Appendix E– : Biological Resources Report, and Peer Review

BIOLOGICAL RESOURCES REPORT

SENIOR RESIDENTIAL DEVELOPMENT PROJECT

WALNUT CREEK, CONTRA COSTA COUNTY, CALIFORNIA

Submitted to:

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LSA

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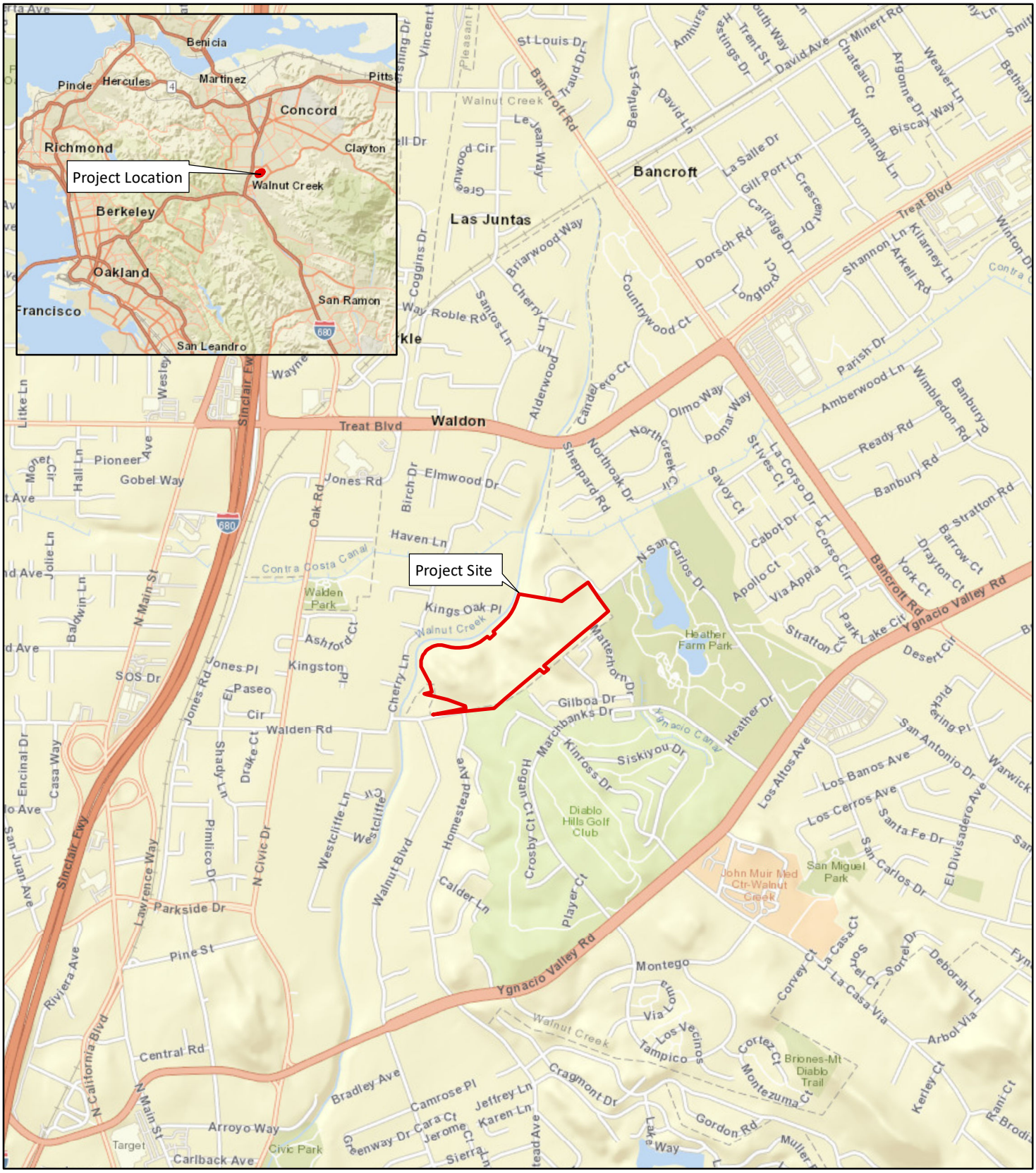
INTRODUCTION

This Biological Resources Report presents the results of an LSA biological resources reconnaissance survey of the proposed Senior Residential Development project site located at 850 Seven Hills Ranch Road, Walnut Creek, California (Assessor's Parcel Numbers 172-150-012-0 and 172-080-007-0). This report was prepared to address potential impacts to sensitive biological resources that may result from implementation of the proposed project. Specifically, the purpose of the survey was to determine whether the proposed project has the potential to impact sensitive biological communities and/or wetlands, wildlife movement corridors, or special-status plant and/or animal species. This report provides a discussion of potential impacts and recommendations on further studies and avoidance and minimization measures that may reduce those impacts.

PROJECT DESCRIPTION

The project is located at 850 Seven Hills Ranch Road, northeast of the City of Walnut Creek (Figure 1). The site falls within the Walnut Creek, California 7.5-minute United States Geological Survey (USGS) quadrangle. The property is a long parcel that runs northeast to southwest on its long axis, and is bounded by The Seven Hills School and Heather Farm Park to the northeast, residential development to the east and south, and Walnut Creek to the west and north. Access is via Seven Hills Ranch Road. The proposed project will be a continuing care retirement community (CCRC) composed of state-licensed independent living units in various configurations including single story cottages and multi-story apartments. In addition, common area amenities such as dining venues, theaters, and fitness centers will be included and are designed to provide convenient services and entertainment. A one- and two-story health care center will provide long-term care to residents requiring assisted living, memory care, and skilled nursing.



LSA

LEGEND

Project Site

FIGURE 1

N

0 750 1500

FEET

Spieker Property

Walnut Creek, Contra Costa County, California

Regional Location

SOURCE: ESRI World Street Maps (02/2020).

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BIOLOGICAL SETTING

The project site is an approximately 30-acre parcel located in an unincorporated area northeast of the City of Walnut Creek. The surrounding landscape is largely dense residential and commercial development. A 102-acre park (Heather Farm Park) partially borders the property on the northeastern boundary. Walnut Creek runs along the western and northern boundaries; the creek is confined to a concrete channel at this location. Briones Regional Park, Shell Ridge Open Space, and Lime Ridge Open Space lands occur within 5 miles of the project site.

Topography. The site consists of rolling hills bisected by a drainage flowing through the middle of the site to Walnut Creek. The site ranges from approximately 100 feet above mean sea level in the drainage to approximately 180 feet above mean sea level at the highest point.

Soils. Soils on most of the project site are mapped as Lodo clay loam, 9 to 30 percent slopes (https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx). This soil type occurs in the lower elevations and foothills throughout California. The soils immediately adjacent to Walnut Creek are mapped as Conejo clay loam, 0 to 2 percent slopes. This soil type is found in valleys in northern and central California and in the Coast Ranges. It is a well-drained soil type associated with stream terraces. Neither of these soil types are considered hydric soils.

Hydrology. The project site is located within the Pine Creek sub-basin of the Walnut Creek watershed, and lies between the Ygnacio Canal (concrete-lined channel) to the northeast and Walnut Creek to the west and north. An unnamed potentially jurisdictional wetland drainage bisects the site and drains into Walnut Creek. The site receives an average annual rainfall of approximately 25 inches (https://www.usclimatedata.com/climate/graton/california/united-states/usca0438).

Vegetation. The project site is characterized by grassy hills dominated by non-native grassland and scattered coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), and California bay (*Umbellularia californica*) trees (Figure 2). There are also eucalyptus (*Eucalyptus globulus*) trees planted along Seven Hills Ranch Road at the entrance to the property and adjacent to the residences and associated out buildings along with planted pines (*Pinus* spp.) and fan palms (*Washingtonia* spp.). The wetland drainage bisecting the site is dominated by cattails (*Typha* spp.) at the upper end and bulrushes (*Schoenoplectus* spp.) at the lower end. There are large patches of Harding grass (*Phalaris aquatica*) throughout the site.

Wildlife. The project site provides habitat for a variety of grassland, oak woodland, and urban-adapted nesting bird species and appears to have resident black-tailed deer (*Odocoileus hemionus columbianus*). Bird species observed during the survey were wild turkey (*Meleagris gallopavo*), mourning dove (*Zenaida macroura*), white-throated swift (*Aeronautes saxatalis*), Anna's hummingbird (*Calypte anna*), red-tailed hawk (*Buteo jamaicensis*), northern flicker (*Colaptes auratus*), black phoebe (*Sayornis nigricans*), California scrub-jay (*Aphelocoma californica*), oak titmouse (*Baeolophus inornatus*), American robin (*Turdus migratorius*), house finch (*Haemorhous mexicanus*), and yellow-rumped warbler (*Setophaga coronata*). Mallard (*Anas platyrhynchos*) and Canada goose (*Branta canadensis*) were seen within Walnut Creek, adjacent to the site.

LSA

LEGEND

Project Site

Landcover

Annual Grassland

Developed

Oak

Ornamental

Stream

Wetland Ditch

0 100 200

FEET

SOURCE: ESRI World Street Maps (02/2020).

I:\SKR2001\GIS\Maps\Vegetation Map\Land Cover Map.mxd (2/28/2020)

FIGURE 2

Spieker Property
Walnut Creek, Contra Costa County, California

Generalized Land Cover Map

METHODS

This Biological Resources Report was prepared using the best available scientific and commercial information sources and data. Background information sources and the site-specific field survey for the project site are described below.

Background Research. Prior to conducting fieldwork, LSA compiled a list of the special-status plant and animal species that could occur in the project vicinity based on records in the California Natural Diversity Database (CNDDB) within 5 miles of the project site (CDFW 2020), the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California for the Walnut Creek USGS 7.5-minute quadrangle (CNPS 2020), and the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) database (USFWS 2020).

For the purposes of this assessment, special-status species are defined as follows:

- Species that are listed, formally proposed, or designated as candidates for listing as threatened or endangered under the federal Endangered Species Act (ESA);
- Species that are listed, or designated as candidates for listing, as rare, threatened, or endangered under the California Endangered Species Act (CESA);
- Plant species with a California Rare Plant Rank (CRPR) status of 1A, 1B, and 2;
- Animal species designated as Species of Special Concern or Fully Protected by the California Department of Fish and Wildlife (CDFW); and
- Species that meet the definition of rare, threatened, or endangered under Section 15380 of the California Environmental Quality Act (CEQA) guidelines.

Field Survey. LSA Senior Biologist Jennifer Roth conducted a reconnaissance-level survey for biological resources at the study site on January 23, 2020. Ms. Roth spent approximately 2.5 hours walking meandering transects through the project site. During the survey, Ms. Roth recorded observations in a field notebook and used binoculars (10x40) to aid in the identification of wildlife, search for raptor nests, and survey inaccessible areas of habitat.

RESULTS

Background research identified the potential for 24 special-status plant species and 20 special-status animal species to occur in the project vicinity (Table A). Serpentine bunchgrass is the only sensitive natural community recorded within 5 miles of the project site.

The results of the field survey indicate that there is potential habitat for five special-status plant species to occur on-site, including bent-flowered fiddleneck (*Amsinckia lunaris*), Diablo helianthella (*Helianthella castanea*), fragrant fritillary (*Fritillaria liliacea*), Mt. Diablo fairy-lantern (*Calochortus pulchellus*), and woodland woollythreads (*Monolopia gracilens*). The remaining 19 plant species occur within habitats (e.g., sand dunes, tidal habitats, chaparral, coastal scrub, forest) or at elevations not found at the project site.

One special-status animal, western bumble bee (*Bombus occidentalis*), has the potential to occur at the project site. This species is currently a candidate for listing in the State of California, and may occur throughout the site's grassland habitats. The remaining 19 species require habitats that are not present at the site. In addition, the site is surrounded by dense urban development and is highly unlikely to serve as a movement corridor for special-status species found in open space areas and state parks in the surrounding area.

The site has the potential to support nesting birds within the grasslands, native trees, and ornamental trees and shrubs found on or adjacent to the site. One red-tailed hawk nest was seen in a large tree next to the Walnut Creek channel along the western edge of the site.

No sensitive natural communities as defined by the CNDDB are present on site (e.g., serpentine bunchgrass). However, there are several potential jurisdictional wetland areas on-site. As mentioned in the Biological Setting section above, the site is bisected by a wetland drainage that appears to drain urban runoff from residential developments to the south through the site and into Walnut Creek on the northern border of the site. The area is dominated by cattails (at the upper end) and bulrushes (at the lower end). There is also a potentially jurisdictional ditch that runs along Seven Hills Ranch Road at the current entrance to the site. There also may be a small wetland area between the site and Kinross Drive immediately adjacent to the site (this area was not accessible during the survey).

Table A: Special-Status Plant and Animal Species Potentially Occurring within the Study Area

Species	Status[1] (F/S/Other)	General Habitat Description	Occurrence or Potential for Occurrence at the Project Site
Plants			
Antioch Dunes evening-primrose *Oenothera deltoides* ssp. *howellii*	FE/CE/1B	Interior sand dunes Elevation: 0-30 m Blooms: Mar-Sep	There is no suitable habitat for this species at the project site or in the surrounding area.
Bent-flowered fiddleneck *Amsinckia lunaris*	--/--/1B	Valley and foothill grassland, coastal bluff scrub, cismontane woodland. Elevation: 3-500 m Blooms: Mar-Jun	There is marginally suitable habitat for this species at the project site. The nearest CNDDB occurrence is a 2015 record in Briones Regional Park, 4.11 miles from the project site.
Big tarplant *Blepharizonia plumosa*	--/--/1B	Valley and foothill grassland with clay to clay loam soils. Elevation: 50-505 m Blooms: Jul-Oct	There is no suitable habitat for this species at the project site; this species generally occurs in drier locations at higher elevations.
Brewer's western flax *Hesperolinon breweri*	--/--/1B	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland, usually within rocky azonal soils. Elevation: 60-300 m Blooms: Apr-Jun	There is no suitable habitat for this species at the project site.
Congdon's tarplant *Centromadia parryi* subsp. *congdonii*	--/--/1B	Grazed and un-grazed annual grassland. Alkaline or saline soils sometimes described as heavy white clay (saline clay soil). Elevation: 1-230 m Blooms: May-Oct	There is no suitable habitat (alkaline/saline soils) for this species at the project site or in the surrounding area.
Contra Costa goldfields *Lasthenia conjugens*	FE/--/1B, no-take	Valley and foothill grassland and cismontane woodland in vernal pools, swales, and moist depressions (alkaline). Extirpated from most of its range; extremely endangered. Elevation: 0-470 m Blooms: Mar-Jun	There is no suitable habitat for this species at the project site or in the surrounding area.
Contra Costa manzanita *Arctostaphylos manzanita* ssp. *laevigata*	--/--/1B	Chaparral (rocky). Elevation: 500-1,100 m Blooms: Jan-Apr	There is no suitable habitat for this species at the project site or in the surrounding area.

Table A: Special-Status Plant and Animal Species Potentially Occurring within the Study Area

Species	Status[1] (F/S/Other)	General Habitat Description	Occurrence or Potential for Occurrence at the Project Site
Delta tule pea *Lathyrus jepsonii var. jepsonii*	--/--/1B	Tidally influenced freshwater and brackish marshes in the Napa River and the Sacramento-San Joaquin river delta. Elevation: 0-5 m Blooms: May-Sep	There is no suitable habitat for this species at the project site or in the surrounding area.
Diablo helianthella *Helianthella castanea*	--/--/1B	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland, usually within rocky azonal soils. Elevation: 60-300 m Blooms: Apr-Jun	The project site provides potential habitat for this species. The nearest CNDDB occurrence is a 2015 record from Shell Ridge Open Space, 1.49 miles from the project site.
Fragrant fritillary *Fritillaria liliacea*	--/--/1B	Coastal scrub, valley and foothill grassland, and coastal prairie. Often on serpentine soils. Other various soils reported, though usually clay. Elevation: 3-410 m Blooms: Feb-Apr	There is marginally suitable habitat for this species at the project site. The nearest occurrence is a 2013 record from Shell Ridge Open Space, 3.45 miles from the project site.
Hall's bush-mallow *Malacothamnus hallii*	--/--/1B	Chaparral, coastal scrub. Some populations on serpentine. Elevation: 10-760 m Blooms: May-Sep	There is no suitable habitat for this species at the project site or in the surrounding area.
Hospital Canyon larkspur *Delphinium californicum* ssp. *interius*	--/--/1B	Within and beside chaparral, grassy openings of cismontane woodland, sometimes mesic areas in above habitats. Elevation: 230-1,095 m Blooms: Apr-Jun	There is no suitable habitat for this species at the project site or in the surrounding area.
Jepson's coyote thistle *Eryngium jepsonii*	--/--/1B	Vernal pools in valley and foothill grassland. Elevation: 3-300 m Blooms: Apr-Aug	There is no suitable habitat for this species at the project site or in the surrounding area.
Lime Ridge Eriastrum *Eriastrum ertterae*	--/--/1B	Openings or edges in chaparral, alkaline, semi-alkaline, or sandy soils Elevation: 200-290 m Blooms: Jun-Jul	There is no suitable habitat for this species at the project site or in the surrounding area.
Lime Ridge Navarretia *Navarretia gowenii*	--/--/1B	Chaparral, clay and serpentine soils. Elevation: 180-305 m Blooms: May-Jun	There is no suitable habitat for this species at the project site or in the surrounding area.

Table A: Special-Status Plant and Animal Species Potentially Occurring within the Study Area

Species	Status[1] (F/S/Other)	General Habitat Description	Occurrence or Potential for Occurrence at the Project Site
Most beautiful jewel flower *Streptanthus albidus* ssp. *peramoenus*	--/--/1B	Chaparral, cismontane woodland, valley and foothill grassland, serpentine soils. Elevation: 95-1,000 m Blooms: Mar-Oct	There is no suitable habitat for this species at the project site or in the surrounding area.
Mt. Diablo buckwheat *Eriogonum truncatum*	--/--/1B	Openings with bare soil in chaparral, coastal scrub, or valley and foothill grassland with dry exposed clay or sandy substrates. Elevation: 3-350 m Blooms: Apr-Nov	There is no suitable habitat for this species at the project site or in the surrounding area.
Mt. Diablo fairy-lantern *Calochortus pulchellus*	--/--/1B	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland, on wooded and brushy slopes. Elevation: 30-840 m Blooms: Apr-Jun	There is marginally suitable habitat for this species at the project site, though this species typically occurs on wooded slopes at higher elevations. The nearest CNDDB occurrence is a 2015 record from the west side of Lime Ridge, 2.78 miles from the project site.
Mt. Diablo jewel flower *Streptanthus hispidus*	--/--/1B	Chaparral, valley and foothill grassland/rocky. Elevation: 365-1,200 m Blooms: Mar-Jun	There is no suitable habitat for this species at the project site or in the surrounding area.
Mt. Diablo manzanita *Arctostaphylos auriculata*	--/--/1B	Chaparral (sandstone), cismontane woodland. Elevation: 135-650 m Blooms: Jan-Mar	There is no suitable habitat for this species at the project site or in the surrounding area.
Oval-leaved Viburnum *Viburnum ellipticum*	--/--/2B	Chaparral, cismontane woodland, and lower montane coniferous forest. Elevation: 215-1,400 m Blooms May-Jun	There is no suitable habitat for this species at the project site or in the surrounding area.
San Joaquin spearscale *Extriplex joaquinana*	--/--/1B	Wet, alkaline sparse grassland areas, alkaline pools. Elevation: 1-835 m Blooms: Apr-Oct	There is no suitable habitat for this species at the project site or in the surrounding area.
Slender-leaved pond weed *Stuckenia filiformis spp. alpina*	--/--/2B	Shallow, freshwater marshes and swamps Elevation: 300-2,150 m Blooms: May-Jul	There is no suitable habitat for this species at the project site or in the surrounding area.

