramento Orcutt grass, dwarf downingia, legenere, Bogg's Lake hedge-hyssop, and Sanford's arrowhead. Moreover, the closest mapped occurrence is approximately two miles from the subject property. Though no species were identified during the survey, definitively determining that these species are not present requires multiple surveys during the plants flowering stage; therefore mitigation requiring additional surveys prior to construction are required to ensure that there are no significant impacts to special-status species. Mitigation Measure BR-3 details the appropriate procedures for such surveys, and will reduce impacts to ***less than significant***.

SANFORD'S ARROWHEAD

Sanford's arrowhead occurs in emergent marsh habitats, including habitats which are modified or human-made. Sanford's arrowhead is designated as a federal species of special concern and is listed by the California Native Plant Society's Inventory of Rare and Endangered Plants as category 1B.2 (i.e. rare throughout its range in California with a moderate probability of going extinct). Sanford's is fairly common in the Sacramento area. Potential suitable marsh habitats include the margins of rivers, streams, ponds, reservoirs, irrigation and drainage canals and ditches, and stock-ponds. In order to avoid impacts to the species, appropriate habitat must be avoided or a survey must be performed demonstrating that the species is not present.

Suitable habitat to support Sanford's arrowhead exists within the drainage ditches on the site. Though no Sanford's arrowhead plants were identified during the survey, definitively determining that these species are not present requires surveys during the plants flowering stage; therefore mitigation requiring that the site be surveyed prior to construction is required to ensure that there are no significant impacts to Sanford's arrowhead. Mitigation Measure BR-4 will reduce impacts to ***less than significant***.

MITIGATION MEASURES

BR-3: VERNAL POOL ASSOCIATED PLANTS

Prior to any grading, grubbing, or excavation within 250 feet of a vernal pool or other suitable habitat, rare plant surveys shall be performed. The surveys should be floristic in nature, meaning that all plant species found in the survey area shall be identified to the taxonomic level necessary to determine rarity and listing status. The rare plant surveyor shall have experience as a botanical field investigator and familiarity with the local flora and potential rare plants in the habitats to be surveyed. The surveys shall be conducted when the rare plants at the site will be easiest to identify (i.e. flowering stage), and when the plants reach that stage of maturity. A minimum of three site visits shall be required during the plants flowering period in order to determine absence. Each site visit must be no less than 7 days apart.

Submit a written report to the Environmental Coordinator which describes the survey. The survey report should include a brief description of the vegetation, survey results (which includes a list of all species observed), photographs, time spent surveying, date of surveys, a map showing the location of the survey route and any rare plant populations and copies of any rare plant occurrence forms. If no rare plants are found, no further mitigation for plant species is required. If a special status plant or natural community is located, complete and submit to the CNDDB a California Native Species (or Community) Field Survey Form or equivalent written report, accompanied by a copy of the relevant portion of a 7.5-minute topographic map with the occurrence mapped. Total avoidance of habitats which contain rare plants shall be required unless deemed infeasible by the Environmental Coordinator. If avoidance is infeasible, prior to construction within 250 feet of the vernal pool(s) which contain the rare plant occurrences, notify California Fish and Wildlife and U.S. Fish and Wildlife and comply with any permit or mitigation requirements stipulated by those agencies. Submit copies of all such correspondence, including a copy of any required permits, to the Environmental Coordinator.

BR-4: SANFORD'S ARROWHEAD

Surveys shall be performed by a qualified botanist during the species non-dormant, flowering period (June – October) prior to work within suitable habitat. If the species is not found during the survey, no further mitigation would be required. If plant(s) are found the botanist shall establish distribution of the colony(s) and estimate the number of individuals in the population. Unless deemed infeasible by the Environmental Coordinator, all plants or tuber/rhizomes shall be removed from the area of impact and transplanted to a new or existing preserve or, if the impact is temporary, replanted in the same location after the disturbance. Surveys shall be performed annually at the transplant location for a period of three years, to ensure success. If survival is not meeting a minimum 60% survivorship, transplantation will be deemed failed. In cases where transplanting is deemed infeasible, or where transplanting has failed, compensatory mitigation shall be provided. Compensatory mitigation shall consist of placement of a conservation easement over a known, unprotected population of the species.

IMPACT: IMPACTS TO SPECIAL STATUS BIRD SPECIES

LEVEL OF IMPACT: LESS THAN SIGNIFICANT WITH MITIGATION

The Special Status Species Habitat Assessment prepared for the project determined that the project site contained suitable nesting habitats for the Cooper's hawk, tricolored blackbird, burrowing owl, Swainson's hawk, and white-tailed kite. The section also addresses nesting raptors in general, which are afforded minimum protections pursuant to the California Fish and Game Code regardless of status.

SWAINSON'S HAWK

The Swainson's hawk (*Buteo swainsoni*) is listed as a Threatened species by the State of California and is a candidate for federal listing as threatened or endangered. It is a migratory raptor typically nesting in or near valley floor riparian habitats during spring and summer months. Swainson's hawks were once common throughout the state, but various habitat changes, including the loss of nesting habitat (trees) and the loss of foraging habitat through the conversion of native Central Valley grasslands to certain incompatible agricultural and urban uses has caused an estimated 90% decline in their population.

Swainson's hawks feed primarily upon small mammals, birds, and insects. Their typical foraging habitat includes native grasslands, alfalfa and other hay crops that provide suitable habitat for small mammals. Certain other row crops and open habitats also provide some foraging habitat. The availability of productive foraging habitat near a Swainson's hawk's nest site is a critical requirement for nesting and fledgling success. In central California, about 85% of Swainson's hawk nests are within riparian forest or remnant riparian trees. CEQA analysis of impacts to Swainson's hawks consists of separate analyses of impacts to nesting habitat and foraging habitat.

