5.2 TERRESTRIAL BIOLOGICAL RESOURCES

5.2.1 OVERVIEW AND SUMMARY

This section identifies major plant and animal resources within the areas proposed by the Master Plan Update including new well installation and water treatment plant construction. This section also assesses the potential impacts of the proposed Master Plan Update on terrestrial biological resources, with the understanding that certain resources, especially wildlife, are transitory and may potentially be present in a wide variety of areas regardless of previous records of observation.

New well locations proposed as part of the Master Plan Update are largely in a natural condition, and the proposed water treatment plant location is partially developed and supports disturbed vegetation. Potentially significant impacts associated with the proposed Master Plan Update are those relating to listed and non-listed special-status species, sensitive natural communities and regulated waters, and native wildlife nursery sites (nesting birds and bat roosts). The proposed Master Plan Update design features avoid direct impacts to surface waters and incorporate containment methods to protect water quality. In conjunction with the proposed Master Plan Update design features, mitigation measures are proposed to reduce potential impacts to levels that are less than significant (Class II). All other impacts are less than significant (Class III).

5.2.2 DATA SOURCES AND METHODOLOGY

To evaluate the natural resources found or potentially occurring on the project site, available literature and data sources, including the Cachuma Project Water Right Hearing Final EIR,[1] aerial photography, and the current versions of the California Natural Diversity Data Base (CNDDB)[2] and California Native Plant Society (CNPS)[3] Inventory of Rare and Endangered Plants were reviewed for the USGS 7.5-minute quadrangle on which the project site is located (Solvang) and the eight surrounding quadrangles (Tajiguas, Gaviota, Santa Rosa Hills, Los Alamos, Sacate, Santa Ynez, Los Olivos, and Zaca Creek). A list of potentially occurring special-status species was generated based on these resources for use in field surveys and impact assessment.

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1 State Water Resources Control Board, Division of Water Rights Final Environmental Impact Report, Consideration of Modifications to the U.S. Bureau of Reclamation's Water Right Permits 11308 and 11310 (Applications 11331 and 11332) to Protect Public Trust Values and Downstream Water Rights on the Santa Ynez River below Bradbury Dam (Cachuma Reservoir). State Clearinghouse #1999051051, December 2011.

2 California Department of Fish and Game. California Department of Fish and Game Natural Diversity Data Base © 2003, Version 3.1.1, Update September 3, 2011.

3 California Native Plant Society, California Native Plant Society Inventory of Rare and Endangered Plants, 8th Edition. Online: http://www.rareplants.cnps.org/. Update September 18, 2011.

A general walking survey of the area proposed for well treatment plant development was conducted on October 7, 2011. The survey was conducted by a qualified biologist, in accordance with established resource agency survey protocols, as applicable, or consistent with accepted survey methodologies for particular species if published protocols did not exist.

Nomenclature in this EIR is based on the following resources:

- **Plants:** The Jepson Manual (Hickman, 1993), as updated on the Jepson Online Interchange for California Floristics: http://ucjeps.berkeley.edu/interchange.html
- **Reptiles and amphibians:** The Center for North American Herpetology Academic Portal to North American Herpetology: http://www.cnah.org/index.asp
- **Birds:** The American Ornithologists' Union Check-list of North American Birds**:** http://www.aou.org/checklist/north/
- **Mammals:** The Smithsonian National Museum of Natural History List of North American Mammals**:** http://www.mnh.si.edu/mna/main.cfm

5.2.3 APPLICABLE REGULATIONS

5.2.3.1 Federal Regulations

Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act makes it unlawful to "take" (kill, harm, harass, etc.) any migratory bird, including their nests, eggs, or products. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, and many other species that may utilize natural and artificial habitats throughout the area.

Federal Endangered Species Act of 1973

Section 3 of the federal Endangered Species Act (ESA) defines an Endangered species as any species or subspecies "in danger of extinction throughout all or a significant portion of its range." A Threatened species is defined as any species or subspecies of fish, wildlife, or plant "likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range." Threatened or Endangered species and their critical habitat are designated through publication of a final rule in the Federal Register. Designated Endangered and Threatened animal species are fully protected from "take" unless an applicant has an incidental take permit issued by the US Fish and Wildlife Service (USFWS) under Section 10 or incidental take statement issued under Section 7 of the ESA. Take is defined as the killing, capturing, or harassing of a species. Proposed Endangered or Threatened species or their critical

habitat are those for which a proposed regulation, but no final rule, has been published in the Federal Register.

Federal Rivers and Harbors Act

Federal regulations of "waters of the United States" stem from Section 10 of the Federal Rivers and Harbors Act of 1899, enacted to regulate activities within navigable waters. The Federal Clean Water Act (CWA) was passed in 1972 and regulates discharges into waters of the United States.

"Waters of the United States" are as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. All interstate waters, including interstate wetlands;

3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters;

    a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

    b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

    c. Which are used or could be used for industrial purpose by industries in interstate commerce;

4. All impoundments of waters otherwise defined as waters of the United States under the definition;

5. Tributaries of waters identified in paragraphs (a) (1) through (4) of this section;

6. The territorial seas;

7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1) through (6) of this section.

U.S. Army Corps of Engineers (USACE) jurisdiction in non-tidal waters typically extends to the ordinary high water mark (OHWM). The OHWM for intermittent streams, for example, can be determined by the fluctuations of water as indicated by physical characteristics such as clear, natural lines impressed on a water bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (33 CFR 328.3(e)).

In 2006, the U.S. Supreme Court revisited the issue of jurisdictional scope of Section 404 of the CWA. In Rapanos v. U.S. and Carabell v U.S., the court ruled that waters of the United States are subject to CWA jurisdiction if (1) the water body is relatively permanent or seasonal, (typically three months or more); (2) is a wetland that directly abuts a relatively permanent water body; or (3) if the water body and its adjacent wetland has a significant physical, biological, or chemical nexus with a traditionally navigable waterway.

Most impacts to areas delineated as waters of the United States, if determined to be jurisdictional by the USACE, require approval under the authority of the CWA and its implementing regulations.

Clean Water Act

Section 401

Section 401 of the federal CWA authorizes the State of California to certify that federal permits, including USACE Section 404 permits, and licenses do not violate the State's water quality standards. The State's implementing regulations to conduct certifications are codified under the California Code of Regulations Title 23, "Waters," Sections 3830 – 3869. Projects qualifying for an USACE Section 404 permit must submit materials for review to the appropriate California Regional Water Quality Control Board (RWQCB) and request a Section 401 certification. Much of the same information (project description, potential impacts, and mitigation measures) necessary to apply for USACE Section 404 and California Department of Fish and Game (CDFG) Section 1602 permits is required for the Section 401 certification.

In response to certain federal court decisions that limited USACE jurisdiction, the state issued several directives to the regional boards regarding the regulation of isolated waters no longer regulated by the USACE. At present, the State Water Quality Control Board and the RWQCBs are to:

1. continue issuing Section 401 certifications for federal permits;

2. issue Waste Discharge Requirements (WDRs) for dredge or fill discharges to waters deemed by the USACE as not subject to federal jurisdiction referencing the same regulatory considerations that are used to issue general WDRs.

A Section 401 certification and a WDR application may be made on the same form, but the State Board has issued a model letter to be submitted with the WDR application to clarify that the WDRs are intended to cover "waters of the State" not covered by the Section 401 certification, and not subject to the USACE regulations.

Section 404

The federal CWA was passed in 1972 and regulates discharges into waters of the United States. Section 404 of the CWA regulates activities including discharge of dredged or fill materials into waters of the United States.

The discharge of fill material into an area delineated as waters of the United States, including wetlands, that is determined to be under the USACE jurisdiction, requires a permit or other approval by USACE Regulatory Branch. Fill is broadly defined as anything foreign to the receiving water. This includes most materials (e.g., rock, soil, pilings, concrete, wood, some incidental fallback of soil from earth-moving equipment, and in some cases additional water) that can be discharged into a water or wetland.

Most Section 404 permits require mitigation for reducing overall impacts to wetlands, including waters of the United States and their functions.

5.2.3.2 State Regulations

California Endangered Species Act

The California Endangered Species Act (CESA) declares that deserving plant or animal species will be given protection by the state because they are of ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the state. CESA establishes that it is state policy to conserve, protect, restore, and enhance Endangered species and their habitats. Under state law, plant and animal species may be formally designated as Rare, Threatened, or Endangered through official listing by the California Fish and Game Commission. Listed species are given greater attention during the land use planning process by local governments, public agencies, and landowners than are species that have not been listed.

On private property, Endangered plants may also be protected by the Native Plant Protection Act (NPPA) of 1977. State-listed Threatened plants are protected by CESA, and state-listed Rare plants are protected by the NPPA. However, CESA authorizes that "Private entities may take plant species listed as Endangered or Threatened under the ESA and CESA through a federal incidental take permit issued pursuant to Section 10 of the ESA, if the CDFG certifies that the incidental take statement or incidental take permit is consistent with CESA." In addition, the California Environmental Quality Act (CEQA) requires disclosure of any potential impacts on listed species and alternatives or mitigation that would reduce those impacts.

California Environmental Quality Act – Treatment of Listed Plant and Animal Species

ESA and CESA protect only those species formally listed as Threatened or Endangered (or Rare in the case of the state list). Section 15380 of the *State CEQA Guidelines* independently defines "endangered" species of plants or animals as those whose survival and reproduction in the wild are in immediate jeopardy and "rare" species as those who are in such low numbers that they could become endangered if their environment worsens. Therefore, a project normally will have a significant effect on the environment if it will substantially affect a rare or endangered species of animal or plant or the habitat of the species. The significance of impacts to a species under CEQA must be based on analyzing actual rarity and threat of extinction despite legal status or lack thereof.

California Fish and Game Code

Section 1602

The State of California regulates water resources under Sections 1600–1605 of the Fish and Game Code of California.

It is unlawful for any person to divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the CDFG of that activity.

CDFG considers most natural drainages to be streambeds unless it can be demonstrated otherwise. Streams are defined in the California Code of Regulations Title 14, Chapter 1, Section 1.72 as follows:

> *A stream is a body of water that flows least periodically or intermittently through a bed or channel having banks and that support fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation.*

CDFG jurisdiction under Section 1602 includes ephemeral, intermittent, and perennial watercourses, and is often extended to the limit of riparian habitats that are located contiguous to the water resource and that function as part of the watercourse system. Section 2785(e) of the Fish and Game Code of California states:

> *Riparian habitat means lands which contain habitat which grows close to and which depends on soil moisture from a nearby freshwater source.*

Any project that impacts CDFG jurisdictional areas, including fills, vegetation removal, or bridging, requires a Section 1602 Streambed Alteration Agreement from CDFG. Much of the same information (i.e.,

project description, potential impacts, mitigation measures, etc.) necessary to apply for USACE Section 404 permits is required for the Streambed Alteration Agreement application.

Sections 3503, 3503.5, and 3800

These sections of the Fish and Game Code prohibit the destruction of bird nests and eggs (Section 3503), and the take of birds of prey (Section 3503.5) and nongame birds (Section 3800). Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a "take." Such a take would also violate federal law protecting migratory birds.

Incidental take permits (i.e., Management Agreements) are required from the CDFG for projects that may result in the incidental take of species listed by the State of California as Endangered, Threatened, or candidate species. The permits require that impacts to protected species be minimized to the extent possible and mitigated to a level of insignificance.

5.2.3.3 Local Regulations

City of Solvang

General Plan

The Conservation and Open Space Element of the 1988 City of Solvang General Plan contains the following Goals, Objectives, and Policies, addressing the conservation of biological resources, which are relevant to the proposed project.

Goal 3.1 To protect and conserve the City's Natural and Cultural Resources

Objective 1.0 Ensure that the quality of the Santa Ynez River and its tributaries do not violate state and federal water quality standards as a result of development within the City of Solvang.

Policy 1.b The City shall require the incorporation of adequate erosion control measures into development projects that may otherwise impact water resources adversely. Such measures shall include sandbagging of newly graded slopes, prompt planting of disturbed areas, phasing of grading and construction activities to minimize exposed areas susceptible to erosion, and the routing of runoff flows through desilting basins prior to discharge into any watercourse. Such provisions shall be included in a grading ordinance.

Policy 1.d The City shall preserve important groundwater recharge areas as open space. Further, the City shall restrict land uses which may create potential water quality hazards from locating within or near groundwater recharge areas.

Objective 4.0 Preserve areas of important biological habitat and protect sensitive, rare, and endangered species of flora and fauna.

Policy 4.a The City shall require that all development proposals provide adequate mitigation measures for identified significant biological resources, including selective preservation, replanting, and/or sensitive site planning techniques.

Policy 4.b Permanent open space preserves designated for the purpose of protecting biological resources shall be managed primarily for their inherent ecological value. Recreational uses shall be considered a secondary activity.

Goal 3.2 To protect and enhance sensitive open space areas and viewsheds

Objective 2.0 Encourage the preservation of the City's hillside areas and natural landform.

Policy 2.a The City shall enact a hillside development ordinance which contains development standards to:

1. maintain the natural visual character of the hillsides by integrating architecture and landscaping into the hillside setting,
2. minimize grading impacts,
3. architecturally integrate any structures within the prominent ridgelines designated in the general plan,
4. encourage the contouring of manufactured slopes to blend with natural slopes,
5. encourage the use of innovative designs which adapt to the natural topography,
6. encourage the blending of colors and materials with the hillside environment, and

7. provide for the planting of slopes with appropriate vegetation.

County of Santa Barbara

Portions of the project area, specifically those areas that may be used for future Well Site B, are located in unincorporated areas of Santa Barbara County. As such, they are under the jurisdiction of the County Comprehensive Plan and Santa Ynez Valley Community Plan.

Comprehensive Plan Conservation Element

The Conservation Element[4] of the County of Santa Barbara Comprehensive Plan describes the ecological communities in the unincorporated areas of the County including the Santa Ynez Valley.

The Conservation Element provides mapping of biological resources countywide.[5] Within the mapped area of each ecological unit is a set of four code numbers representing (1) the particular category of natural community, (2) the ecological value of that community, (3) the use which it can tolerate, and (4) the intensity of that use which it can tolerate.

The area which the proposed project is located is mapped as the Santa Ynez Valley Study Area. Certain areas with this study area have a biological value classification of Unusual or Delicate Habitat, which provided the biological criteria for assigning tolerance and intensity levels.[6] If a community is common in other parts of the State but uncommon in the County, the Conservation Element has regarded it as an "unusual habitat." The Conservation Element identifies areas along the Santa Ynez River up and down stream of the Alisal Bridge as Unusual or Delicate Habitat.[7]

The Conservation Element identifies the potential tolerance that various biotic communities may sustain. Additionally, the intensity of use, identifying whether a biotic community was tolerant or intolerant to a particular use is provided. The areas of the proposed project are noted as being tolerant of a range of activities including very light to light intensity recreation, agriculture, and managed production of commercial biological resources or moderate recreation activity.[8]

The Conservation Element notes that the Santa Ynez River, by virtue of its length, passes through a variety of plant communities and geologic formations. Because of differing topographic features and soil

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4 County of Santa Barbara, Comprehensive Plan, Conservation Element, Adopted 1979 – amended August 2010.

5 Ibid, 80.

6 Ibid. 84

7 Ibid, 100.

8 Ibid, 102.

characteristics, it also supports several different ecological communities along its course, such as freshwater marshes, large reservoirs, and riparian communities.[9] Numerous species of the County's plants and animals are most abundant in, or are almost limited to, the Santa Ynez River area.

The Conservation Element recommendations[10] for the Santa Ynez River notes that future development of the Santa Ynez River should be halted and further depletion of river water should not be tolerated. Far too many ecological communities would suffer with any further diminution in the flow of the river. For similar reasons, no noxious or polluting materials should be permitted to be added to the drainage where the river flows through urban areas.

Santa Ynez Valley Community Plan

The Santa Ynez Valley Community Plan updates the Comprehensive General Plan and provides policy direction for issues and development trends specific to the Plan Area.[11] The Santa Ynez Valley Community Plan provides the general public, landowners and decision makers with a framework for planning future development in the region.

The Santa Ynez Valley Community Plan states that the Santa Ynez River is an important resource to Valley residents and beyond. It serves important ecological functions for the wildlife that rely on it for their entire life cycle or for one or more of their survival needs (e.g., foraging or breeding) and is a major wildlife corridor for a variety of mammals.[12] Numerous streams and creeks and their tributaries drain the Santa Ynez Valley area, eventually feeding into the Santa Ynez River. Streams and creeks are defined as watercourses, drainage ways and small lakes, ponds and marshy areas through which water flows, whether or not the area has been formally identified as an environmentally sensitive habitat. Streams and creeks may have perennial or intermittent flow, or they may be ephemeral, flowing only during storm events. They are often bordered by riparian vegetation. They provide important habitat for many plant and animal species, provide transport of nutrients and sediment and provide movement corridors for wildlife.

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9 County of Santa Barbara, Comprehensive Plan, Conservation Element, Adopted 1979 – amended August 2010, 144.

10 Ibid, 145.

11 County of Santa Barbara, Santa Ynez Valley Community Plan, adopted October 6, 2009.

12 Ibid, 160.

The Santa Ynez valley Community Plan notes that private and public projects have the potential to affect biological resources in the Santa Ynez Valley planning area, directly through removal of habitats and indirectly through the effects of urbanization (noise, fencing, domestic animals, lighting, erosion, etc.).[13] Public projects required to support development under the Santa Ynez Valley Community Plan which may impact biological resources include roadway widening, trails and bike paths, parks and recreational facilities, expansion of sewer services, flood control activities and facilities, and fire management activities.