Table A: Special-Status Plant and Animal Species Potentially Occurring within the Study Area

Species	Status[1] (F/S/Other)	General Habitat Description	Occurrence or Potential for Occurrence at the Project Site
Woodland woollythreads *Monolopia gracilens*	--/--/1B	Openings in broadleaf upland forest, chaparral, cismontane woodland, North Coast coniferous forest, and valley and foothill grassland/serpentine. Elevation: 100-1,200 m Blooms: Mar-Jul	There is some potential for this species to occur at the project site. The nearest CNDDB occurrence is a 1999 record in Mt. Diablo State Park, 4.81 miles from the project site.
Invertebrates			
Vernal pool fairy shrimp *Branchinecta lynchi*	FT/--/--	Vernal pools, alkali pools, stock ponds, ponds in vernal swales. Ponding duration can be as little as 6-7 weeks in winter or 3 weeks in spring.	There are no vernal pools or other similar features at the project site or in the surrounding area. The wetland drainage on site is densely vegetated with cattails and bulrushes, and does not provide suitable habitat for this species.
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE/--/--	Coastal mountainous areas with grassy ground cover within fog belt. All known locations are restricted to San Mateo County. Associated with host plant *Sedum spathulifolium*.	The project site is not located near a known population and is not known to support the host plant of this species.
Callippe silverspot butterfly *Speyeria callippe callippe*	FE/--/--	Grassland habitats, especially hilltops and ridges. Currently only known to occur on San Bruno Mountain and Sign Hill near South San Francisco (San Mateo County), in the hills near Pleasanton (Alameda County), at Sears Point (Sonoma County), and in the hills between Vallejo and Cordelia. Host plant is *Viola pedunculata*.	The project site is not located near a known population and is not known to support the host plant of this species.
Western bumblebee *Bombus occidentalis*	--/SC/--	Generalist forager of wild flowering plants in a range of habitats.	The project site provides potential habitat for this species. The nearest CNDDB occurrence is 1963 record from Shell Ridge Open Space, 1.44 miles from the project site.

Table A: Special-Status Plant and Animal Species Potentially Occurring within the Study Area

Species	Status[1] (F/S/Other)	General Habitat Description	Occurrence or Potential for Occurrence at the Project Site
Fish			
Delta smelt *Hypomesus transpacificus*	FT/SE/--	Sacramento-San Joaquin Delta at salinities less than 2 ppm. Generally not found in smaller freshwater streams.	There is no suitable habitat for this species at the project site or in the surrounding area.
Amphibians			
California red-legged frog *Rana draytonii*	FT/--/SSC	Creeks, ponds, marshes. Prefers aquatic habitat with deep (2 feet or deeper) areas and undercut banks, emergent aquatic vegetation, and bank cover. Does not occur in brackish water.	The project site does not contain suitable breeding habitat for this species. There is a wetland drainage containing cattails and bulrushes on site, but it does not contain suitable breeding habitat (ponded water). There are CNDDB records in the vicinity, but the nearest is 3.69 miles from the project site. The area immediately surrounding the site is highly urbanized, precluding individual frogs from moving into the site from other areas.
Foothill yellow-legged frog *Rana boylii*	--/SC/SSC	Streams with rocky or cobbly substrate that flow at least to May.	There is no suitable habitat for this species at the project site or in the surrounding area.
California tiger salamander – Central Valley DPS *Ambystoma californiense*	FT/ST/SSC	Grassland, oak woodland, ruderal, and seasonal pool habitats. Seasonal ponds and vernal pools are necessary for breeding. Adults use mammal burrows and other underground retreats as aestivation habitat.	The project site does not contain suitable breeding, aestivation, or movement habitat for this species. The wetland drainage on site is densely vegetated with cattails and bulrushes, and no small mammal burrows were observed in the surrounding grasslands. There is a CNDDB record from the project site, but it is from museum specimens collected in 1953 and 1954. California tiger salamanders are considered extirpated from this site and one other location 0.25 mile from the project site.

Table A: Special-Status Plant and Animal Species Potentially Occurring within the Study Area

Species	Status[1] (F/S/Other)	General Habitat Description	Occurrence or Potential for Occurrence at the Project Site
Reptiles			
Alameda whipsnake *Masticophis lateralis euryxanthus*	FT/ST/--	Chaparral, rocky outcrops, south facing slopes and ravines within valley-foothill grassland with shrubs and oak trees in Alameda and Contra Costa counties.	There is no chaparral or rocky habitat typical for this species at the project site or in the surrounding area.
Giant garter snake *Thamnophis gigas*	FT/ST/--	Agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands primarily within the Sacramento Valley.	The project site and surrounding area are outside the known range of this species.
Northern California legless lizard *Anniella pulchra*	--/--/SSC	Loose sandy soils including sparsely vegetated beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces.	There is no suitable habitat for this species at the project site or in the surrounding area.
Coast horned lizard *Phrynosoma coronatum*	--/--/SSC	Chaparral, oak savanna, and grassland habitat types with loose soils. Also in lowlands, along sandy washes with scattered low bushes.	There is no suitable habitat/soil types for this species at the project site or in the surrounding area, and the immediate vicinity consists of dense urban development that precludes movement into the site.
Western pond turtle *Actinemys marmorata*	--/--/SSC	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation.	There is no suitable habitat for this species at the project site. The wetland drainage on site does not provide perennial open water utilized by this species.
Birds			
Peregrine falcon *Falco peregrinus anatum*	--/--/FP	Nests on cliffs, transmission towers, skyscrapers.	There is no suitable nesting habitat (cliffs, skyscrapers, transmission towers) at the project site or in the immediate vicinity.
California clapper rail *Rallus longirostris obsoletus*	FE/SE/FP	Saltwater and brackish marshes often crossed by tidal sloughs in San Francisco Bay. Closely associated with pickleweed.	There is no suitable habitat for this species at the project site or in the surrounding area.

Table A: Special-Status Plant and Animal Species Potentially Occurring within the Study Area

Species	Status[1] (F/S/Other)	General Habitat Description	Occurrence or Potential for Occurrence at the Project Site
California least tern *Sternula antillarum browni*	FE/SE/FP	Coastal estuaries, lagoons, tidal flats, salt flats.	There is no suitable habitat for this species at the project site or in the surrounding area.
Burrowing owl *Athene cunicularia*	--/--/SSC	Open habitats (e.g., grasslands, agricultural areas) with mammal burrows or other features (e.g., culverts, pipes, and debris piles) suitable for nesting and roosting.	There is no suitable habitat for this species at the project site or in the surrounding area; grasslands are present on site, but no small mammal burrows or other suitable nesting or roosting habitat were observed during the survey.
Mammals			
Pallid bat *Antrozous pallidus*	--/--/SSC	Found in a variety of open habitats where it forages for large arthropods on the ground or on vegetation. Roosts in rock crevices, expansion joints under bridges, buildings, mines, and hollow trees. Also uses the underside of bridges for night roosts.	There is no suitable habitat for this species at the project site.
Townsend's big-eared bat *Corynorhinus townsendii townsendii*	--/--/SLC	Typically roosts in open areas of abandoned buildings, caves, and mines. Forages along wooded habitat edges, often gleaning insects from trees or shrubs.	There is no suitable habitat for this species at the project site.
San Francisco dusky-footed woodrat	--/--/SSC	Shaded and cool areas within wooded habitats with thick underbrush. Builds stick houses up to five feet in height.	There is no suitable habitat for this species at the project site.

[1]Status:
FE = Federally listed as endangered
FT = Federally listed as threatened
SE = State listed as endangered
ST = State listed as threatened
SSC = California Species of Special Concern
SR = State Rare: official status under the California Endangered Species Act and/or the Native Plant Protection Act
1A = California Rare Plant Rank 1A: species considered extinct in California
1B = California Rare Plant Rank 1B: species considered rare or endangered in California and elsewhere
2B = California Rare Plant Rank 2B: rare, threatened, or endangered in California, but more common elsewhere

POTENTIAL IMPACTS TO BIOLOGICAL RESOURCES

The proposed project has the potential to (1) impact special-status plants that may occur in the grassland habitats on site, (2) impact western bumblebee habitat and nests, (3) disturb nesting birds if conducted during the nesting season (February 1 to August 31), (4) directly or indirectly impact jurisdictional wetlands, and (5) impact protected native trees scattered throughout the site.

RECOMMENDATIONS

LSA recommends the following additional studies and avoidance and minimization measures prior to project implementation:

1. **Protocol-level special-status plant surveys** should be conducted in the spring of 2020. The surveys should be timed to occur during the bloom period (March – June) for the species with the potential to occur on the site (i.e., bent-flowered fiddleneck, Diablo helianthella, fragrant fritillary, Mt. Diablo fairy-lantern, and woodland woollythreads). Special-status plants should be avoided during construction to the extent possible. Relocation and/or reseeding attempts may be required during the project permitting phase.

2. **Presence/absence surveys for western bumble bees** should be conducted in grassland habitats at the project site. The survey should be conducted by a qualified biologist within one year prior to the start of construction. Surveys should be conducted during two to four evenly spaced sampling periods during the flight season, timed to occur when detection probability is highest, including surveys in early spring and early summer. General guidelines and best practices for bumble bee surveys should follow USFWS Survey Protocols for the Rusty Patched Bumble Bee (*Bombus affinis*) (USFWS 2019).

   If presence/absence surveys identify occupied habitat within the project footprint, preconstruction surveys should be conducted for active bee nest colonies and associated floral resources (i.e., flowering vegetation on which bees from the colony are observed foraging) no more than 30 days prior to any ground disturbance between February and November. The biologist should establish no-work buffers around nest colonies and floral resources identified during surveys. The size and configuration of the no-work buffer would be based on the best professional judgment of the biologist. At a minimum, the buffer should provide at least 20 feet of clearance around nest entrances and maintain disturbance-free airspace between the nest and nearby floral resources so bees can forage. Construction activities should not occur within the no-work zone buffers until the colony is no longer active (i.e., no bees are seen flying in or out of the nest for three consecutive days). Mitigation for lost habitat may be required during the project permitting phase.

3. A **formal wetland delineation** should be conducted to identify the boundaries of all potentially jurisdictional wetlands and other waters on site. Project permits from the Army Corps of Engineers (Corps), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) would be required if any jurisdictional wetlands would be impacted by the proposed development. Best management practices should be put in place during construction to protect any avoided wetlands from unintentional impacts. The Contra Costa County General Plan requires a minimum set-back of 50 feet from the centerline of the creek on each side. Set-back requirements may be increased based on project review by Contra Costa County and the other permitting agencies.

4. A **tree survey** should be conducted to identify any trees that are protected under the Contra Costa County Tree Ordinance (Chapter 816-6 – Tree Protection and Preservation). Protected

trees are native trees that occur within unincorporated areas of the County and measure 20 inches or greater in circumference (approximately 6.5 inches in diameter as measured 4.5 feet off the ground). The survey should be conducted by a qualified arborist. Results of the survey should include a map of all trees on the property showing the location of the tree and the associated dripline. The map should also provide information on species, size, and condition for each tree and identify those protected under the ordinance. Tree removals would be approved at the time of project approval, and all trees to be removed should be clearly identified on project plans. A separate tree removal permit would not be required. Mitigation plantings may be required during the project permitting phase; required mitigation is likely to consist of replacing lost trees (native) at a 3:1 ratio. Specific tree protection measures outlined in the ordinance should be followed for any trees to be avoided during construction. Generally, no work is allowed within the dripline of a protected tree.

5. A **pre-construction nesting bird surveys** should be conducted if construction occurs during the bird nesting season (February 1-August 31). The survey should be conducted within 5 days prior to the start of work. The survey should include the shrubs immediately adjacent to the project site and larger trees within a 250-foot radius of the project site, if possible. If the survey indicates the potential presence of nesting birds, a buffer should be placed around the nest within which no work will be allowed until the young have successfully fledged or the nest has otherwise become inactive. The size of the nest buffer will be determined by a qualified biologist, and will be based to a large extent on the nesting species, its sensitivity to disturbance, and the context of the nest location. In general, buffer sizes of 250 feet for raptors and 50 feet for other birds should suffice to prevent disturbance to birds nesting in an urban environment; however, buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.

REFERENCES

California Department of Fish and Wildlife (CDFW). 2020. California Natural Diversity Database. Rarefind. Version 5.2.14, Updated January 2, 2020. California Department of Fish and Wildlife, Wildlife Habitat Data Analysis Branch, Sacramento, California.

California Native Plant Society (CNPS). 2020. Inventory of Rare and Endangered Plants of California (on-line edition v8-03 0.39). California Native Plant Society, Sacramento, California. Website: http://www.rareplants.cnps.org [Accessed February 13, 2020].

United States Fish and Wildlife Service (USFWS). 2019. Survey Protocols for the Rusty Patched Bumble Bee (*Bombus affinis*) Version 2.2 (April 2019): https://www.fws.gov/midwest/endangered/insects/rpbb/pdf/Survey_Protocols_RPBB_12April2019.pdf.

_____. 2020. Information for Planning and Consultation (IPaC) Online Database. Sacramento Fish and Wildlife Office, Sacramento, California. Available at https://ecos.fws.gov/ipac [Accessed February 13, 2020].

APPENDIX A

SITE PHOTOGRAPHS

Photo 1. Looking northeast from residence.

Photo 2. Eucalyptus trees along Seven Hills Ranch Road.

Photo 3. Looking west toward Walnut Creek (concrete-lined channel).

Photo 4. Looking east from west end.

Photo 5. Wetland drainage bisecting site.

Photo 6. Wetland drainage bisecting site.

Photo 7. Looking west from easternmost hill.

Photo 8. Northern boundary of site.

Photo 9. Northern boundary of site.

Figure 10. Ditch along Seven Hills Ranch Road.

APPENDIX B

SPECIES LISTS

IPaC **U.S. Fish & Wildlife Service**

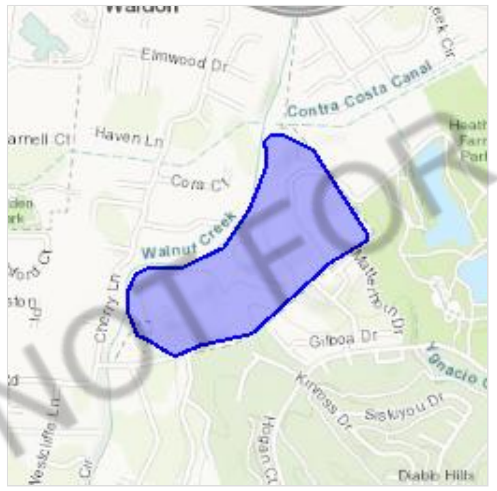
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Contra Costa County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS

California Clapper Rail Rallus longirostris obsoletus — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4240

California Least Tern Sterna antillarum browni — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8104

Reptiles

NAME	STATUS
Alameda Whipsnake (=striped Racer) Masticophis lateralis euryxanthus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5524	Threatened
Giant Garter Snake Thamnophis gigas No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS

Callippe Silverspot Butterfly Speyeria callippe callippe — Endangered
There is **proposed** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/3779

San Bruno Elfin Butterfly Callophrys mossii bayensis — Endangered
There is **proposed** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/3394

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Antioch Dunes Evening-primrose Oenothera deltoides ssp. howellii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5970	Endangered
Contra Costa Goldfields Lasthenia conjugens There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7058	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

CNPS California Native Plant Society

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

14 matches found. *Click on scientific name for details*

Search Criteria

Found in Quad 3712281

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2	S3	G3
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	Jul-Oct	1B.1	S1S2	G1G2
Calochortus pulchellus	Mt. Diablo fairy-lantern	Liliaceae	perennial bulbiferous herb	Apr-Jun	1B.2	S2	G2
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	Mar-May	4.2	S3?	G3?
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4	G4T4
Centromadia parryi ssp. congdonii	Congdon's tarplant	Asteraceae	annual herb	May-Oct(Nov)	1B.1	S1S2	G3T1T2
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2	G2
Helianthella castanea	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	1B.1	S1	G1
Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	1B.2	S2	G5T2
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	3.2	S3S4	G3G4
Navarretia gowenii	Lime Ridge navarretia	Polemoniaceae	annual herb	May-Jun	1B.1	S1	G1
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5

Suggested Citation

CNDDB Records (5 miles)

Common Name	Scientific Name
Slender Silver Moss	Anomobryum julaceum
Antioch Dunes Evening-primrose	Oenothera deltoides ssp. howellii
Bent-flowered Fiddleneck	Amsinckia lunaris
Big Tarplant	Blepharizonia plumosa
Brewer's Western Flax	Hesperolinon breweri
Congdon's Tarplant	Centromadia parryi ssp. congdonii
Contra Costa Goldfields	Lasthenia conjugens
Contra Costa Manzanita	Arctostaphylos manzanita ssp. laevigata
Diablo Helianthella	Helianthella castanea
Hall's Bush-mallow	Malacothamnus hallii
Hospital Canyon Larkspur	Delphinium californicum ssp. interius
Jepson's Coyote-thistle	Eryngium jepsonii
Lime Ridge Eriastrum	Eriastrum ertterae
Lime Ridge Navarretia	Navarretia gowenii
Most Beautiful Jewelflower	Streptanthus albidus ssp. peramoenus
Mt. Diablo Buckwheat	Eriogonum truncatum
Mt. Diablo Jewelflower	Streptanthus hispidus
Mt. Diablo Manzanita	Arctostaphylos auriculata
Oval-leaved Viburnum	Viburnum ellipticum
San Joaquin Spearscale	Extriplex joaquinana
Woodland Woollythreads	Monolopia gracilens
Fragrant Fritillary	Fritillaria liliacea
Mt. Diablo Fairy-lantern	Calochortus pulchellus
Slender-leaved Pondweed	Stuckenia filiformis ssp. alpina
California Red-legged Frog	Rana draytonii
California Tiger Salamander	Ambystoma californiense
Foothill Yellow-legged Frog	Rana boylii
American Peregrine Falcon	Falco peregrinus anatum
Burrowing Owl	Athene cunicularia
Pallid Bat	Antrozous pallidus
San Francisco Dusky-footed Woodrat	Neotoma fuscipes annectens
Townsend's Big-eared Bat	Corynorhinus townsendii
Alameda Whipsnake	Masticophis lateralis euryxanthus
Coast Horned Lizard	Phrynosoma blainvillii
Northern California Legless Lizard	Anniella pulchra
Western Pond Turtle	Emys marmorata
California Linderiella	Linderiella occidentalis
Western Bumble Bee	Bombus occidentalis
Serpentine Bunchgrass	Serpentine Bunchgrass

Appendix E-2: Olberding Botanical Survey Report and Wetland Determination

OLBERDING ENVIRONMENTAL, INC.
Wetland Regulation and Permitting

July 1, 2020

Mr. Troy Bourne
Spieker Senior Development Partners
3000 Sand Hill Road, Suite 3-190
Menlo Park, California 94025

SUBJECT: Spieker Senior Development Partners – Walnut Creek Property Botanical Survey Report 2020.

Dear Mr. Bourne,

Olberding Environmental, Inc. has performed focused botanical surveys for special-status plants (those species identified as rare, threatened, or endangered) on the Spieker Senior Development Partners – Walnut Creek Property (Property), located just outside the limits of the City of Walnut Creek, Contra Costa County, California. A total of four surveys were conducted on March 25, April 21, May 29, and June 29, 2020. A study conducted by LSA in 2020 (LSA 2020) determined that five special status plant species, bent-flowered fiddleneck (*Amsinckia lunaris*), Diablo helianthella (*Helianthella castanea*), fragrant fritillary (*Fritillaria liliacea*), Mt. Diablo fairy-lantern (*Eriogonum truncatum*), and woodland woollythreads (*Monolopia gracilens*), have a potential to occur on the Property. While these species were the focus of the botanical surveys, all plant species within the Property were observed and recorded.

LOCATION

The Property is located approximately 0.5 miles east of Interstate 680, at the end of Seven Hills Ranch Road in Contra Costa County, California. The Property itself lies just outside the City limits of Walnut Creek. The Property lies within the Walnut Creek 7.5' USGS Quadrangle. An aerial photograph of the Property has been included as Attachment 1, Figure 1.

Access to the Property is provided from Interstate 680. Heading north on Interstate 680, take exit 48 for Treat Boulevard. Use the right lane to continue onto Treat Boulevard. After 0.6 miles turn right onto Oak Road and then left onto Walden Road. After 0.25 miles turn right onto Seven Hills Ranch Road. The road will take you directly onto the Property.

DESCRIPTION

The Property encompasses approximately 32.90 acres in a roughly rectangular shape bounded by The Seven Hills School and Heather Farm Park to the northeast, residential development to the east and south, and Walnut Creek to the west and north. The Property supports nine habitat types consisting of non-native annual grassland, perennial drainage, concrete lined channel,

constructed ditch, seasonal wetland, riparian woodland, developed, mixed oak woodland, and ornamental woodland. Characteristic vegetation includes wild oat (*Avena fatua*), Italian rye grass (*Festuca perennis*), harding grass (*Phalaris aquatica*), cut leaf geranium (*Geranium dissectum*), coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), bay laurel (*Umberllularia californica*) and arroyo willow (*Salix laseiolepis*) trees. The Property has an existing residential structure on site, this area is surrounding by various pine (*Pinus spp.*) and eucalyptus (*Eucalytpus globulus*) trees.