The CEQA analysis provides a means by which to ascertain impacts to the Swainson's hawk. When the analysis identifies impacts, mitigation measures are established that will reduce impacts to the species to a less than significant level. Project proponents are cautioned that the mitigation measures are designed to reduce impacts and do not constitute an incidental take permit under the California Endangered Species Act (CESA). Anyone who directly or incidentally takes a Swainson's hawk, even when in compliance with mitigation measures established pursuant to CEQA, may violate the California Endangered Species Act.

NESTING HABITAT

For determining impacts to and establishing mitigation for nesting Swainson's hawks in Sacramento County, CDFW recommends implementing the measures set forth in the CDFW Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (November 1, 1994). These state that no intensive new disturbances, such as heavy equipment operation associated with construction, should be initiated within ¼ mile of an active Swainson's hawk nest in an urban setting or within ½ mile in a rural setting between March 1 and September 15.

FORAGING HABITAT

Swainson's hawks are known to forage up to 18 miles from their nest site; however, that is the extreme range of one individual bird's daily movement. It is more common for a Swainson's hawk to forage within 10 miles of its nest site. Therefore it is generally accepted and CDFW recommends evaluating projects for foraging habitat impacts when they are within 10 miles of a known nest site.

Statewide, CDFW recommends implementing the measures set forth in the CDFW Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (November 1, 1994) for determining impacts to Swainson's hawk foraging habitat unless local jurisdictions develop an individualized methodology designed specifically for their location. Sacramento County has developed such a methodology and received confirmation from CDFW in May of 2006 that the methodology is a better fit for unincorporated Sacramento County and should replace the statewide, generalized methodology for determining impacts to foraging habitat.

Swainson's hawk foraging habitat value is greater in large expansive open space and agricultural areas than in areas which have been fragmented by agricultural-residential or urban development. The methodology for unincorporated Sacramento County is based on the concept that impacts to Swainson's hawk foraging habitat occur as properties develop to increasingly more intensive uses on smaller minimum parcel sizes. Therefore, the methodology relies mainly on the minimum parcel size allowed by zoning to determine habitat value. For the purpose of the methodology, properties with zoning of AG-40 and larger are assumed to maintain 100% of their foraging habitat value and properties with AR-5 zoning and smaller are assumed to have lost all foraging habitat value. Table BR-2 below illustrates the continuum between AG-40 and AR-5 that represents the partial loss of habitat value that occurs with fragmentation of large agricultural land holdings. The large, 50% loss of habitat value between AG-20 and AR-10 is due to the change in land use from general agriculture to agricultural-residential. The methodology does allow case-by-case analysis for projects with unique characteristics.

Table BR-2: Swainson's Hawk Foraging Habitat Value by Zoning Category

Zoning Category	Habitat Value Remaining
AG-40 and above (e.g., AG-80, 160 etc.)	100%
AG-20, Some IR and UR	75%
AR-10	25%
AR-5 and smaller (e.g., AR-2, 1 or RD-5, 7, 10, 15, 20 etc.)	0%

CONCLUSION

The project site is within ten miles of numerous documented occurrences of Swainson's hawk and is less than four miles from one occurrence to the north. Although there are no documented nesting sites within ½ mile of the project site the site contains grassland and mature trees, which support suitable Swainson's hawk nesting habitat. If

construction activities take place during bird-nesting season (March 1 to September 15) pre-construction nesting surveys shall be required. The purpose of the survey requirement is to ensure that construction activities do not agitate nesting hawks, potentially resulting in nest abandonment or other harm to nesting success. If Swainson's hawk nests are found, the developer is required to contact California Fish and Wildlife to determine what measures need to be implemented in order to ensure that nesting hawks remain undisturbed. The measures selected will depend on many variables, including the distance of activities from the nest, the types of activities, and whether the landform between the nest and activities provides any kind of natural screening. According to the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (November 1, 1994), the mitigation described above will ensure that impacts to nesting Swainson's hawk will be less than significant.

The Project site provides foraging habitat for the hawk and development of the site would result in a potentially significant loss of that habitat. The project includes a rezone of 30.2 acres of land zoned SPA, 87.5 acres of land zoned UR, 8.7 acres of land zoned AR-2, and 1.7 acres zoned RD-5; to 1.2 acres LC, 5.3 acres GC, 15.7 acres, O, 95.6 acres LDR, and 10.4 acres MDR. The zoning code defines the UR zone as an agricultural zoning district with a minimum parcel size of 20 acres; therefore, for the purpose of the methodology, the UR zone is equated to the AG-20 zone and is assumed to retain 75% of its habitat value. Except for the SPA designation discussed below, all other land use designations on the site are assumed to have 0% habitat value.

The SPA designated portion of the site is considered a limited commercial designation and under the County's methodology would not retain any foraging habitat value; however, the Swainson's hawk mitigation requirement within the SPA should apply to the proposed project in order to compensate for the loss of foraging habitat that occurred when the site was rezoned to SPA. In 2007 portions of the site were rezoned to SPA as part of a County initiated rezone program intended to increase the County's inventory of land designated as multi-family (Control Number 2006-0314). As part of the CEQA mitigation for that project, Swainson's hawk mitigation was incorporated in to the SPA itself, which requires mitigation for the loss of 15.45 acres of foraging habitat prior to development of the site. The SPA will be deleted as part of this project and with it the Swainson's hawk mitigation requirement will also be deleted. The requirements of that mitigation are being incorporated into the mitigation requirements of this project in order to ensure that impacts to Swainson's hawk remain less than significant. Note: this is the only mitigation measure from the SPA that is necessary to carry over. Although the other mitigation measures within the SPA will also be voided once the SPA is deleted, they have been replaced by the new mitigation requirements of this project. The Swainson's hawk mitigation is the only mitigation that would be lost if not carried forward.