Planning Issues

The Community Plan notes that in addition to providing habitat for many sensitive animal and plant species, the river and its tributaries provide drinking water, provide surface and groundwater storage and recharge, convey flood flows and transport sediment and nutrients, while the riparian habitats that line their channels and in-stream vegetation filter sediments and nutrients, protect stream banks from erosion and improve water quality.[14] In order to protect the river it is also necessary to protect the tributaries that feed the river. Santa Barbara County Ordinance No. 3095 establishes creek and river setback requirements to address flood hazards to structures and other development.[15] In general, development shall be set back a minimum of 50 feet from the top of bank of streams and creeks and 200 feet from the top of the bank of the Santa Ynez River.

Biological Resources Goals and Policies

The following goals and policies of the Santa Ynez valley Community Plan[16] apply to biological resources:

Goal BIO-SYV: The Biological Resources of the Santa Ynez Valley Community Plan Area are an Important Regional Asset that Should be Protected, Enhanced and Preserved.

Policy BIO-SYV-1: Environmentally sensitive biological resources and habitat areas shall be protected and, where appropriate, enhanced.

Policy BIO-SYV-2: The County shall encourage the dedication of conservation or open space easements to preserve important biological habitats. Where appropriate and legally feasible, the County shall require such easements.

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13 County of Santa Barbara, Santa Ynez Valley Community Plan, adopted October 6, 2009, 162.

14 Ibid, 163.

15 Santa Barbara County Ordinance No. 3095, County Code 15B, Development Along Watercourses.

16 County of Santa Barbara, Santa Ynez Valley Community Plan, adopted October 6, 2009, 164 to 172.

Policy BIO-SYV-3: Significant biological communities shall not be fragmented by development into small, non-viable areas.

Policy BIO-SYV-4: Sensitive habitats shall be protected to the maximum extent possible, and compensatory mitigation shall be prescribed when impacts to or loss of these areas cannot be avoided. In addition, federally designated critical habitat for threatened or endangered species shall also be considered to be sensitive habitat. Natural stream corridors (channels and riparian vegetation) shall be maintained in an undisturbed state to the maximum extent feasible in order to protect banks from erosion, enhance wildlife passageways and provide natural greenbelts. Setbacks shall be sufficient to allow and maintain natural stream channel processes (e.g., erosion, meanders) and to protect all new structures and development from such processes. Prior to the approval of a Land Use permit for discretionary projects, County staff will determine whether sensitive biological resources may be present on the subject property by consulting Appendix D, the Santa Ynez Valley Vegetation Map; the CNDDB; and/or other P&D references. If these resources may be present on the parcel or within 100 feet, the applicant must provide a biological survey report from a qualified biologist that determines whether or not the project would impact sensitive biological resources. If wetlands, riparian habitats or jurisdictional waters occur on the property, the report would include a wetland delineation following the U.S. Army Corps of Engineers (2006) procedures.

Policy BIO-SYV-5: Pollution of the Santa Ynez River, streams and drainage channels, underground water basins and areas adjacent to such waters shall be minimized.

Policy BIO-SYV-6: "Hardbank" channelization (e.g., use of concrete, riprap, gabion baskets) of stream channels shall be prohibited, except where needed to protect existing structures. Where hardbank channelization is required, the material and design used shall be the least environmentally damaging alternative and site restoration on or adjacent to the stream channel shall be required, subject to a restoration plan.

Policy BIO-SYV-8: Native protected trees and non-native specimen trees shall be preserved to the maximum extent feasible. Non-native specimen trees are defined for the purposes of this policy as mature trees that are healthy and structurally sound and have grown into the natural stature particular to the species. Native or non-native trees that have unusual scenic or aesthetic quality, have important historic value, or are unique due to species type or location shall be preserved to the maximum extent feasible.

Policy BIO-SYV-9: Trees serving as known raptor nesting sites or key raptor roosting sites shall be preserved to the maximum extent feasible.

Policy BIO-SYV-10: Areas of one or more acres of central coastal scrub shall be preserved to the maximum extent feasible.

Policy BIO-SYV-11: Areas of chaparral shall be protected from development to the maximum extent feasible.

Policy BIO-SYV-12: Areas of native grasslands shall be preserved to the maximum extent feasible.

Policy BIO-SYV-13: The use of native landscaping shall be encouraged, especially in parks, buffers adjacent to native habitats, and designated open space.

Policy BIO-SYV-14: Where sensitive plant species and sensitive animal species are found pursuant to the review of a discretionary project, efforts shall be made to preserve the habitat in which they are located to the maximum extent feasible. For the purpose of this policy sensitive plant species are those species which appear on a list in the California Native Plant Society's Inventory of Endangered Vascular Plants of California. Sensitive animal species are those listed as endangered, threatened or candidate species by the California Department of Fish and Game and the U.S. Fish and Wildlife Service.

Policy BIO-SYV-15: The County shall support and encourage public education of the importance of protecting, enhancing and restoring the Santa Ynez Valley's natural resources and habitats.

5.2.4 EXISTING CONDITIONS

Master Plan Update components are proposed along the north bank of the Santa Ynez River from Alisal Bridge, westward for approximately 1.5 miles, and within the City's Alisal Commons open space, between Alisal Road and the Alisal Glen housing subdivision, extending approximately 1,150 feet north of the Santa Ynez River.

The City maintains and operates a small municipal water supply system with various supply wells, storage, treatment, and distribution facilities. The proposed water treatment plant is located within largely undeveloped parcels west of Alisal Road. Existing suburban density residential development lies to the west and north; a golf course lies to the east, across Alisal Road; and the Santa Ynez River lies to the south. **Figure 2.0-3** shows the locations of existing wells within the WSMP area.

Suburban density residential development and agricultural uses lie immediately to the north of the proposed well locations; the active channel and associated floodplain of the Santa Ynez River lie immediately to the south, east, and west.

Vegetation and Habitats

Santa Ynez Valley

According to the Santa Ynez Valley Community Plan, the following plant communities occur in the Santa Ynez Valley: native grassland, central coastal scrub, oak woodlands and savanna, valley oak savanna with native grass understory, riparian habitats and non-native grassland.[17]

Native Grassland[18]

This type of grassland is defined by the presence of native purple needlegrass, small-flowered needlegrass and other native grasses (e.g. *Nassella pulchra, Nassella lepida, Leymus triticoides, Vulpia microstachys*). Native grasses are perennial and form sparse to densely spaced tussocks – hence the common name "bunchgrass." Other native grasses, such as creeping wild rye, grow from thick rhizomes and form dense mats of vegetation that are very effective filters. Most native bunchgrasses have been displaced throughout California with European annual grass species, which often grow amongst the native grass tussocks. In a few instances, areas with minimal disturbance may be comprised almost entirely of native grassland. Native grasses also occur as understory species in central coastal scrub, coast live oak woodland and valley oak savanna communities.

17 County of Santa Barbara, Santa Ynez Valley Community Plan, adopted October 6, 2009, 157.

18 Ibid, 157-158.

Central Coastal Scrub[19]

Central coastal scrub, also known as Venturan coastal scrub, is a type of coastal sage scrub dominated by aromatic perennial shrubs with little to no annual grassland understory or tree overstory. It typically occurs at elevations below 2,000 feet on south-facing slopes with shallow, rocky soils (below chaparral). Dominant species include California sagebrush, coyote bush, black, purple and white sages, mock heather and bush lupine.

Chaparral[20]

Chaparral is characterized by woody shrubs forming dense thickets covering slopes with little soil profile. It is highly adapted to fire and effectively prevents erosion on hillsides. Several types occur in the community planning area, including northern mixed chaparral, southern mixed chaparral, central maritime chaparral and sandhill chaparral. Characteristic and dominant species include a variety of manzanita and ceanothus species, toyon, Palmer's oak and chamise. The chaparral plant communities are most abundant outside urban and inner-rural areas.

Oak Woodlands and Forests[21]

In general, oak woodlands and forests support a diverse wildlife population. Oak habitats offer shade in summer, shelter in winter, and provide perching, roosting, nesting and food storage sites. Acorns are the most plentiful food source but other oak products and associated species also provide food sources for wildlife.

Coast Live Oak Woodland and Forest: The coast live oak is the dominant tree is this woodland, but in the Santa Ynez Valley this community may also contain a few scattered valley oaks and bay trees. Distinguishing characteristics are a tree canopy cover of 25 to 60 percent, a poorly developed shrub layer and a well-developed herbaceous understory of non-native grassland and introduced annual herbs. Native shrubs that may occur in association with coast live oak woodland include toyon, Mexican elderberry, gooseberry, sugar bush, coffeeberry and poison oak. Common understory herbaceous species include non-native grasses, filaree, black mustard, and wild radish. Coast live oak woodland occurs primarily on north-facing slopes, but trees may also intersperse with valley or blue oaks on more level terrain.

19 County of Santa Barbara, Santa Ynez Valley Community Plan, adopted October 6, 2009, 158.

20 Ibid.

21 Ibid, 158-159.

Valley Oak Savanna and Woodland: The characteristic species of this habitat is the deciduous valley oak with non-native annual grassland understory. The understory vegetation in relatively undisturbed areas may be comprised of native perennial bunchgrasses. This community may also contain scattered coast live oaks and blue oaks. The community normally occurs at elevations below 2,000 feet in valley bottoms on deep, well-drained alluvial soils. Contrasting with the evergreen coast live oak, valley oaks are winter-deciduous, attain a height of 100 feet or more and are California's largest broad-leaf tree. The difference between savanna and woodland is based on the percentage of canopy cover provided by the valley oak trees with savanna covering a range of 1-24 percent.

Blue Oak Woodland: Blue oak woodlands reach the southernmost extent of their range in the Santa Ynez Valley. Blue oaks are deciduous and generally smaller in stature than valley oaks. The understory is generally grassland but California sagebrush, buckwheat, purple sage and yucca can occur nearby.

Valley Oak Savanna with Native Grass Understory[22]

There is one known location of a stand of valley oak savanna with needlegrass understory. In other areas, other native grass species may be present (e.g., *Vulpia microstachys*). This particular co-occurrence of valley oaks and native grasses is fairly rare and probably represents the historic association of these two plant communities.

Non-Native Grassland[23]

Non-native, annual grasses are the dominant species in this community. These grasses germinate in the beginning of the rainy season and have completed their lifecycle by the end of the spring or early summer. Many of these grasslands also support native and non-native annual wildflowers and herbs, particularly in years with above-average rainfall. Non-native grasslands also support a variety of small mammals which in turn feed snakes and numerous species of raptors. It can provide significant foraging habitat for raptors.

Wetlands[24]

All naturally occurring wetlands are considered significant resources because they provide a high number of functions in a generally dry, arid region and because of their extremely rare occurrence within the region. Wetlands support the most diverse assemblages of plants and animals found in the southwestern United States. They provide food, cover for protection against predators and habitat for

22 County of Santa Barbara, Santa Ynez Valley Community Plan, adopted October 6, 2009, 159.

23 Ibid.

24 Ibid, 159-160.

breeding of some species and are utilized by a large number of organisms including invertebrate larvae, amphibians, large mammals and plants that may only survive in wetland areas.

Wetlands also provide a number of public benefits including: (1) water quality and hydrologic functions which support groundwater recharge, surface water availability and water purification/filtration, (2) food chain support, (3) nutrient cycling, and (4) socio-economic benefits which include aesthetics, ethno-botany, recreation, research, education, etc. Examples within the Santa Ynez Valley include freshwater marshes, seep wetlands and vernal pools. Many wetlands are found in association with the Santa Ynez River and along and near the numerous streams and creeks that drain the area.

Riparian Habitats[25]

Riparian habitats line the banks of rivers, streams, creeks and ponds and consist of a variety of vegetation types. They preserve water quality by filtering sediment and some pollutants from runoff before it enters the water body, protect stream banks from erosion, provide food and habitat for fish and wildlife and preserve open space and aesthetic values.

Several plant community types make up the riparian habitats found in the Santa Ynez Valley including central coast arroyo willow riparian forest, southern cottonwood-willow riparian forest, central coast riparian scrub and valley and coast live oak riparian woodland. These different riparian plant communities are identified by the predominant plant species that occur within them, which are mentioned in each community's name. With the exception of central coast riparian scrub, the riparian communities include these dominant tree species: cottonwood, sycamore, willow (either arroyo, red or yellow), California walnut, alders and oaks. Central coast riparian scrub dominants include coyote bush, mulefat, sandbar willow, and poison oak. Understory species, when present, include mugwort, wild rose, poison oak, blackberry, wild cucumber and non-native plants such as periwinkle and nasturtium.

Proposed Well Sites

The proposed well sites lie on upper alluvial terraces of the Santa Ynez River within the 100-year floodplain of the Santa Ynez River. Vegetation is a mixture of riparian forest and scrub, and upland scrub and developed/disturbed types.

The vegetation is disturbed within proposed Well Site 'A' where there is one active and one inactive water well, and a dirt road and trail network that extends the length of the site. Proposed Well Site 'B' is entirely contained within an existing gravel mining operation, adjacent to agricultural uses. Two large,

25 County of Santa Barbara, Santa Ynez Valley Community Plan, adopted October 6, 2009, 160.

excavated depressions within Well Site 'B' contain ponds that are hydrologically connected via subsurface flows to the Santa Ynez River. One of these has recovered to a more or less natural condition and supports riparian forest and bulrush wetland vegetation.

The Treatment Plant site is within non-native grassland supporting scattered native oak trees and ornamental shrubs. Vegetation types within each of the three areas are provided below. A listing of plant species observed on the subject property during the field surveys is provided as **Appendix 5.2,** Plant Species Observed within the Master Plan Update Project Sites. A vegetation map showing existing vegetation for the proposed well site locations and water treatment plant is provided as **Figure 5.2-1, Existing Vegetation for the Master Plan Update Proposed Well Sites and Water Treatment Plant**.

The CDFG Biogeographic Data Branch, Vegetation Classification and Mapping Program, has developed a Natural Communities List,[26] which was used as the classification system for this document. The most recent version of this list, dated September 2010 is based on the classification put forth in the second edition of "A Manual of California Vegetation"[27] which is the California expression of the National Vegetation Classification.[28]

One of the primary purposes of the classification is to assist in the location and determination of significance and rarity of vegetation types for tracking purposes in the CNDDB. Thus, ranking of types by their rarity and threat is an important facet of the classification. This list assigns "Global" and "State" rankings, 1 through 5, using NatureServe's standard heritage program methodology.[29] Alliances given a G1 through a G3 code are considered sensitive. Alliances given a G4 or G5 code are generally considered common enough to not be of concern. However, it does not mean that certain associations contained within them are not rare, particularly within the state. For some, inadequate data are available to determine rarity, and these are indicated with a question mark.

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26 Natural Communities List Arranged Alphabetically by Life Form. September 2010. http://www.dfg.ca.gov/biogeodata/vegcamp/natural_communities.asp

27 Sawyer, John, Todd Keeler-Wolf and Julie Evens. 2009. *A Manual of California Vegetation, Second Edition*.

28 Grossman, D. H., D. Faber-Langendoen, A. S. Weakley, M. Anderson, P. Bourgeron, R. Crawford, K. Goodin, S. Landaal, K. Metzler, K. D. Patterson, M. Pyne, M. Reid, and L. Sneddon. 1998. *International classification of ecological communities: terrestrial vegetation of the United States. Volume I. The National Vegetation Classification System: development, status, and applications*. The Nature Conservancy, Arlington, Virginia, USA.

29 NatureServe. 2010. Nature Serve Conservation Status descriptions. Available at http://www.natureserve .org/explorer/ranking.htm#interpret. NatureServe is a non-profit conservation organization whose mission is to provide the scientific basis for effective conservation action. NatureServe and its network of natural heritage programs are the leading source for information about rare and endangered species and threatened ecosystems.