Two perennial drainages occur on the Property. The first perennial drainage (PD1) flows through the center of Property and empties into Walnut Creek, north of the Property. Prior to leaving the Property, PD1 channels into a concrete line channel and then into an offsite concrete culvert. The smaller perennial drainage (PD2) flows into the Property through an under-road culvert from Club View Terrace. PD2 flows northwest for approximately 100 feet and then into a constructed ditch, diverting the water from flowing over Seven Hills Ranch Road. The constructed ditch is approximately 2 feet wide and 1 foot deep and flows west where it exits the Property. PD2 includes a dense riparian habitat component with large willow and valley oak trees.

PD1 is immediately surrounded by seasonal wetland habitat (SW1 and SW2). An additional, smaller seasonal wetland (SW3) occurs in the southwestern corner of the Property just south of the constructed ditch. These areas showed positive indicators for all three wetland criteria. Characteristic wetland vegetation found within these areas include beardless wildrye (*Leymus triticoides*), Baltic rush (*Juncus balticus*) and tall flatsedge (*Cyperus eragrostis*).

The topography of the Property consists of undulating hillsides that range between 97 feet above sea level along the northern boundary and 220 feet above sea level near the developed area in the western portion of the property.

METHODS

Special-Status Plant Survey – Four special-status plant surveys were conducted on the entire Property by Olberding Environmental biologist, Frank Muzio, on March 25, April 21, May 29, and June 29, 2020. These surveys followed the California Department of Fish and Game (CDFG) (2009) and CNPS (2001) published survey guidelines. These guidelines state that special-status surveys should be conducted at the proper time of year when special-status and locally significant plants are both evident and identifiable. These guidelines also state that the surveys be floristic in nature with every plant observed identified to the species, subspecies, or variety as necessary to determine their rarity status. Finally, these surveys must be conducted in a manner that is consistent with conservation ethics and accepted plant collection and documentation techniques. Following these guidelines, surveys were conducted during the time period when special-status plant species from the region were known to be evident and flowering. The Property was examined by walking line transects through the entire site, and by closely examining the microhabitats that could potentially support special-status plants.

All the plants found on the Property were identified to species. A list of all vascular plant taxa encountered within the project site was recorded in the field (Attachment 2). Plants that needed further evaluation were collected and keyed in the lab. Final determinations for collected plant material were made by keying using *The 2012 Jepson Manual.*

RESULTS

No special-status plant species were identified on the Property during either of the four surveys. The four surveys were conducted to coincide with the blooming period of bent-flowered fiddleneck, Diablo helianthella, fragrant fritillary, Mt. Diablo fairy-lantern, and woodland woollythreads. Neither of these species were observed on the Property and are presumed absent. A list of all plant species that were observed on site is included in Attachment 2. Site photographs are included in Attachment 3.

CONCLUSIONS AND SUMMARY

In summary, no special status plants were found on the Spieker Senior Development Partners – Walnut Creek Property during the 2020 surveys. Construction activities can commence as planned.

If you have any questions, please feel free to contact me at (925) 866-2111.

Sincerely,

Jeff Olberding
Regulatory Scientist

ATTACHMENTS

ATTACHMENT 1
FIGURES

Figure 4: Aerial Map
Spieker Senior Development Partners –
Walnut Creek Property
Contra Costa County, California

Map Revision Date: 4/10/2020

OLBERDING -ENVIRONMENTAL-

193 Blue Ravine Road, Ste. 165
Folsom, California 95630
Phone: (916) 985-1188

ATTACHMENT 2
PLANT SPECIES OBSERVED TABLE

Attachment 2: Spieker Senior Development Property Plant Species Observed (2020)

Taxon	Common Name
Amsinckia menziesii	Small flowered fiddleneck
Artemisia californica	California sagebrush
Atriplex prostrata	Fat hen
Avena fatua	Wild oat
Baccharis pilularis	Coyote Brush
Bellardia trixago	Mediterranean lineseed
Brassica nigra	Black mustard
Briza maxima	Rattlesnake grass
Bromus diandrus	Ripgut brome
Bromus hordeaceus	Soft chess
Calamagrostis canadensis	Bluejoint grass
Centaurea solstitialis	Yellow star thistle
Cirsium vulgare	Bull thistle
Croton setiger	Turkey-mullein
Cyperus eragrostis	Tall flatsedge
Distichlis spicata	Salt grass
Eleocharis palustris	Spike-rush
Elymus glaucus	Blue wildrye
Eschscholzia californica	California poppy
Eucalyptus globulus	Eucalyptus
Eucalyptus spp.	Eucalyptus
Festuca perennis	Italian rye grass
Galium aparine	Cleavers
Geranum dissectum	Crane’s bill geranium
Helianthus californicus	Helianthus
Helminthotheca echioides	Bristly oxtongue
Hordeum marinum	Mediterranean barley
Juncus balticus	Baltic rush
Lactuca serriola	Prickly lettuce
Leymus triticoides	Beardless wildrye
Lupinus albifrons	Silver bush lupine
Malva parviflora	Cheeseweed mallow
Marrubium vulgare	White horehound
Medicago polymorpha	Bur clover
Olea europease	Olive
Phalaris aquatica	Harding grass
Pinus spp.	Pine
Quercus agrifolia	Coast live oak
Quercus lobata	Valley oak
Raphanus raphanistrum	Wild radish

Rubus armeniacus	Himalayan blackberry
Rumex crispus	Curly dock
Salix lasiolepis	Arroyo willow
Salsola australis	Russian thistle
Salvia officinalis	Common sage
Schoenoplectus californicus	California bulrush
Silybum marianum	Milk thistle
Solidago canadensis	Canada goldenrod
Tragopogon porrifolius	Common salsify
Trichostema lanceolatum	Vinegarweed
Trifolium hirtum	Rose clover
Triteleia laxa	Ithuriel's spear
Typha latifolia	Cattails
Umbellularia californica	Bay laurel tree
Vivica sativa	Vetch
Washingtonia filifera	Fan palm
Wyethia angustifolia	Narrow leaved mule ears
Xanthium strumarium	Cocklebur

ATTACHMENT 3
SITE PHOTOGRAPHS

1. Photo shows the grassland habitat found across the Property.

2. Photo shows SW1 north of PD1.

3. Photo shows overview of SW1 and PD1.

4. Photo shows area underneath a large Eucalyptus stand near the western entrance to the Property.

5. Photo shows overview of the grassland habitat.

6. Photo shows grassland habitat near the eastern boundary.

7. Photo shows an overview of annual grassland habitat.

8. Photo shows an overview of annual grassland habitat.

9. Photo shows grassland habitat in the center northwestern corner of the Property. Large oak trees can be seen in the background.

10. Photo shows overview shot of the center of the Property.

OLBERDING ENVIRONMENTAL, INC.
Wetland Regulation and Permitting

RECEIVED on 8/3/2020
By Contra Costa County
Department of Conservation and Development

July 28, 2020

Mr. Troy Bourne
Spieker Senior Development Partners
2 Las Estrellas Loop
Rancho Mission Viejo, California 92649

SUBJECT: Spieker Senior Continuing Care Retirement Community – Summary Report on Biological Resources

Dear Mr. Bourne:

This letter summarizes the current status of our work as it relates to biological resource evaluation and environmental permitting requirements associated with the Spieker Senior Continuing Care Retirement Community Project (Project), located in Contra Costa County, California.

A biological resources report was prepared by LSA in February 2020. A peer review of the report by Olberding Environmental confirmed the conclusions and recommends for additional studies and avoidance measures prior to project implementation. We have summarized the LSA report and recent actions performed by Olberding Environmental to further the development process below.

1. Protocol-level special status plant surveys - LSA determined that five special status plant species had the potential to occur on the Property. Focused plant surveys were conducted by Olberding Environmental during the appropriate blooming periods for the five species. Surveys were performed on March 25, April 21, May 29, and June 29, 2020. None of the five special status plant species with potential to occur were found during any of the surveys and are presumed absent.

2. Presence / Absence surveys for western bumble bees - LSA determined that a survey for western bumble bee should be conducted within one year of the start of construction. Olberding Environmental will be conducting surveys for western bumble bees in the spring of 2021. If the spring 2021 survey finds presence of western bumble bees, a follow-up survey will be conducted within 30-days of ground disturbance activities between February and November to look for active colonies.

3. Formal Wetland Delineation - LSA recommended that a formal wetland delineation be performed to identify the boundary of any potentially jurisdictional wetlands and/or waters on the site. A wetland delineation was conducted by Olberding Environmental on March 25, 2020. Results of the survey identified three features that would be classified as jurisdictional wetlands/waters. The potentially jurisdictional features included a perennial drainage and three seasonal wetlands within the survey area totaling approximately 0.337 acres. Results of the delineation were presented in a formal report and corresponding map and submitted to the U.S. Army Corps of Engineers (Corps) for verification on July 10, 2020. Electronic files containing the wetland and

3170 Crow Canyon Place, Suite 260 • San Ramon, CA 94583 • Office: (925) 866-2111 • Fax: (925) 866-2126 •
Email: Jeff@Olberdingenv.com

water polygons were also provided to BKF to include as a constraints layer to the site plan. The Corps will generally take from 4-8 weeks to conduct a field verification. Once verified, the extent of their agencies jurisdiction will remain valid for a period of 5 years with the option for a single 5 year extension. The Corps verified delineation map will generally be utilized by both the Regional Water Quality Control Board and California Department of Fish and Wildlife to represent their agency's jurisdictions.

To facilitate a quicker response from the Corps a basic 404 permit application was included with the jurisdictional verification request. Following verification, the Corps will require further refinement of the information contained in the application and supporting materials. It is at this point that we would also proceed with formal applications to the Regional Water Quality Control Board for a Section 401 permit and a California Department of Fish & Wildlife Streambed Alteration Agreement.

4. Tree Survey - LSA recommended that a tree survey be conducted to identify any trees that may be protected by the Contra Costa County Tree Ordinance (Chapter 816-6 Tree Protection and Preservation). A Preliminary Arborist Report was conducted for the Project by HortScience/Bartlett Consulting in May 2020. The Report identifies 353 as Protected, of which 193 are of high or moderate suitability for preservation. The project calls for saving 81 of these healthy trees, all of which are large valley oaks and make recommendations of preservation guidelines.

5. Nesting Bird Survey - LSA recommends a nesting bird survey be conducted if construction occurs within the generally recognized nesting season of February 1 - August 31. Olberding Environmental will conduct a nesting bird and raptor survey within 14 days of the beginning of construction activities if this falls within the nesting bird season.

If you have any questions, please feel free to contact me at (925) 866-2111.

Sincerely,

Jeff Olberding
Regulatory Scientist

OLBERDING ENVIRONMENTAL, INC.
Wetland Regulation and Permitting

August 16, 2021

Mr. Troy Bourne
Spieker Senior Development Partners
2 Las Estrellas Loop
Rancho Mission Viejo, California 92649

SUBJECT: Spieker Senior Continuing Care Retirement Community – Response to Peer Review Memorandum

Dear Mr. Bourne:

This letter addresses comments from HT Harvey & Associates in their Biological Resources Report Peer Review Memorandum dated July 30, 2021. Their peer review looked at the adequacy of the LSA Biological Resources Report (BRR) and supplemental findings from Olberding Environmental, Inc. that were prepared for the Spieker Senior Continuing Care Retirement Community Project (Project), located in Contra Costa County, California.

HT Harvey Comments (referencing pages in the BRR) are in BOLD. Olberding Environmental Responses are non-bold.

Page 1 – The report states that the project site is approximately 30 acres. The project description provided by the City states the acreage is 30.6 acres. While this discrepancy is minor, we are calling this out because there is another discrepancy with the project boundary (described below), which may explain the discrepancy.

Response: Olberding Environmental bases it's acreages on a "survey area" as measured in GIS software of the areas surveyed. It makes no assumptions or claims on the property's actual true acreage as County GIS files and Title documents often have different numbers. The final true acreage of the development should be calculated by certified surveyors or through titles and/or deeds. The 3/22/21 Project Description by Loewke Planning Associates, Inc. states the Project Site has a gross area of 30.64 acres. The 2/17/21 Tentative Parcel Map and Net Acreage Technical Memorandum produced by BKF Engineers both show the same total of 30.64 gross site acres. OEI has utilized the project boundaries reflected in the documents from BKF Engineers for all of our surveys and analysis to ensure full coverage. OEI feels that LSA's description of approximately 30 acres is accurate enough as the exact acreage depends on the source.

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The project boundary in Figures 1 and 2 is missing a small portion of the project site boundary where it extends south towards Kinross Drive and Club View Terrace. Figures that we reference later in this report show the correct project boundary, which was pulled from CAD files provided to us by Contra Costa County. For example, the wetland delineation report prepared by Olberding Environmental used the correct project boundary.

Response: OEI concurs with use of the HT Harvey map included in their peer-review as a "project boundary" for purposes of environmental review. Note, however, that the additional 50-foot wide access connection shown on your map as extending from the 30.64-acre Project Site to existing Kinross Drive consists of an irrevocable offer of dedication made in 1970 by the subdivider of Heather Farms Townhouse Subdivision #4006 to the City of Walnut Creek. This City of Walnut Creek right-of-way has been included in our mapping and analysis, including the verified Corps of Engineers delineation, for purposes of impacts to biological resources.

Page 3, paragraph 4 – The paragraph describes hydrology and mentions the central drainage as being potentially jurisdictional but does not mention the southern drainage. This southern drainage is described in the results section and is referred to as a ditch. For consistency, the southern drainage should have been mentioned in the hydrology section of the biological setting as well. This drainage is described in more detail in our supplemental information section.

Response: OEI agrees that this southern drainage should have been mentioned in the hydrology section of the biological setting; however, this aquatic feature is described in detail in the Corps-verified Preliminary Jurisdictional Delineation which is attached to this response memo.

Page 3, paragraph 5 – The paragraph describes vegetation by describing overall habitat conditions. It lists nine plant species that were observed during the field survey and refers to a land cover map (Figure 2). The land cover map designates six land cover types: annual grassland, developed, oak, ornamental, stream, and wetland ditch; however, those land cover types were not specifically described in paragraph 5 or elsewhere in the existing conditions. In our opinion, the land cover types shown on Figure 2 should be described individually and in more detail to provide reviewers more context for Figure 2, and to provide a clear description of baseline conditions.

Response: HT Harvey's document includes detailed descriptions of the existing land cover types as supplemental information in Section 3.

Page 3, paragraph 6 – The paragraph describes wildlife that were observed (i.e., 14 birds and one mammal) on or adjacent to the site during the field survey but does not mention

potentially-occurring wildlife on the site or in the existing land cover types. A description of potentially occurring animals is not necessarily required when describing general site conditions for a biological resource report, but would help to support conclusions made about what species may and may not occur on the site (and therefore be impacted by the project). We have included more detailed descriptions of potentially occurring wildlife for each land cover type as supplemental information in Section 3.2 below.

Response: HT Harvey's document includes detailed descriptions of potentially occurring wildlife for each land cover type in Section 3.2.

The "plants" section of Table A did not include California Rare Plant Rank (CRPR) 3 and 4 species. In our opinion, plants listed by the CNPS on CRPR 3 or 4 should be considered during CEQA review, because impacts on these species have the potential to meet CEQA's Section 15380 criteria, and we would therefore recommend including them in the list of species with potential to occur. We ran a query of these species identified by CNPS (2021)8 and CNDDB (2021)9 within Contra Costa County and determined that 28 CRPR 3 or 4 species have some potential to occur within the project vicinity. Of these 28 species, potentially suitable habitat was only present for three species. The remaining 25 special-status plant species were determined to be absent from the project site for at least one of the following reasons: (1) lack of suitable habitat types; (2) absence of specific microhabitat or edaphic requirements, such as serpentine soils; (3) the elevation range of the species is outside of the range on the project site; and/or (4) the species is considered extirpated. We determined that the following three species have some potential to occur on the site based on habitat conditions and the ranges of these species:

- **Small-flowered morning-glory (Convolvulus simulans)**
- **Small spikerush (Eleocharis parvula)**
- **Little mousetail (Myosurus minimus ssp. apus)**

All three of these CRPR 3 and 4 species can be ruled absent based on their absence during Olberding's botanical surveys conducted on March 25, April 21, May 29, and June 29, 20202. Olberding's rare plant surveys were floristic in nature and overlapped the blooming period of these species. Thus, no CRPR 3 and 4 special-status plant species are expected to occur within the project site.

Response: Olberding Environmental special-status plant surveys on March 25, April 21, May 29, and June 29, 2020, did not find any CRPR 3 or 4 plant species, therefore they are presumed absent from the site.

Page 11 – Under the status column for the foothill yellow-legged frog, the frog's state status is listed as "SC". As of December 11, 2019, the foothill yellow-legged frog (*Rana boylii*) West/Central Coast clade, which is in the range of the project site, was approved to be listed as endangered under the California Endangered Species Act. While the foothill

yellow-legged frog does not have potential to occur on the project site, we would like to clarify that the status of the foothill yellow-legged frog is "SE" (state endangered) rather than "SC".

Response: OEI concurs. Foothill yellow-legged frog does not have the potential to occur on the property, but it is categorized as state endangered at this time.

Page 11, California tiger salamander (Ambystoma californiense) – Central Valley (Central California) Distinct Population Segment (DPS) is a state and federally-listed species. Table A in the report indicates that this species is also a state species of special concern. This is incorrect. While the California tiger salamander does not have potential to occur on the project site, we would like to clarify that it is not a California species of special concern.

Response: OEI concurs. California tiger salamander does not have the potential to occur on the property, but it is categorized as a state and federally threatened species.

Page 13, Burrowing Owl (Athene cunicularia) – The report concluded that there is no suitable habitat for the burrowing owl. Although we agree with this conclusion, the report cites that there are no small mammal burrows on the site. Contrary to LSA's field observations, we did observe a small number of California ground squirrel (Spermophilus beecheyi) burrows (fewer than 10 burrows) on the site during our site visit; however, we did not observe any California ground squirrels and those burrows that were observed did not appear to be in active use by ground squirrels. Based on the small number of burrows that were observed and the lack of squirrel activity, it does not appear that ground squirrels are currently active or have recently been abundant on the project site. We do not expect burrowing owls to nest on the site given the paucity of suitable burrows and the lack of any recent breeding records from areas in the site vicinity. However, because burrowing owls are documented in the region (i.e., within 2.5 miles from the site)9, this species may be an occasional visitor on site.

Response: OEI disagrees with HT Harvey's last assessment that burrowing owls may be an occasional visitor to the site. This implies that the site may occasionally be utilized by burrowing owls. Significant portions of the property are woodland, which is not suitable burrowing owl habitat. The grassland portions of the property are ungrazed with dense, tall grasses, which in combination with the lack of ground squirrels and paucity of open burrows, also make for unsuitable burrowing owl habitat. If, by chance, a burrowing owl did visit the site, it would have no underground refuge and would be susceptible to predation from predatory raptors and mammals utilizing the on-site woodlands and grasslands. Any visits to the site would be very short in duration and not enough to justify claiming the potential for burrowing owls utilizing the site in any significant capacity. Burrowing owls also seldom exceed 0.5 miles when disbursing to new territory, so with the nearest documented burrowing owls in the region

located 2.5 miles away, it is highly unlikely that burrowing owls in the region would ever disburse to an unsuitable habitat 2.5 miles away and surrounded by other developed lands.

HT Harvey's own assessment states in section 3.1.3.2 California Endangered Species Act - Project Applicability: *No state-listed plant or animal species are expected to occur on the project site due to the absence of suitable habitat, distance from occupied habitat, and/or isolation of the project site from occupied habitat by development.*

Page 13, Pallid Bat (Antrozous pallidus) – Table A states that there is no suitable habitat for the pallid bat on the project site. During our site visit we examined areas of potential bat habitat on the site including the interiors and exteriors of a barn and several outbuildings, exteriors of the existing ranch house, and all the trees on the project site. Based on our observations, two mature valley oaks (Quercus lobata) near the northeastern and southeastern corners of the site support several suitable cavities that could potentially support day-roosting bats, and the grassland habitat itself provides suitable foraging habitat. Historically, pallid bats were likely present in a number of locations throughout the project region, but their populations have declined in recent decades. Although pallid bats have likely been extirpated as a breeder from urban areas such as the project region, this species has been detected in less developed areas near Mount Diablo in recent years[11,12], and non-breeding individuals may infrequently forage over open grassland on the site, or roost on the site in rare occasions. While we did not see any signs of bats below any of the observed cavities, the potential for roosting bats cannot be ruled out. Thus, in our opinion, non-breeding pallid bats and maternity colonies of non-special-status bats have potential to occur on the site. We have included an impact assessment for pallid bats and non-special-status bats in Section 3 below.