According to the methodology, the portions of the Project site designated UR poses 75% habitat value in their existing condition. In accordance with the methodology, rezoning the site will reduce the habitat value to 0%, which represents a 75% loss of

foraging habitat value. To offset this impact, the developer will be required to provide 65.63 acres of mitigation (75% of 87.5 acres). In addition the developer is required to provide 15.45 acres of mitigation to compensate for the SPA deletion. A total of 81.08 acres of mitigation will be required. This mitigation will compensate for the loss of Swainson's hawk foraging habitat. Mitigation can be accomplished by using the County's Swainson's Hawk Impact Mitigation Program or by implementing a mitigation plan acceptable to California Fish and Wildlife. Mitigation measures that compensate for the loss of Swainson's hawk foraging habitat will reduce singular and cumulative impacts to less-than-significant levels.

SWAINSON'S HAWK IMPACT MITIGATION PROGRAM

In 1997, in response to the need to mitigate for the loss of Swainson's hawk foraging habitat in Sacramento County, the Board of Supervisors adopted an ordinance that established a Swainson's Hawk Impact Mitigation Program (Chapter 16.130 of the Sacramento County Code). The Program has been amended several times; the latest amendment went into effect in December of 2009.

By adopting the Program, the Board of Supervisors found that "the most effective means of mitigation for the loss of suitable Swainson's hawk foraging habitat is the direct preservation, in perpetuity, of equally suitable foraging habitat on an acre-per-acre basis based on the project's determined acreage impact". On an individual basis, the acquisition of lands for habitat conservation may not always be feasible or prudent and many small, disconnected preserves do not benefit the species as well as large, connected preserve systems. Therefore, the ordinance provides for the establishment of impact mitigation fees, which in some circumstances, may be paid in-lieu of providing habitat lands. These fees accumulate and are held in trust by the County until used for the acquisition of foraging habitat of a size large enough to be biologically and economically viable. The current fee is $12,925 per acre. In addition, there is a one-time administrative fee of $500. These fees may be amended from time to time to ensure they accurately reflect market-rate land prices.

Under the Swainson's Hawk Impact Mitigation Program, only projects which have an impact of less than 40 acres are eligible to pay fees. Projects impacting 40 acres or more of foraging habitat must provide land acceptable to California Fish and Wildlife and the County. Land can be provided in fee title or through conservation easement. The Sacramento County Planning and Community Development Department (Planning) administers the Swainson's Hawk Impact Mitigation Program and more information on lands likely to be determined as acceptable replacement habitat can be found at their website http://www.msa2.saccounty.net/planning/Pages/Swainsons-Hawk-Ordinance.aspx.

NESTING RAPTORS

Raptors are defined as members of the order Falconiformes (vultures, eagles, hawks, and falcons) and the order Strigiformes (owls). Common species of raptors found locally include Cooper's hawk (*Accipiter cooperii*), white-tailed kite (*Elanus leucurus,)* red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), American

kestrel (*Falco sparverius*), barn owl (*Tyto alba*), and great horned owl (*Bubo virginianus*).

Raptors and their active nests are protected by the California Fish and Game Code Sections 3503.5, 3511, and 3513. The Code states the following: "It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird." Because most raptors migrate they are also protected by the Federal Migratory Bird Treaty Act of 1918, which states “unless and except as permitted by regulations, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill” a migratory bird. Section 3(18) of the Federal Endangered Species Act defines the term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Causing a bird to abandon an active nest may cause harm to egg(s) or chick(s) and is therefore considered “take.”

There are mature trees of sufficient size to support tree-nesting raptors located on and around the project site. Since the project area may provide suitable tree nesting habitat, construction activities may impact nesting raptors if they occur within 500 feet of suitable nesting trees; 500 feet is the buffer used by Sacramento County and other nearby jurisdictions as a screening tool, and has been accepted by CDFW. To avoid impacts to tree-nesting raptors, mitigation is recommended requiring pre-construction nesting surveys. The purpose of the survey requirement is to ensure that construction activities do not agitate nesting raptors, potentially resulting in nest abandonment or other harm to nesting success. If raptor nests are found, the developer is required to contact CDFW to determine what measures need to be implemented in order to ensure that nesting raptors remain undisturbed. The measures selected will depend on many variables, including the distance of activities from the nest, the types of activities, whether the landform between the nest and activities provides any kind of natural screening, and other variables.

Prior to construction or land clearing activities which occur during nesting season (generally March through mid-September), all mature trees within 500 feet of Project construction activities shall be surveyed for nesting raptors. If nesting raptors are observed, the Project developer shall consult with CDFW and determine the appropriate measures that must be implemented. If no nesting raptors are observed, no further mitigation will be required. With implementation of recommended mitigation, impacts to nesting raptors are *less than significant*.