In instances where on-site vegetation types do not correspond with any type appearing in the List of California Vegetation Alliances, a classification has been made using the methodology of Sawyer et al.[30]

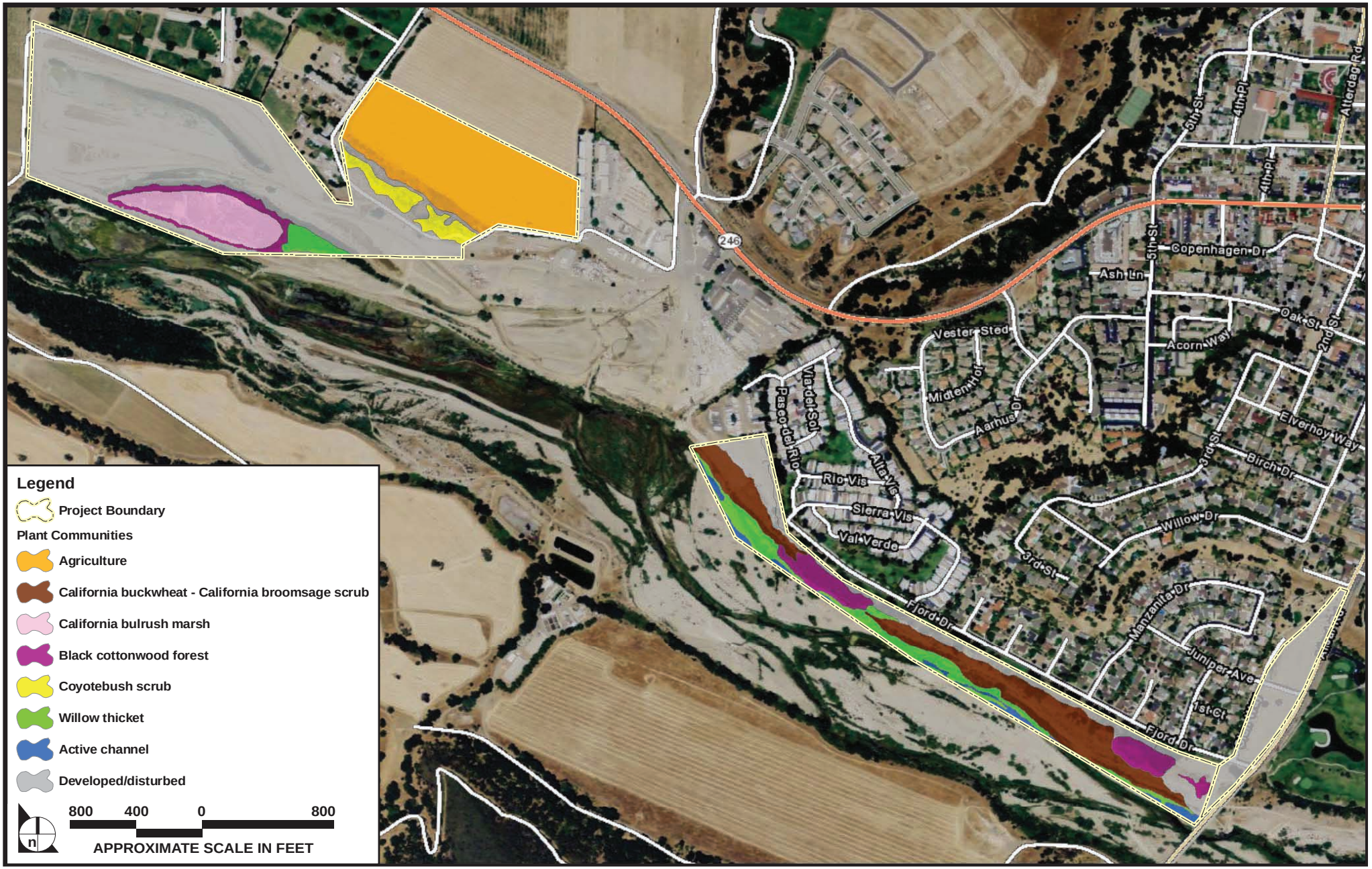
Active channel (including channel pools)

This is not a vegetation type, *per se*, but is included in this discussion because of its distinct role in the Santa Ynez River ecosystem and the habitat attributes it provides to plant and animal species.

Frequently scoured areas within the floodplain are largely barren but support scattered individuals of herbaceous annual and short-lived perennial species including mulefat (*Baccharis salicifolia*), telegraph weed (*Heterotheca grandiflora*), prickly lettuce (*Lactuca serriola*), black mustard (*Brassica nigra*), summer mustard (*Hirschfeldia incana*), and white melilot (*Melilotus albus*). Substrates within active channels are chiefly sand, cobble, and large stones.

Channel pools are depressions within the floodplain that are permanently inundated or nearly so. These areas are lined with a species mix that is similar to arroyo willow thickets and black cottonwood woodland (described below), but in many cases have an age structure that is qualitatively younger and with a larger component of herbaceous species, such as cocklebur (*Xanthium strumarium*), white melilot, willowherb (*Epilobium ciliatum*), seep-spring mimulus (*Mimulus guttatus*), English plantain (*Plantago lanceolata*), water speedwell (*Veronica anagallis-aquatica*), false waterpepper (*Persicaria hydropiperoides*), lady's thumb (*P. maculosa*), nutsedge (*Cyperus eragrostis*), California bulrush (*Schoenoplectus californicus*), rabbit's foot grass (*Polypogon monspeliensis*), and narrowleaf cattail (*Typha domingensis*)

30 Sawyer, John, Todd Keeler-Wolf and Julie Evens. 2009. *A Manual of California Vegetation, Second Edition*.



SOURCE: ESRI Maps & Data, Impact Sciences, Inc. - October 2011

FIGURE **5.2-1**

Meridian Consultants

Existing Vegetation for the Master Plan Update Proposed Well Sites and Water Treatment Plant

001-001-12

California buckwheat – California broomsage scrub

This vegetation type is present throughout most of the Santa Ynez 100-year floodplain. It forms the typical vegetation along alluvial terraces that are infrequently scoured and is dominated by California buckwheat (*Eriogonum fasciculatum*) and California broomsage (*Lepidospartum squamatum*). These are largely tolerant of seasonal drought and dry conditions within the floodplain, which prevail for most of the year outside of active flow channels. Additional common species within California buckwheat – California broomsage scrub habitats include Italian stone pine (*Pinus pinea*, escaped volunteers from nearby ornamental plantings), fennel (*Foeniculum vulgare*), western ragweed (*Ambrosia psilostachya*), coyote bush (*Baccharis pilularis*), tocalote (*Centaurea melitensis*), horseweed (*Conyza canadensis*), telegraph weed, California broom (*Acmispon glaber* var. *glaber*), slender buckwheat (*Eriogonum elongatum* var. *elongatum*), slender oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), red brome (*B. madritensis* ssp. *rubens*), and mouse-tail fescue (*Vulpia myuros* var. *myuros*). California buckwheat alliances have generally been assigned a sensitivity ranking of G5 S5 by CDFG; however, alluvial formations of this alliance with California broomsage as a subdominant are considered sensitive.

Coyotebush scrub

This vegetation type is present within proposed Well Site 'B' south of the existing agricultural area and north of the sand and gravel operation. It is dominated by coyote bush; additional species include fennel, California sagebrush (*Artemisia californica*), Italian thistle (*Carduus pycnocephalus*), tocalote, black mustard, coastal chaparral morning-glory (*Calystegia macrostegia* ssp. *cyclostegia*), California buckwheat, toyon (*Heteromeles arbutifolia*), ripgut brome, soft chess, and red brome. Coyotebush alliances have generally been assigned a sensitivity ranking of G5 S5 by CDFG.

Riparian and wetland areas

Riparian and wetland areas on site share a large proportion of their species but are differentiated by age structure and hydrology. They are of four general types:

- **Willow thickets**—These are areas lining active channels that receive regular, frequent flood flows and lack large, mature trees, all vegetation having become established subsequent to scouring floods within approximately the last 10 years. These areas are very densely vegetated and dominated by willows—chiefly sandbar willow (*Salix exigua* var. *exigua*) and arroyo willow (*S. lasiolepis*)—with mulefat and white melilot also forming a major component of the canopy. Saplings of Southern California black walnut (*Juglans californica*), western sycamore (*Platanus racemosa*), black cottonwood (*Populus trichocarpa*), red willow (*Salix laevigata*), and shining willow (*S. lasiandra* var. *lasiandra*) are also present. Arroyo willow thickets have generally been assigned a sensitivity ranking of G4 S4 by CDFG.

- **Black cottonwood forest**—These are areas supporting mature trees and large shrubs along the banks of the floodplain, which demarcate the highest elevation of infrequent flooding within the river. These areas are dominated by black cottonwood and support numerous medium and large trees, including coast live oak (*Quercus agrifolia* var. *agrifolia*), Southern California black walnut, western sycamore, red willow, shining willow, arroyo willow, and the non-native Canary Island date palm (*Phoenix canariensis*i). Shrubs include mulefat, California coffeeberry (*Frangula californica*), redberry (*Rhamnus crocea*), and toyon. The understory is a mix of herbaceous or scrambling semi-woody species including poison-oak (*Toxicodendron diversilobum*), fennel, cocklebur, salt heliotrope (*Heliotropium curassavicum*), willowherb, virgin's bower (*Clematis ligusticifolia*), dwarf stinging-nettle (*Urtica urens*), and nutsedge. Although black cottonwood forest has generally been assigned a sensitivity ranking of G5 S3, CDFG considers this a sensitive community.

- **California bulrush marsh**—A large excavated depression within the sand and gravel mining operation and proposed Well Site 'B' supports a well-developed wetland/pond/woodland complex edged by willow thickets and black cottonwood forest and also supporting a small marsh of California bulrush and narrowleaf cattail. California bulrush marsh has been assigned a sensitivity ranking of G5 S4 by CDFG.

- **Disturbed pond**—A second depression, also within proposed Well Site 'B,' supports an additional water-filled depression but lacks any appreciable mature vegetation. Dominant plant species within this area are chiefly ruderal species and include Russian-thistle (*Salsola tragus*), weedy cudweed (*Gnaphalium luteoalbum*), castor-bean (*Ricinus communis*), white melilot, and rabbit's foot grass. This vegetation type has not been assigned a sensitivity ranking by CDFG.

Developed/disturbed—Sparsely vegetated or frequently disturbed areas, adjacent to bare ground along roads and throughout much of proposed Well Site 'B' support ruderal taxa including Russian-thistle, annual bur-sage (*Ambrosia acanthicarpa*), mugwort (*Artemisia douglasiana*), Italian thistle, tocalote, yellow starthistle (*Centaurea solstitialis*), horseweed, weedy cudweed, telegraph weed, black mustard, summer mustard, white-stem filaree (*Erodium botrys*), red-stem filaree (*E. cicutarium*), prostrate knotweed (*Polygonum aviculare* ssp. *depressum*), tree tobacco (*Nicotiana glauca*), ripgut brome, red brome, and mouse-tail fescue. This vegetation type has not been assigned a sensitivity ranking by CDFG.

Agriculture—The northern portion of proposed Well Site 'B' is currently farmed with annual crops and is periodically cleared of vegetation. Marginal to this area are several mature English walnuts (*Juglans regia*) which are presumed to be former orchard trees. This vegetation type has not been assigned a sensitivity ranking by CDFG.

Wildlife

Wildlife species observed directly or deduced as being present on the site by sign such as scat, tracks or remains are listed in **Appendix 5.2,** Animal Species Observed on the Master Plan Update Project Sites.

Amphibian observations were limited to bullfrog tadpoles (*Lithobates catesbeianus*) within channel pools. Reptiles observed on site included Great Basin fence lizard (*Sceloporus occidentalis longipes*), California side-blotched lizard (*Uta stansburiana elegans*), and two-striped garter snake (*Thamnophis hammondii*). Suitable habitat is present for all of these common amphibian and reptile species in the project area.

Riparian, floodplain and upland vegetation types on the site provide good quality habitat for a large variety of local bird and mammal species. Bird species observed include white-throated swift (*Aeronautes saxatalis*), mallard (*Anas platyrhynchos*), western scrub-jay (*Aphelocoma californica*), great egret (*Ardea alba*), great blue heron (*A. herodias*), oak titmouse (*Baeolophus inornatus*), red-tailed hawk (*Buteo jamaicensis*), green heron (*Butorides virescens*), California quail (*Callipepla californica*), Anna's hummingbird (*Calypte anna*), killdeer (*Charadrius vociferus*), American crow (*Corvus brachyrhynchos*), snowy egret (*Egretta thula*), belted kingfisher (*Megaceryle alcyon*), wild turkey (*Meleagris gallopavo*), California towhee (*Melozone crissalis*), hairy woodpecker (*Picoides villosus*), spotted towhee (*Pipilo maculatus*), bushtit (*Psaltriparus minimus*), black phoebe (*Sayornis nigricans*), and California thrasher (*Toxostoma redivivum*).

Mammal species observed on site include coyote (*Canis latrans*), American beaver (*Castor canadensis*), Virginia opossum (*Didelphis virginiana*), northern raccoon (*Procyon lotor*), California ground squirrel (*Spermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*), and Botta's pocket gopher (*Thomomys bottae*).

Special-status Biological Resources

Special-status plant and animal species are those appearing on the Special Vascular Plants, Bryophytes, and Lichens List, and the Special Animals List, both compiled by CDFG and updated July and January 2011, respectively.

Special-status plants are species, subspecies, or varieties that fall into one or more of the following categories[31]:

- officially listed by California or the Federal Government as Endangered, Threatened, or Rare;
- a candidate for state or federal listing as Endangered, Threatened, or Rare;
- taxa that meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the *State CEQA Guidelines*; table entries for these taxa may indicate "none" under listing status, but note that all CNPS Rank 1 and 2 and some Rank 3 plants may fall under Section 15380 of CEQA;

31 California Department of Fish and Game, Natural Diversity Database. July 2011. Special Vascular Plants, Bryophytes, and Lichens List. Quarterly publication. 71 pp.

- a Bureau of Land Management, U.S. Fish and Wildlife Service, or U.S. Forest Service Sensitive Species;
- taxa listed in the California Native Plant Society's Inventory of Rare and Endangered Plants of California;
- taxa that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation;
- populations in California that may be peripheral to the major portion of a taxon's range but are threatened with extirpation in California; and
- taxa closely associated with a habitat that is declining in California at a significant rate (e.g., wetlands, riparian, vernal pools, old growth forests, desert aquatic systems, native grasslands, valley shrubland habitats, etc.).

Special-status animals are taxa that fall into one or more of the following categories:[32]

- officially listed or proposed for listing under the state or federal Endangered Species Acts;
- state or federal candidate for possible listing;
- taxa that meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the California Environmental Quality Act Guidelines. (More information on CEQA is available at http://ceres.ca.gov/topic/env_law/ceqa/guidelines/;
- taxa considered by the Department to be a Species of Special Concern (SSC);
- taxa that are biologically rare, very restricted in distribution, declining throughout their range, or have a critical, vulnerable stage in their life cycle that warrants monitoring;
- populations in California that may be on the periphery of a taxon's range, but are threatened with extirpation in California;
- taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands, vernal pools, etc.); and
- taxa designated as a special-status, sensitive, or declining species by other state or federal agencies, or non-governmental organizations (NGOs).

Santa Ynez Valley

According to the Conservation Element of the Santa Barbara Comprehensive Plan sensitive plant and animal species occur in the Santa Ynez Valley.[33]

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32 California Department of Fish and Game, Natural Diversity Database. January 2011. Special Animals List.

Plants

Gracious Thistle (*Cirsium loncholepis Petrak*) Sunflower Family - This deep-rooted short-lived perennial without hair and with solitary or clustered flowers is found locally on coastal dunes and strand only in San Luis Obispo and Santa Barbara Counties. The type locality (locality from which the plant was collected and named) of the plant is near La Graciosa.

Hoover's Agrostis (*Agrostis hooveri Swall*) Grass Family - This slender, densely tufted perennial grass with purplish flower heads occurs in dry, sandy places, especially in low woodlands. Suitable habitat exists from Santa Maria to the north slope of Purisima Hills.

Lompoc Yerba Santa (*Eriodictyon capitatum Eastw.*) Phacelia Family - This tall shrub with resinons, narrow, entire leaves and lavender flowers usually is associated with stands of Pinus muricata. Known localities include the top of the Harris Grade (Highway 1), Purisima Hills, Pine Canyon on Vandenberg Air Force Base, several places near Lompoc, and the slopes of the extreme western end of the Santa Ynez Mountains.

False Lupine (*Thermopsis macrophylla var. agnina*) Legune Family - This lupine-like, bright yellow flowered, robust perennial herb prefers chaparral, especially on ridgetops, for its habitat. One known locality is on the southwest-facing slopes of Santa Ynez Peak.

Blakley's Chorizanthe (*Chorizanthe blakleyi Hardham*) Buckwheat Family - This erect, slender, much branched, annual prefers chapparal and grassy habitats, and is distributed locally on the north slope of the Sierra Madre Mountains.

Black-flowered Figwort (*Scrophularia atrata Pennell*) Snapdragon Family - This rather tall, leggy, perennial herb with square stems, opposite leaves and a small, dark maroon flower lives in dry rocky places, particularly if rich in diatomaceous earth. Coastal sage scrub generally is the community with which the plant is associated. Known localities are near Lompoc in the Purisima Hills and in Surf.

Birds

California Condor (*Gymnogyps californianus*) is now limited in range to portions of the coastal counties from Monterey to Los Angeles, and the interior Kern, King Tulare and Fresno counties. Its rapidly shrinking range once extended from Napa to San Diego and inland to San Bernardino County, but present areas of maximum use include only northern Santa Barbara County and central Ventura County.

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33 County of Santa Barbara, Comprehensive Plan, Conservation Element, Adopted 1979 – amended August 2010, 144, 112 to 117.

The present population is described as "stable" and consists of about 40 birds. The birds have an extremely low fecundity; sexual maturity is attained at 5 or 6 years of age, one female can produce an egg only once each two years, incubation and brooding of a chick takes at least six months. In addition, the chick is totally dependent on the parent until it is about 12 months old. Obviously, the trickle of young into the population is painfully slow, so that disturbance of the breeding population (which might disrupt reproduction) or loss of adult birds can rapidly reduce the size of the population, thus driving the animals to extinction.

Peregrine Falcon (*Falcon peregrinus*) - This superb falcon is becoming extremely rare. It is believed to no longer be reproducing east of the Rocky Mountains. According to the CDFG, of the 10 active nests along the entire California coast, the one closest to Santa Barbara County is the oft-plundered nest on Morro Rock. The Peregrine Falcon formerly nested on Santa Cruz Island, and recent sightings have been recorded at the Goleta Slough and in the San Rafael Wilderness. In the foreseeable future no Peregrine Falcon nests can be expected in Santa Barbara County. Birds will occasionally be seen, but these almost certainly will be migrants. The most likely potentially suitable nesting habitats for this dying species will be the Channel Islands (Santa Rosa, San Miguel, and Santa Cruz) and, perhaps, Vandenberg Air Force Base. These areas are relatively undisturbed.