Response: OEI agrees that pre-disturbance daytime visual and evening emergence/acoustic surveys should be conducted to assess if bats are utilizing any of the structures or tree cavities as roosting habitat. Pallid bats, specifically, utilize caves and buildings as roosting habitat, not tree cavities, but other non-listed bat species may use the trees as roosting locations. OEI concurs with HT Harvey's recommended conservation measure (Conservation Measure E)

Page 15, Recommendation 1 – The report recommends protocol-level special-status plant surveys. As described above, these surveys were completed in 2020, and did not detect any special-status plants. Thus, no impacts would occur and no mitigation for special-status plants is necessary.

Response: OEI conducted several special-status plant surveys on March 25, April 21, May 29, and June 29, 2020, and did not detect any listed plants. OEI concurs that no impacts would occur and no mitigation for special-status plants is needed.

Page 15, Recommendation 2 – The report recommends presence/absence surveys for the western bumble bee. As stated previously, the project site is outside of the western bumble bee's current range, and the species is no longer a candidate for listing. Thus, in our opinion, additional surveys for this species are not warranted.

Response: HT Harvey stated in their review that *"As of November 13, 2020, the western bumble bee is no longer a candidate for listing under the California Endangered Species Act (CESA)"*, OEI checked the current status of the western bumblebee on the CDFW Special Animals List. As of July 6, 2021, the western bumblebee (*Bombus occidentalis*) is still listed as CESA "Candidate Endangered" (CFWD Special Animals List, July 2021 - https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline). OEI agrees that this species does not have the potential to occur on site and that further surveys are not warranted.

Page 15, Recommendation 3 – The report recommends a formal wetland delineation. As stated previously, a formal USACE jurisdictional determination was conducted in 2020, and this was verified by the USACE in 2021. Thus, a wetland delineation is no longer needed.

Response: A Preliminary Jurisdictional Determination (File ID: 2020-00316S) was approved by the USACE in final form on August 19, 2021 (see attached verified delineation). OEI concurs that a wetland delineation is no longer needed as it has already been completed. HT Harvey's review also recommends more detailed BMP recommendations for the purposes of CEQA Review. OEI has reviewed HT Harvey's BMP Recommendations in Section 3.3.4 (page 27) and Mitigation Measure BIO-3 & BIO-4 (page 29) of their review and concur that these are adequate BMPs.

Recommendation 3 also states that Contra Costa County has a minimum setback of 50 feet from the centerline from each side of the creek. It appears that the project has incorporated this setback into their design, and we concur that this 50-foot setback is appropriate for the central drainage. The 50-foot setback is not applicable to the drainage in the southern portion of the site, as this feature is a man-made ditch conveying storm water runoff and as such does not represent a natural watercourse.

Response: OEI concurs that the project has been designed to accommodate a 50-foot setback between the centerline of the central drainage swale and the nearest structure, with the exception of the clear-span bridge at the easterly end of the site which replaces the existing surface ranch road. We note that this drainage swale is not a natural creek, as it was created by the County Flood Control District to handle surface water runoff from adjoining development as part of the channelization of Walnut Creek; nevertheless, it has since been determined by the Corps to be jurisdictional. No such setback has been applied to the smaller, southern drainage which is a man-made ditch used to convey stormwater.

Page 15, Recommendation 4 – Recommendation 4 states that a tree survey should be conducted to identify trees that are protected under Contra Costa County's tree ordinance. A preliminary arborist survey was conducted in March 2020, and therefore no additional tree survey is necessary. Note we have included detailed recommended mitigation measures that will reduce impacts to protected trees in Section 3 below.

Response: HortScience | Bartlett Consulting prepared a Preliminary Arborist Report in March 2020 that addressed the tree survey recommendation in LSA's BRR. OEI concurs that no additional tree survey is required. OEI has reviewed HT Harvey's proposed measures to reduce impacts to preserved trees in section 3.3.6 (page 33) and concur with their recommendations.

Page 16, Recommendation 5 – Recommendation 5 states that a preconstruction survey should be conducted for nesting birds if construction occurs during the bird nesting season (February 1 – August 31), and that the survey should be conducted within 5 days of project initiation. The recommended survey buffer is 250 feet of the project site, and recommended no-disturbance buffers are 250 feet for raptors and 50 feet for other birds. We concur that a preconstruction survey is needed, and the buffers provided by LSA are generally appropriate (although our standard recommended buffers are 300 feet for raptors and 100 feet for non-raptors). However, it is our opinion that the specific buffer for any nest should be established by a qualified biologist (i.e., it may differ from whatever standard buffers are recommended). We have noted this in the recommended protection measures pertaining to nesting birds in our supplemental information Section 3.3 below.

Response: OEI agrees with HT Harvey's assessment of this section of LSA's report and concurs with their buffer recommendations (to be assessed by a qualified biologist on-site).

Generally, OEI finds the peer-review of LSA's Biological Resources Report by HT Harvey & Associates to be well written and generally accurate in nearly all its assessments. Minor differences of opinion on burrowing owl presence on the Property and the current status of the western bumblebee are addressed in OEI's above responses to their comments.

If you have any questions, please feel free to contact me at (925) 866-2111.

Sincerely,

Jeff Olberding
Regulatory Scientist

Appendix E-3: Arborist Report

Preliminary Arborist Report

Senior Housing
Contra Costa County, CA

PREPARED FOR
Spieker Senior Development Partners
2 Las Estrellas Loop
Rancho Mission Viejo, CA 92694

PREPARED BY:
HortScience | Bartlett Consulting
325 Ray St.
Pleasanton, CA 94566

July 2020

Preliminary Arborist Report
Senior Housing
Contra Costa County, CA

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Contra Costa County, CA

Introduction and Overview

Spieker Senior Development Partners is proposing to redevelop a 30+ acre site in Contra Costa County. Currently the site is mostly open, rolling hills with a residential building and outbuildings at the west end. With development plans still in the conceptual stage, HortScience | Bartlett Consulting (HBC), Divisions of the F. A. Bartlett Tree Expert Co., was asked to prepare a **Preliminary Arborist Report** for the project.

This report provides the following information:

1. Assessment of the health and structural condition of the trees within the proposed project area based on a visual inspection from the ground.
2. A preliminary assessment of impacts to trees from the proposed changes and identification of trees for preservation and removal.
3. Preliminary guidelines for tree preservation during the design, construction and maintenance phases of development.

Tree Assessment Methods

Trees were assessed in March of 2020. The assessment included all trees 6" in diameter and greater, located within and adjacent to the proposed project area. The assessment procedure consisted of the following steps:

1. Identifying the tree as to species;
2. Tagging each tree with an identifying number and recording its location on a map;
3. Measuring the trunk diameter at a point 54" above grade;
4. Evaluating the health and structural condition using a scale of 0 – 5:
   - ***5*** - A healthy, vigorous tree, reasonably free of signs and symptoms of disease, with good structure and form typical of the species.
   - ***4*** - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
   - ***3*** - Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.
   - ***2*** - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
   - ***1*** - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated.
   - ***0*** – Dead.
5. Rating the suitability for preservation as "high", "moderate" or "low". Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.
   - ***High***: Trees with good health and structural stability that have the potential for longevity at the site.
   - ***Moderate***: Trees with somewhat declining health and/or structural defects that can be abated with treatment. The tree will require more intense management and monitoring, and may have shorter life span than those in 'high' category.
   - ***Low***: Tree in poor health or with significant structural defects that cannot be mitigated. Tree is expected to continue to decline, regardless of treatment. The species or individual may have characteristics that are undesirable for landscapes and generally are unsuited for use areas.

Description of Trees

Four hundred and eighty-five (485) trees representing 28 species were evaluated (Table 1). Forty-three (43) off-site trees, with portions of their canopy extending onto the development site, were included in the assessment (#191, 192, 195, 260, 415, 417, 423, 425-427, 429, 436-450 and 466-481). Descriptions of each tree are found in the ***Tree Assessment Form*** and locations are shown on the ***Tree Assessment Map*** (see Exhibits).

Table 1. Condition ratings and frequency of occurrence of trees
Senior Housing – Contra Costa County, CA

Common Name	Scientific Name	Condition				Total
		Dead (0)	Poor (1-2)	Fair (3)	Good (4-5)	
Bailey acacia	*Acacia baileyana*	-	1	-	-	1
Calif. buckeye	*Aesculus californica*	-	-	-	2	2
River sheoak	*Allocasuarina cunninghamiana*	-	-	13	2	15
Ash sp.	*Ash sp.*	-	1	-	-	1
Arizona cypress	*Cupressus arizonica*	-	2	3	-	5
River red gum	*Eucalyptus camaldulensis*	-	26	48	15	89
Blue gum	*Eucalyptus globulus*	-	-	1	2	3
Manna gum	*Eucalyptus viminalis*	-	-	3	1	4
Evergreen ash	*Fraxinus uhdei*	-	-	1	-	1
Calif. black walnut	*Juglans hindsii*	-	10	-	-	10
Privet	*Ligustrum japonicum*	-	-	2	1	3
Olive	*Olea europaea*	-	-	-	2	2
Canary Island palm	*Phoenix canariensis*	-	-	-	1	1
Canary island pine	*Pinus canariensis*	-	-	-	1	1
Aleppo pine	*Pinus halepensis*	-	-	1	2	3
Monterey pine	*Pinus radiata*	1	-	2	-	3
Foothill pine	*Pinus sabiniana*	-	-	-	1	1
Chinese pistache	*Pistacia chinensis*	-	-	1	-	1
Plum	*Prunus domestica*	-	1	-	-	1
Almond	*Prunus dulcis*	-	3	12	3	18
Coast live oak	*Quercus agrifolia*	-	-	-	1	1
Valley oak	*Quercus lobata*	-	8	100	191	299
Black locust	*Robinia pseudoacacia*	-	-	1	-	1
Arroyo willow	*Salix lasiolepis*	-	5	1	-	6
Calif. pepper	*Schinus molle*	-	-	5	-	5
Siberian elm	*Ulmus pumila*	-	-	-	1	1
Calif. bay	*Umbellularia californica*	-	-	2	2	4
Mexican fan palm	*Washingtonia robusta*	-	-	1	2	3
Total		**1**	**57**	**197**	**230**	**485**
		<1%	12%	41%	47%	100%

The 30.8-acre site is currently occupied by an older ranch house with several outbuildings, without intensive agricultural activities. The landscape ioncludes a series of open, rolling hills dotted with mature valley oaks. The majority of the non-native, landscape trees were concentrated around the driveway and residence/outbuildings. Native oaks were spread across the site, with more than a hundred concentrated along the driveway and old Seven Hills Ranch Rd. that cuts across the property.

Valley oak (299 trees) and river red gum (89 trees) were the most common species and represented 80% of the trees assessed. Valley oaks dominated the landscape and formed the backbone of what is a remnant oak savannah. They were growing among the red river gums along the entry to the property and in groups along old Seven Hills Ranch Rd., west of the existing residence and generally along the perimeters of the property. One-hundred and seventy-six (176) were young trees with trunk diameters from 6" to 12", 91 were semi-mature (12" to 24"), 28 were mature (24" to 36") and 4 were over-mature (>36" – Photo 1). One hundred ninety-one were in good to excellent condition, 100 were in fair and only 8 were in poor.

Photo 1: Looking northeast at valley oak #428, one of a handful of valley oaks with trunk diameters above 36" on the site. Valley oak #428 measured 50" in diameter and was in good condition, with a spreading crown.

Most of the 89 river red gums lined the entry to the property (Photo 2, following page), with the remaining ~30 growing around the residence and outbuildings. Generally, those along the entry were young to semi-mature, with an average trunk diameter of 14", and those around the residence were mature with an average trunk diameter of 22". River red gum had not performed as well as the native oaks and 15 were in good condition, 48 were in fair and 26 were in poor.

Almond (18 trees) and Calif. black walnut (10 trees) represented a relatively small percent of the overall population and were likely remnants of the farming that once occurred. Groups of almonds were located in the western corner of the property and along the road. They were multi-stemmed and in fair condition. Calif. black walnuts were in poor condition.

Fifteen (15) off-site river sheoaks were assessed in the northeast corner of the site. The trees were on the adjacent Seven Hills School property, with portions of their crowns extending onto the development site. They were semi-mature, with 13 in fair condition and 2 in good. They formed a solid row and provided screening along the property line.

Photo 2 (L): Looking west along the entry drive onto the property from Seven Hills Ranch Road. The entry was lined with ~60 young to semi-mature river red gums and ~20 young to semi-mature valley oaks.

In general, valley oaks were better adapted to the environmental condition at the site and had performed better in the landscape.

The remaining 23 species were represented by 6 or fewer individuals and included the following:

- Six (6) arroyo willows, all of which were growing in the public right-of-way between the property and Glen View Terr. To the south. As is typical of the species, most of the arroyo willows continue to grow vigorously despite having failed at the base, with trunks laying on the ground. Five (5) were in poor condition and #470 was in fair.
- Five (5) Calif. peppers were assessed, all of which had been planted around the residence and outbuildings. Three were mature and 2 were young. All were in fair condition.
- Five (5) Arizona cypress had also been planted around the residence and outbuildings. Three (3) were young and 2 were mature and condition varied from fair (3 trees) to poor (2 trees).
- Four (4) Calif. bay laurels were growing on the western property lines. They were young to semi-mature and in fair (2 trees) and good (2 trees) condition.
- Four (4) manna gums were growing at the top of a steep cliff in the northeast corner of the site. They were semi-mature to mature, with #451 in good condition and #452-454 in fair.
- Three (3) Mexican fan palms, including #125 near the residence and #353 and 374 growing in and around the drainage, mid-property.
- Three (3) Monterey pines, all of which had been planted around the residence. They were mature, with trunk diameters from 22” to 25”. #146 was dead and #174 and 175 were in fair condition.
- Three (3) Aleppo pines, including #173 and 200 growing around the residence and #426 was off-site in the southeast corner of the property. They were young (#200) and mature (#173 and 426) and in fair to good condition.

- Three (3) privets, with #123 and 124 growing around the residence and #472 located in the public right-of-way to the south. They were young and in fair to good condition.
- Three (3) blue gum eucalyptus, with #242 and 251 growing in the northwest corner of the site and #425 located in the southeast corner of the property. They were mature and in fair to good condition.
- Two (2) multi-stemmed olives and 2 Calif. buckeyes. All were semi-mature and in good condition.
- One (1) each of Siberian elm, black locust, coast live oak, plum, Chinese pistache, foothill pine, Canary Island pine, Canary Island palm, evergreen ash, ash sp. and Bailye's acacia.

Among the off-site trees was a group of 16 located in the public right-of-way between the property and Glen View Terr. to the south. These trees were included in the assessment in anticipation of possible construction and included primarily young to semi-mature valley oaks in good condition and mature arroyo willows in poor condition.

For any 'undeveloped property' within any district, Contra Costa County Tree Protection and Preservation Ordinance 816-6 defines any tree with a trunk diameter of 6.5" or greater as 'Protected'. Based on this defenition, 434 of the trees met Contra Costa County's definition for 'Protected' tree status. Protected status of each tree is provided in the ***Tree Assessment Form*** (see Exhibits).

Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to make sure that they may survive development impacts, adapt to a new environment and perform well in the landscape.

Our goal is to identify trees that have the potential for long-term health, structural stability and longevity. For trees growing in open fields, away from areas where people and property are present, structural defects and/or poor health presents a low risk of damage or injury if they fail. However, we must be concerned about safety in use areas. Therefore, where development encroaches into existing plantings, we must consider their structural stability as well as their potential to grow and thrive in a new environment. Where development will not occur, the normal life cycles of decline, structural failure and death should be allowed to continue.

Evaluation of suitability for preservation considers several factors:

- **Tree health**
  Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and soil compaction than are non-vigorous trees.

- **Structural integrity**
  Trees with significant amounts of wood decay and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property is likely. Red river gums #4, 31 and 54 and valley oak #389 are examples of such trees.

- **Species response**
  There is a wide variation in the response of individual species to construction impacts and changes in the environment. For instance, valley oak and river red gum are moderately tolerant of construction impacts. While Calif. black walnut is intolerant of root loss.

- **Tree age and longevity**
  Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change.

- **Species invasiveness**
  Species that spread across a site and displace desired vegetation are not always appropriate for retention. This is particularly true when indigenous species are displaced. The California Invasive Plant Inventory Database (http://www.cal-ipc.org/paf/) lists species identified as being invasive. Contra Costa County is part of the Central West Floristic Province. Red river gum, Calif. pepper and European olive were the only species assessed at the site that are listed as having 'limited' invasiveness.

- **Fire Risk**
  Several of the species assessed at the site are identified by the California Invasive Plant Inventory as "increasing risk of catastrophic wildland fires". This is NOT something we consider when determining an individual tree's Suitability for Preservation and was not taken into account in the ratings described in Table 2 and in the ***Tree Assessment Form***. However, we were asked to address the fact that several of the species, including river red gum, blue gum eucalyptus and Mexican fan palm can contribute to increased risk for wildland fires and that these species may not be appropriate for retention, irrespective of their Suitability for Preservation ratings.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (see ***Tree Assessment Forms*** in Exhibits, and Table 2). We consider trees with high suitability for preservation to be the best candidates for preservation. We do not recommend retention of trees with low suitability for preservation in areas where people or property will be present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

Table 2: Tree suitability for preservation
Senior Housing – Contra Costa County, CA

High	These are trees with good health and structural stability that have the potential for longevity at the site. One hundred and thirty-two (132) trees had high suitability for preservation, including: 115 valley oaks, 4 river red gums, 2 Mexican fan palms, 2 Calif. bays, 2 blue gum eucalyptus and one (1) each of the following Siberian elm, olive, Foothill pine, coast live oak, Canary Island palm, Calif. buckeye and Aleppo pine.

(**Continued, following page**)

Table 2: Tree suitability for preservation, continued
Senior Housing – Contra Costa County, CA

Moderate	Trees in this category have fair health and/or structural defects that may be abated with treatment. Trees in this category require more intense management and monitoring, and may have shorter life-spans than those in the "high" category. Two hundred and forty (240) trees had moderate suitability for preservation, including: 158 valley oaks, 39 river red gums, 13 river sheoaks, 11 almonds, 4 manna gums, 3 privets, 2 Calif. bays, 2 Aleppo pines, and one (1) each of Monterey pine, evergreen ash, Canary Island pine, Calif. pepper, Arizona cypress, Mexican fan palm, olive and Calif. buckeye.
Low	Trees in this category are in poor health or have significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. One hundred and thirteen (113) trees had low suitability for preservation, including: 46 red river gum, 26 valley oak, 10 Calif. black walnuts, 7 almonds, 6 arroyo willows, 4 Calif. peppers, 4 Arizona cypress, 2 river sheoaks, 2 Monterey pines, and one (1) each of plum, Chinese pistache, black locust, Bailey acacia, ash sp. and blue gum eucalyptus.

Preliminary Evaluation of Impacts and Recommendations

Appropriate tree retention develops a practical match between the location and intensity of construction activities and the quality and health of trees. The March 2020 ***Tree Assessment Form*** was the reference point for tree condition and quality. Potential impacts from construction were evaluated using the Preliminary Grading Plan prepared by BKF Engineers, Inc. (dated June 26, 2020).

The plan was preliminary and depicted the layout for a senior living center, with two main areas of construction on the west and east halves of the site. Preliminary grading and retaining wall information were included on the plans, as were tree driplines (except for the trees within the ROW adjacent to Glen View Terrace). Accurate trunk locations, utility, drainage and bioswale information were not included. As such, this assessment of impacts to the trees must be considered preliminary. Additional trees may be identified for preservation or removal as plans are refined.

Club View Terr.

Potential impacts from construction were estimated for each tree. Precise impacts will have to be determined once trees have been located and plotted, and the plans are finalized. The most significant impacts to trees would be associated with demolition and grading of the west and east halves of the site for the construction of the senior living units and associated care facilities.

Based on my review of the Preliminary Grading Plan prepared by BKF Engineers, Inc. 82 trees have been identified for preservation, including some of the largest and most impressive valley oaks on the site (Table 3, following page). Eighty-one (81) of the trees qualified as *Protected*.

All 82 trees preliminarily identified for preservation will need to be accurately located by the surveyors and plotted on the plans. I would also recommend the 16 trees in the ROW adjacent to Glen View Terr. be located, as there may be opportunities for tree preservation in this area.

Club View Terr.

Fifteen (15) of the trees identified for preservation may require design modifications to successfully preserve. Once trunks have been located and plotted on plans, and the plans are refined, we will work with Spieker Development Partners to design around all of the trees and provide sufficient space for successful preservation.