Burrowing Owl

According to the California Fish and Wildlife life history account for the species, burrowing owl (*Athene cunicularia*) habitat can be found in annual and perennial grasslands, deserts, and arid scrublands characterized by low-growing vegetation. Burrows are the essential component of burrowing owl habitat. Both natural and artificial burrows provide protection, shelter, and nesting sites for burrowing owls. Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels or badgers, but also use human-made structures such as cement culverts;

cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement. Burrowing owls are listed as a California Species of Special Concern due to loss of breeding habitat.

Burrowing owls may use a site for breeding, wintering, foraging, and/or migration stopovers. Breeding season is generally defined as spanning February 1 to August 31 and wintering from September 1 to January 31. Occupancy of suitable burrowing owl habitat can be verified at a site by detecting a burrowing owl, its molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance. Burrowing owls exhibit high site fidelity, reusing burrows year after year.

According to the California Fish and Wildlife "Staff Report on Burrowing Owl Mitigation" (March 2012), surveys for burrowing owl should be conducted whenever suitable habitat is present within 500 feet of a proposed impact area; this is also consistent with the "Burrowing Owl Survey Protocol and Mitigation Guidelines" published by The California Burrowing Owl Consortium (April 1993). Occupancy of burrowing owl habitat is confirmed whenever one burrowing owl or burrowing owl sign has been observed at a burrow within the last three years.

The California Fish and Wildlife Staff Report on Burrowing Owl Mitigation indicates that the impact assessment should address the factors which could impact owls, the type and duration of disturbance, the timing and duration of the impact, and the significance of the impacts. The assessment should also take into account existing conditions, such as the visibility and likely sensitivity of the owls in question with respect to the disturbance area and any other environmental factors which may influence the degree to which an owl may be impacted (e.g. the availability of suitable habitat).

In order to reduce potential impacts to owl nests which may occur on the site, the applicant shall have a qualified biologist perform a focused survey, prior to any construction activity on the site, for burrowing owls according to the CDFW "Staff Report on Burrowing Owl Mitigation (March 2012)" and the "Burrowing Owl Survey Protocol and Mitigation Guidelines," published by The California Burrowing Owl Consortium (April 1993). If no active burrows are found during the focused survey, no further mitigation will be required. If active burrows are found, mitigation shall be implemented consistent with the CDFW staff report recommendations. Both CDFW and the Environmental Coordinator shall be contacted and provided with an avoidance and mitigation plan. With implementation of recommended mitigation, impacts to burrowing owls are *less than significant*.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is protected under the California Fish and Game Code (Sections 3503 and 3800). In December of 2015 tri-colored blackbird was listed as a candidate species under the California Endangered Species Act. As a candidate species, the tricolored blackbird receives the same legal protection afforded to an endangered or threatened species (Fish & Game Code, § 2085).

Reasons for decline of tricolored blackbird populations include loss of nesting and foraging habitat. According to the California Department of Fish and Wildlife Life History Account for the tricolored blackbird, the species is mostly a resident in California, and common locally throughout the Central Valley. The species is a colonial nester which breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, and tall herbs. Nesting colonies usually support a minimum of 50 pairs. The species feeds in grassland and cropland habitats. The usual breeding season is mid-April into late July.

In order to reduce potential impacts to nesting tricolored blackbirds, mitigation measures have been included. Equipment operation and noise associated with construction activities may disturb nesting birds. If construction activities are proposed during the breeding season (March 1 through July 31) pre-construction surveys shall be conducted where suitable nesting habitat is present within 300 feet of the Project site. If tricolored blackbirds are found nesting within 300 feet of the survey area, the California Department of Fish and Wildlife shall be contacted and appropriate avoidance and impact minimization measures shall be implemented. This may include establishing a buffer or postponing construction until fledging of all nestlings (about July 31). Specific measures cannot be outlined at this time, because the extent and type of measures required are highly situational, depending on distance to the nest, the number of nesting individuals, the type of nesting substrate, and other factors. If no tricolored blackbirds are found during the pre-construction survey, no further mitigation would be required. With implementation of recommended mitigation, impacts to tricolored blackbird are *less than significant*.

MITIGATION MEASURES

BR-5: SWAINSON'S HAWK FORAGING HABITAT

Prior to any site disturbance, such as clearing or grubbing, the issuance of any permits for grading, building, or other site improvements, or recordation of a final map, whichever occurs first, or, if only a rezone is requested, prior to final adoption of the zoning agreement, implement one of the following options to mitigate for the loss of 81.08± acres of Swainson's hawk foraging habitat on the project site:

1. The project proponent shall utilize one or more of the mitigation options (land dedication and/or fee payment) established in Sacramento County's Swainson's Hawk Impact Mitigation Program (Chapter 16.130 of the Sacramento County Code).

2. The project proponent shall, to the satisfaction of the California Department of Fish and Wildlife, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat.

3. Should the County Board of Supervisors adopt a Swainson's hawk mitigation policy/program (which may include a mitigation fee payable prior to issuance of

building permits) prior to the implementation of one of the measures above, the project proponent may be subject to that program instead.

BR-6: Swainson's Hawk Nesting Habitat

If construction, grading, or project-related improvements are to commence between March 1 and September 15, a focused survey for Swainson's hawk nests on the site and within ¼ mile of the site shall be conducted by a qualified biologist no later than 30 days prior to the start of construction work (including clearing and grubbing). If active nests are found, the California Fish and Wildlife shall be contacted to determine appropriate protective measures, and these measures shall be implemented prior to the start of any ground-disturbing activities. If no active nests are found during the focused survey, no further mitigation will be required.