Southern Bald Eagle (*Haliaeetus leucocephalus*) - Although not as rare as the Peregrine Falcon, this species, our national bird, is rapidly diminishing in numbers and faces the threat of extinction. According to the Santa Barbara Museum of Natural History, several eagles nested in the late 1930s along the South Coast (Dos Pueblos Ranch, Rincon Creek, Mission Creek, Santa Cruz Island, and Anacapa Island) with the Dos Pueblos Ranch nest remaining active for about twenty years.

There have been few recent sightings in the County. One bird, probably a migrant, was seen at the Santa Barbara Bird Refuge in the fall of 1971. Slightly more encouraging, however, is the almost yearly appearance of several wintering birds at Lake Cachuma. One to four birds have wintered at Cachuma in eight of the past eleven years.

California Least Tern (*Sterna albifrons*), a summer visitor to the western United States, formerly nested in large groups on Santa Barbara and Carpinteria beaches. Recently, the birds have nested only at the mouths of the Santa Clara and Santa Ynez Rivers, and most birds reported are migrants. The California Least Tern has been largely eliminated from its former range by human activity.

Savanna Sparrow, Belding's Race (*Passerculus sandwichensis beldingi*) is restricted to sloughs and salt marshes, where Pickleweed (Salicornia) is abundant. The sparrow is suffering the same fate as the rail, for

largely the same reasons. The last census of the bird revealed only 11 breeding sites in Southern California, with 1,100 pairs of birds.

California Black Rail (*Laterallus jamaicensis*) is known to breed near San Diego, and perhaps in other sloughs and estuaries as far north as San Francisco. Sightings in Santa Barbara County are very irregular because the birds are extremely secretive. Because only sloughs provide the suitable habitat, their preservation is essential if the Black Rail is to be found in the County.

Reptiles

Blunt-nosed Leopard Lizard (*Crotaphytus silus*) occurs in the extreme northeastern part of the County. Its entire range consists of only certain portions of the San Joaquin Valley and surrounding foothills. Suitable habitat for this interesting lizard, which can eat other lizards and even small mammals, occurs in the extreme lower portion of the Cuyama drainage and the adjacent Ballinger, Santa Barbara, and Quatal Canyons. However, the habitat required by this lizard is rapidly being ruined by off-road vehicles (ORVs) and the expansion of agriculture. It has been reported that portions of Ballinger Canyon are so badly torn up that it is doubtful that the lizard persists in the area.

Southern Rubber Boa (*Charina bottae umbratica*), a true boa, has been recorded only in the mountainous areas of Riverside, San Bernardino, and Kern Counties. However, Santa Barbara County, Madulce Peak, Big Pine Mountain, and San Rafael Mountain provide similar communities which probably include the Rubber Boa, and the snake may be unreported because it is extremely secretive.

Mammals

San Joaquin Valley Kit Fox (*Vulpes macrotis*), a small, nocturnal carnivore weighing from four to six pounds, lives almost exclusively on Kangaroo Rats (*Dipodomys spp*.) , and thus, its distribution largely coincides with that of the rodents. Presently, the fox is concentrated in the southern San Joaquin Valley. Large portions of the Cuyama Valley and surrounding area provide habitat suitable for them.

Proposed Wells Sites

The following is a discussion of special-status plant and animal species observed and potentially present on the Master Plan Update's proposed Well Sites A and B, and treatment plant site. Results and conclusions are based on habitat types present on the site, a review of the CNDDB and CNPS databases and other pertinent literature, known geographic ranges of these species, and data collected during general and focused field surveys. Also included in this section is a discussion of plant communities on the project site that are considered unique, of relatively limited distribution, under the jurisdiction of state

or federal resource agencies, or of particular value to wildlife. CNDDB and CNPS query results for the nine-quad region containing the project site are included in **Appendix 5.2**.

Special-Status Plants

One special-status plant species, Southern California black walnut (CNPS Rank 4.2), was detected in several locations on the project site.[34] Based upon the review of the CNDDB and CNPS databases, knowledge of the project region, and evaluation of habitat types on the project site, an additional 11 special-status plant species have potential to occur on the subject property. These are Sonoran maiden fern (*Thelypteris puberula* var. *sonorensis*), Santa Ynez groundstar (*Ancistrocarphus keilii*), dwarf calycadenia (*Calycadenia villosa*), Bolander's water-hemlock (*Cicuta maculata* var. *bolanderi*), mesa horkelia (*Horkelia cuneata* ssp. *puberula*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), Santa Barbara honeysuckle (*Lonicera subspicata* var. *subspicata*), Hoffmann's bitter gooseberry (*Ribes amarum* var. *hoffmannii*), chaparral ragwort (*Senecio aphanactis*), Hoover's bent grass (*Agrostis hooveri*), and California sawgrass (*Cladium californicum*). These species each have been recognized by CNPS, CDFG, and the USFWS with varying degrees of sensitivity, which are indicated below following the species name, and which may constrain development of the site. All special-status plant species reported from within the nine-quad region containing the project site are listed in **Table 5.2-1, Special-Status Plant Species Known from the Region**, along with details of sensitivity status, habitat requirements, and likelihood of occurrence on site.

Special-Status Wildlife

Five special-status animal species—two-striped garter snake (*Thamnophis hammondii*), great egret (*Ardea alba*), great blue heron (*A. herodias*), oak titmouse (*Baeolophus inornatus*), and snowy egret (*Egretta thula*)—were observed on site during the October 2011 survey. Based upon the review of the CNDDB database, knowledge of the project region, and evaluation of habitat types on the project site, an additional 13 special-status animal species are present or have the potential to utilize the project site or off-site areas affected by project construction. These are southern steelhead (*Oncorhynchus mykiss irideus*),[35] foothill yellow-legged frog (*Rana boylii*), California red-legged frog (*Rana draytonii*), Coast Range newt (*Taricha torosa*), silvery legless lizard (*Anniella pulchra pulchra*), western pond turtle (*Emys marmorata*), Cooper's hawk (*Accipiter cooperii*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), ferruginous hawk (*Buteo regalis*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), pallid bat (*Antrozous pallidus*), and American badger (*Taxidea taxus*). These

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34 Although assigned a Rank of 1B.1 by CNPS, Monterey pine (*Pinus radiata*) is not considered sensitive for the purposes of this report, as the project site is outside the natural range of the species and individuals of this species occurring on site are planted ornamental specimens.

35 Please see **Section 5.3, Fisheries Resources**, for a discussion of this and other fishes known from the region.

species each have been recognized by CDFG, USFWS, and various authorities as having varying degrees of sensitivity, which are indicated below, following the species name and which may constrain development of the site differentially. All special-status animal species reported from within the nine-quad region containing the project site are listed in **Table 5.2-2, Special-Status Animal Species Reported from the Project Region**, along with details of sensitivity status, habitat requirements and likelihood of occurrence on site.

Nesting Birds

The Migratory Bird Treaty Act protects the majority of migratory birds breeding in the United States regardless of their official status. The Act specifically states that it is illegal "for anyone to take[…]any migratory bird[…]nests, or eggs."[36] "Take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct[37]. The California Fish and Game Code protects the nests and eggs of all birds and specifically states, "that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird."[38] The code defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."[39] Most on-site habitats provide nesting substrate for one or more bird species.

Sensitive Plant Communities

Two of the eight on-site vegetation types are considered sensitive by CDFG, as indicated on the September 2010 Natural Communities List. These are California buckwheat – California broomsage scrub and black cottonwood forest. Impacts to either of these vegetation types would require mitigation in the form of habitat replacement or enhancement.

Additional vegetation types, impacts to which would require mitigation, due to their location within USACE and CDFG jurisdiction, include active channel, willow thickets, black cottonwood forest, and California bulrush marsh. Permitting requirement for jurisdictional areas are discussed in the following section.

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36 16 U.S.C. Sections 703-712, Migratory Bird Treaty Act of 1918 as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989

37 50 C.F.R. Section 10.12

38 California Fish & Game Code, Section 3503.

39 Ibid, Section 86.

Table 5.2-1
Special-Status Plant Species Known from the Region[40]

Common name *Scientific name*	Federal status	State status	CNPS Rank	Habitat	Growth form Blooming period*	Potential to occur on site
Ferns and allies						
Sonoran maiden fern *Thelypteris puberula* var. *sonorensis*	—	—	2.2	Meadows, seeps and streams between 50 and 610 m asl.	Rhizomatous herb January – September	**Moderate**—suitable habitat is present along the Santa Ynez River and associated pools and ponds.
Dicots						
Santa Ynez groundstar *Ancistrocarphus keilii*[41]	—	—	1B.1	Sandy habitats in chaparral and cismontane woodland communities between 40 and 130 m asl.	Annual herb March – April	**Low**—known only from historical collections the Santa Ynez River drainage from Buellton to Lompoc,[42] though suitable habitat is present on alluvial terraces on site.
Eastwood's brittle-leaf manzanita *Arctostaphylos crustacea* ssp. *eastwoodiana*	—	—	1B.1	Sandy habitats in maritime chaparral communities between 90 and 365 m asl.	Evergreen shrub March	**None**—maritime chaparral vegetation is not present and the site lies too far from the coast to provide suitable habitat.
La Purisima manzanita *Arctostaphylos purissima*	—	—	1B.1	Sandy habitats in chaparral and coastal scrub communities between 60 and 390 m asl.	Evergreen shrub November – May	**None**—known only from coastal locations; the site is too far inland to provide suitable habitat.

40 For the purposes of database querying, the project region is considered to be the USGS 15-munute quadrangle in which the project site is located (Solvang) and the surrounding 8 quadrangles (Tajiguas, Gaviota, Santa Rosa Hills, Los Alamos, Sacate, Santa Ynez, Los Olivos, and Zaca Creek).

41 Not in the 1993 edition of *The Jepson Manual*.

42 Data provided by the participants of the Consortium of California Herbaria (ucjeps.berkeley.edu/consortium/; Tue Oct 11 16:09:36 2011).

Common name *Scientific name*	Federal status	State status	CNPS Rank	Habitat	Growth form Blooming period*	Potential to occur on site
Refugio manzanita *Arctostaphylos refugioensis*	—	—	1B.2	Sandstone substrates in chaparral communities between 274 and 820 m asl.	Evergreen shrub December – March (May)	**None**—known only from coastal locations; the site is too far inland to provide suitable habitat.
Sand mesa manzanita *Arctostaphylos rudis*	—	—	1B.2	Sandy habitats in maritime chaparral and coastal scrub communities between 25 and 322 m asl.	Evergreen shrub November – February	**None**—known only from coastal locations; the site is too far inland to provide suitable habitat.
Miles' milk-vetch *Astragalus didymocarpus* var. *milesianus*	—	—	1B.2	Clay soils in coastal scrub communities between 20 and 90 m asl.	Annual herb March – June	**None**—known only from coastal locations; the site is too far inland to provide suitable habitat.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	—	—	1B.2	Alkaline soils in coastal bluff scrub and coastal scrub habitats between 10 and 200 m asl.	Annual herb April – October	**None**—known only from coastal locations; the site is too far inland to provide suitable habitat.
Round-leaved filaree *California macrophylla*[43]	—	—	1B.1	Clay soils in cismontane woodland, valley and foothill grassland communities between 15 and 1,200 m asl.	Annual herb March – May	**Not expected**—soils on site are generally sandy or gravelly and too well-drained to provide suitable habitat for this species.
Dwarf calycadenia *Calycadenia villosa*	—	—	1B.1	Rocky, fine soils in chaparral, cismontane woodland, meadow, seep, and valley and foothill grassland communities between 240 and 1,350 m asl.	Annual herb May – October	**Moderate**—suitable habitat is present on alluvial terraces.
Santa Barbara jewel-flower *Caulanthus amplexicaulis* var. *barbarae*	—	—	1B.1	Serpentinite substrates in closed-cone coniferous forest, chaparral, and cismontane woodland communities between 470 and 1220 m asl.	Annual herb May – July	**None**—serpentinite substrate is not present, and the site lies below the elevational range of the species.

43 Treated as *Erodium macrophyllum* in the 1993 edition of *The Jepson Manual*.

Common name *Scientific name*	Federal status	State status	CNPS Rank	Habitat	Growth form Blooming period*	Potential to occur on site
Bolander's water-hemlock *Cicuta maculata* var. *bolanderi*	—	—	2.1	Coastal, fresh or brackish water marshes and swamps between 0 and 200 m asl.	Perennial herb July – September	**Moderate**—suitable habitat is present along the Santa Ynez River and associated pools and ponds.
Seaside bird's-beak *Cordylanthus rigidus* ssp. *littoralis*	—	SE	1B.1	Sandy, often disturbed sites in closed-cone coniferous forest, maritime chaparral, cismontane woodland, coastal dune, and coastal scrub communities between 0 and 425 m asl.	Annual herb April – October	**None**—known only from coastal locations; the site is too far inland to provide suitable habitat.
Gaviota tarplant *Deinandra increscens* ssp. *villosa*[44]	FE	SE	1B.1	Coastal bluff scrub, coastal scrub, and valley and foothill grassland communities between 35 and 430 m asl.	Annual herb May – October	**None**—known only from coastal locations; the site is too far inland to provide suitable habitat.
Dune larkspur *Delphinium parryi* ssp. *blochmaniae*	—	—	1B.2	Maritime chaparral and coastal dunes between 0 and 200 m asl.	Perennial herb April – May	**None**—known only from coastal locations; the site is too far inland to provide suitable habitat.
Umbrella larkspur *Delphinium umbraculorum*	—	—	1B.3	Mesic cismontane woodland communities between 400 and 1,600 m asl.	Perennial herb April – June	**Not expected**—suitable habitat is present in riparian communities, but the site lies below the known elevational range of the species.
Lompoc yerba santa *Eriodictyon capitatum*	FE	Rare	1B.2	Sandy habitats in closed-cone coniferous forest and maritime chaparral communities between 40 and 900 m asl.	Evergreen shrub May – August	**None**—known only from coastal locations; the site is too far inland to provide suitable habitat.
Mesa horkelia *Horkelia cuneata* ssp. *puberula*	—	—	1B.1	Sandy or gravelly sites in chaparral, cismontane woodland, and coastal scrub communities between 70 and 810 m asl.	Perennial herb February – July (September)	**Moderate**—suitable habitat is present on alluvial terraces.
Southern California black walnut *Juglans californica*[45]	—	—	4.2	Chaparral, cismontane woodland and coastal scrub communities between 50 and 900 m asl.	Deciduous tree March – August	**Present**—several scattered individuals are present within proposed Well Site "A," within riparian and California buckwheat – California broomsage scrub communities.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	—	—	1B.1	Alkaline soils in coastal salt marshes and swamps, playas, and vernal pools between 1 and 1,220 m asl.	Annual herb February – June	**Moderate**—suitable habitat is present along the Santa Ynez River and associated pools and ponds.

44 State and federally-listed as *Hemizonia increscens* ssp. *villosa*; see this name in the 1993 edition of *The Jepson Manual*.

45 A synonym of *Juglans californica* var. *californica* in the 1993 edition of *The Jepson Manual*.

Common name *Scientific name*	Federal status	State status	CNPS Rank	Habitat	Growth form Blooming period*	Potential to occur on site
Santa Barbara honeysuckle *Lonicera subspicata* var. *subspicata*	—	—	1B.2	Chaparral, cismontane woodland, and coastal scrub communities between 35 and 1,000 m asl.	Evergreen shrub May – August (December)	**Moderate**—suitable habitat is present in and adjacent to riparian communities.
Mt. Diablo cottonweed *Micropus amphibolus*	—	—	3.2	Rocky habitats in broadleaved upland forest, chaparral, cismontane woodland, and valley and foothill grassland communities from 45 to 825 m asl.	Annual herb March – May	**Not expected**—rocky habitats are generally confined to the Santa Ynez River active channel and are not suitable for this species.
Hoffmann's bitter gooseberry *Ribes amarum* var. *hoffmannii*[46]	—	—	3	Chaparral and riparian woodland communities between 150 and 1,190 m asl.	Deciduous shrub March – April	**Moderate**—suitable habitat is present in and adjacent to riparian communities.
Black-flowered figwort *Scrophularia atrata*	—	—	1B.2	Closed-cone coniferous forest, chaparral, coastal dune, coastal scrub, and riparian scrub communities between 10 and 500 m asl. Records from south of Point Conception are probably hybrids with *S. californica* ssp. *floribunda*.[47]	Perennial herb March – July	**None**—known only from coastal locations; the site is too far inland to provide suitable habitat.
Chaparral ragwort *Senecio aphanactis*	—	—	2.2	Drying alkaline flats in chaparral, cismontane woodland, and coastal scrub habitats between 15 and 800 m asl.	Annual herb January – April	**Moderate**—suitable habitat is present along the Santa Ynez River and associated pools and ponds.
Santa Ynez false lupine *Thermopsis macrophylla*[48]	—	Rare	1B.3	Sandy, granitic, and disturbed areas within chaparral communities between 425 and 1,400 m msl.	Rhizomatous herb April – June	**Not expected**—shrubby habitats on site are generally associated with alluvial processes and landforms not typical of habitats from which this species has been collected.

46 See *Ribes amarum* in the 1993 edition of *The Jepson Manual*.

47 CNPS species account for *Scrophularia atrata*. Accessed November 2010. Available at: http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi/Go?_id=scrophularia_atrata&sort=DEFAULT&search=%20{QUADS_123}%20%3d~%20m/143B|168C|168D|144A|169D|143A/%20

48 USFWS uses the name *Thermopsis macrophylla* var. *agnina*; see *T. macrophylla* var. *macrophylla* in the 1993 edition of *The Jepson Manual*.