The remaining 403 trees have been identified for removal to accommodate the proposed development. Trees identified for removal included 149 landscape trees along the driveway and around the existing residence. Three hundred and fifty-three (353) of the trees identified for removal qualified as *Protected*.

Table 3. Trees Preliminarily Identified for Preservation
Senior Housing – Contra Costa County CA.

Tag #	Species	Diameter	Protected?	Recommendation
182	Valley oak	26	Yes	May require design mod.
183	Valley oak	35	Yes	May require design mod.
194	Valley oak	8	Yes	**Preserve**, off-site
195	Valley oak	13	Yes	**Preserve**, off-site
232	Valley oak	15,12	Yes	**Preserve**, 20' from grading
233	Valley oak	16	Yes	**Preserve**, 15'-20' from grading
252	Valley oak	33	Yes	May require design mod.
253	Ash sp.	13,12	Yes	**Preserve**, outside impacts
254	Valley oak	58	Yes	**Preserve**, outside impacts
255	Valley oak	26	Yes	**Preserve**, outside impacts
256	Calif. bay	16,15,14	Yes	**Preserve**, outside impacts
257	Calif. bay	7	Yes	**Preserve**, outside impacts
258	Calif. bay	13,12	Yes	**Preserve**, outside impacts
259	Valley oak	32	Yes	**Preserve**, outside impacts
260	Valley oak	10	Yes	**Preserve**, outside impacts
261	Valley oak	32	Yes	**Preserve**, outside impacts
262	Valley oak	15	Yes	**Preserve**, 20' from grading
263	Valley oak	10	Yes	**Preserve**, 12' from grading
264	Valley oak	13	Yes	**Preserve**, outside impacts
265	Valley oak	9	Yes	**Preserve**, outside impacts
266	Valley oak	16	Yes	**Preserve**, outside impacts
267	Almond	10,6,6,6,6,6	Yes	**Preserve**, outside impacts
268	Valley oak	10	Yes	**Preserve**, outside impacts
269	Valley oak	19	Yes	**Preserve**, outside impacts
270	Valley oak	23	Yes	**Preserve**, outside impacts
271	Valley oak	11	Yes	**Preserve**, outside impacts
272	Valley oak	11,6	Yes	**Preserve**, outside impacts
273	Valley oak	7	Yes	**Preserve**, outside impacts
274	Valley oak	9	Yes	**Preserve**, outside impacts
275	Valley oak	7	Yes	**Preserve**, outside impacts
276	Valley oak	11,9	Yes	**Preserve**, outside impacts
277	Valley oak	23	Yes	**Preserve**, outside impacts
278	Valley oak	14,11	Yes	**Preserve**, outside impacts
280	Valley oak	29	Yes	**Preserve**, ~16' from grading
285	Valley oak	31	Yes	**Preserve**, outside impacts
287	Valley oak	18	Yes	**Preserve**, outside impacts
288	Valley oak	28	Yes	**Preserve**, outside impacts
289	Valley oak	31	Yes	**Preserve**, ~20' from grading
290	Valley oak	28	Yes	**Preserve**, outside impacts
291	Valley oak	22	Yes	**Preserve**, ~15' from grading

(**Continued, following page**)

Table 3. Trees Preliminarily Identified for Preservation, continued
Senior Housing – Contra Costa County CA.

297	Valley oak	22	Yes	**Preserve**, ~20' from grading
298	Valley oak	17	Yes	**Preserve**, ~12' from grading
352	Valley oak	22,7	Yes	May require design mod.
353	Mexican fan palm	18	Yes	May require design mod.
354	Valley oak	10	Yes	May require design mod.
355	Almond	8,3	No	May require design mod.
356	Valley oak	22	Yes	May require design mod.
359	Valley oak	31	Yes	**Preserve**, 25' from grading on 3 sides
370	Valley oak	51	Yes	**Preserve**, 40' from grading on 3 sides
386	Valley oak	24	Yes	**Preserve**, ~25' from grading
387	Valley oak	15	Yes	May require design mod.
389	Valley oak	42	Yes	Poor health
412	Valley oak	16	Yes	May require design mod.
415	Valley oak	25	Yes	**Preserve**, off-site, ~25' from grading
416	Valley oak	13	Yes	**Preserve**, ~10' from grading
425	Blue gum	20	Yes	**Preserve**, off-site
426	Aleppo pine	35,16	Yes	**Preserve**, off-site
427	Valley oak	19	Yes	**Preserve**, off-site
428	Valley oak	50	Yes	**Preserve**, 30'-50' from grading on all sides
429	Valley oak	17	Yes	**Preserve**, ~15' from grading
430	Valley oak	9	Yes	May require design mod.
435	Valley oak	15	Yes	**Preserve**, ~20' from grading
436	River sheoak	14	Yes	**Preserve**, off-site
437	River sheoak	25	Yes	**Preserve**, off-site
438	River sheoak	15	Yes	**Preserve**, off-site
439	River sheoak	12	Yes	**Preserve**, off-site
440	River sheoak	14	Yes	**Preserve**, off-site
441	River sheoak	15	Yes	**Preserve**, off-site
442	River sheoak	16	Yes	**Preserve**, off-site
443	River sheoak	18	Yes	**Preserve**, off-site
444	River sheoak	20	Yes	**Preserve**, off-site
445	River sheoak	15	Yes	**Preserve**, off-site
446	River sheoak	13	Yes	**Preserve**, off-site
447	River sheoak	17	Yes	**Preserve**, off-site
448	River sheoak	14	Yes	**Preserve**, off-site
449	River sheoak	12,8	Yes	**Preserve**, off-site
450	River sheoak	8	Yes	**Preserve**, off-site
451	Manna gum	26	Yes	May require design mod.
452	Manna gum	15	Yes	May require design mod.
453	Manna gum	17,16	Yes	May require design mod.
454	Manna gum	15,13,8	Yes	May require design mod.
455	Valley oak	17	Yes	**Preserve**, ~15' from grading

Preliminary Mitigation Recommendations

I was asked by Spieker Senior Development Partners to provide recommendations for mitigation of trees proposed for removal as part of the project. In general, I consider the greatest loss of current and potential future environmental benefits to be associated with the removal of native tree species of moderate and high suitability for preservation. These are the trees we would expect to be the best adapted to site conditions and have the greatest potential for longevity.

Based on my review of the data, there were 230 native trees of moderate and high suitability for preservation proposed for removal as part of the project, 193 of which qualified as *Protected*. I recommend mitigation of all *Protected* native trees of moderate and high suitability for preservation at a 1:1 ratio with 15-gallon container size.

In my experience, 15-gallon containers have been in the pots/nursery for the least amount of time and have the greatest potential to have a well formed, but not defective, root system. These trees also often catch-up with 24" box trees in terms of overall size and development, within a few years of being planted.

Where the immediate visual impact of a larger tree is desired, consider using a 24" or 48" box. I would recommend that each 24" box be counted as two (2) 15 gallon trees and each 48" box be counted as four (4) 15-gallon trees.

Valley and coast live oak are well adapted to, and have performed well on the site and would be appropriate to consider for mitigation plantings. Other California native trees that can be expected to perform well would include California sycamore (*Platanus racemosa*), California buckeye (*Aesculus californica*), and Toyon (*Heteromeles arbutifolia*).

Preliminary Tree Preservation Guidelines

The following recommendations will help reduce impacts to trees from development as well as maintain and improve their health and vitality through the clearing, grading and construction phases.

Impacts can be minimized by coordinating demolition and construction activities within the **TREE PROTECTION ZONE**. The following recommendations will help maintain and improve the health and vitality of trees preserved at the Senior Housing site.

Design recommendations

1. Have the vertical and horizontal locations of all the trees identified for preservation established and plotted on all plans. Forward these plans to the Consulting Arborist for review and comment. Additional trees may be identified for preservation or removal as a result.
2. Project plans affecting the trees shall be reviewed by the Consulting Arborist with regard to tree impacts. These include, but are not limited to, demolition plans, site plans, improvement plans, utility and drainage plans, grading plans, and landscape and irrigation plans.
3. A **Tree Protection Zone** shall be established around each tree to be preserved. No grading, excavation, construction or storage of materials shall occur within that zone. For design purposes, the dripline shall be considered the minimum **Tree Protection Zone**. Once trees have been located and plotted on plans and a final determination of which trees will be preserved is made, specific **TREE PROTECTION ZONES** will be identified for each tree to be preserved.
4. Include **Tree Preservation Notes**, trees to be preserved and **Tree Protection Zones (TPZs**) on all construction plans.

5. Underground services including utilities, sub-drains, water or sewer shall be routed around the **TREE PROTECTION ZONE**. Where encroachment cannot be avoided, special construction techniques such as hand digging or tunneling under roots shall be employed where necessary to minimize root injury.
6. Irrigation systems must be designed so that no trenching will occur within the **Tree Protection Zone**.
7. As trees withdraw water from the soil, expansive soils may shrink within the root area. Therefore, foundations, footings and pavements on expansive soils near trees should be designed to withstand differential displacement.

Pre-construction treatments and recommendations

1. Fence all trees to be retained to completely enclose the **Tree Protection Zone** prior to demolition, grubbing or grading. Fences shall be 6 ft. chain link or equivalent as approved by the Consulting Arborist. Fences are to remain until all grading and construction is completed.
2. Prune trees to be preserved to clean the crown of dead branches 2" and larger in diameter and raise canopies as needed for construction activities. All pruning shall be done by a State of California Licensed Tree Contractor (C61/D49). All pruning shall be done by Certified Arborist or Certified Tree Worker in accordance with the Best Management Practices for Pruning (International Society of Arboriculture, 2002) and adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300). The Consulting Arborist will provide pruning specifications prior to site demolition. Branches extending into the work area that can remain following demolition shall be tied back and protected from damage.
3. All tree work shall comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. Tree pruning and removal should be scheduled outside of the breeding season to avoid scheduling delays. Breeding bird surveys should be conducted prior to tree work. Qualified biologists should be involved in establishing work buffers for active nests.
4. Tree(s) to be removed that have branches extending into the canopy of tree(s) to remain must be removed by a qualified arborist and not by demolition or construction contractors. The qualified arborist shall remove the tree in a manner that causes no damage to the tree(s) and understory to remain. Stumps shall be ground below grade.
5. Any brush clearing required within the **TREE PROTECTION ZONE** shall be accomplished with hand-operated equipment.
6. Apply and maintain 3-4" of wood chip mulch within the **TREE PROTECTION ZONE.** Use of course wood chips from trees removed on the site is ideal for this purpose.

Recommendations for tree protection during construction

1. Prior to beginning work, the contractors working in the vicinity of trees to be preserved are required to meet with the Consulting Arborist at the site to review all work procedures, access routes, storage areas and tree protection measures.
2. All contractors shall conduct operations in a manner that will prevent damage to trees to be preserved.
3. Any excavation within the dripline or other work that is expected to encounter tree roots should be approved and monitored by the Consulting Arborist. Roots shall be cut by manually digging a trench and cutting exposed roots with a sharp saw. The Consulting Arborist will identify where root pruning is required and monitor all root pruning activities.

4. Fences have been erected to protect trees to be preserved. Fences define a specific **TREE PROTECTION ZONE** for each tree or group of trees. Fences are to remain until all site work has been completed. Fences may not be relocated or removed without permission of the Consulting Arborist.
5. Construction trailers, traffic and storage areas must remain outside fenced areas at all times.
6. Prior to grading, pad preparation, excavation for foundations/footings/walls, trenching, etc. trees may require root pruning outside the **TREE PROTECTION ZONE** by cutting all roots cleanly to the depth of the excavation. Roots shall be cut by manually digging a trench and cutting exposed roots with a saw, a vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root pruning equipment. The Consulting Arborist will identify where root pruning is required and monitor all root pruning activities.
7. All underground utilities, drain lines or irrigation lines shall be routed outside the **TREE PROTECTION ZONE**. If lines must traverse through the protection area, they shall be tunneled or bored under the tree as directed by the Consulting Arborist.
8. No materials, equipment, spoil, waste or wash-out water may be deposited, stored, or parked within the **TREE PROTECTION ZONE** (fenced area).
9. Any additional tree pruning needed for clearance during construction must be performed by a qualified arborist and not by construction personnel.
10. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use. Any pesticides used on-site must be tree-safe and not easily transported by water.
11. Any roots damaged during grading or construction shall be exposed to sound tissue and cut cleanly with a saw.
12. If temporary haul or access roads must pass over the root area of trees to be retained, a road bed of 6" of mulch or gravel shall be created to protect the soil. The road bed material shall be replenished as necessary to maintain a 6" depth.

Maintenance of impacted trees
Preserved trees will experience a physical environment different from that pre-development. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required. In addition, provisions for monitoring both tree health and structural stability following construction must be made a priority. As trees age, the likelihood of failure of branches or entire trees increases. Therefore, annual inspection for structural condition is recommended.

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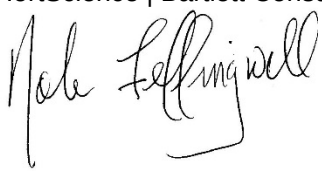

John Leffingwell
Board Certified Master Arborist WE-3966B
Registered Consulting Arborist #442

Exhibits

Tree Assessment Form

Tree Assessment Map

Tree Assessment

Spieker Development Partners
Contra Costa County, California
March 2020

HORT SCIENCE
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TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
1	Valley oak	6	No	4	Moderate	Under utility lines; lost central leader.
2	Valley oak	7	Yes	4	Moderate	Under utility lines; codominant at 8'.
3	Valley oak	7	Yes	3	Moderate	Under utility lines; bows to north.
4	River red gum	36	Yes	2	Low	Extensive decay; topped for utility clearance; one upright stem remains.
5	River red gum	14,6	Yes	2	Low	Topped for utility lines; poor form and structure.
6	River red gum	24	Yes	3	Low	Main stem bows to west; decay present.
7	River red gum	14	Yes	3	Low	Severe bow to south.
8	River red gum	20,17,8,7	Yes	1	Low	Multiple attachments at base; topped for utility line clearance; extensive twig dieback.
9	Valley oak	7	Yes	3	Low	Grows within base of tree #8; poor form and structure.
10	River red gum	12,10,10,6,5,4	Yes	3	Low	Multiple attachments at base; poor form and structure.
11	River red gum	7	Yes	3	Low	Topped for utility lines; single stem.
12	Valley oak	8	Yes	4	Moderate	Sinuous form; single stem.
13	Valley oak	7	Yes	4	Moderate	Sinuous form; good upright structure.
14	Valley oak	11	Yes	4	Moderate	Multiple attachments at 8'; topped for utility line
15	Valley oak	16	Yes	3	Low	Topped for utility lines; heavy lateral to east.
16	River red gum	6,4	No	2	Low	Codominant at base; topped for utility lines; poor form and structure.
17	River red gum	5,5	No	1	Low	Codominant at 4'; poor form and structure; decay in upright leader.
18	River red gum	12	Yes	3	Moderate	Codominant high in crown; upright form.
19	River red gum	6,5,5	Yes	3	Low	Multiple attachments at base; topped for utility line clearance.
20	River red gum	16,5,4	Yes	1	Low	Declining; poor color; thin crown; twig dieback.
21	Valley oak	6	No	3	Moderate	Codominant high in crown; suppressed.

Tree Assessment

Spieker Development Partners
Contra Costa County, California
March 2020

HORT SCIENCE
BARTLETT CONSULTING

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
22	River red gum	16,6	Yes	1	Low	Failing at base; trunk decay; poor color; declining.
23	River red gum	6,4,3	Yes	1	Low	4" stem failing; twig dieback.
24	River red gum	13	Yes	4	Moderate	Good upright form; full crown.
25	Valley oak	9	Yes	4	Moderate	Slight lean to north; codominant high in crown.
26	River red gum	6,5	No	2	Low	Topped for line clearance; codominant at base.
27	River red gum	10	Yes	2	Low	Topped for line clearance; excessive repsprouts.
28	River red gum	27,10	Yes	3	Low	27" stem grows through fence to south; heavy weight to south.
29	River red gum	24	Yes	3	Moderate	Sinuous upright form; twig dieback; heavy lateral limbs.
30	River red gum	32	Yes	3	Low	Heavy weight to south; side pruned for utility line clearance.
31	River red gum	13	Yes	1	Low	Extensive basal decay; extensive decay throughout.
32	Valley oak	21,6	Yes	2	Low	Codominant at 4'; twig dieback; thin crown; topped for utility line clearance.
33	Valley oak	14,8	Yes	3	Moderate	Codominant at 3' with included bark; full crown.
34	Almond	10	Yes	3	Low	Poor form and structure; grows through fence.
35	Calif. black walnut	13,8,4	Yes	2	Low	Topped for utility line clearance; extensive dieback.
36	River red gum	24,22	Yes	3	Moderate	Codominant at base; 22" stem has crook high in crown to west.
37	River red gum	19	Yes	3	Low	Codominant high in crown with wide attachment; twig dieback.
38	River red gum	21	Yes	2	Low	Heavy lean to east; poor form; twig dieback.
39	River red gum	13	Yes	3	Low	Codominant high in crown; poor form and structure.
40	River red gum	28	Yes	3	Moderate	Codominant at 20'; one stem bows north; twig dieback.
41	River red gum	8	Yes	3	Moderate	Single stem; high, small crown.

Tree Assessment

Spieker Development Partners
Contra Costa County, California
March 2020

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TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
42	River red gum	14	Yes	2	Low	Suppressed by tree #38; poor form and structure; codominant at 15'.
43	River red gum	16	Yes	2	Low	Extensive diebac in upper crown; poor form and structure.
44	River red gum	14	Yes	3	Moderate	Narrow single stem; twig dieback.
45	Valley oak	8	Yes	4	Moderate	Codominant at 5'; full crown.
46	River red gum	17	Yes	3	Low	Narrow form; thin crown; twig dieback.
47	River red gum	23	Yes	3	Moderate	Codominant high in crown; twig dieback; thin crown.
48	River red gum	10	Yes	2	Low	Base sweeps to north; leans north; twig dieback.
49	River red gum	7	Yes	3	Low	Poor form and structure; small, thin crown.
50	River red gum	7	Yes	2	Low	Poor form and structure; suppressed; twig dieback.
51	River red gum	11	Yes	3	Moderate	Tall, narrow form; small crown.
52	River red gum	25	Yes	4	Moderate	Slightly thin; slight crook high in crown.
53	River red gum	15	Yes	3	Moderate	One-sided to north; codominant high in crown.
54	River red gum	21	Yes	2	Low	History of branch failures; decay in north stem.
55	River red gum	8,8	Yes	2	Low	Codominant at base with narrow attachment; narrow form.
56	River red gum	15,14,11	Yes	3	Moderate	Codominant at base and 3'; 14" & 11" stems bow to north; twig dieback.
57	River red gum	6	No	3	Low	Small, thin crown; no vigor; poor form and structure.
58	River red gum	13	Yes	2	Low	Poor form and structure; sap sucker damage; bows to north.
59	River red gum	12,11	Yes	2	Low	Codominant at 1' with included bark; twig dieback.
60	River red gum	8	Yes	3	Low	Sinuous form; small crown.
61	River red gum	10	Yes	3	Moderate	Tall, narrow form; sweeps at base.
62	Valley oak	9	Yes	4	Moderate	Narrow form; codominant high in crown.