BR-7: Raptor Nesting Habitat

If construction activity (which includes clearing, grubbing, or grading) is to commence within 500 feet of suitable nesting habitat between March 1 and September 15, a survey for raptor nests shall be conducted by a qualified biologist. The survey shall cover all potential tree and ground nesting habitat on-site and off-site up to a distance of 500 feet from the project boundary. The survey shall occur within 30 days of the date that construction will encroach within 500 feet of suitable habitat. The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Environmental Coordinator prior to ground disturbing activity. If no active nests are found during the survey, no further mitigation will be required. If any active nests are found, the Environmental Coordinator and California Fish and Wildlife shall be contacted to determine appropriate avoidance/protective measures. The avoidance/protective measures shall be implemented prior to the commencement of construction within 500 feet of an identified nest.

BR-8: Burrowing Owl

Prior to the commencement of construction activities (which includes clearing, grubbing, or grading) within 500 feet of suitable burrow habitat, a survey for burrowing owl shall be conducted by a qualified biologist. The survey shall occur within 30 days of the date that construction will encroach within 500 feet of suitable habitat. Surveys shall be conducted in accordance with the following:

1. A survey for-burrows and owls should be conducted by walking through suitable habitat over the entire project site and in areas within 150 meters (~500 feet) of the project impact zone.
2. Pedestrian survey transects should be spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines should be no more than 30 meters (~100 feet), and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. To efficiently survey projects larger than 100 acres, it is recommended that two or more surveyors conduct concurrent surveys. Surveyors should maintain a

minimum distance of 50 meters (~160 feet) from any owls or occupied burrows. It is important to minimize disturbance near occupied burrows during all seasons.

3. If no occupied burrows or burrowing owls are found in the survey area, a letter report documenting survey methods and findings shall be submitted to the Environmental Coordinator and no further mitigation is necessary.

4. If occupied burrows or burrowing owls are found, then a complete burrowing owl survey is required. This consists of a minimum of four site visits conducted on four separate days, which must also be consistent with the Survey Method, Weather Conditions, and Time of Day sections of Appendix D of the California Fish and Wildlife "Staff Report on Burrowing Owl Mitigation" (March 2012). Submit a survey report to the Environmental Coordinator which is consistent with the Survey Report section of Appendix D of the California Fish and Wildlife "Staff Report on Burrowing Owl Mitigation" (March 2012).

5. If occupied burrows or burrowing owls are found the applicant shall contact the Environmental Coordinator and consult with California Fish and Wildlife prior to construction, and will be required to submit a Burrowing Owl Mitigation Plan (subject to the approval of the Environmental Coordinator and in consultation with California Fish and Wildlife). This plan must document all proposed measures, including avoidance, minimization, exclusion, relocation, or other measures, and include a plan to monitor mitigation success. The California Fish and Wildlife "Staff Report on Burrowing Owl Mitigation" (March 2012) should be used in the development of the mitigation plan.

BR-9: Nesting Tricolored Blackbirds

If construction activity (which includes clearing, grubbing, or grading) is to commence within 300 feet of suitable nesting habitat between March 1 and July 31, a survey for nesting tricolored blackbirds shall be conducted by a qualified biologist. The survey shall cover all potential nesting habitat on-site and off-site up to a distance of 300 feet from the project boundary. The survey shall occur within 30 days of the date that construction will encroach within 300 feet of suitable habitat. The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Environmental Coordinator prior to ground disturbing activity. If no tricolored blackbird were found during the pre-construction survey, no further mitigation would be required. If an active tricolored blackbird colony is found on-site or within 300 feet of the project site the project proponent shall do the following:

1. Consult with the California Department of Fish and Wildlife to determine if project activity will impact the tricolored blackbird colony(s). Provide the Environmental Coordinator with written evidence of the consultation or a contact name and number from the California Department of Fish and Wildlife. Implement all protective measures recommended by the California Department of Fish and Wildlife.

2. With the California Department of Fish and Wildlife permission, the applicant may avoid impacts to tricolored blackbird by establishing a 300-foot temporary setback, with fencing that prevents any project activity within 300 feet of the colony. A qualified biologist shall verify that setbacks and fencing are adequate and will determine when the colonies are no longer dependent on the nesting habitat (i.e. nestling have fledged and are no longer using habitat). The breeding season typically ends in July.

3. If tricolored blackbird habitat is permanently destroyed follow the California Department of Fish and Wildlife procedure to mitigate for habitat loss, and submit documentation of the mitigation to the Environmental Coordinator.

IMPACT: NATIVE TREES

LEVEL OF IMPACT: LESS THAN SIGNIFICANT

Sacramento County has identified the value of its native and landmark trees and has adopted measures for their preservation. The Tree Ordinance (Chapter 19.04 and 19.12 of the County Code) provides protections for landmark trees and heritage trees. The County Code defines a landmark tree as "an especially prominent or stately tree on any land in Sacramento County, including privately owned land" and a heritage tree as "native oak trees that are at or over 19" diameter at breast height (dbh)." Chapter 19.12 of the County Code, titled Tree Preservation and Protection, defines native oak trees as valley oak (*Quercus lobata*), interior live oak (*Quercus wislizenii*), blue oak (*Quercus douglasii*), or oracle oak (*Quercus morehus*) and states that "it shall be the policy of the County to preserve all trees possible through its development review process." It should be noted that to be considered a tree, as opposed to a seedling or sapling, the tree must have a diameter at breast height (dbh) of at least 6 inches or, if it has multiple trunks of less than 6 inches each, a combined dbh of 10 inches. The Sacramento County General Plan Conservation Element policies CO-138 and CO-139 also provide protections for native trees:

> CO-138. Protect and preserve non-oak native trees along riparian areas if used by Swainson's Hawk, as well as landmark and native oak trees measuring a minimum of 6 inches in diameter or 10 inches aggregate for multi-trunk trees at 4.5 feet above ground.
>
> CO-139. Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed.