Common name *Scientific name*	Federal status	State status	CNPS Rank	Habitat	Growth form Blooming period*	Potential to occur on site
Monocots						
Hoover's bent grass *Agrostis hooveri*	—	—	1B.2	Usually on sandy soils in closed-cone coniferous forest, chaparral, cismontane woodland, and valley and foothill grassland communities between 6 and 610 m asl.	Perennial herb April – July	**Moderate**—suitable habitat is present on alluvial terraces.
Late-flowered mariposa lily *Calochortus fimbriatus*	—	—	1B.2	Often on serpentinite substrates in chaparral, cismontane woodland, and riparian woodland communities between 275 and 1905 m asl.	Bulbiferous herb June – August	**Not expected**—serpentinite substrate is not present and the site is below the known elevational range of the species.
California sawgrass *Cladium californicum*	—	—	2.2	Alkaline or freshwater habitats in meadow, seep, marsh and swamp communities between 60 and 600 m asl.	Rhizomatous herb June – September	**Moderate**—suitable habitat is present along the Santa Ynez River and associated pools and ponds.
Ojai fritillary *Fritillaria ojaiensis*	—	—	1B.2	Mesic, rocky habitats in broad-leafed upland forest, chaparral, lower montane coniferous forest communities between 300 and 998 m asl.	Bulbiferous herb February – May	**Not expected**—rocky habitats are generally confined to the Santa Ynez River active channel and are not suitable for this species.

** – Months given in parentheses indicate dates on which unusually early or late flowering records have been reported*

Status abbreviations

Federal

FE: federally listed as Endangered

State

SE: state listed as Endangered

CNPS Rare Plant Ranks

1B: rare, threatened, or endangered in California and elsewhere

2: rare, threatened, or endangered in California, but more common elsewhere

3: more information needed to determine rarity

4: limited distribution

CNPS Threat Ranks

0.1: seriously threatened in California

0.2: fairly threatened in California

0.3: not very threatened in California

Table 5.2-2
Special-Status Animal Species Reported from the Project Region[49]

Common name *Scientific name*	Federal status	State status	Other lists	Habitat	Potential to occur on site
Insects					
Monarch butterfly (wintering sites) *Danaus plexippus*	—	—	CDFG Special Animals List	Roosts located in wind-protected tree groves (especially eucalyptus and Monterey cypress), with nectar and water sources nearby. Winter Roost sites extend along the coast from northern Mendocino County to Baja California, Mexico.	**Not expected**—trees are present throughout the site; however, these are generally too small, groves are not extensive enough, and the site lies too far from the coast to provide suitable wintering roost sites.
Fish					
Tidewater goby *Eucyclogobius newberryi*	FE	SSC	AFS: Endangered	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Please see **Section 5.3, Fisheries Resources**, for a discussion of this and other fishes known from the region.
Southern steelhead—Southern California DPS *Oncorhynchus mykiss irideus*	FT	SSC	—	Federal listing refers to populations from the Santa Maria River south to the southern extent of the species range (San Mateo Creek in San Diego County). Southern steelhead likely has greater physiological tolerance of warmer water and more variable conditions than northern subspecies.	Please see **Section 5.3, Fisheries Resources**, for a discussion of this and other fishes known from the region.
Amphibians					
California tiger salamander *Ambystoma californiense*	FT	SSC	—	Central Valley DPS listed as Threatened. Santa Barbara and Sonoma Counties DPS listed as Endangered. Need underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding.	**Not expected**—surface waters in the vicinity of the site are perennial and do not display the seasonal fluctuations typical of habitats where this species has been reported.
Foothill yellow-legged frog *Rana boylii*	BLMS, FSS	SSC	—	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.	**Low**—suitable habitat is present associated with the Santa Ynez River and associated pools and ponds; however, this species has not been reported within approximately 10 miles of the project site.

49 For the purposes of database querying, the project region is considered to be the USGS 15-munute quadrangle in which the project site is located (Solvang) and the surrounding 8 quadrangles (Tajiguas, Gaviota, Santa Rosa Hills, Los Alamos, Sacate, Santa Ynez, Los Olivos, and Zaca Creek).

Common name *Scientific name*	Federal status	State status	Other lists	Habitat	Potential to occur on site
California red-legged frog *Rana draytonii*	FT	SSC	—	Requires 11 to 20 weeks of permanent water for larval development; must have access to aestivation habitat. Occurs in lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	**Moderate**—suitable habitat is present, and this species is known from the Santa Ynez River, within approximately 2 miles west of the project site.
Western spadefoot *Spea hammondii*	BLMS	SSC	—	Vernal pools and other areas of seasonally ponded water, primarily in grasslands habitats, but can be found in valley-foothill hardwood woodlands.	**Not expected**—surface waters in the vicinity of the site are perennial and do not display the seasonal fluctuations typical of habitats where this species has been reported.
Coast Range newt *Taricha torosa*	—	SSC	—	Occurs primarily in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub and mixed chaparral, but is also known from annual grassland and mixed conifer types. Elevation range extends from near sea level to about 1,830 m. Terrestrial individuals seek cover under surface objects such as rocks and logs, or in mammal burrows, rock fissures, or human-made structures such as wells. Aquatic larvae find cover beneath submerged rocks, logs, debris, and undercut banks. Breeding and egg-laying occur in intermittent streams, rivers, permanent and semi-permanent ponds, lakes and large reservoirs.	**Moderate**—suitable habitat is present associated with the Santa Ynez River and associated pools and ponds.
Reptiles					
Silvery legless lizard *Anniella pulchra pulchra*	FSS	SSC	—	Leaf litter associates with sandy or loose loamy soil of high moisture content under sparse vegetation	**Moderate**—suitable soils and habitat is present within a variety of vegetation types throughout the 100-year floodplain of the Santa Ynez River.
Western pond turtle *Emys marmorata*	BLMS, FSS	SSC	—	Requires basking sites such as partially submerged logs, vegetation mats or open mud banks and needs suitable nesting sites in permanent or near permanent bodies of water in many habitat types below 2,000 m asl.	**Moderate**—suitable habitat is present within pools and ponds along the Santa Ynez River; the closest recorded location is more than 2 miles west of the project site.
Two-striped garter snake *Thamnophis hammondii*	BLMS, FSS	SSC	—	Perennial and intermittent streams having rocky or sandy beds and artificially created aquatic habitats (manmade lakes and stock ponds); requires dense riparian vegetation. From sea level to 2,400 m (8,000 ft.)	**Present**—observed within mulefat and poison oak on proposed Well Site 'A'.

Common name *Scientific name*	Federal status	State status	Other lists	Habitat	Potential to occur on site
Birds					
Cooper's hawk (nesting) *Accipiter cooperii*	—	CDFG Watch List	—	Nests in open forests, groves, or trees along rivers, or low scrub of treeless areas. The wooded area is often near the edge of a field or water opening.	**Moderate**—suitable nesting habitat is present within trees throughout the project site.
Tricolored blackbird (nesting colony) *Agelaius tricolor*	BCC, BLMS	SSC	USBC, AWL, ABC	Highly colonial species, requiring open water, protected nesting substrate and foraging areas with insect prey within a few km of the colony.	**Not expected**—the California bulrush marsh present on site is not extensive enough to support a colony of this species.
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	—	CDFG Watch List	—	Frequents relatively steep, often rocky hillsides with grass and forb patches. Resident in Southern California coastal sage scrub and mixed chaparral.	**Moderate**—suitable brushy habitat is present along steep slopes surrounding excavated sites in proposed Well Site 'B'.
Great egret (rookery) *Ardea alba*	—	CDF	—	Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	**Not expected**—this species was observed on site in low numbers (one or two individuals) but no evidence of a rookery (e.g., large numbers of birds or large accumulations of guano in appropriate habitat) was observed.
Great blue heron (rookery) *Ardea herodias*	—	CDF	—	Colonial nester in tall trees, cliffs, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	**Not expected**—an individual of this species was observed but no evidence of a rookery (e.g., large numbers of birds or large accumulations of guano in appropriate habitat) was observed.
Oak titmouse (nesting) *Baeolophus inornatus*	—	—	ABC, AWL, USBC	Primarily associated with oaks. Occurs in montane hardwood-conifer, montane hardwood, blue, valley, and coastal oak woodlands, and montane and valley foothill riparian habitats in cismontane California, from the Mexican border to Humboldt County.	**Present and presumed to nest**—observed on site; suitable nesting habitat is present.
Ferruginous hawk (wintering) *Buteo regalis*	BCC, BLMS	CDFG Watch List	AWL	Forages in agricultural and urban habitats, as well as creosote bush and saltbush scrub. Breeds in isolated trees, small groves of trees, on rocky ledges, or occasionally on the ground. Nests are adjacent to open areas such as grasslands or shrublands. Prefers open country, where it often hunts from low perches on fence posts, utility poles, or small trees.	**Moderate**—suitable foraging habitat is present within agricultural areas on and around the site.

Common name *Scientific name*	Federal status	State status	Other lists	Habitat	Potential to occur on site
Snowy egret (rookery) *Egretta thula*	—	—	USBC	Colonial nester, with nest sites situated in protected beds of dense tules. Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	**Not expected**—an individual of this species was observed but no evidence of a rookery (e.g., large numbers of birds or large accumulations of guano in appropriate habitat) was observed.
Southwestern willow flycatcher (nesting) *Empidonax traillii extimus*	FE, FSS (full species)	SE (full species)	USBC, AWL, ABC (all include full species)	Dense willow thickets are required for nesting and roosting. Nesting site usually near languid stream, standing water, or seep. Most numerous where extensive thickets of low, dense willows edge on wet meadows, ponds, or backwaters.	**Not expected to nest**—riparian vegetation within the Santa Ynez River, adjacent to proposed Well Site 'B' is extensive and well developed enough to support nesting by this species. Individuals from this reach of the river may forage on or disperse through the site, but nesting is not expected. The closest documented nesting locations are all west of Us. Highway 101, about 2.5 miles west of the project site.
California spotted owl *Strix occidentalis occidentalis*	BLMS, FSS, BCC	SSC	ABC, AWL, USBC	Nearly always associated with oak and oak-conifer habitats. Uses dense, multi-layered canopy cover for roost seclusion. Roosts in dense overhead canopy on north-facing slopes in summer. In winter, roosts in oak habitats. Usually nests in tree or snag cavity, or in broken top of large tree. Less frequently nests in large mistletoe clump, abandoned raptor or raven nest, in cave or crevice, on cliff or ground. Mature, multi-layered forest stands are required for breeding. Requires blocks of 40 – 240 ha (100 – 600 ac) of mature forest with permanent water and suitable nesting trees and snags.	**None**—included as present within the City of Solvang in the City's General Plan, but suitable oak-conifer forest habitat is not present within the proposed well installation or water treatment plant sites.
Least Bell's vireo *Vireo bellii pusillus*	FE, BCC	SE	USBC, AWL, ABC	Resident below about 600 m (2,000 ft.) in willows and other low, dense valley foothill riparian habitat. Thickets of willow and other low shrubs afford nesting and roosting cover. May inhabit thickets along dry, intermittent streams.	**Not expected to nest**—riparian vegetation within the Santa Ynez River, adjacent to proposed Well Sites 'A' and 'B' is well developed enough to support nesting by this species. Individuals from these reaches of the river may forage on or disperse through the site, but nesting is not expected. The closest recorded nesting location is 26 miles east of the project site.

Common name *Scientific name*	Federal status	State status	Other lists	Habitat	Potential to occur on site
Mammals					
Pallid bat *Antrozous pallidus*	FSS, BLMS	SSC	WBWG High	Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Night roosts may be in more open sites, such as porches and open buildings.	**Moderate**—suitable roosting habitat is present within trees on site.
Townsend's big-eared bat *Corynorhinus townsendii*	FSS, BLMS	SSC	WBWG High	Caves and buildings in desert scrub, pine and pinyon juniper habitats throughout the western U.S.	**None**—the site lies outside the geographic range of the species.
San Diego desert woodrat *Neotoma lepida intermedia*	—	SSC	—	Moderate to dense canopies in coastal scrub of Southern California from San Diego County to San Luis Obispo County. Particularly abundant in rock outcrops, rocky cliffs and slopes.	**Not expected**—the site lacks rocky habitat outside of the active channel of the river, and habitats are generally too mesic to be suitable for this species.
American badger *Taxidea taxus*	—	SSC	—	Drier, open stages of most shrub, forest, and herbaceous habitats with friable soils.	**Moderate**—known from Lompoc, Buellton, and Los Olivos, and suitable habitat is present.

Status abbreviations

Federal
FE: Federally listed as Endangered
FT: Federally listed as Threatened
BLMS: Bureau of Land Management Sensitive Species
FSS: USDA Forest Service Sensitive Species
BCC: U.S. Fish and Wildlife Service Birds of Conservation Concern

State
SE: State-listed as Endangered
SSC: CDFG Species of Special Concern

Other
AFS: American Fisheries Society categories of risk: vulnerable, threatened, or endangered
AWL: Audubon Watch list
ABC: American Bird Conservancy Green List
USBC: United States Bird Conservation Watch List
WBWG: Western Bat Working Group: High, Medium and Low priority

Jurisdictional Waters, Streambeds and Riparian Resources

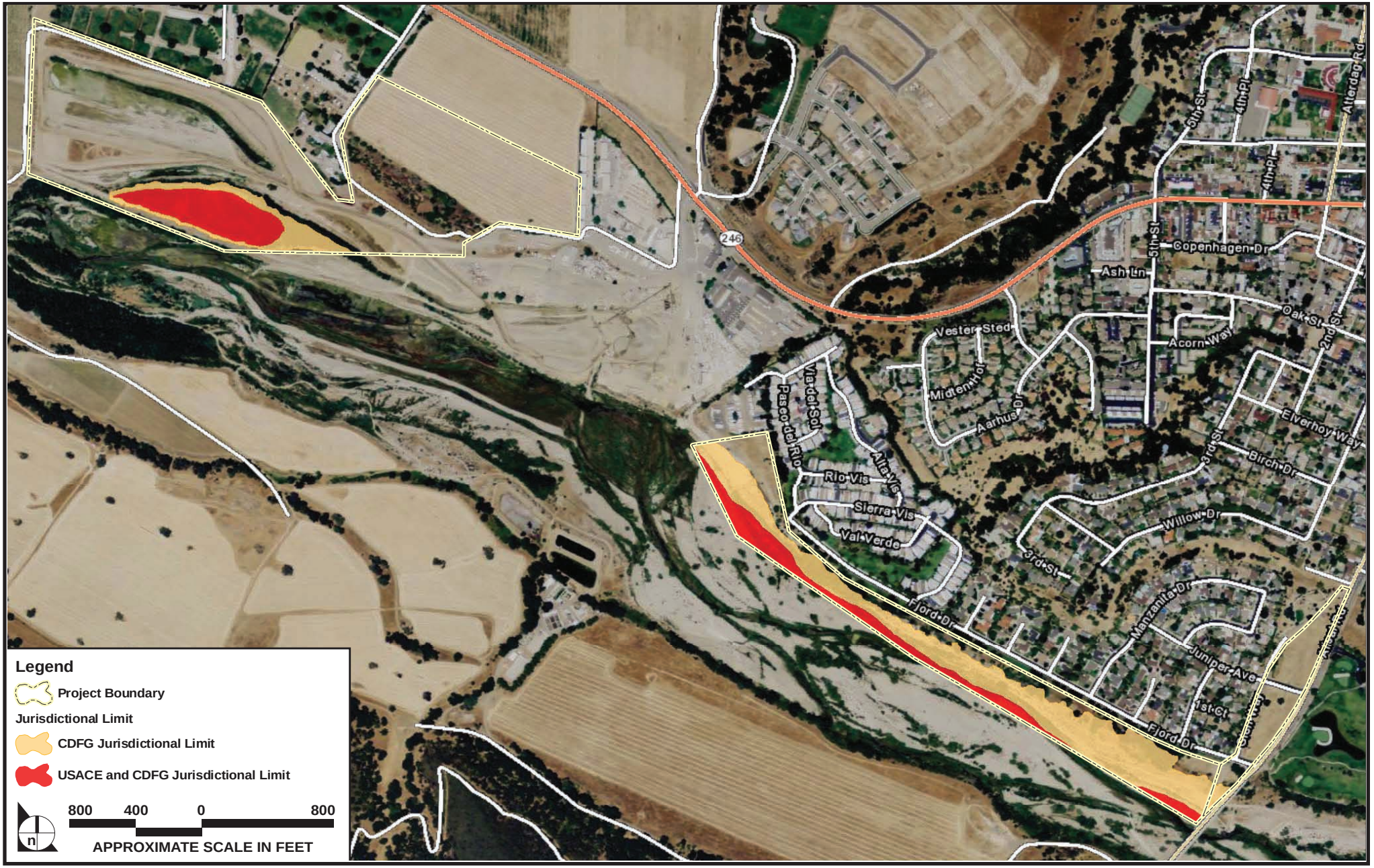
Jurisdictional features within the project area are shown on **Figure 5.2-2, Potential USACE and CDFG Jurisdictional Areas**. Wetlands, creeks, streams, and permanent and intermittent drainages are generally subject to the jurisdiction of the USACE under Section 404 of the federal CWA. USACE has jurisdiction up to the "ordinary high water mark" of rivers, creeks, and streams that are considered "waters of the U.S." as defined by the CWA. If adjacent wetlands occur, the limits of jurisdiction extend beyond the ordinary high water mark to the outer edge of the wetlands.