Tree Assessment

Spieker Development Partners
Contra Costa County, California
March 2020

HORT SCIENCE
BARTLETT CONSULTING

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
63	River red gum	11	Yes	3	Moderate	Tall, narrow form; sweeps at 4'.
64	River red gum	18	Yes	3	Moderate	Codominant high in crown; slightly thin.
65	River red gum	8,7	Yes	3	Low	Codominant at 1' with narrow attachment; narrow form.
66	Valley oak	11	Yes	4	High	Multiple attachments at 8'; full crown.
67	River red gum	14	Yes	3	Moderate	Codominant high in crown; with wide attachment; twig dieback.
68	River red gum	6	No	3	Low	Poor form and structure; crook high in crown.
69	River red gum	15	Yes	3	Moderate	Leans to northwest; full crown.
70	River red gum	11	Yes	3	Low	Heavy lean tto north; codominant at 15'.
71	River red gum	10	Yes	3	Moderate	Narrow, upright form; minor dieback.
72	Valley oak	8,6	Yes	3	Moderate	Codominant at base with wide attachment; 8" bows north; lower branches dead.
73	River red gum	6	No	1	Low	Partial failure; thin crown.
74	River red gum	17	Yes	4	High	Excellent upright form; good vigor.
75	River red gum	8	Yes	3	Moderate	Narrow form; slightly thin.
76	Valley oak	14,10	Yes	4	High	Codominant at 1'; full, dense crown.
77	Valley oak	15	Yes	3	Moderate	Suppessed and one-sided to east.
78	River red gum	31,23	Yes	4	High	Codominant at 2'; twig and branch dieback; full crown.
79	Valley oak	25	Yes	3	Low	Cavity on west; hollow trunk root and basal decay; twig dieback.
80	River red gum	46,21,8	Yes	4	High	History of branch failures; full, beautiful crown; codominant at 1'.
81	Almond	7,7,6,5,5,4	Yes	2	Low	Basal decay; poor form and structure; twig dieback.
82	Valley oak	8	Yes	3	Moderate	Sinuous form; within canopy of tree #81.
83	Valley oak	8	Yes	4	Moderate	Multiple attachments at 6'; slightly thin.
84	Valley oak	5,5,3	Yes	4	Moderate	Codominant at 1'; slightly thin.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
85	Valley oak	8	Yes	4	Moderate	Codominant at 6'; full crown.
86	Valley oak	6	No	5	High	Good young tree.
87	Valley oak	6	No	4	Moderate	Sinuous form; at fence line; narrow form.
88	Valley oak	6	No	5	High	Good young tree; full crown.
89	Valley oak	7,7	Yes	4	Moderate	Codominant at 2' with seam below attachment; full
90	Valley oak	10	Yes	4	Moderate	One-sided to north.
91	Valley oak	9	Yes	4	Moderate	One-sided to south.
92	Valley oak	11	Yes	4	High	Excellent form and structure; codominant at 18'.
93	Valley oak	7	Yes	4	Moderate	Narrow form; codominant at 6'.
94	Valley oak	7	Yes	4	Moderate	Narrow form; interior tree.
95	Valley oak	17	Yes	4	High	Multiple attachments at 6'; slightly thin; minor dieback.
96	Valley oak	8	Yes	3	Moderate	Trunk bows to north; suppressed.
97	Valley oak	12	Yes	3	Moderate	Mulitple attachments at 20'; narrow form.
98	Valley oak	13	Yes	4	Moderate	Codominant at 10'; one-sided and suppressed to south.
99	Valley oak	14	Yes	4	Moderate	Codominant at 8'; one-sided to east; minor dieback.
100	Valley oak	13	Yes	4	Moderate	Codominant at 5' with seam below attachment; full
101	Valley oak	26	Yes	4	Moderate	Multiple attachments at 8’; long laterals; spreading form.
102	Valley oak	9	Yes	5	High	Good young tree; mistletoe; minor twig dieback.
103	Valley oak	9	Yes	4	Moderate	Leans NE.; twig dieback.
104	Valley oak	14	Yes	4	Moderate	Multiple attachments at 10’; to be sided SE.; twig dieback.
105	Valley oak	7	Yes	5	High	Codominant trunks are 8’; mistletoe; minor twig dieback.
106	Valley oak	7	Yes	4	High	Slight lean S.; twig dieback.
107	Valley oak	8	Yes	5	High	Crown bowed N.; mistletoe; minor twig dieback.
108	Valley oak	10	Yes	5	High	Codominant trunks are 6’; wide attachment; minor twig dieback.

Tree Assessment

Spieker Development Partners
Contra Costa County, California
March 2020

HORT SCIENCE
BARTLETT CONSULTING

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
109	Valley oak	12	Yes	4	Moderate	Good form; low branches; epicormics/twig dieback.
110	Calif. pepper	11,10,7	Yes	3	Low	Multiple attachments at 2'; one sided S.; trunk decay; twig dieback.
111	Valley oak	7	Yes	3	Moderate	Crowded; leans S.; twig dieback.
112	Calif. pepper	38	Yes	3	Low	Multiple attachments at 8'; one sided SW.; ganoderma; twig dieback.
113	Almond	11	Yes	4	Moderate	One sided W. ; sapsucker damage.
114	Calif. pepper	34	Yes	3	Low	Multiple attachments at 8'; low branches touch the ground; trunk wound N. @ 10'; twig dieback.
115	Valley oak	12	Yes	4	Moderate	Codominant trunks at 10'; asymmetric form; twig
116	Valley oak	8	Yes	3	Moderate	Crowded; asymmetric form; twig dieback.
117	Valley oak	7	Yes	3	Moderate	Crowded; leans W.; twig dieback.
118	Bailey acacia	14	Yes	2	Low	Trunk wound/decay; leans W.
119	River red gum	34	Yes	3	Moderate	Large stem removed N.; very one sided SW.
120	Evergreen ash	17	Yes	3	Moderate	Codominant trunks at 10'; moderate dieback.
121	Valley oak	7	Yes	3	Moderate	Crowded; leans SW. to horizontal; twig dieback.
122	Valley oak	15	Yes	4	Moderate	Codominant trunks at 12'; intertwined w/ #123; twig dieback.
123	Privet	10	Yes	3	Moderate	Multiple attachments at 10'; intertwined w/ #122.
124	Privet	7,5,5	Yes	3	Moderate	Multiple attachments at 3'; one sided E.
125	Mexican fan palm	14	Yes	4	High	Slight lean S.; pencilling at 20'; 35' of brown trunk.
126	Calif. pepper	11	Yes	3	Moderate	Multiple attachments at 6'; twig dieback.
127	Siberian elm	7	Yes	5	High	Good young tree; basal sprouts.
128	River red gum	59	Yes	4	Moderate	Multiple attachments at 10'; history of branch failures; large trunk wound N.
129	River red gum	23	Yes	3	Moderate	Codominant trunks at 5'; crowded and one sided W.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
130	Canary island pine	22	Yes	4	Moderate	Upright form; small crown.
131	Arizona cypress	18	Yes	3	Moderate	Codominant trunks at 8'; a little one sided W.
132	Calif. buckeye	8,7,6,6,5,4,4	Yes	4	Moderate	Multiple attachments at 2'; one sided NE.
133	Valley oak	14	Yes	4	Moderate	Codominant trunks at 10'; intertwined w/ #132; slight lean N.
134	Valley oak	27	Yes	4	Moderate	Multiple attachments at 8'; wide attachment; spreading form; developed on rocks.
135	Valley oak	7	Yes	5	High	Good young tree.
136	Valley oak	14	Yes	5	High	Good form and structure; minor twig dieback.
137	River red gum	19	Yes	2	Low	Strongly bowed W.; cracks forming on tension side.
138	River red gum	10	Yes	3	Moderate	Slight lean W.; narrow form.
139	Arizona cypress	22,9,7	Yes	3	Low	Multiple attachments at 3'; one sided E.; moderate dieback.
140	River red gum	16	Yes	2	Low	Crowded; strong lean SE.
141	River red gum	41	Yes	4	Moderate	Multiple attachments at 12'; one sided SW.; dieback.
142	River red gum	17	Yes	3	Moderate	Crowded; crown bowed SW.
143	Arizona cypress	11	Yes	2	Low	Trunk sweeps S.; moderate dieback.
144	Arizona cypress	9	Yes	3	Low	Narrow form; moderate dieback.
145	Arizona cypress	10	Yes	2	Low	Leans S.; moderate dieback.
146	Monterey pine	22	Yes	0	Low	Dead.
147	River red gum	16	Yes	3	Moderate	Crowded; one sided & bowed W.
148	River red gum	17,15,10	Yes	3	Moderate	Crowded; narrow form; one sided W.
149	River red gum	29	Yes	4	Moderate	Multiple attachments at 15'; low lateral & one sided W.
150	River red gum	14	Yes	3	Moderate	Upright, narrow form; dieback.
151	River red gum	18	Yes	2	Low	One sided E.; moderate dieback.
152	River red gum	20	Yes	4	Moderate	Codominant trunks at 12'; food form; dieback.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
153	Valley oak	20	Yes	5	High	Multiple attachments at 4'; good form and structure; minor twig dieback.
154	Valley oak	20	Yes	3	Moderate	Codominant trunks at 6'; small crown; dieback.
155	Valley oak	29	Yes	4	Moderate	Codominant trunks at 5'; spreading form; mistletoe; dieback.
156	River red gum	14	Yes	3	Moderate	Crowded & one sided W.; dieback.
157	River red gum	20	Yes	4	Moderate	Spreading form; low branch S.; dieback.
158	River red gum	25	Yes	3	Moderate	One sided NE.; dieback.
159	River red gum	19	Yes	4	Moderate	Upright, narrow form; dieback.
160	River red gum	25	Yes	4	Moderate	Crowded; asymmetric form; dieback.
161	River red gum	25	Yes	4	Moderate	Crowded; one sided E.; minor dieback.
162	Valley oak	17	Yes	4	Moderate	Crown bowed N.; fair structure; dieback; growing over rocks.
163	Valley oak	36	Yes	4	High	Codominant trunks at 6'; spreading form w/ branches to ground; dieback; growing over rocks.
164	River red gum	12	Yes	3	Low	Crowded & one sided N.; dead top.
165	River red gum	23,17,8	Yes	3	Low	Failed at base and sprouted.
166	River red gum	24	Yes	4	Moderate	Codominant trunks at 12'; good, upright form.
167	River red gum	16	Yes	3	Low	Suppressed; leans W.
168	River red gum	13, 12,10,9	Yes	3	Moderate	Multiple attachments at 2'; upright, narrow form; moderate dieback.
169	River red gum	21	Yes	2	Low	Codominant trunks at 8'; one stem small/dead top.
170	Valley oak	6	No	3	Moderate	Suppressed; leans SW.
171	River red gum	35	Yes	4	High	Multiple attachments at 8'; spreading form; low lateral S.
172	Valley oak	10	Yes	3	Moderate	Crowded; one sided SE.
173	Aleppo pine	23	Yes	4	Moderate	Slight lean S.; good form and structure.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
174	Monterey pine	24	Yes	3	Moderate	One sided S.; good form; minor dieback.
175	Monterey pine	25	Yes	3	Low	Poor form and structure; dieback.
176	Valley oak	10	Yes	3	Moderate	Fair form and structure; one sided S.
177	Valley oak	10	Yes	5	High	Good young tree.
178	Valley oak	10,9	Yes	5	High	Codominant trunks at 3' & 6'; seams in attachments; twig dieback.
179	Valley oak	8	Yes	5	High	Slight lean W.; twig dieback.
180	Valley oak	10,9	Yes	5	High	Codominant trunks at 5'; moderate dieback.
181	Valley oak	15	Yes	4	High	Codominant trunks at 7'; crown bowed S.; moderate dieback.
182	Valley oak	26	Yes	3	Moderate	Codominant trunks at 5'; crowded & one sided E.; moderate dieback.
183	Valley oak	35	Yes	4	High	Multiple attachments at 10'; good form and structure; dieback.
184	Almond	7	Yes	3	Moderate	Growing on slope; slight lean S.
185	Valley oak	7	Yes	5	High	Good young tree.
186	Almond	9	Yes	3	Moderate	Slight lean S.; low branch.
187	Almond	8	Yes	3	Low	Slight lean E.; moderate dieback.
188	Calif. bay	6	No	3	Moderate	Crowded; leans N.; bowed trunk.
189	Valley oak	12	Yes	4	High	Codominant trunks at 5'; good form; twig dieback.
190	Almond	11, 7,7,,6	Yes	3	Moderate	Multiple attachments at 1'; one sided SW.; moderate dieback.
191	Olive	7,6,6	Yes	4	High	Off-site, no tag; multiple attachments at 1'; extends 15' N. over fence.
192	Valley oak	12	Yes	3	Low	Off-site; entire crown on project side of fence; all root S. removed.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
193	Valley oak	8	Yes	5	High	Good young tree.
194	Valley oak	8	Yes	3	Moderate	Off-site; entire crown on project side of fence; moderate dieback.
195	Valley oak	13	Yes	4	Moderate	Off-site; upright form; dieback.
196	Valley oak	11	Yes	5	High	Multiple attachments at 3'; good young tree.
197	Valley oak	7	Yes	5	High	Good young tree; low branch N.
198	Valley oak	19	Yes	3	Moderate	Lateral S.; sparse crown/moderate dieback
199	Valley oak	32	Yes	5	High	Codominant trunks at 10'; good form and structure; mistletoe.
200	Aleppo pine	12	Yes	4	High	Sweeps N. from base; good form and structure.
201	Valley oak	19	Yes	4	Moderate	Multiple attachments at 6'; upright, narrow form; high, sparse crown.
202	Valley oak	9	Yes	5	High	Good young tree; high crown; twig dieback.
203	Valley oak	8	Yes	5	High	Good young tree; asymmetric form; twig dieback.
204	Valley oak	9	Yes	3	Moderate	Crown bowed NE.; fair structure; twig dieback.
205	Valley oak	8	Yes	4	Moderate	One sided S.; dieback of lower branches.
206	Valley oak	9	Yes	5	High	Good young tree; twig dieback.
207	Valley oak	6	No	3	Moderate	Fair form and structure; low branch N.; dieback.
208	Valley oak	9	Yes	5	High	Good young tree; twig dieback.
209	Calif. pepper	26,15,15,13,13	Yes	3	Low	Multiple attachments at base; branches to the ground S.; extensive trunk decay; dieback.
210	Almond	10	Yes	3	Moderate	Codominant trunks at 4'; stems twisted around each other; dieback.
211	Valley oak	7	Yes	4	High	Good young tree; narrow form; twig dieback.
212	Valley oak	9	Yes	5	High	Good young tree; mistletoe; twig dieback.
213	Valley oak	8,7	Yes	4	High	Codominant trunks at base; fair structure; twig dieback.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
214	Valley oak	26	Yes	3	Moderate	Crown bowed NE.; fair structure; moderate dieback.
215	Valley oak	15	Yes	3	Moderate	Crowded; one sided E.; fair structure; dieback.
216	Valley oak	18	Yes	4	Moderate	Crowded; one sided S.; dieback.
217	Valley oak	22	Yes	4	Moderate	Crowded; one sided NE.; dieback.
218	Valley oak	22	Yes	5	High	Multiple attachments at 8'; low branches S.; good form; minor dieback.
219	Valley oak	18	Yes	4	High	Multiple attachments at 20'; good form; moderate dieback.
220	Valley oak	19	Yes	3	Moderate	Codominant trunks at 4'; epicormics & moderate
221	Valley oak	13	Yes	3	Moderate	Crowded; one sided S.; moderate dieback.
222	Valley oak	22	Yes	5	High	Multiple attachments at 8'; good form and structure; minor dieback.
223	Almond	8	Yes	3	Moderate	Multiple attachments at 2'; dieback.
224	Valley oak	16	Yes	2	Low	Small crown; extensive mistletoe & dieback.
225	Almond	9	Yes	4	Moderate	Upright form; growing on rocks.
226	Valley oak	19	Yes	4	High	Multiple attachments at 8'; good form and structure; dieback of small branches.
227	Valley oak	18	Yes	3	Moderate	Fair form and structure; embedded barbed wire;
228	Valley oak	22	Yes	5	High	Multiple attachments at 6'; good form and structure; epicotmics & dieback
229	Coast live oak	6	No	5	High	Good young tree.
230	Almond	7,6,4,3	Yes	3	Moderate	Upright form; dieback.
231	River red gum	23	Yes	3	Moderate	Codominant trunks at 8'; seam in attachment; upright form.
232	Valley oak	15,12	Yes	3	Moderate	Codominant trunks at 1'; dead top on 12" stem; dieback.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
233	Valley oak	16	Yes	4	High	Codominant trunks at 7'; a little one sided E.; minor dieback.
234	Valley oak	13	Yes	5	High	Multiple attachments at 7'; good form and structure.; minor dieback.
235	Almond	7	Yes	1	Low	Small resprout from otherwise dead stump.
236	Valley oak	17	Yes	4	High	Codominant trunks at 7'; one sided E.; minor dieback.
237	Valley oak	17	Yes	3	Moderate	Crown bowed N. to horizontal; dieback.
238	Valley oak	16	Yes	4	High	Codominant trunks at 12'; narrow form; minor dieback.
239	Valley oak	8	Yes	3	Moderate	Crowded; bowed W.; minor dieback.
240	River red gum	12	Yes	2	Low	Codominant trunks at 8'; one sided S.; dead top.
241	River red gum	29	Yes	3	Low	Crowded; upper crown bowed S.; dead top.
242	Blue gum	33	Yes	3	Low	Codominant trunks at 8'; dead top.
243	Valley oak	6	No	3	Moderate	Crowded; small crown; minor dieback.
244	Valley oak	6	No	3	Moderate	Crowded; bowed E.; minor dieback.
245	Olive	8,8,7,6,6	Yes	4	Moderate	Multiple attachments at 1'; good form; moderate
246	Valley oak	17	Yes	4	High	Codominant trunks at 8'; wide attachment; dieback.
247	Black locust	7,3	No	3	Low	Dead top.
248	Calif. black walnut	9,7	Yes	1	Low	Mostly dead.
249	Calif. buckeye	6,6,6,5	Yes	4	High	Multiple attachments at 1'; one sided SE.
250	Valley oak	12	Yes	5	High	Good form and structure; twig dieback.
251	Blue gum	44	Yes	4	High	Multiple attachments 15'; spreading form.
252	Valley oak	33	Yes	2	Low	One sided S.; dead top.
253	Ash sp.	13,12	Yes	2	Low	Codominant trunks at base; crown bowed S.; moderate dieback.
254	Valley oak	58	Yes	3	Low	Multiple attachments at 6'; large cavity & decay N.; 14" stem failed on N. side.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
255	Valley oak	26	Yes	3	Moderate	Partial failure; laying on slope S.
256	Calif. bay	16,15,14	Yes	5	High	Multiple attachments at 1'; good, upright form; dieback.
257	Calif. bay	7	Yes	3	Moderate	Suppressed; leans N.; small branch failure.
258	Calif. bay	13,12	Yes	4	High	Multiple attachments at 1'; a little crowed; dieback.
259	Valley oak	32	Yes	3	Moderate	Partial failure; laying on slope E.
260	Valley oak	10	Yes	5	High	Off-site; growing against fence; good young tree.
261	Valley oak	32	Yes	4	High	Good form and structure; one sided S.; engulfed in poison oak.
262	Valley oak	15	Yes	5	High	Good young tree; minor dieback.
263	Valley oak	10	Yes	5	High	Good young tree; minor dieback.
264	Valley oak	13	Yes	4	Moderate	Crowded & one sided N.; minor dieback.
265	Valley oak	9	Yes	4	Moderate	Crowded; narrow form; lateral S.; minor dieback.
266	Valley oak	16	Yes	5	High	Codominant trunks at base & 7'; good form; minor dieback.
267	Almond	10,6,6,6,6,6	Yes	3	Moderate	Multiple attachments at base; perched on steep slope; dead stems.
268	Valley oak	10	Yes	4	Moderate	Crowded; one sided S.; minor dieback.
269	Valley oak	19	Yes	4	Moderate	Multiple attachments at 5'; seam in attachment; one sided SE.; minor dieback.
270	Valley oak	23	Yes	4	High	Codominant trunks at 20'; upright form; minor dieback.
271	Valley oak	11	Yes	3	Low	Crowded; crown bowed N. to horizontal.
272	Valley oak	11,6	Yes	3	Moderate	Crowded; crown bowed N.
273	Valley oak	7	Yes	3	Moderate	Crowded; crown bowed N.
274	Valley oak	9	Yes	3	Moderate	Crowded; crown bowed N.
275	Valley oak	7	Yes	3	Moderate	Crowded; upright form.
276	Valley oak	11,9	Yes	3	Moderate	Crowded; crown bowed NE. to horizontal.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
277	Valley oak	23	Yes	4	High	Good form; slight lean NE.
278	Valley oak	14,11	Yes	3	Moderate	Crowded; crown bowed SE.
279	Valley oak	28	Yes	3	Moderate	Codominant trunks at 3' & 7'; good form and structure; moderate dieback.
280	Valley oak	29	Yes	4	High	Multiple attachments at 3'; good form and structure; includes bark.
281	Valley oak	20	Yes	4	High	Good form and structure; a little one sided SE.; minor dieback.
282	Foothill pine	14	Yes	4	High	Good young tree; slight lean W.
283	Valley oak	18	Yes	4	Moderate	Asymmetric form; minor dieback.
284	Valley oak	36	Yes	4	High	Multiple attachments at 10'; good form and structure; small pockets of decay along branches.
285	Valley oak	31	Yes	4	High	Codominant trunks at 8'; good form and structure; long lateral S.
286	Almond	7	Yes	4	Moderate	Good young tree; sapsucker damage.
287	Valley oak	18	Yes	3	Moderate	Codominant trunks at 8'; one sided S.; basal cavity; trunk wound in upper crown.
288	Valley oak	28	Yes	3	Moderate	Multiple attachments at 8'; one sided E.; mistletoe& dieback.
289	Valley oak	31	Yes	3	Moderate	Multiple attachments at 6'; one sided N.; moderate dieback.
290	Valley oak	28	Yes	4	Moderate	Multiple attachments at 7'; low branch N.; minor dieback.
291	Valley oak	22	Yes	4	High	Codominant trunks at 8'; one sided SE.; minor dieback.
292	Valley oak	8	Yes	5	High	Good young tree.
293	Valley oak	7	Yes	5	High	Good young tree.
294	Valley oak	10	Yes	5	High	Good young tree.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
295	Valley oak	8	Yes	3	Low	Poor form and structure; one stem removed at fence
296	Valley oak	12	Yes	5	High	Good young tree; slight lean N.
297	Valley oak	22	Yes	4	High	Codominant trunks at 6’; good form; included bark; minor dieback.
298	Valley oak	17	Yes	4	High	Multiple attachments at 7’; good form; embedded fence; minor dieback.
299	Valley oak	20	Yes	4	Moderate	Multiple attachments at 6’; good form; long laterals; dieback.
300	Valley oak	22	Yes	4	High	Multiple attachments at 3’; good form; included bark; minor dieback.
301	Valley oak	6	No	3	Moderate	Codominant at 5'; epicormic growth.
302	Valley oak	8	Yes	3	Moderate	Codominant at 6'; narrow form.
303	Valley oak	8	Yes	3	Moderate	One-sided to west.
304	Valley oak	7	Yes	3	Moderate	Codominant at 6' with narrow attachment.
305	Valley oak	6,3	No	3	Moderate	Codominant at 3'; 6" stem has crook at 6'.
306	Valley oak	6	No	4	Moderate	Interior tree; narrow form; full crown.
307	Valley oak	6,2	No	4	High	Narrow, upright form.
308	Valley oak	6	No	4	Moderate	Narrow, upright form; codominant high in crown.
309	Valley oak	6	No	3	Moderate	One-sided to west; suppressed form.
310	Valley oak	8,5	Yes	3	Moderate	Codominant at 2' with included bark; narrow form.
311	Valley oak	7	Yes	4	Moderate	Good form and structure; slightly thin.
312	Valley oak	8	Yes	3	Moderate	Codominant at 12'; epicormic growth.
313	Valley oak	6	No	2	Low	Very thin, narrow crown.
314	Valley oak	6	No	4	High	Good young tree; good form and structure; narrow form.
315	Valley oak	6	No	3	Moderate	Thin crown.
316	Valley oak	6	No	3	Moderate	Sinuous form; narrow crown.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
317	Valley oak	6	No	3	Moderate	Narrow, suppressed form.
318	Valley oak	14	Yes	3	Moderate	Codominant at 6' with included bark; thin crown.
319	Valley oak	7	Yes	3	Moderate	Narrow, upright form; thin crown.
320	Valley oak	8,5	Yes	3	Moderate	Codominant at 4'; epicormic growth.
321	Valley oak	9	Yes	3	Low	Under utility lines; bows to north.
322	Calif. black walnut	5,5	No	1	Low	All but dead.
323	Valley oak	4,4	Yes	3	Low	Codominant at base; stems twist around each other.
324	Valley oak	6	No	3	Moderate	Crooked trunk.
325	Valley oak	6	No	4	High	Good upright form; epicormic growth.
326	Valley oak	8,4	No	4	High	4" stem is a low limb; full crown.
327	Calif. black walnut	9,4,4,4	Yes	1	Low	All but dead.
328	Calif. black walnut	15,11,9	Yes	1	Low	All but dead.
329	Valley oak	9	Yes	4	Moderate	Codominant at 12'; slightly thin.
330	Calif. black walnut	11	Yes	2	Low	Very thin crown; twig dieback.
331	Valley oak	6	No	4	High	Crooked trunk; otherwise good.
332	Calif. black walnut	14,11,8	Yes	2	Low	Extensive dieback in upper crown.
333	Valley oak	8	Yes	3	Moderate	One-sided to west; codominant at 7'.
334	Valley oak	28	Yes	4	Moderate	Multiple attachemtns at 5'; full, wide spreading crown; slightly thin.
335	Valley oak	18,11	Yes	4	High	Codominant at base; minor dieback; slightly thin.
336	Valley oak	10	Yes	4	Moderate	Top bows to east; full crown; codominant at 15'.
337	Valley oak	6	No	4	Moderate	Narrow, upright form.
338	Valley oak	7	Yes	3	Moderate	Codominant at 20' & 6' with wide attachment; narrow form.
339	Valley oak	11	Yes	4	Moderate	Multiple attachemtns at 8'; epicormic growth.
340	Valley oak	8	Yes	4	Moderate	Tall, narrow form; thin crown.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
341	Valley oak	13,4	Yes	4	Moderate	Slightly thin; minor twig dieback.
342	Valley oak	13	Yes	3	Moderate	Codominant at 6' with seam below attachment; thin crown.
343	Valley oak	11,10	Yes	3	Low	Codominant at 4'; thin crown; twig dieback.
344	Valley oak	6	No	3	Low	Top bows to north; thin crown.
345	Valley oak	12	Yes	3	Moderate	Lower branches dead; twig dieback.
346	Valley oak	11	Yes	3	Moderate	Central leader bows to north; narrow form.
347	Almond	5,5	No	2	Low	Very thin crown; codominant at 1'.
348	Valley oak	13	Yes	4	Moderate	Codominant at 15'; one-sided to south.
349	Valley oak	7	Yes	3	Low	Poor form and structure; thin crown.
350	Valley oak	14	Yes	4	High	Okay form; epicormic growth.
351	Valley oak	14	Yes	3	Moderate	Central leader has corrected form; thin crown.
352	Valley oak	22,7	Yes	4	Moderate	Good form and structure; slightly thin; twig and branch dieback; low lateral had branch failure over road.
353	Mexican fan palm	18	Yes	3	Moderate	45' brown trunk.
354	Valley oak	10	Yes	3	Moderate	Top of tree bows to southeast.
355	Almond	8,3	No	3	Low	Poor form and structure; thin crown.
356	Valley oak	22	Yes	4	High	Multiple attachments at 10’; one sided SE.; dieback.
357	Valley oak	16	Yes	3	Low	Crown one sided & bowed N. over the road; poor form and structure.
358	Valley oak	6,5	No	3	Moderate	Codominant trunks at base; suppressed.
359	Valley oak	31	Yes	4	High	Multiple attachments at 8’; good form; minor dieback.
360	Valley oak	6	No	4	High	Good young tree; a little crowded.
361	Valley oak	6	No	4	Moderate	Good young tree; one sided E.
362	Valley oak	10	Yes	4	Moderate	Good young tree; one sided SE.
363	Valley oak	10	Yes	4	Moderate	Crowded; one sided E.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
364	Valley oak	20	Yes	4	High	Good form and structure; mistletoe; twig dieback; growing at edge of road.
365	Valley oak	10	Yes	4	High	Good young tree; a little one sided E.
366	Valley oak	10	Yes	4	High	Good young tree; a little crowded & bowed NE.
367	Valley oak	8	Yes	3	Moderate	Crowded; one sided SW.
368	Almond	11,7,4	Yes	3	Low	Multiple attachments at 1'; dieback; sapsucker damage.
369	Calif. black walnut	8,6,5	Yes	1	Low	Mostly dead.
370	Valley oak	51	Yes	4	Moderate	Codominant trunks at 6'; spreading form; long laterals to ground SW.; moderate dieback.
371	Valley oak	9	Yes	5	High	Good young tree.
372	Valley oak	8	Yes	4	Moderate	Slight crooks; beneath overhead utility lines.
373	Valley oak	11	Yes	4	Moderate	Slight lean N.; beneath overhead utility lines.
374	Mexican fan palm	12	Yes	5	High	Growing in creek; good form; 4' of clear trunk.
375	Canary Island palm	36	Yes	5	High	Good form; 1' of clear trunk.
376	Valley oak	12	Yes	3	Low	Suppressed; bowed W. to horizontal.
377	Valley oak	12	Yes	3	Low	Suppressed; bowed N. to horizontal.
378	Valley oak	29	Yes	3	Moderate	Multiple attachments at 15'; upright form; dieback.
379	Valley oak	6	No	3	Low	Suppressed; bowed SE. to horizontal.
380	Valley oak	6	No	5	High	Crowded; upright, narrow form.
381	Valley oak	8	Yes	5	High	Crowded; upright, narrow form.
382	Valley oak	9	Yes	4	Moderate	Crowded; one sided W.
383	Valley oak	6	No	4	High	Crowded; slight lean N.
384	Valley oak	8	Yes	5	High	Upright form; beneath overhead utilities.
385	Valley oak	8	Yes	4	High	Slight crook at 3'; beneath overhead utilities.
386	Valley oak	24	Yes	4	High	Multiple attachments at 8'; good form and structure; mistletoe.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
387	Valley oak	15	Yes	3	Moderate	Leans E.; moderate dieback.
388	Valley oak	17	Yes	4	Moderate	Leans E.; branches to ground; dieback.
389	Valley oak	42	Yes	2	Low	Leans E.; extensive trunk decay; topped for overhead utilities.
390	Valley oak	13,11,10,10	Yes	5	High	Multiple attachments at base; good form and structure.
391	Valley oak	12	Yes	4	Moderate	Growing against fence; one sided N.; beneath overhead utilities.
392	Valley oak	23,22	Yes	2	Low	Partial failure; laying on ground E.; trunk decay.
393	Valley oak	13	Yes	2	Low	Leans E.; dieback.
394	Valley oak	10	Yes	5	High	Crowded; slight lean E.
395	Valley oak	8	Yes	5	High	Crowded; slight lean E.
396	Calif. black walnut	11	Yes	1	Low	Mostly dead.
397	Valley oak	11	Yes	3	Moderate	Suppressed; leans N. to horizontal.
398	Valley oak	9	Yes	5	High	Crowded; upright form.
399	Valley oak	7	Yes	4	High	Crowded; one sided N.
400	Calif. black walnut	10,9	Yes	2	Low	Codominant trunks at base; dieback; mistletoe.
401	Valley oak	7	Yes	3	Moderate	Growing on rocks; stunted.
402	Valley oak	13	Yes	5	High	Multiple attachments at 4’; good form and structure.
403	Valley oak	9	Yes	4	High	Codominant trunks at 4’; small crown; mistletoe.
404	Valley oak	6	No	4	Moderate	Growing at edge of road; asymmetric form; mistletoe.
405	Valley oak	10	Yes	4	High	Growing on rocks; slight lean N.
406	Valley oak	7	Yes	5	High	Growing on cut bank; good young tree.
407	Valley oak	6,5	No	4	High	Codominant trunks at 4’; one stem leans E.
408	Valley oak	27	Yes	5	High	Codominant trunks at 8’; slight lean E.; good form; dieback
409	Valley oak	17	Yes	4	Moderate	Growing on cut bank; strong lean E.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
410	Valley oak	8	Yes	4	Moderate	Codominant trunks at 3'; asymmetric form; large surface root displacing asphalt.
411	Valley oak	10	Yes	5	High	Good young tree; mistletoe.
412	Valley oak	16	Yes	5	High	Growing against fence; good form and structure.
413	Valley oak	6,5	No	4	High	Codominant trunks at 1'; good young tree; twig dieback.
414	Valley oak	6	No	5	High	Good young tree.
415	Valley oak	25	Yes	5	High	Off-site; multiple attachments art 8'; good form and structure; mistletoe; extends 20' S. over fence.
416	Valley oak	13	Yes	5	High	Good young tree; twig dieback.
417	Valley oak	25	Yes	5	High	Off-site; multiple attachments art 8'; good form and structure; extends 25' S. over fence.
418	Valley oak	6	No	5	High	Good young tree; growing against fence.
419	Valley oak	6,6,3	Yes	5	High	Multiple attachments at 1'; good young tree; twig
420	Valley oak	6,6,4,4	Yes	4	Moderate	Multiple attachments at 2'; seam n attachment; twig dieback.
421	Valley oak	8	Yes	5	High	Good young tree.
422	Valley oak	10	Yes	4	High	Good young tree; slight crook at 3'.
423	Valley oak	6	No	5	High	Off-site; good young tree; growing against fence.
424	Valley oak	8,6	Yes	4	Moderate	Codominant tanks at 3'; seam n attachment; one sided NW.
425	Blue gum	20	Yes	5	High	Off-site; good form; low branches growing through
426	Aleppo pine	35,16	Yes	3	Moderate	Off-site, tagged on branch; sparse crown; large, low laterals extend 25' W. over fence.
427	Valley oak	19	Yes	4	Moderate	Off-site; good form and structure; extend 20' N. over fence.