Native trees other than oaks include California sycamore (*Platanus racemosa*), California black walnut (*Juglans californica*, which is also a List 1B plant), Oregon ash (*Fraxinus latifolia*), western redbud (*Cercis occidentalis),* gray pine (*Pinus sabiniana*), California white alder (*Alnus rhombifolia*), boxelder (*Acer negundo*), California buckeye (*Aesculus californica*), narrowleaf willow (*Salix exigua*), Gooding's willow (*Salix gooddingii*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), shining willow

(*Salix lucida*), Pacific willow (*Salix lasiandra*), Freemont's cottonwood *(Populus fremontii),* and dusky willow (*Salix melanopsis*).

An *Arborist Report and Tree Inventory Summary and Supplemental Tree Inventory Summary* was prepared for the site by Sierra Nevada Arborists (Appendix D). All trees on and overhanging the site were detailed and inventoried in the summary. A total of 70 trees were documented on the site (see **Table BR-3**). Of the 70 trees documented, 35 are considered protected under County policies and/or the Tree Ordinance. These trees are detailed in **Table BR-4**. For a complete list of trees, including those that are not protected, see Appendix D.

Table BR-3: Inventory Summary

Species	Common Name	Number of Trees	Aggregate Inches (dbh)
Quercus douglasii	blue oak	6	107
Ulmus parvifolia	Chinese elm	3	88
Populus fremontii	Freemont's cottonwood	13	140
Salix lasiandra	Pacific willow	27	325
Quercus lobata	valley oak	8	98
Other Non-natives	Various	13	181
TOTAL		**57**	**758**

Table BR-4: Protected Trees

Tree Number	Common Name	Total DBH (inches)	Impact	Mitigation Required	Notes
1	Freemont's cottonwood	18	remove	18	Within park along western property. Remove for grading.
4	Freemont's cottonwood	17	remove	17	Within park along western property. Remove for grading.
6	Pacific willow	6	remove	6	Within park along western property. Remove for grading.
7	Freemont's cottonwood	15	remove	15	Within park along western property. Remove for grading.
8	Pacific willow	6	remove	6	Within park along western property. Remove for grading.
9	Pacific willow	14	remove	14	Within park along western property. Remove for grading.
10	Freemont's cottonwood	10	remove	10	Within park along western property. Remove for grading.
19	Pacific willow	13	remove	13	Within park along western property. Remove for grading.
20	Freemont's cottonwood	12	remove	12	Within park along western property. Remove for grading.
21	Pacific willow	6	remove	6	Within park along western property. Remove for grading.
22	Pacific willow	24	remove	24	Within park along western property. Remove for grading.

28	Valley Oak	10	remove	10	Along eastern property line. Within SMUD easement.
29	Valley Oak	9	remove	9	Along eastern property line. Within SMUD easement.
30	Valley OaK	12	remove	12	Along eastern property line. Within SMUD easement.
635	valley oak	43	retain	none	Northwestern property boundary.
636	blue oak	38	retain	none	Retained within neighborhood commercial center.
638	Pacific willow	20	retain	none	Retained within open space Lot H.
639	Pacific willow	28	retain	none	Retained within open space Lot H.
641	Pacific willow	14	retain	none	Retained within open space Lot H.
642	Pacific willow	10	retain	none	Retained within open space Lot H.
646	Freemont's cottonwood	16	retain	none	Retained within open space Lot H.
652	Freemont's cottonwood	19	retain	none	Retained within open space Lot H.
655	valley oak	11	remove	11	Southeast property line. Remove for grading.
658	Pacific willow	16	retain	none	Retained within open space Lot H.
659	Pacific willow	12	retain	none	Retained within open space Lot H.
661	Pacific willow	11	retain	none	Retained within open space Lot H.
666	Pacific willow	6	retain	none	Retained within open space Lot H.
667	Pacific willow	6	retain	none	Retained within open space Lot H.
668	Pacific willow	6	remove	none	Removal recommended due to poor condition.
671	blue oak	6	remove	6	Near drainage basin in the southwest portion of the site. Remove for grading.
672	blue oak	46	remove	None	Near drainage basin in the southwest portion of the site. Mitigation for removal of this tree has been satisfied as part of Control Number 02-SDP-CZB-0500.
674	blue oak	8	remove	None	Along southern property line. Remove for Antelope Road extension. Mitigation for removal of this tree has been satisfied as part of Control Number 02-SDP-CZB-0500.
TOTAL				**197**	

Nineteen of the protected trees on the site will be removed due to grading. Full compensation, for 197 inches of native trees as detailed in **Table BR-4** will be required for 16 of those removed trees. Tree 668 will not require compensation due to its poor condition and Tree 674 and Tree 672 will not require mitigation because compensation for their removal has been satisfied through a previous project (02-SDP-CZB-0500). Twelve of the protected trees (11 willows and one cottonwood) will be retained and protected onsite within Lot H. Protective mitigation for these trees will ensure that they are not impacted during construction.

Tree number 636 is a prominent tree located within the proposed alignment of Poker Lane and Titan Drive. In order to avoid removal of this tree the applicant has designed the new alignment of this roadway so that it passes north of the tree's dripline; and the site has been designed to incorporate that tree into a neighborhood commercial center. Tree 635 is a large oak tree that will be retained within Lot H along the northwestern property line. Projective mitigation will ensure that these trees are not damaged during construction.