Wetlands are defined by USACE as "those areas that are inundated or saturated by surface or groundwater at a frequency or duration to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." The presence and extent of wetland areas are normally determined by examination of the vegetation, soils, and hydrology of a site. The USACE definition of wetlands requires that all three wetland identification parameters be met. Within the proposed well site locations, USACE jurisdiction would extend along the Santa Ynez River and its associated pools, up to the ordinary high water mark. Within proposed Well Site 'B', USACE jurisdiction would encompass the two ponded areas within the excavated depressions and would include the open water surface of the ponds and all wetland vegetation, as generally demarcated by the areal extent of obligate wetland species such as California bulrush and narrowleaf cattail.

Streambeds within the project site are subject to regulation by CDFG under Section 1602 of the California Fish and Game Code. A stream is defined under these regulations as a body of water that flows at least periodically or intermittently through a bed or channel having banks, and that supports fish or other aquatic life. In many cases, CDFG's jurisdiction overlaps substantially with USACE's jurisdiction. CDFG jurisdiction within the proposed well site locations would encompass the active channel and channel pools of the Santa Ynez River, as well as all California buckwheat – California broomsage scrub, willow thickets, black cottonwood forest, California bulrush marsh, and disturbed pond vegetation types.

Habitat Connectivity

Habitat connectivity is an umbrella term referring to all of the factors relating to integration of habitats within an ecosystem. Wildlife corridors and habitat linkages are features that promote habitat connectivity. Wildlife corridors are typically discrete linear features within a landscape that are constrained by development or other non-habitat areas. Habitat linkages are networks of corridors and larger natural open space areas that encompass an adequate diversity and acreage of useable habitats to provide long-term resilience of ecosystems against the detrimental effects of habitat fragmentation, which creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to



SOURCE: ESRI Maps & Data, Impact Sciences, Inc. - October 2011

FIGURE **5.2-2**

Meridian Consultants

Potential USACE and CDFG Jurisdictional Areas

001-001-12

adjoining open-space areas, various studies have concluded that many wildlife and plant species would not likely persist over time in fragmented or isolated habitat areas because they prohibit the movement of new individuals and genetic information among areas where they may be periodically displaced by natural or human-caused disturbances such as disease, fire, flood, etc.

Habitat linkages mitigate the effects of this fragmentation by

- allowing plant and animal species to disperse between remaining habitat areas, thereby permitting at-risk populations to maintain sustainable levels of genetic variability;
- providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) causing population or local species extinction; and
- serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

The project site contains a reach of the Santa Ynez River, which is an important avenue of dispersal and home range movement for a diversity of species, chiefly riparian and wetland obligate species such as fish, amphibians, birds, and several plant species, but also for a number of upland species that may forage within the river or else may utilize the river as a movement corridor due to constrictions in natural upland habitat to the east and west.

5.2.5 THRESHOLDS OF SIGNIFICANCE

In order to assist in determining whether a project would have a significant effect on the environment, the *State CEQA Guidelines* identify criteria for conditions that may be deemed to constitute a substantial or potentially substantial adverse change in physical conditions.

Specifically, Appendix G of the *State CEQA Guidelines* (Environmental Checklist Form) lists the following threshold, under which a project may be deemed to have a significant impact on terrestrial biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as endangered, rare, or threatened, as listed in Title 14 of the California Code of Regulations (Section 670.2 or 670.5) or Title 50 of the Code of Federal Regulations (Sections 17.11 or 17.12).
- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the USFWS or California Department of Fish and Game (CDFG).
- Reduce the number or restrict the range of an endangered, rare, or threatened species.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by USFWS or CDFG.

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including marshes or vernal pools) through direct removal, filling, hydrological interruption, or other direct means.

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

- Conflict with the provisions of an adopted HCP, Natural Communities Conservation Plan, or other approved local, regional, or state HCP.

5.2.6 ENVIRONMENTAL IMPACTS

The environmental impact analysis presented below is based on determinations made in the Notice of Preparation (NOP) for issues that were determined to be potentially significant with mitigation incorporated, or for issues identified by reviewing agencies, organizations, or individuals commenting on the NOP that made a reasonable argument that the issue was potentially significant (see Responses to NOP, **Appendix 1.0**).

5.2.6.1 Have a substantial adverse effect, either directly or through habitat modification, on any species identified as endangered, rare, or threatened, as listed in Title 14 of the California Code of Regulations (Section 670.2 or 670.5) or Title 50 of the Code of Federal Regulations (Sections 17.11 or 17.12).

Construction Impacts

Proposed Master Plan Update

Impacts of listed plant species would not occur because no listed plant species are expected to occur within the Master Plan Update project sites including the proposed locations (Well Sites A and B) for the new wells or water treatment facility. However, plant species can become established subsequent to the project inventory surveys, so period update surveys are required. The listed wildlife species with the potential to occur within the Master Plan Update area include least Bell's vireo, California red-legged frog, and southwestern willow flycatcher and impacts would be mitigated to a less than significant level, where these species could occur for breeding activities. Listed fish species are discussed in **Section 5.3, Fisheries Resources**.

Proposed Wells and Water Treatment Facilities

Potential impacts of well and pipeline installation would not affect state or federally listed aquatic species, including wetland-obligate plant species, as well and pipeline installation are not proposed for areas within the active channel or associated ponds and wetlands of the Santa Ynez River. Hence direct impacts to fish (discussed in detail in **Section 5.3, Fisheries Resources**) and larval amphibians would not result from well and pipeline installation. The following discussion therefore addresses only riparian and upland state and federally listed species that may be directly impacted by well and pipeline installation.

State and federally listed Rare, Threatened, and Endangered species known or having potential to be present within the Santa Ynez River 100-year floodplain, within which well and pipeline construction are proposed, include California red-legged frog, southwestern willow flycatcher, and least Bell's vireo.

Southwestern willow flycatcher and least Bell's vireo are not expected to nest on site, as existing riparian vegetation is confined to a narrow band along the river and an isolated remnant within the gravel mining operation in proposed Well Site 'B', neither of which are extensive enough to support breeding by these species. Nevertheless, suitable habitat is present south of proposed Well Sites 'A' and 'B', and transient and foraging individuals may utilize the project site periodically. During construction and site preparation activities, individuals of southwestern willow flycatcher and least Bell's vireo within habitat proposed for conversion, if present, could be expected to displace the remaining undisturbed habitats on site, or immediately adjacent off site. However, given the minimal amount of potential habitat that may exist, impacts would be considered less than significant.

Construction and site preparation activities could result in the direct loss of adult California red-legged frogs; this loss would be considered a substantial effect on this species and, therefore, a potentially significant impact.

As discussed in **Section 5.1, Hydrology, Water Supply, and Water Quality**, the construction of new wells and the water treatment plant would be subject to the City's SWPPP. The SWPPP identifies construction best management practices (BMPs) as well as post-construction control measures and monitoring plan. The BMPs would ensure that no debris, bark, cement, concrete or washing thereof, oil, petroleum products, or other organic material from any construction, or associated activity of whatever nature, would be allowed to enter into, or be placed where it may be washed by rainfall or runoff into any watercourse from construction of the proposed Master Plan Update. Therefore, construction impacts associated with installation of the proposed wells would not cause a substantial adverse effect, either directly or through habitat modification, on any species identified as endangered, rare, or threatened, and would be less than significant.

Operation

Proposed Master Plan Update

One type of operational impact of the proposed Master Plan Update is land use anticipated in the City's General Plan that would be achievable given the additional water supply reliability called for in the Master Plan Update. Impacts of development on listed species allowed under the City's General Plan have been previously analyzed as part of the General Plan environmental review.

A second type of potential impact from the operation of the proposed Master Plan Update is indirect impacts of the increased water diversions from the Santa Ynez River. The analysis of the Master Plan Update was limited to least Bell's vireo and impacts were found to be mitigated to a less than significant impact. Additional listed terrestrial species analyzed in this document include California red-legged frog, and southwestern willow flycatcher. Listed fish species are discussed in **Section 5.3, Fisheries Resources**.

The water diversion of up to 1,980 afy above the baseline of 1,053 afy could modify habitat for California red-legged frog, a species that is dependent upon the riparian resources found along the Santa Ynez River. Other listed species that could make use of the riparian resources of the river include the southwestern willow flycatcher and least Bell's vireo. The extraction of groundwater underflow of the Santa Ynez River associated with well pumping would create local depressions in the groundwater levels. If the water levels were to drop below the root zone of the riparian vegetation for an extended period (of a year or more), these plants could become stressed and could eventually die. However, the hydrological model of Stetson Engineers[50] for water extraction of 2,400 afy indicate the water drawdown, when the Santa Ynez River experiences no river or other inflows in the area, would be localized within about 3,000 feet of the well site and would lower the groundwater level a maximum of 9 feet (see **Table 5.1-5** in **Section 5.1**); the 9-foot drawdown is within the historical groundwater level fluctuation. Therefore, riparian resources are not expected to be affected by the water diversion of up to 1,980 afy. Impacts would be less than significant.

The southwestern willow flycatcher breeds along the lower Santa Ynez River, which represents its northern geographic limit. On the Santa Ynez River, willow flycatchers tend to breed in willow-dominated habitat, usually with a dense understory that may include native and exotic species. Most of the river from Bradbury Dam downstream to below the City (i.e., to about 1.3 miles downstream of Alisal Bridge) contains poor habitat for the flycatcher due to the lack of well-developed and continuous riparian

50 Stetson Engineers. Technical Memorandum No. 6. Additional Alternative Analyses for City of Solvang's CEQA Environmental Document for Time Extension for Water Rights Permit 15878 – New Wells Downstream of Alisal Bridge (see **Appendix 5.1**)

woodland. The most suitable habitat on the lower Santa Ynez River begins about 1.3 miles downstream from Alisal Bridge (i.e., in riparian areas west of proposed Well Site 'B'), and consists of scattered reaches with well-developed riparian woodland.

River flows downstream of Well Sites A and B pass through breeding habitat for the southwestern willow flycatcher, from Buellton to just upstream of the Pacific Ocean. The largest breeding population of flycatcher on the lower Santa Ynez River occurs about 3 miles south of the Avenue of the Flags Bridge in the City of Buellton, extending to Santa Rosa Creek. That population consists of 15 – 20 breeding pairs. Another population occurs downstream of Floradale Bridge, primarily near the 13th Street Bridge and Vandenberg Air Force Base (VAFB) waterfowl ponds near the Santa Ynez River.

Typically, flycatchers choose sites in dense riparian vegetation next to the Santa Ynez River channel. Flycatchers breeding on the river often choose sites with standing water or moist surface soils away from the main channel. If water extraction activities at proposed Well Sites A and B were to result in downstream fluctuations in water levels further downstream from the proposed well sites west of Buellton, they would have the potential to adversely affect southwestern willow flycatcher nesting. However, the extraction of up to 1,980 afy, an increase of 927 afy more than baseline (1,053 afy) levels, would not be expected to cause effects to stream flow (other than potential localized effects) as stated above (and shown in **Table 5.1-5** in **Section 5.1**) and would be within historical groundwater level fluctuations; impacts would be less than significant.

The least Bell's vireo is a state- and federally listed endangered species. Least Bell's vireo uses a variety of riparian habitat types with dense understory growth. It breeds in the upper Santa Ynez River (above Gibraltar Reservoir) and lower Mono Creek. Nesting occurred along the lower Santa Ynez River up until the 1940s. Suitable habitat is present along much of the lower Santa Ynez River, particularly between Buellton and the Lompoc Narrows. A breeding population is not present along the lower Santa Ynez River, although there have been many recent sightings of transients and possible breeding individuals. No least Bell's vireos were recorded on the lower Santa Ynez River in the spring or summer 2000.

Suitable habitat for the least Bell's vireo occurs in some locations along the Santa Ynez River from Alisal Bridge to Highway 101. Further downstream, good quality riparian habitat begins again at Gardner Ranch. For about 0.7 mile downstream along the Santa Ynez River from Gardner Ranch extensive riparian habitat exists where other vireo species, thrushes, warblers, and finches were noted during the 2000 surveys. Some very good riparian habitat also exists in the upper and lower portions along the Santa Ynez River between Highway 101 and the Sanford Winery (approximately 1 mile upstream from Santa Rosa Creek). The riparian zone broadens on the west, or north, side of the Santa Ynez River about 4.2 miles downstream of Highway 101, where a Bell's vireo was detected on July 10, 1996. Furthermore, there are good riparian areas, notably on the north bank, below Sweeney Road between Salsipuedes

Creek and Route 246. Least Bell's vireos were present here in the summers of both 1996 and 1997, and nesting evidence was found in 1997.[51]

Similar to southwestern willow flycatcher, water extraction activities could cause fluctuation in downstream water level, which would have the potential to adversely affect Least Bell's vireo nesting, if the species were to occupy those resources in the future. However, the extraction of up to 1,980 afy at an increased rate of 5 cfs from the baseline condition of 1,053 afy and a rate of 1.85 cfs, an increase of 927 afy and 3.15 cfs, would cause only localized effects to stream flow (see **Table 5.1-5** in **Section 5.1**) which is within historical groundwater level fluctuations; impacts would be less than significant.

California red-legged frogs are confined strictly to aquatic habitats, such as creeks, streams, and ponds, and occur primarily in areas having pools 2 to 3 feet deep with dense emergent or shoreline vegetation. Although they may move between breeding pools and foraging areas, they rarely leave the dense cover of the riparian corridor. The species requires permanent water for larval development and occurs in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation, which is not representative of the resources found at the Well Sites A and B. This reach of Santa Ynez River south of Alisal Bridge becomes dry by early summer, and is, therefore, unlikely to support California red-legged frogs due to the lack of permanent water. However, portions of the Santa Ynez River downstream from Buellton support areas of habitat for the California red-legged frog,. Pools in that area probably contain permanent water due to agricultural and urban runoff and discharges from wastewater treatment plants rather than stream flow. As discussed above in analysis of southwestern willow flycatcher (see **Table 5.1-5**, in **Section 5.1**), the increase in water diversion at proposed Well Sites A and B would cause only localized effects to stream flow and, as a result, impact on California red-legged frog would be less than significant.

The City's analysis of future water demand and needs has determined that the City will require at buildout of the General Plan 1,980 acre-feet annually of water to be diverted with an increased extraction rate of up to 5 cfs via groundwater wells from the underflow of the Santa Ynez River. This is greater than the currently documented diversion amount of 1,053 afy and extraction rate of 1.85 cfs. However, diversion of up to 1,980 afy with an extraction rate of up to 5 cfs would not result in the potential to significantly impact listed species above because the hydrology modeling of Stetson Engineers[52] indicate

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51 California State Water Resources Control Board, Division of Water Rights. December 2011. Final Environmental Impact Report, Consideration of Modifications to the U.S. Bureau of Reclamation's Water Right Permits 11308 and 11310 (Applications 11331 and 11332) to Protect Public Trust Values and Downstream Water Rights on the Santa Ynez River below Bradbury Dam (Cachuma Reservoir). State Clearinghouse #1999051051

52 Stetson Engineers. Technical Memorandum No. 6. Additional Alternative Analyses for City of Solvang's CEQA Environmental Document for Time Extension for Water Rights Permit 15878 – New Wells Downstream of Alisal Bridge.

that groundwater elevation levels would remain similar to the baseline levels (see **Table 5.1-4, Monthly Average Groundwater Level Elevation**).

Proposed Wells and Water Treatment Facilities

Operational impacts associated with the wells and treatment plant are related to noise, lighting, and access to the well sites by City personnel. Noise associated with the proposed project is discussed in **Section 5.9**. Wells would use submersible pumps, noise from which is negligible, and far below that of the current background levels. Night lighting would not be installed on the wells, and maintenance and monitoring of the wells would be conducted by City staff during daylight hours, accessing the sites along existing dirt roads. These impacts are therefore considered less than significant.

The proposed water treatment plant to be located within the Alisal Commons open space area would be outside of any appropriate habitat areas for either southwestern willow flycatcher, least Bell's vireo, or California red-legged frog. These impacts are therefore considered less than significant.

Mitigation Measures

The following mitigation measures shall be implemented:

TER-1 Prior to initiating construction activities within the 100-year floodplain of the Santa Ynez River, construction sites and access roads within the riverbed, as well as riverbed areas within 300 feet of the construction site and access road, shall be inspected by a qualified biologist for the presence of the listed species, California red-legged frog, and the non-listed species foothill yellow-legged frog, Coast Range newt, silvery legless lizard, western pond turtle, two-striped garter snake, and American badger.

If any of these species are discovered within the construction work areas and access roads, these areas shall be cleared of the species listed above immediately before the prescribed work is to be carried out and immediately before any equipment is moved into or through the affected habitat areas. The removal of such species shall be conducted by a qualified biologist using procedures approved by the USACE and CDFG, and with the appropriate collection and handling permits. Species shall be relocated to nearby suitable habitat areas but sufficiently distant from the construction area to minimize the likelihood of their return.

TER-2 A qualified biologist shall be retained as a construction monitor to ensure that incidental construction impacts on biological resources are avoided, or minimized, and to conduct

pre-grading field surveys for special-status plant and wildlife species, including those species listed in **Mitigation Measure TER-1** that may be destroyed as a result of construction or site preparation activities. Responsibilities of the construction monitor include the following:

- The construction monitor shall attend pre-grade meetings to ensure that timing or location of construction activities do not conflict with mitigation requirements (e.g., seasonal surveys for plants and wildlife).
- Mark or flag the construction area in the field with the contractor in accordance with the final approved construction plan.
- Supervise cordoning of natural areas that lie outside grading areas identified in the construction plans (e.g., with temporary fence posts and colored rope).
- Conduct a field review of the staking (to be set by the surveyor) designating the limits of all construction activity. Any construction activity areas immediately adjacent to riparian areas or other special-status resources may be flagged or temporarily fenced by the monitor, at his or her discretion.
- Conduct meetings with the contractor and other key construction personnel describing the importance of restricting work to designated areas. The monitor should also discuss procedures for minimizing harm or harassment of wildlife encountered during construction.
- Periodically visit the site during construction to coordinate and monitor compliance with the above provisions.