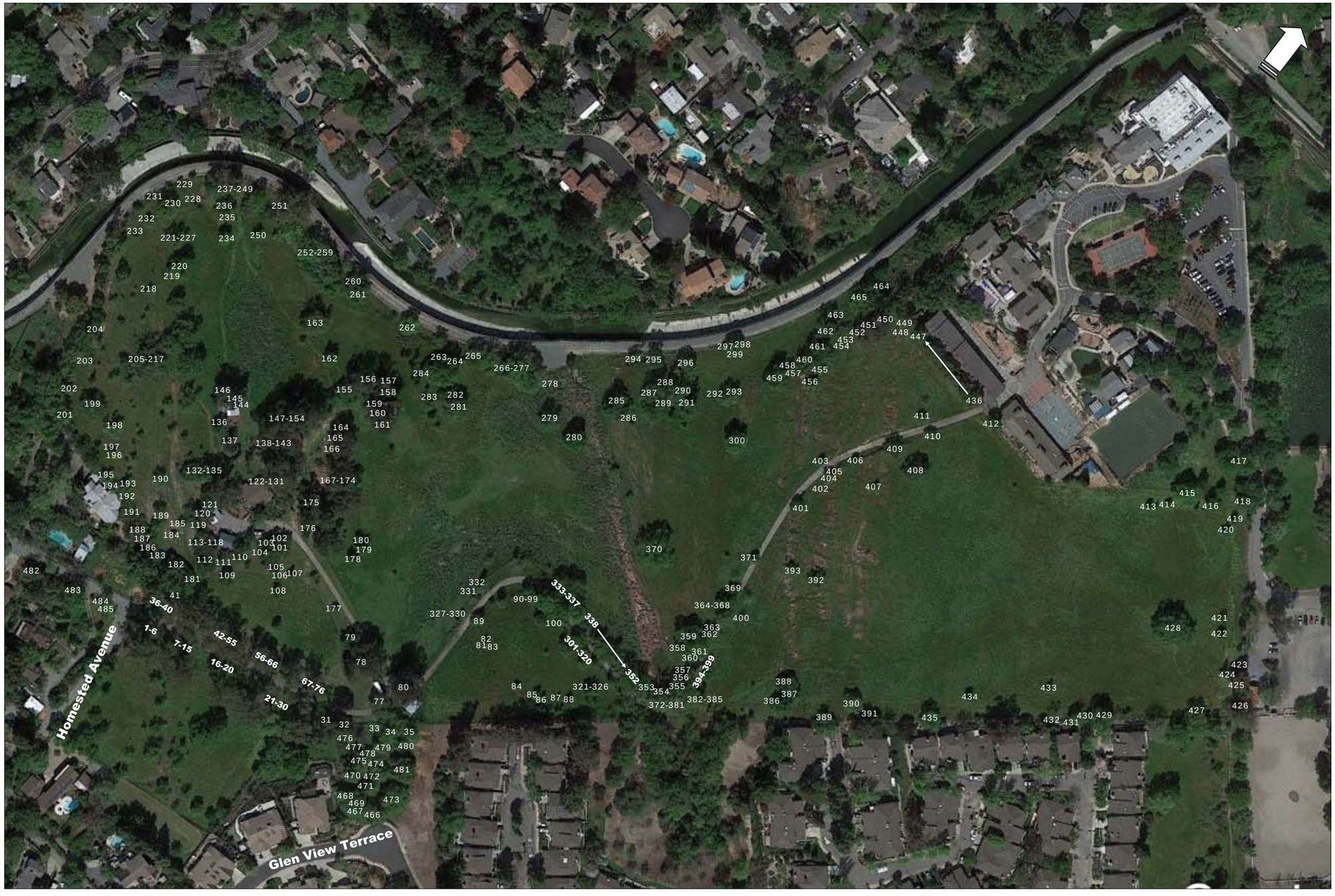
TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
428	Valley oak	50	Yes	4	Moderate	Codominant trunks 10'; spreading crown; trunk cavities & decay; twig dieback.
429	Valley oak	17	Yes	4	High	Off-site; good form and structure; pruned on W. for overhead utilities; extend 25' N. over fence.
430	Valley oak	9	Yes	3	Moderate	Topped for overhead utilities.
431	Valley oak	12,11,8,6	Yes	3	Moderate	Multiple attachments at 1'; narrow attachments; topped for overhead utilities.
432	Valley oak	15	Yes	3	Moderate	One sided & bowed N.; topped for overhead utilities.
433	Valley oak	8	Yes	5	High	Good young tree.
434	Valley oak	9	Yes	4	High	Codominant truks at 5'; included bark.
435	Valley oak	15	Yes	3	Moderate	Topped for overhead utilities.
436	River sheoak	14	Yes	3	Moderate	Off-site; crowded & one sided SE.; extend 15' S. over fence.
437	River sheoak	25	Yes	4	Moderate	Off-site; multiple attachments at 8'; low lateral extend 20' S. over fence.
438	River sheoak	15	Yes	3	Moderate	Off-site; multiple attachments at 8'; narrow form; extends 15' S. over fence.
439	River sheoak	12	Yes	3	Moderate	Off-site; multiple attachments at 8'; narrow form; low lateral extends 15' S. over fence.
440	River sheoak	14	Yes	3	Moderate	Off-site; multiple attachments at 8'; narrow form; low lateral extends 10' S. over fence.
441	River sheoak	15	Yes	3	Moderate	Off-site; multiple attachments at 8'; narrow form; extends 15' S. over fence.
442	River sheoak	16	Yes	3	Moderate	Off-site; narrow form; extends 15' S. over fence.
443	River sheoak	18	Yes	3	Moderate	Off-site; multiple attachments at 6'; narrow form; extends 10' S. over fence.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
444	River sheoak	20	Yes	3	Moderate	Off-site; codominant trunks at 6'; narrow form; extends 20 S. over fence.
445	River sheoak	15	Yes	3	Moderate	Off-site; codominant trunks at 6'; included bark;!narrow form; extends 20 S. over fence.
446	River sheoak	13	Yes	3	Moderate	Off-site; crowded & one sided SW.; extend 15' N. over fence.
447	River sheoak	17	Yes	4	Moderate	Off-site; one sided SW.; extend 20' N. over fence.
448	River sheoak	14	Yes	3	Moderate	Off-site; codominant trunks at 8'; narrow form; extends 20 S. over fence.
449	River sheoak	12,8	Yes	3	Low	Off-site; codominant trunks at 3'; suppressed; extends 20 S. over fence.
450	River sheoak	8	Yes	3	Low	Off-site; codominant trunks at 3'; suppressed; extends 10 S. over fence.
451	Manna gum	26	Yes	4	Moderate	Codominant trunks at 6'; good form; dieback.
452	Manna gum	15	Yes	3	Moderate	Codominant trunks at 6'; suppressed; dieback.
453	Manna gum	17,16	Yes	3	Moderate	Codominant trunks at 6'; suppressed; leans SE.; dieback.
454	Manna gum	15,13,8	Yes	3	Moderate	Multiple attachments at 2'; one sided NW.; dieback.
455	Valley oak	17	Yes	3	Low	Growing on steep slope; burls & decay at 8'; leans E
456	Valley oak	12	Yes	3	Moderate	Crook at 8'; leans E.; small crown.
457	Valley oak	11,10	Yes	3	Moderate	Codominant trunks at base; one stem leaning against rocks.
458	Valley oak	7,6	Yes	3	Moderate	Codominant trunks at 3'; small crown.
459	Valley oak	31	Yes	4	Moderate	Codominant trunks at 6'; spreading form; growing over rocks; moderate dieback.
460	Valley oak	22	Yes	2	Low	Leans SE.; large decay column N. ; dieback.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
461	Valley oak	32	Yes	4	Moderate	Multiple attachments at 10'; growing on steep Slope w/ large surface root; dieback.
462	Valley oak	20	Yes	3	Moderate	Growing against rocks; upright form; dieback.
463	Valley oak	24	Yes	3	Moderate	Growing on steep slope; leans SE.; dieback.
464	Valley oak	17	Yes	3	Moderate	Codominant trunks at 8'; basal decay; barbed wire in upper crown; dieback.
465	Valley oak	22	Yes	4	Moderate	Codominant trunks at 6'; crown one sided N.; dieback.
466	Valley oak	18,15,13,11	Yes	4	High	Multiple attachments at 1'; narrow attachments; one sided SE.; dieback.
467	Valley oak	10	Yes	3	Low	Crowded; crown bowed W. to horizontal.
468	Valley oak	11	Yes	3	Moderate	Crowded; leans W..
469	Chinese pistache	5	No	3	Low	Crowded; crown bowed SW. to horizontal.
470	Arroyo willow	14	Yes	3	Low	Suppressed; poor form and structure.
471	Arroyo willow	18,16	Yes	2	Low	Codominant trunks at base; major limb failures; trunk decay.
472	Privet	8	Yes	4	Moderate	Upright form.
473	Valley oak	23	Yes	4	Moderate	Partial failure; strong lean E.; branches to the ground.
474	Arroyo willow	7,7,5,5,4	Yes	2	Low	Failed and laying on ground; trunk decay.
475	Arroyo willow	21,7,5	Yes	2	Low	Failed and laying on ground; trunk decay.
476	Arroyo willow	25,12,9	Yes	2	Low	Failed and laying on ground; trunk decay.
477	Arroyo willow	18,8,5	Yes	2	Low	Failed and laying on ground; trunk decay.
478	Plum	8,6,5,4	Yes	2	Low	Multiple attachments at base; 8" stem dead; extensive dieback.
479	Valley oak	18	Yes	5	High	Multiple attachments at 10'; good, upright form.
480	Valley oak	17	Yes	4	High	Multiple attachments at 5'; wide attachment(a little one sided SE.