MITIGATION MEASURES

BR-10: NATIVE TREE REMOVAL

The removal of 197 inches dbh of native trees (1, 4, 6, 7, 8, 9, 10, 19, 20, 21, 22, 28, 29, 30, 655, and 671) shall be compensated for by planting in-kind native trees equivalent to the dbh inches lost, based on the ratios listed below, at locations that are authorized by the Environmental Coordinator. On-site preservation of native trees that are less than 6 inches (<6 inches) dbh, may also be used to meet this compensation requirement. Native trees include: valley oak (*Quercus lobata*), interior live oak (*Quercus wislizenii*), blue oak (*Quercus douglasii*), or oracle oak (*Quercus morehus*), California sycamore (*Platanus racemosa*), California black walnut (*Juglans californica*, which is also a List 1B plant), Oregon ash (*Fraxinus latifolia*), western redbud (*Cercis occidentalis),* gray pine (*Pinus sabiniana*), California white alder (*Alnus rhombifolia*), boxelder (*Acer negundo*), California buckeye (*Aesculus californica*), narrowleaf willow (*Salix exigua*), Gooding's willow (*Salix gooddingii*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), shining willow (*Salix lucida*), Pacific willow (*Salix lasiandra*), Freemont's cottonwood *(Populus fremontii),* and dusky willow (*Salix melanopsis*).

The replacement tree planting plan shall be completed prior to approval of grading or improvement plans, whichever comes first. A total of 197 inches will require compensation.

Equivalent compensation based on the following ratio is required:

- one preserved native tree < 6 inches dbh on-site = 1 inch dbh
- one D-pot seedling (40 cubic inches or larger) = 1 inch dbh
- one 15-gallon tree = 1 inch dbh
- one 24-inch box tree = 2 inches dbh
- one 36-inch box tree = 3 inches dbh

Prior to the approval of Improvement Plans or Building Permits, whichever occurs first, a Replacement Tree Planting Plan shall be prepared by a certified arborist or licensed landscape architect and shall be submitted to the Environmental Coordinator for approval. The Replacement Tree Planting Plan(s) shall include the following minimum elements:

1. Species, size and locations of all replacement plantings and < 6-inch dbh trees to be preserved

2. Method of irrigation

3. If planting in soils with a hardpan/duripan or claypan layer, include the Sacramento County Standard Tree Planting Detail L-1, including the 10-foot deep boring hole to provide for adequate drainage

4. Planting, irrigation, and maintenance schedules;

5. Identification of the maintenance entity and a written agreement with that entity to provide care and irrigation of the trees for a 3-year establishment period, and to replace any of the replacement trees which do not survive during that period.

6. Designation of 20-foot root zone radius and landscaping to occur within the radius of trees < 6 inches dbh to be preserved on-site.

No replacement tree shall be planted within 15 feet of the driplines of existing native trees or landmark size trees that are retained on-site, or within 15 feet of a building foundation or swimming pool excavation. The minimum spacing for replacement native trees shall be 20 feet on-center. Examples of acceptable planting locations are publicly owned lands, common areas, and landscaped frontages (with adequate spacing). Generally unacceptable locations are utility easements (PUE, sewer, storm drains), under overhead utility lines, private yards of single family lots (including front yards), and roadway medians.

Native trees <6 inches dbh to be retained on-site shall have at least a 20-foot radius suitable root zone. The suitable root zone shall not have impermeable surfaces, turf/lawn, dense plantings, soil compaction, drainage conditions that create ponding (in the case of oak trees), utility easements, or other overstory tree(s) within 20 feet of the tree to be preserved. Trees to be retained shall be determined to be healthy and structurally sound for future growth, by an ISA Certified Arborist subject to Environmental Coordinator approval.

If tree replacement plantings are demonstrated to the satisfaction of the Environmental Coordinator to be infeasible for any or all trees removed, then compensation shall be through payment into the County Tree Preservation Fund. Payment shall be made at a rate of $325.00 per dbh inch removed but not otherwise compensated, or at the prevailing rate at the time payment into the fund is made.

BR-11: Native Tree Construction Protection

For the purpose of this mitigation measure, a native tree is defined as blue oak (*Quercus douglasii),* Freemont's cottonwood *(Populus fremontii),* and Pacific willow (*Salix lasiandra*) having a diameter at breast height (dbh) of at least 6 inches, or if it has multiple trunks of less than 6 inches each, a combined dbh of at least 10 inches.

With the exception of the trees removed and compensated for through Native Tree Removal Mitigation above, all native trees (635, 636, 638, 639, 641, 642, 646, 652, 658, 659, 661, 666, and 667) on the project site, all portions of adjacent off-site native trees which have driplines that extend onto the project site, and all off-site native trees which may be impacted by utility installation and/or improvements associated with this project, shall be preserved and protected as follows:

1. A circle with a radius measurement from the trunk of the tree to the tip of its longest limb shall constitute the dripline protection area of the tree. Limbs must not be cut back in order to change the dripline. The area beneath the dripline is a critical portion of the root zone and defines the minimum protected area of the tree. Removing limbs which make up the dripline does not change the protected area.

2. Chain link fencing or a similar protective barrier shall be installed one foot outside the driplines of the native trees prior to initiating project construction, in order to avoid damage to the trees and their root system.