TER-3 Construction personnel shall be prohibited from entry into areas outside the designated construction area, except for necessary construction related activities, such as surveying. All such construction activities shall be coordinated with the construction monitor.

TER-4 Vehicles and equipment shall not be operated in areas of ponded or flowing water or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed unless there are no practicable alternative methods to accomplish the construction work, and only after prior approval by the CDFG and USACE. Approval shall be acquired by submitting a request to CDFG and USACE no later than 30 days prior to construction. The request must contain a biological evaluation demonstrating that no sensitive fish, amphibians, or reptiles are currently present, or likely to be present during construction, at the construction site or along access roads.

TER-5 Temporary sediment retention ponds shall be constructed downstream of construction sites that are located in the 100-year floodplain under the following circumstances:

- the construction site contains flowing or ponded water that drains off site into the undisturbed streamflow or ponds; or
- streamflow is diverted around the construction site, but the work is occurring in the period November 1 through April 15 when storm flows could inundate the construction site.

The sediment ponds shall be constructed of riverbed material and shall be located away from areas of ponded or flowing water to prevent discolored, silt-bearing water from reaching areas of ponded or flowing water during normal flow regimes. To the extent possible, ponds shall be located in barren or sandy areas devoid of existing riparian scrub, riparian woodland, or aquatic habitat. The ponds shall be maintained and repaired after flooding events, and shall be restored to pre-construction grades and substrate conditions within 30 days after construction has ended at that particular site. The location and design of sediment retention ponds shall be included in the Storm Water Pollution Prevention Plan (SWPPP) prepared by the City for all construction activities that require a NPDES General Construction Activity Storm Water Permit.

TER-6 Water containing mud, silt, or other pollutants from construction activities shall not be allowed to enter a flowing stream, standing pools that native fauna may occupy, or be placed in locations that may be subject to normal storm flows during periods when storm flows can reasonably be expected to occur.

TER-7 Stationary equipment such as motors, pumps, generators, and welders that may be located within the riverbed construction zone shall be positioned over drip pans. No fuel storage tanks or equipment maintenance shall be allowed within the 100-year floodplain.

Residual Impacts

Implementation of proposed **Mitigation Measures TER-1 – TER-7** would reduce direct impacts related to mortality of adult California red-legged frogs to a less than significant level (Class II). Indirect impacts to aquatic habitats used by larval and juvenile red-legged frogs related to site preparation and construction activities would also be reduced to a level of less than significant with the implementation of **Mitigation Measures TER 1 – TER 7** (Class II).

5.2.6.2 Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the USFWS or California Department of Fish and Game (CDFG).

Construction Impacts

Proposed Master Plan Update

There are no applicable local or regional plans that reference any candidate, sensitive or special-status species in the project area. Impacts of development on non-listed USFWS or CDFG special-status species are discussed below.

Special-status fish species are discussed in **Section 5.3, Fisheries Resources**.

Proposed Wells and Water Treatment Plant

Potential impacts of well and pipeline installation would not directly affect aquatic species, including wetland-obligate plant species, as well and pipeline installation are not proposed for areas within the active channel or associated ponds and wetlands of the Santa Ynez River. Hence direct impacts to Sonoran maiden fern, Bolander's water-hemlock, Coulter's goldfields, chaparral ragwort, and California sawgrass would not occur.

Aquatic wildlife, including fish (discussed in detail in **Section 5.3, Fisheries Resources** of this document) and larval amphibians would also not be directly impacted by well and pipeline installation.

The following discussion addresses riparian and upland species that may be directly impacted by well and pipeline installation.

Non-listed special-status species known or having potential to be present within the 100-year floodplain of the Santa Ynez River, within which well and pipeline construction are proposed, include the following:

Plants:

Santa Ynez groundstar, dwarf calycadenia, mesa horkelia, Southern California black walnut (observed on site), Santa Barbara honeysuckle, Hoffmann's bitter gooseberry, and Hoover's bent grass.

Wildlife:

Foothill yellow-legged frog, Coast Range newt, silvery legless lizard, western pond turtle, two-striped garter snake (observed on site), Cooper's hawk, Southern California rufous-crowned sparrow, oak titmouse (observed on site), ferruginous hawk, pallid bat, and American badger.

Well and pipeline installation is proposed within the 100-year floodplain and could therefore adversely affect certain special-status species as discussed below.

Special-Status Plants

Santa Ynez groundstar (CNPS Rank 1B.1), dwarf calycadenia (CNPS Rank 1B.1), mesa horkelia (CNPS Rank 1B.1), Santa Barbara honeysuckle (CNPS Rank 1B.2), Hoover's bent grass (CNPS Rank 1B.2)— Each of these species may potentially be present within habitats to be impacted by development of the wells in Wells Sites A and B as proposed in the Master Plan Update. If present on site within either Wells Site A or B, impacts to these species would be considered a violation of CEQA. CNPS Rank 1B species are rare throughout their range with the majority of them endemic to California. All of the plants constituting Rank 1B meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.[53] Impacts would be potentially significant.

Hoffmann's bitter gooseberry (CNPS Rank 3)—Some of the plants constituting California Rare Plant Rank 3 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. CNPS recommends that California Rare Plant Rank 3 plants be evaluated for consideration during preparation of environmental documents relating to CEQA.[54] The City's General Plan does not provide policy direction for the treatment of Rank 3 plants. However, the loss of Hoffman's bitter gooseberry would be considered a potentially significant impact under CEQA.

Southern California black walnut (CNPS Rank 4.2)—California black walnut trees are scattered throughout Wells Sites A and B as proposed in the Master Plan Update in areas outside of the Santa Ynez River floodplain. An unknown number of walnut trees could be impacted by installation of wells and associated pipeline construction. CNPS considers this species to be of limited distribution, and fairly

53 California Native Plant Society. 2011. CNPS Rare Plant Program. Available at http://www.cnps.org/cnps/rareplants/ranking.php.

54 Ibid.

threatened in California; thus it is included on the CDFG Special Plant List. The City's General Plan does not provide policy direction for the treatment of Rank 4 plants. However, the loss of any Southern California black walnut would be considered a potentially significant impact under CEQA.

Special-Status Wildlife

Five special-status animal species—two-striped garter snake (*Thamnophis hammondii*), great egret (*Ardea alba*), great blue heron (*A. herodias*), oak titmouse (*Baeolophus inornatus*), and snowy egret (*Egretta thula*)—were observed on site at Well Sites A and B during the October 2011 survey. The great egret, snowy egret and great blue heron are not expected to nest in the area of Well Sites A and B. Additionally, the oak titmouse would not nest within the sparse riparian vegetation along the reach of the Santa Ynez River found in the area of Well Sites A and B. Construction impacts to these species would be significant if present in the Well Sites A and B or the water treatment facility.

During construction and site preparation activities for well drilling, installation and pipeline construction, individuals of some special-status species of high mobility such as non-breeding individuals of Cooper's hawk, Southern California rufous-crowned sparrow, oak titmouse, and ferruginous hawk present within habitat within Well Sites A and B could be displaced to remaining undisturbed habitats nearby. However, construction and site preparation activities could result in the direct loss of active bird nests, including eggs, young, or incubating adults, and a variety of other less mobile special-status species, including foothill yellow-legged frog, Coast Range newt, silvery legless lizard, western pond turtle, two-striped garter snake, pallid bat, and American badger.

Depending on the number and extent of individuals of other special-status species or their denning or nesting sites on the site that may be disturbed or removed through project implementation, their loss would be considered a substantial effect on these special-status species and, therefore, a significant impact.

Operation

Proposed Master Plan Update

Operational impacts related to implementation of the proposed Master Plan Update are related to land uses anticipated in the City's General Plan that would be achievable given the additional water availability called for in the Master Plan Update. Impacts of development on non-listed special-status species are analyzed above under construction impacts.

Five special-status animal species—two-striped garter snake (*Thamnophis hammondii*), great egret (*Ardea alba*), great blue heron (*A. herodias*), oak titmouse (*Baeolophus inornatus*), and snowy egret (*Egretta thula*)—were observed on site at Well Sites A and B during the October 2011 survey. The great egret, snowy egret and great blue heron are not expected to nest in the area of Well Sites A and B. Additionally, the oak titmouse would not nest within the sparse riparian vegetation along the reach of the Santa Ynez River found in the area of Well Sites A and B. Impacts to these species would be less than significant from the operation of new water wells adjacent to the Santa Ynez River downstream of Alisal Bridge.

As explained above under **Threshold 5.2.6.1**, the proposed increase of water to be withdrawn from the underflow of the Santa Ynez River to 1,980 afy with an extraction rate of up to 5 cfs as proposed by the Master Plan Update is greater than the baseline diversion of 1,053 afy and current extraction rate of 1.85 cfs. However, diversion of up to 1,980 afy with a maximum extraction rate of up to 5 cfs would not significantly impact non-listed terrestrial special-status species because the hydrology modeling of Stetson Engineers[55] indicates that groundwater elevation levels would remain similar to the baseline levels (see **Table 5.1-4, Monthly Average Groundwater Level Elevation**).

Long-term operation of the proposed new wells is expected on average, to result in similar groundwater levels to the baseline of 1,053 afy based on the modeling analysis by Stetson Engineers.[56] Operational impacts to non-listed terrestrial special-status species from the extraction of 1,980 afy at an extraction rate of up to 5 cfs , an increase of 927 afy, over the baseline of 1,053 afy at a rate of 1.85 cfs would be less than significant.

Proposed Wells and Water Treatment Plant

Operational impacts associated with the proposed new wells and treatment plant are related to noise, lighting, and access to the well sites by City personnel. Noise associated with the proposed project is discussed in **Section 5.9**. As discussed above under **Threshold 5.2.6.1**, indirect impacts would be less than significant.

Mitigation Measures

In addition to **Mitigation Measures TER-1 – TER-7**, the following mitigation measures shall be implemented:

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55 Stetson Engineers. Technical Memorandum No. 6. Additional Alternative Analyses for City of Solvang's CEQA Environmental Document for Time Extension for Water Rights Permit 15878 – New Wells Downstream of Alisal Bridge (**Appendix 5.1**).

56 Ibid.

TER-8 Focused surveys for potentially occurring special-status plant species shall be conducted by a qualified botanist prior to the commencement of construction related activities within suitable on site habitat areas. The surveys shall be conducted no more than one year prior to commencement of construction activities within suitable habitat and during the appropriate season for detection of the target species. Should individuals of the species be documented within Well Sites A and B and any other impacted locations, a rescue/replacement plan shall be developed prior to the issuance of grading permits and implemented by the City or its designee in accordance with the plan provisions. Undeveloped portions of the Well Sites A and B, and any other impacted locations, shall be used as receptor sites for transplanted individuals or seeds. Other suitable mitigation sites may be used upon approval by USACE, CDFG and the City and/or County. The plan shall demonstrate the feasibility of replacing the number of individual plants to be removed at a 1:1 ratio (of individual plants for woody species, and on an aerial basis for annual and herbaceous species). The plan shall specify the following:

1. the location of mitigation;
2. methods for harvesting seeds, and salvaging and transplantation of individual plants to be impacted;
3. site preparation procedures for the mitigation site;
4. a schedule and action plan to maintain and monitor the mitigation area;
5. a list of criteria and performance standards by which to measure success of the mitigation site;
6. measures to exclude unauthorized entry into the mitigation areas; and
7. contingency measures in the event that mitigation efforts are not successful.

TER-9 Pre construction surveys for bat roosts within the project impact area shall be conducted no earlier than one week prior to the commencement of any construction activity. If potential roosting habitat is found in Wells Sites A and B or other project locations, exclusion of bats shall be accomplished by identifying primary exit points and sealing all other escape routes greater than 0.25 inch. Care shall be taken to avoid sealing bats into the roost by placing a one-way valve over the primary exit points to prevent reentry. Simple one-way valves may be constructed using wire mesh cones, PVC, and strips of clear plastic sheeting attached over exit points. Once the bats have been excluded, roost spaces can be permanently filled with a suitable substance. In order to minimize

disturbance to bats, it is recommended that exclusion be initiated during the winter months when the fewest bats are present.

Residual Impacts

Implementation of proposed **Mitigation Measures TER-1 – TER-7** would reduce direct impacts related to mortality of non-listed special-status animal species, except for bats, to a level of less than significant (Class II). Implementation of **Mitigation Measure TER-8** would reduce impacts to special-status plant species potentially occurring in non-aquatic habitats, and implementation of **Mitigation Measure TER-9** would reduce impacts to special-status bat species to a level of less than significant (Class II). Indirect impacts to special-status plant and wildlife species, including bats, related to site preparation and construction activities would be reduced to a level of less than significant (Class II).

5.2.6.3 Reduce the number or restrict the range of an endangered, rare, or threatened species.

Construction Impacts

Proposed Master Plan Update

Projects proposed under the Master Plan Update would take place primarily within areas that are currently developed or disturbed by residential, commercial, or agricultural uses. None of these land uses supports habitat for special-status species that are declining in the region. Hence, development allowed by implementation of the proposed Master Plan Update is not expected to result in the restriction in range or number of any special-status species; impacts would be less than significant.

Proposed Wells and Water Treatment Facilities

Permanent alteration of habitat within the 100-year floodplain of the Santa Ynez River would be limited to the proposed Well Sites A and B; wells and associated pads of each well site would be approximately 625 square feet per well site each and would not be sited in areas of permanent surface water or within 150 feet of the Santa Ynez River.

Potential impacts of future well and pipeline installation would therefore not directly affect aquatic or riparian species habitats; however, construction and site preparation activities could result in indirect impacts to special-status aquatic species, including foothill yellow-legged frog, California red-legged frog, Coast Range newt, western pond turtle, and two-striped garter snake. These species are dependent on habitat attributes that are naturally rare or declining in the region (e.g., clean surface water and

riparian vegetation), and local populations of these species are subsequently limited so that their loss from the project site, if present, would negatively affect the sustainability of their local populations.

Should well and pipeline construction impact special-status species, depending on the number and extent of individuals of other special-status species or their denning or nesting sites that may be disturbed or removed through project implementation, their loss would be considered a substantial impact on the regional populations of these special-status species and, therefore, impact could be potentially significant.

Operation

Proposed Master Plan Update

Operational impacts related to implementation of the proposed Master Plan Update are related to land uses anticipated in the City and County General Plans that would be achievable given the additional water reliability called for in the plan. Impacts would primarily affect lands that are currently disturbed or developed by agricultural, residential, or commercial uses, and which do not provide habitat attributes for species that are rare or declining in the region and would therefore not result in population reductions or range constrictions for affected species. Impacts would be less than significant.

Similar to the discussion above, long-term operation of the proposed new wells is expected to not substantially modify the groundwater levels on average beyond the current baseline of 1,053 afy based on the modeling analysis by Stetson Engineers (see discussion in **Section 5.1**). As explained above under **Threshold 5.2.6.1**, the proposed increase of water to be withdrawn from the underflow of the Santa Ynez River to 1,980 afy at an extraction rate of up to 5 cfs as proposed by the Master Plan Update is greater than the baseline diversion of 1,053 afy and current extraction rate of 1.85 cfs. However, diversion of up to 1,980 afy with a maximum extraction rate of up to 5 cfs would not significantly reduce the number or restrict the range of an endangered, rare, or threatened species. Operational impacts resulting from the increased extraction of 927 afy at rates 3.15 cfs over baseline conditions would be less than significant in restricting the range or number of any special-status species.

Proposed Wells and Water Treatment Plant

Operational impacts associated with the wells and treatment plant are related to noise, lighting, and access to the well sites by City personnel. Noise associated with the proposed project is discussed in **Section 5.9**. As discussed above under **Threshold 5.2.6.1**, indirect impacts would be less than significant.

Mitigation Measures

Mitigation Measures TER-1 – TER-8 address potential project impacts to special-status species and no further mitigation is required.

Residual Impacts

Implementation of proposed **Mitigation Measures TER-1** through **TER-8** would reduce direct impacts to special-status aquatic species potentially resulting in regional reductions in their populations or restrictions in their range. Indirect impacts to special-status aquatic species related to stormwater runoff and construction activities would reduce through the implementation of the SWPPP and BMPs, which would result in less than significant water quality impacts (Class III). Potential impacts to additional special-status species within the planning area do not have the potential to restrict regional populations or geographic ranges and are therefore less than significant (Class III).

5.2.6.4 Have a substantial adverse effect on any riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by USFWS or CDFG.

Construction Impacts

Projects proposed under the Master Plan Update would take place primarily within areas that are currently developed or disturbed by residential, commercial or agricultural uses. Additionally, General Plan policies require that new development prioritizes the preservation of riparian and sensitive natural communities. Nevertheless, certain land uses that may be permissible under both the City's and County's General Plans could require encroachment into riparian or other sensitive natural communities. Such impacts are potentially significant but they would be subject to the permitting requirements of state and federal agencies. The applicable permits would require appropriate mitigation if those independent projects go forward. Therefore, the increased Solvang diversions will not have significant impacts to jurisdictional waters, streambeds, or sensitive natural communities.

Proposed Wells and Water Treatment Plant

Each wellhead will be placed at an elevation that is within the 100-year flood level but above the ordinary high-water mark of stream courses. Locations for individual wells within Well Sites A and B have not yet been determined, and could potentially be located within California buckwheat – California broomsage, willow thicket, or black cottonwood forest vegetation within CDFG jurisdiction. Well Site A is located within the City's jurisdiction while well Site B is located in unincorporated Santa Barbara County.

Construction of the wells would require access by construction equipment, trucks, and a drilling rig. Access to the new wells would be provided by existing roadways along the north side of the river channel. Existing informal dirt roads on the floodplain also would be used to access wells. Wells would not be accessed from the west because the bridge over Alamo Pintado Creek is not rated for large trucks or drilling rigs.

At each well site, a 2,500-square-foot area (about 50 by 50 feet) would be cleared and graded to a flat surface. The well would be installed within this area, which would also be used for the drilling rig, stockpiling, and other equipment parking. It may be necessary for construction trucks to also temporarily park along the existing dirt roads at each well site.

A 12- to 24-inch-high well pad, measuring about 25 by 25 feet, would be constructed at each site. The well pad would be constructed of native material at the site, including the suitable drilling cuttings. The wellhead would consist of several pipes and the well pump would be submersible, and therefore would not be visible. A 10- by 10-foot chain link enclosure, about six feet high, would be constructed around the wellhead.

Water lines would be constructed to each well for the well sites; however, the potential routes have not yet been identified. These pipes would consist of 6-inch-diameter high-density polyethylene (HDPE) pipes that would be buried at least 18 inches below ground surface. The water lines in the river floodplain would be installed with a trenching machine that would excavate a 12-inch-wide trench and temporarily store the removed soils along the trench, which would be backfilled by a loader or backhoe, and then compacted to match existing grade. The temporary disturbance zone associated with pipe installation would be about 30 feet wide.

Permanent impacts of well construction would be limited to a small area (less than an acre total for all wells) within areas of California buckwheat – California broomsage scrub, black cottonwood forest, or willow thicket vegetation. Temporary impacts are yet undetermined, due to uncertainty in the final location of wells and subsequent routing of pipelines; however, it is assumed that at least some trenching will encroach into California buckwheat – California broomsage or black cottonwood forest vegetation types. Because each of these vegetation types is considered sensitive by CDFG, this impact would be significant.

It should also be noted that in order to protect the river it is necessary to protect the tributaries that feed the river. Santa Barbara County Ordinance No. 3095 establishes creek and river setback requirements to address flood hazards to structures and other development.[57] In general, development shall be set back a

[57] Santa Barbara County Ordinance No. 3095, County Code 15B, Development Along Watercourses.

minimum of 50 feet from the top of the bank of streams and creeks and 200 feet from the top of the bank of the Santa Ynez River.

Operation

Operation of the proposed Master Plan Update, proposed water right Permit 15878 revisions, the proposed well sites and water treatment plant would not exert any additional impacts on riparian or sensitive vegetation types beyond those of construction.

The City has determined that at buildout it will require a total of 1,980 afy at a rate of up to 5 cfs to meet its demand. This would result in an increase in diversion of Santa Ynez River underflow from the baseline of 1,053 afy and the current extraction rate of 1.85 cfs. The increased Solvang diversions would not alter the discharge requirements set forth by Order WR 94-5,[58] issued by the State Water Resources Control Board (SWRCB), that requires Reclamation to manage Bradbury Dam water impoundments at a level that will ensure the long-term survival of steelhead and other fisheries resources within the Santa Ynez River. As these resources are dependent on current water levels that also dictate the extent of riparian and floodway resources under the jurisdiction of CDFG and USACE, Reclamation will ensure that water flow downstream of the proposed project area will not be significantly changed from present levels.

However, the extraction of groundwater associated with the Santa Ynez River underflow pumping could cause local depressions in the groundwater levels. If the water levels were to drop below the root zone of the riparian vegetation for an extended period of time, these plants would become stressed and could eventually die. The long-term modeling of Stetson Engineers, as presented in **Section 5.1**, has indicated that water flow levels would be similar to the historical levels. Therefore, operational impacts to riparian vegetation regulated by the CDFG would be less than significant.

Mitigation Measures

The following mitigation measures shall be implemented:

TER-10 In order to compensate for permanent removal of jurisdictional habitats, including but not limited to sensitive vegetation types, the applicant shall control giant reed and other invasive exotic plant species within the project site to improve and expand wildlife and endangered species habitat, reduce flooding, erosion, and fire hazards, improve water

58 State Water Resources Control Board, Water Rights Order 94-5, In the Matter of Permits 11308 and 11310 Issued Order: pursuant to Applications 11331 and 11332; the United States Bureau of Reclamation: Permittee. November 17, 1994.

quality; and potentially increase stream flow and water quantity in the project watercourses. Removal areas shall be kept free of exotic plant species for 5 years after initial treatment. In areas where extensive exotic removal occurs, revegetation with native plants or natural recruitment shall be documented.

TER-11 Vegetation types temporarily impacted by the proposed project will be restored. Native vegetation within temporary construction areas shall be mulched and set aside. Large trunks of removed trees may be utilized on site to provide habitat for invertebrates, reptiles, and small mammals or may be anchored within the project site for erosion control. If the timing of the mulching and application is appropriate, the native mulch will be spread over the temporary impact areas in order to facilitate revegetation. If the period of mulch storage exceeds approximately one month, fresh native mulch may be applied to the temporary impact areas to provide seed propagules and native biomass. After the completion of Year 1, the project biologist will evaluate the progress of the passive restoration approach in the temporary impact areas to determine if natural recruitment has been sufficient for the site to eventually reach performance goals. In the event that native plant recruitment is determined by the project biologist to not be adequate for successful habitat establishment, the applicant or its designee shall revegetate the temporary construction areas in accordance with the methods designed for permanent impacts (i.e., seeding, container plants, or a temporary irrigation system may be recommended).

Areas temporarily disturbed by construction activities shall also be weeded annually, as needed, for up to 5 years following construction. Weeds shall be removed by hand, an approved herbicide application, or by mechanical equipment. These areas shall be annually monitored for 5 years after construction to document vegetation type establishment.

In the event that native plant cover does not reach 50 percent of the pre-construction native plant cover within 3 years, the City shall revegetate the temporary construction.

Residual Impacts

Implementation of proposed **Mitigation Measures TER-10 and TER-11** would restore habitat functions and values, thereby reducing direct impacts to riparian habitats and other sensitive natural communities arising from construction and implementation of the proposed Master Plan Update, proposed water right Permit 15878 revisions, and well site and water treatment plant to a level of less than significant (Class II).

5.2.6.5 Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including marshes or vernal pools) through direct removal, filling, hydrological interruption, or other direct means.

Construction Impacts

Proposed Master Plan Update

Projects proposed under the Master Plan Update would take place primarily within areas that are currently developed or disturbed by residential, commercial or agricultural uses. Additionally, General Plan policies require that new development prioritizes the preservation of riparian and sensitive natural communities. Nevertheless, certain land uses that may be permissible under the City's General Plan could include encroachment into federally protected wetlands depending upon place of wells along the riverbank. Such impacts would be subject to the permitting requirements of the USACE and are potentially significant.

The City has determined that at buildout it will require 1,980 afy of water with a maximum extraction rate of up to 5 cfs to meet its demand. This would result in an increase in diversion from the baseline of 1,053 afy and baseline extraction rate of 1.85 cfs, but would not alter the release requirements set forth by Order WR 94-5 that requires Reclamation to make releases at Bradbury Dam to ensure the long-term survival of steelhead and other fisheries resources within the Santa Ynez River. As these resources are dependent on current water releases that also dictate the extent of riparian and floodway resources under the jurisdiction of the USACE, impact to federally protected wetlands would be less than significant.

Proposed Wells and Water Treatment Plant

Direct and indirect impacts on the Santa Ynez River and adjacent riparian and scrub areas are subject to the jurisdiction of several state and federal agencies, including the USACE, the CDFG, and the Central Coast RWQCB.

As previously stated, the Santa Ynez River runs through the project site. A jurisdictional assessment was conducted for the reach of river and adjacent habitat areas within the project site in October 2011 to determine the areas under jurisdiction of the USACE as waters of the United States and CDFG. The portion of the proposed Well Sites A and B located within and along the banks of the Santa Ynez River could be impacted as a result of the construction of bank stabilization. Although ultimate locations of wells and associated pipelines is unknown, their construction could result in impacts to areas under CDFG jurisdiction and possibly the USACE. Impacts from construction would be limited in size and area

(a few hundred square feet) at each well site and for the associated pipelines as wells as areas for access roads and staging. These impacts would be potentially significant.

Impacts within jurisdictional resource areas will be subject to permitting requirements of the USACE and CDFG.

Operation

Operation of the proposed Master Plan Update, proposed water right Permit 15878 revisions, the proposed new well sites and water treatment plant would not exert any additional impacts on federally protected wetlands beyond those of construction. Similar to the previous discussion above, the extraction of groundwater associated with the Santa Ynez River underflow pumping could cause local riparian vegetation to become stressed and could eventually die. However, as discussed above and in **Section 5.1**, the long-term modeling of Stetson Engineers have indicated that water flow levels would be similar to the baseline levels. In addition, groundwater elevations would fluctuate within the historical groundwater elevation range during no flow and no inflow conditions within the Santa Ynez River under the proposed Master Plan Update. Therefore, impacts would be less than significant.

Mitigation Measures

TER-12 Prior to the drilling and construction of any wells in Wells Sites A or B, the City shall develop a habitat enhancement and restoration plan to improve the quality of the riverine and wetland functions associated with on-site portion of the Santa Ynez River in the vicinity of proposed well sites. Enhancement and restoration actions will include control of invasive plant species (e.g., Italian stone pine, Peruvian-pepper [*Schinus molle*], fennel, castor-bean, white melilot, tree tobacco, date palm, and smilo grass [*Piptatherum miliaceum*]), creation of native riparian and scrub habitat, and for the planting of appropriate locally indigenous species for the habitat created.

Mitigation Measures TER-10, TER-11 and **TER-12** address potential project impacts to federally protected wetlands and no further mitigation is required.

Residual Impacts

Implementation of proposed **Mitigation Measures TER-10, TER-11,** and **TER-12** would restore habitat functions and values. Impacts would be less than significant (Class II).

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

Construction Impacts

Proposed Master Plan Update

Projects proposed under the Master Plan Update would take place primarily within areas that are currently developed or disturbed by residential, commercial, or agricultural uses, which do not generally provide attributes suitable for wildlife movement. The primary movement corridor through the planning area is the Santa Ynez River, which provides movement opportunity for a variety of aquatic and terrestrial wildlife species. The Santa Ynez River corridor would not be developed as a result of implementation of the proposed Master Plan Update. Certain development activities that may be permissible under the City's General Plan could disrupt breeding activity by native bird species protected under state and federal laws. Such impacts would be significant.

Proposed Wells and Water Treatment Plant

The Migratory Bird Treaty Act and the California Fish and Game Code prohibit the take (defined as destroy, harm, harass, etc.) of bird nests with eggs or young, and a number of bird species could be adversely affected as a result of implementation of the proposed Master Plan Update. While the proposed Master Plan Update is not expected to include the removal of mature trees and other nesting habitat, construction-related activities could result in the direct loss of active nests or the abandonment of active nests by adult birds during that year's nesting season. This impact would be a potentially significant impact.

Operation

The proposed Master Plan Update design would introduce new wells downstream of Alisal Bridge. Hydrological connectivity through this reach would not be severed but the hydro-period of pools and other permanent and semi-permanent surface water features could be qualitatively altered (See **Section 5.3, Fisheries Resources**).

The City has determined that at buildout it will require 1,980 afy of water with a maximum diversion rate of up to 5 cfs to meet its demand. This would result in an increase in diversion from the baseline of 1,053 afy and baseline extraction rate of 1.85 cfs, but would not alter Order WR 94-5 that requires Reclamation to make releases at Bradbury Dam to ensure the long-term survival of steelhead and other fisheries

resources within the Santa Ynez River through implementation of the requirements in the Biological Opinion (BO) for operation and maintenance of Bradbury Dam.[59] As these resources are dependent on current water releases that also dictate the extent of riparian and floodway resources under the jurisdiction of CDFG and USACE, Reclamation will continue releases to downstream of the proposed project area will remain at present levels. Therefore, no impact to wildlife movement is anticipated. Impacts would be less than significant.

In the short term (less than 10 years), there may be a change in use of riparian habitats in areas where vegetation clearance is required; however, for most species currently using riparian habitat the general vegetative structure of the habitat can be expected to recover. Therefore, long-term movement opportunities are not expected to change for the suite of species dependent on dense riparian cover.

For upland species that may utilize the Santa Ynez River as a source of water or foraging opportunity, the installation of new wells is not expected to pose an insurmountable obstacle to transverse movements across the river floodplain.

Impacts to habitat connectivity are therefore less than significant.

Mitigation Measures

The following mitigation measure shall be implemented:

TER-13 Active nests of native bird species are protected by the Migratory Bird Treaty Act (16 U.S.C. 704) and the California Fish and Game Code (Section 3503). If activities associated with construction or grading are planned during the bird nesting/breeding season, generally January through March for early nesting birds (e.g., Coopers hawks or hummingbirds) and from mid-March through September for most bird species, the City shall have a qualified biologist conduct surveys for active nests. To determine the presence/absence of active nests, pre-construction nesting bird surveys shall be conducted weekly beginning 30 days prior to initiation of ground-disturbing activities, with the last survey conducted no more than three days prior to the start of clearance/construction work. If ground-disturbing activities are delayed, additional pre-construction surveys shall be conducted so that no more than three days have elapsed between the survey and ground-disturbing activities.

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59 National Marine Fisheries Service. 2000. Biological Opinion for U.S. Bureau of Reclamation Operation and Maintenance of the Cachuma Project on the Santa Ynez River in Santa Barbara County, California September 11, 2000.

Surveys shall include examination of trees, shrubs, and the ground for nesting birds. Protected bird nests that are found within or adjacent to the construction zone shall be protected by a buffer deemed suitable by a qualified biologist, and verified by CDFG. Buffer areas shall be delineated with orange construction fencing or other exclusionary material that would inhibit access within the buffer zone. Installation of the exclusionary material delineating the buffer zone shall be verified by a qualified biologist prior to initiation of construction activities. The buffer zone shall remain intact and maintained while the nest is active (i.e., occupied or being constructed by adults birds) and until young birds have fledged and no continued use of the nest is observed, as determined by a qualified biologist.

Residual Impacts

Implementation of proposed **Mitigation Measures TER-13** would reduce direct impacts to less than significant (Class II). Additional impacts are less than significant (Class III).

5.2.6.7 Conflict with the provisions of an adopted HCP, Natural Communities Conservation Plan, or other approved local, regional, or state HCP.

Construction Impacts

Proposed Master Plan Update

Projects proposed under the Master Plan Update would take place primarily within areas that are currently developed or disturbed by residential, commercial or agricultural uses, outside of any designated Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state HCP. An exception to this is the Santa Ynez River, alterations of which are subject to the provisions of the recovery plan for southern steelhead, discussed in **Section 5.3, Fisheries Resources**.

There are no formal adopted HCPs or NCCPs within the City or adjacent unincorporated County. The Conservation and Open Space Element for the City and the Santa Ynez Valley Community Plan for the County contain provisions for protection of the Santa Ynez River. The discussion of the General Plan is found in **Section 5.2.3.3 Local Regulations**.

As previously noted, pursuant to Order WR 94-5, requires Reclamation to make releases at Bradbury Dam to ensure the long-term survival of steelhead and other fisheries resources within the lower Santa Ynez River. Resources and species that are dependent on current water releases (i.e., riparian vegetation

that is directly related to surface water availability) would not experience impact because Reclamation will continue water releases to downstream of the proposed project area. Impacts would be less than significant.

Proposed Wells and Water Treatment Plant

The proposed Well Sites A and B and the water treatment plant site in the Alisal Commons open space area do not lie within any area subject to the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP, nor do they lie within an area designated as critical habitat for a terrestrial threatened or endangered species. There would be no impact.

The Santa Ynez River supports southern steelhead, and is subject to provisions set forth in the recovery plan for that species. For a detailed discussion of project impacts to southern steelhead, please see **Section 5.3, Fisheries Resources**.

Operation

As previously noted, pursuant to Order WR 94-5, Reclamation will make releases at Bradbury Dam to ensure the long-term survival of steelhead and other fisheries resources within the lower Santa Ynez River. Resources and species that are dependent on current water releases (i.e., riparian vegetation that is directly related to surface water availability) would not experience impact because Reclamation will continue water releases to downstream of the proposed project area. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant (Class III).

5.2.7 CUMULATIVE ANALYSIS

Cumulative Impacts

The proposed Master Plan Update would replace the City's current Water System Master Plan to ensure adequate and reliable water supply and infrastructure to meet future demand as forecast in the City's General Plan at buildout.

The proposed Master Plan Update would include installation of new wells and associated pipelines in Wells Sites A and B along the Santa Ynez River in both the City and unincorporated areas of the County, and construction of a water treatment facility within the Alisal Commons open space area in the City. The previous discussion on project specific listed wildlife and special status plant impacts (see **Impact 5.2.6.1** and **5.2.6.2**) associated with the implementation of the proposed Master Plan Update and the proposed water right Permit 15878 revisions conclude that impacts would be mitigated to a less than significant level. The proposed water treatment plant site currently supports ruderal vegetation dominated by non-native annual species, which is common in the region. Implementation of the proposed Master Plan Update would therefore not result in significant cumulative impacts to biological resources beyond those previously recognized as resulting from implementation of the City's General Plan and the County's Santa Ynez Valley Community plan. The project contribution to cumulative impacts to biological resources will be less than significant.

Cumulative Mitigation Measures

No mitigation is required.

Residual Cumulative Impacts

Less than significant (Class III).