3. No signs, ropes, cables (except cables which may be installed by a certified arborist to provide limb support) or any other items shall be attached to the native trees.

4. No vehicles, construction equipment, mobile home/office, supplies, materials or facilities shall be driven, parked, stockpiled or located within the driplines of the native trees.

5. Any soil disturbance (scraping, grading, trenching, and excavation) is to be avoided within the driplines of the native trees. Where this is necessary, an ISA Certified Arborist will provide specifications for this work, including methods for root pruning, backfill specifications and irrigation management guidelines.

6. All underground utilities and drain or irrigation lines shall be routed outside the driplines of native trees. Trenching within protected tree driplines is not permitted. If utility or irrigation lines must encroach upon the dripline, they should be tunneled or bored under the tree under the supervision of an ISA Certified Arborist.

7. If temporary haul or access roads must pass within the driplines of oak trees, a roadbed of six inches of mulch or gravel shall be created to protect the root zone. The roadbed shall be installed from outside of the dripline and while the soil is in a dry condition, if possible. The roadbed material shall be replenished as necessary to maintain a six-inch depth.

8. Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of oak trees.

9. No sprinkler or irrigation system shall be installed in such a manner that it sprays water within the driplines of the oak trees.

10. Tree pruning that may be required for clearance during construction must be performed by an ISA Certified Arborist or Tree Worker and in accordance with the American National Standards Institute (ANSI) A300 pruning standards and the International Society of Arboriculture (ISA) "Tree Pruning Guidelines".

11. Landscaping beneath the oak trees may include non-plant materials such as boulders, decorative rock, wood chips, organic mulch, non-compacted decomposed granite, etc. Landscape materials shall be kept two (2) feet away from the base of the trunk. The only plant species which shall be planted within the driplines of the oak trees are those which are tolerant of the natural semi-arid environs of the trees. Limited drip irrigation approximately twice per summer is recommended for the understory plants.

12. Any fence/wall that will encroach into the dripline protection area of any protected tree shall be constructed using grade beam wall panels and posts or piers set no closer than 10 feet on center. Posts or piers shall be spaced in such a manner as to maximize the separation between the tree trunks and the posts or piers in order to reduce impacts to the trees.

13. For a project constructing during the months of June, July, August, and September, deep water trees by using a soaker hose (or a garden hose set to a trickle) that slowly applies water to the soil until water has penetrated at least one foot in depth. Sprinklers may be used to water deeply by watering until water begins to run off, then waiting at least an hour or two to resume watering (provided that the sprinkler is not wetting the tree's trunk. Deep water every 2 weeks and suspend watering 2 weeks between rain events of 1 inch or more.

COMMERCIAL PROJECT ALTERNATIVE

IMPACT: WETLANDS AND SURFACE WATERS

LEVEL OF IMPACT: LESS THAN SIGNIFICANT WITH MITIGATION

Because this alternative results in construction within the same area as in the preferred project scenario; the commercial project alternative would result in the same impacts to wetlands and surface waters as described in the preferred project scenario. The mitigation measures as described for the preferred project are applicable to the commercial project alternative and will ensure that impacts to wetlands and surface waters are less than significant.

MITIGATION MEASURE

See BR-1 and BR-2.

IMPACT: VERNAL POOL INVERTEBRATES

LEVEL OF IMPACT: LESS THAN SIGNIFICANT

Because this alternative results in construction within the same area as in the preferred project scenario; the commercial project alternative would result in the same impacts to vernal pool species as described in the preferred project scenario. The mitigation requiring compensation for wetland habitat loss is sufficient to avoid impacts to vernal pool invertebrates.

MITIGATION MEASURE

None required.

IMPACT: WESTERN SPADEFOOT TOAD

LEVEL OF IMPACT: LESS THAN SIGNIFICANT

Because this alternative results in construction within the same area as in the preferred project scenario; the commercial project alternative would result in the same impacts to western spadefoot toad as described in the preferred project scenario. The mitigation requiring compensation for wetland habitat loss is sufficient to avoid impacts to western spadefoot toad.

MITIGATION MEASURES

None required.

IMPACT: IMPACTS TO SPECIAL STATUS PLANT SPECIES

LEVEL OF SIGNIFICANCE: LESS THAN SIGNIFICANT

Because this alternative results in construction within the same area as in the preferred project scenario; the commercial project alternative would result in the same impacts to special status plant species as described in the preferred project scenario. The mitigation measures as described for the preferred project are applicable to the commercial project alternative and will ensure that impacts to special status plant species are less than significant.

MITIGATION MEASURE

See BR-3 and BR-4.

IMPACT: IMPACTS TO SPECIAL STATUS BIRD SPECIES

LEVEL OF IMPACT: LESS THAN SIGNIFICANT WITH MITIGATION

Because this alternative results in construction within the same area as in the preferred project scenario; the commercial project alternative would result in the same impacts to special status bird species as described in the preferred project scenario. The mitigation measures as described for the preferred project are applicable to the

commercial project alternative and will ensure that impacts to special status bird species are less than significant.

MITIGATION MEASURE

See BR-5 through BR-9.

IMPACT: NATIVE TREES

LEVEL OF IMPACT: LESS THAN SIGNIFICANT WITH MITIGATION

Because this alternative results in construction within the same area as in the preferred project scenario; the commercial project alternative would result in the same impacts to native trees as described in the preferred project scenario. The mitigation measures as described for the preferred project are applicable to the commercial project alternative and will ensure that impacts to native trees are less than significant.

MITIGATION MEASURE

See BR-10 and BR-11.