TREE No.	SPECIES	SIZE DIAMETER (in inches)	PROTECTED	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
481	Valley oak	21	Yes	5	High	Multiple attachments at 10'; good form and structure; low lateral W.
482	Valley oak	14	Yes	5	High	Upright form; stem removed at 20' for overhead utility clearance.
483	Valley oak	11	Yes	4	Moderate	Codominant trunks at 8'; topped for overhead utility clearance.
484	Valley oak	10,8	Yes	4	Moderate	Codominant trunks at base; 8" stem topped for overhead utility clearance.
485	Almond	8,7,6,5,5	Yes	3	Moderate	Multiple attachments at base; growing through fence; dieback.

Tree Assessment Map



Senior Housing Project
Seven Hills Ranch Road
Walnut Creek, CA

Prepared for:
Speiker Senior
Development Partners
Rancho Mission Viejo, CA

March 2020

No Scale

Notes

- Base map provided by:
  Google Maps

- Numbered tree locations are approximate.

HORT SCIENCE
BARTLETT CONSULTING
Divisions of The F.A. Bartlett Tree Expert Company

325 Ray Street
Pleasanton, California 94566
Phone 925.484.0211
Fax 925.484.0596

Appendix E-4: USACE Wetland Determination

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102

August 19, 2021

Regulatory Division

Subject: File No. 2020-00316S

Mr. Jeff Olberding
Olberding Environmental, Inc.
193 Blue Ravine Road Suite 165
Folsom, California 95630
jeff@olberdingenv.com

Dear Mr. Olberding:

This correspondence is in reference to your submittal of July 10, 2020, on behalf of Spieker Senior Development Partners, requesting a preliminary jurisdictional determination of the extent of navigable waters of the United States and waters of the United States occurring on an approximately 32.90-acre property located at the end of Seven Hills Ranch Road in Contra Costa County, California (Lat: 37.91960918, Long: -122.05007405). This verified preliminary jurisdictional determination supersedes the preliminary jurisdictional determination issued on March 24, 2021.

All proposed discharges of dredged or fill material occurring below the plane of ordinary high water in non-tidal waters of the United States; or below the high tide line in tidal waters of the United States; and within the lateral extent of wetlands adjacent to these waters, typically require Department of the Army authorization and the issuance of a permit under Section 404 of the Clean Water Act of 1972, as amended, 33 U.S.C. § 1344 *et seq*. Waters of the United States generally include the territorial seas; all traditional navigable waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters subject to the ebb and flow of the tide; wetlands adjacent to traditional navigable waters; non-navigable tributaries of traditional navigable waters that are relatively permanent, where the tributaries typically flow year-round or have continuous flow at least seasonally; and wetlands directly abutting such tributaries. Where a case-specific analysis determines the existence of a "significant nexus" effect with a traditional navigable water, waters of the United States may also include non-navigable tributaries that are not relatively permanent; wetlands adjacent to non-navigable tributaries that are not relatively permanent; wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary; and certain ephemeral streams in the arid West.

The enclosed delineation map titled “Preliminary Jurisdictional Determination, Pursuant to Section 404 Clean Water Act, Spieker Senior Development Partners Project, Walnut Creek, Contra Costa County, California,” one (1) sheet and date certified August 19, 2021, depicts the extent and location of wetlands, and other waters of the United States, within the boundary area of the site that **may be** subject to U.S. Army Corps of Engineers' regulatory authority under

Section 404 of the Clean Water Act. This preliminary jurisdictional determination is based on the current conditions of the site, as verified during a field investigation of September 23, 2020, a review of available digital photographic imagery, and a review of other data included in your submittal. While this preliminary jurisdictional determination was conducted pursuant to Regulatory Guidance Letter No. 16-01, *Jurisdictional Determinations*, it may be subject to future revision if new information or a change in field conditions becomes subsequently apparent. The basis for this preliminary jurisdictional determination is fully explained in the enclosed *Preliminary Jurisdictional Determination Form*. You are requested to sign and date this form and return it to this office within two weeks of receipt.

You are advised that the preliminary jurisdictional determination may **not** be appealed through the U.S. Army Corps of Engineers' *Administrative Appeal Process*, as described in 33 C.F.R. pt. 331 (65 Fed. Reg. 16,486; Mar. 28, 2000). Under the provisions of 33 C.F.R Section 331.5(b)(9), non-appealable actions include preliminary jurisdictional determinations since they are considered to be only advisory in nature and make no definitive conclusions on the jurisdictional status of the water bodies in question. However, you may request this office to provide an approved jurisdictional determination that precisely identifies the scope of jurisdictional waters on the site; an approved jurisdictional determination may be appealed through the *Administrative Appeal Process*. If you anticipate requesting an approved jurisdictional determination at some future date, you are advised not to engage in any on-site grading or other construction activity in the interim to avoid potential violations and penalties under Section 404 of the Clean Water Act. Finally, you may provide this office new information for further consideration and request a reevaluation of this preliminary jurisdictional determination.

You may refer any questions on this matter to Michael Orellana of my Regulatory staff by telephone at (450) 503-6769 or by e-mail at michael.s.orellana@usace.army.mil. All correspondence should be addressed to the Regulatory Division, South Branch, referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. My Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website: http://www.spn.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,

Digitally signed by Katerina Galacatos
Date: 2021.08.19 16:50:11 -07'00'

Katerina Galacatos, Ph.D.
South Branch Chief, Regulatory Division

Enclosures

Electronic Copy Furnished (w/encls):

Spieker Senior Development Partners, Rancho Mission Viejo, CA (Attn. Troy Bourne, BourneT@spk.com)

Electronic Copy Furnished (w/map only):

CA RWQCB, Oakland, CA (Attn. Derek Beauduy, Derek.Beauduy@waterboards.ca.gov)

OLBERDING
-ENVIRONMENTAL-

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Folsom, California 95630
Phone: (916) 985-1188

Figure 5: Delineation of Wetlands and Other Waters of the U.S. for the Spieker Senior Development Partners - Walnut Creek Property

- Survey Area (32.90 acres)
- Map Reference Point
- Wetland Point
- Upland Point
- Culvert

Aquatic Features (0.434 acres, 1,349 lnft)

- Perennial Drainage (0.084 ac, 1,275 lnft)
- Seasonal Wetland (0.350 acres) Culverted
- Perennial Drainage (74 lnft)
- Concrete Lined Channel (0.002 acres, 25 lnft)

N
W E
S

0 100 200 400
Feet

1:2,100 1 in = 175 ft

Print at: 11" x 17"

Coordinate System:
NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Map Revision Date: 5/11/2021

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on February 10, 2016, by:
Jason Deters, Project Manager
Enforcement and Special Projects Unit
U.S. Army Corps of Engineers
South Pacific Division
Sacramento District

OLBERDING ENVIRONMENTAL, INC.
Wetland Regulation and Permitting

October 1, 2021

Mr. Troy Bourne
Spieker Senior Development
Partners2 Las Estrellas Loop
Rancho Mission Viejo, California 92649
.

Subject: **Subject: Response to Spieker Senior Continuing Care Community Project, Notice of Preparation of a Draft Environmental Impact Report, SCH No. 2021070517, Contra Costa County**

Dear Mr. Bourne,

This letter has been prepared to provide a response to the recent Draft EIR review associated with the pre-construction activities of the Spieker Senior Continuing Care Community Project (Project) (Attachment 1, Figure 1), specifically in regards to western burrowing owl (*Athene cunicularia*) (BUOW).

SUMMARY

Comments from California Department of Fish and Wildlife (CDFW) to Contra Costa County in regards to CEQA compliance: CDFW writes "To offset permanent impacts to western burrowing owl foraging habitat, the Project proponent shall purchase and protect in perpetuity compensatory mitigation lands at a minimum of a 2:1 mitigation ratio (or a minimum mitigation ratio of 3:1 if active burrows or winter roosts are identified on site and take cannot be avoided) as a condition of Project approval."

Significant portions of the Project are woodland, which is not suitable burrowing owl habitat. The grassland portions of the Project are ungrazed with dense, tall grasses, which in combination with the lack of ground squirrels and paucity of open burrows, also make for unsuitable burrowing owl habitat. If, by chance, a burrowing owl did visit the site, it would have no underground refuge and would be susceptible to predation from raptors and mammals utilizing the on-site woodlands and grasslands. Any visits to the site would be very short in duration and not enough to justify claiming the potential for burrowing owls utilizing the site in any significant capacity.

Owls have been detected foraging out to one mile from their burrows (ECCHCP). Inter-nest distances, which indicate the limit of an owl's territory, have been found to average between 61 and 214 meters (198 and 695 feet) (Thomsen 1971, Haug and Oliphant 1990). With the nearest documented burrowing owls in the region located 2.5 miles away (Attachment 1, Figure 2) at the Lime Ridge Open Space, it is highly unlikely that burrowing owls in the region would ever disburse to an unsuitable habitat surrounded by other developed lands.

The CDFW's Staff Report on Burrowing Owl Mitigation (2012) foraging habitat is defined as habitat within the estimated home range of an occupied burrow, supports suitable prey base, and allows for effective hunting. This Project is not within any documented BUOW home range (Figure 2) which by definition makes it not foraging habitat.

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Email: Jeff@Olberdingenv.com

CONCLUSIONS

As a standard pre-construction measure, Olberding Environmental will be completing Protocol level surveys for BUOW, as laid out in the CDFW BUOW Mitigation Report (CDFW 2012). If during protocol surveys evidence of BUOW utilizing the site are found then mitigation may be warranted; however, lacking any evidence of BUOW usage of the site, arbitrary mitigation is unjustified.

Please feel free to contact me with any questions or concerns you may have regarding this submittal.

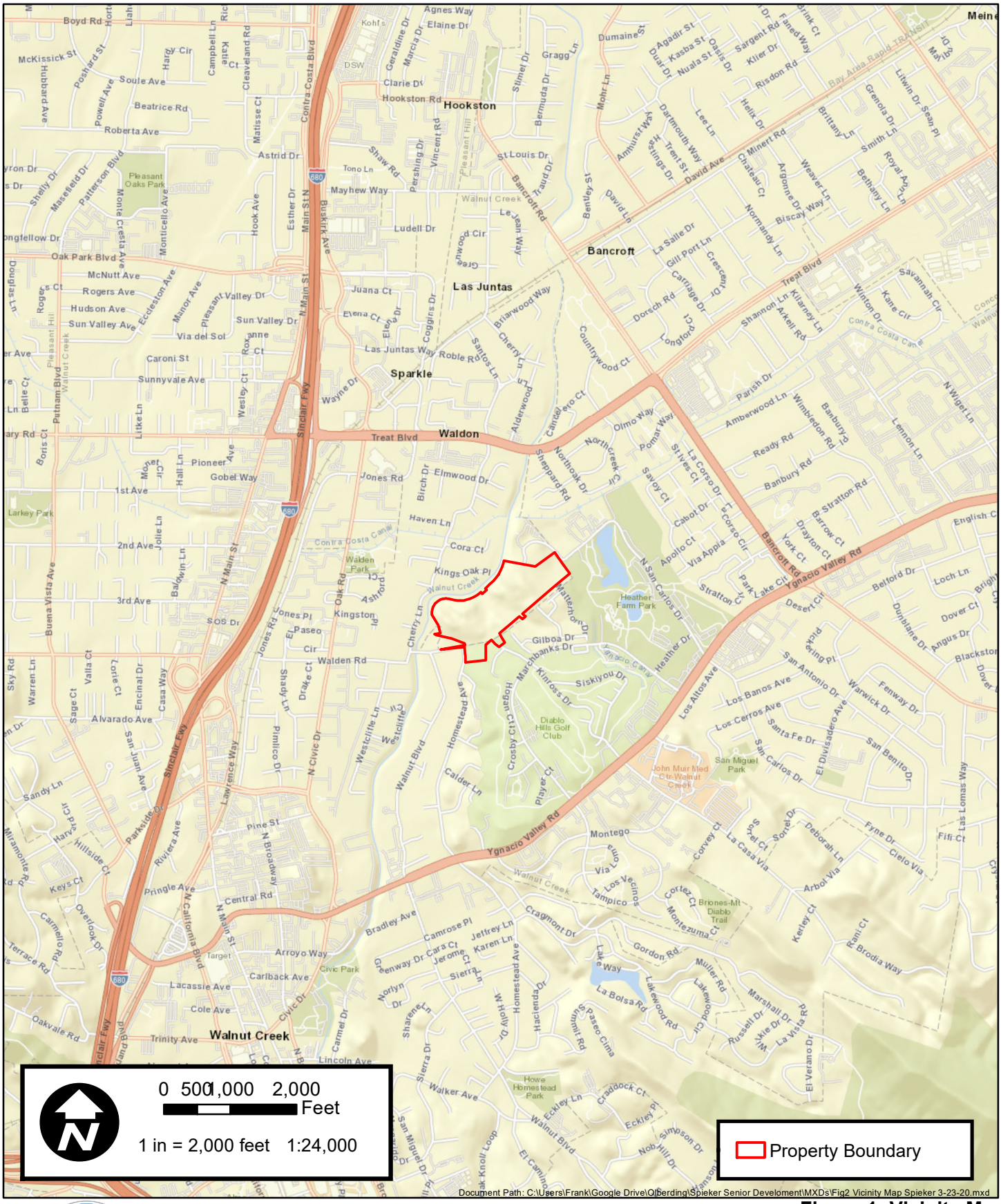
Sincerely,

Jeff Olberding
Wetland Regulatory Scientist

ATTACHMENTS

ATTACHMENT 1

FIGURES



OLBERDING
-ENVIRONMENTAL-

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Folsom, California 95630
Phone: (916) 985-1188

Figure 1: Vicinity Map
Spieker Senior Continuing Care Community Project
Contra Costa County, California

Map Revision Date: 4/10/2020

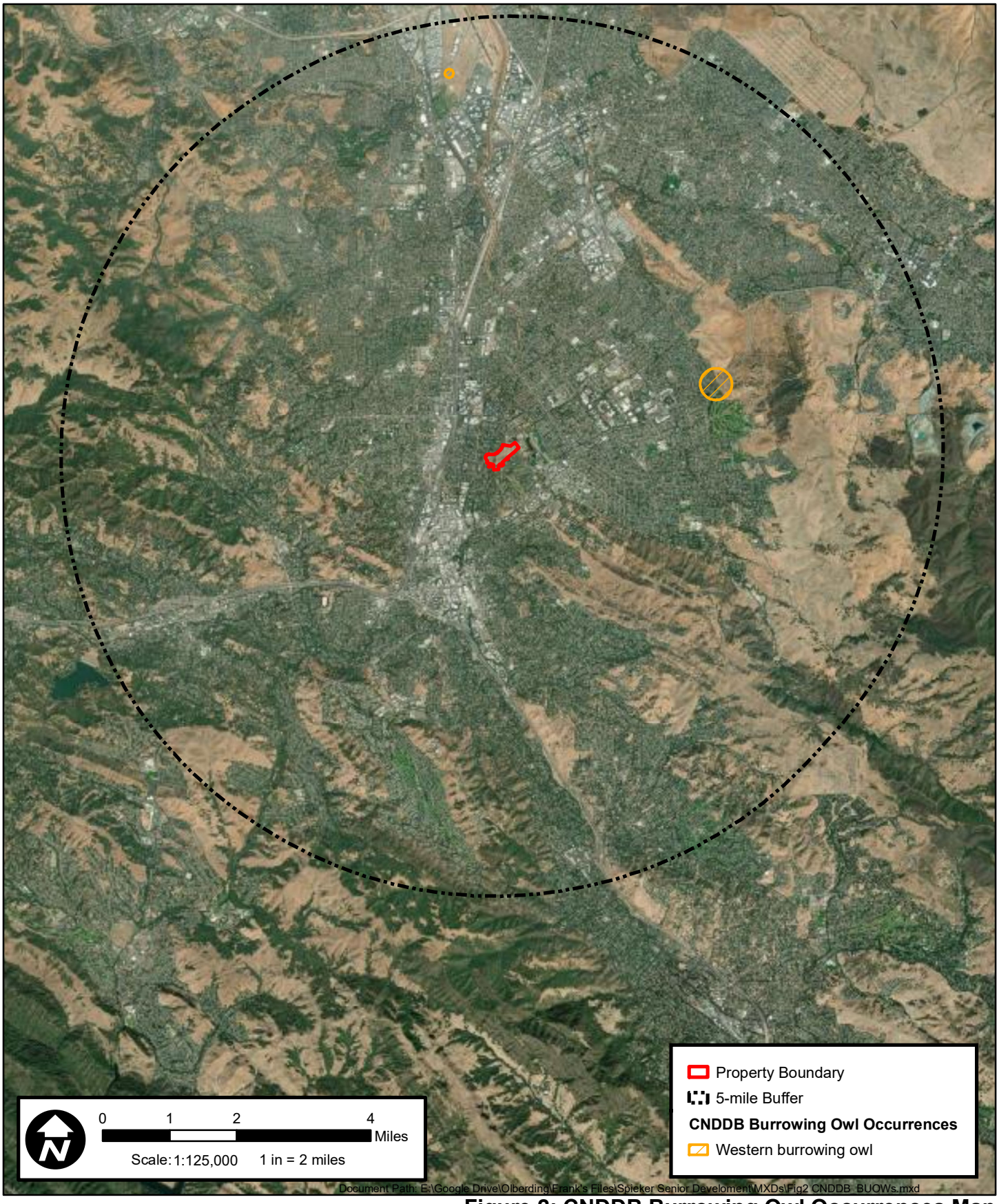

Figure 2: CNDDB Burrowing Owl Occurrences Map
Spieker Senior Development Partners-
Walnut Creek Property
Contra Costa County, CA

OLBERDING ENVIRONMENTAL

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Folsom, CA 95630
Phone: (916) 985-1188

Revision Date: 10/1/2021

Appendix E-5: Biological Resources Peer Review

H. T. HARVEY & ASSOCIATES
Ecological Consultants
50 years of field notes, exploration, and excellence

Memorandum

September 17, 2021 **Project #4549-01**

To: **Connor Tutino, Tyler Rogers (David J. Powers & Associates)**

From: **Steve Rottenborn, Mark Bibbo, Kim Briones, Jill Pastick (H. T. Harvey & Associates)**

Subject: **Spieker Senior Continuing Care Community Project – Biological Resources Report Peer Review**

As requested, H. T. Harvey & Associates has conducted a peer review of the Biological Resources Report prepared by LSA for the Spieker Senior Continuing Care Community Project in Walnut Creek, California[1]. The purpose of our peer review is to determine the adequacy of LSA's biological resources report to serve as the basis for the biological resources section of the California Environmental Quality Act (CEQA) document that David J. Powers & Associates will be preparing for the project. Where LSA's report adequately addresses specific issues, this report indicates where in LSA's report that information is provided. In areas where additional information is necessary to support the CEQA document, or where our opinion differs from LSA's, this report provides the information that we consider necessary to address biological issues under CEQA.

Additionally, the California Department of Fish and Wildlife (CDFW) submitted a Notice of Preparation (NOP) of a Draft Environmental Impact Report letter to the project applicant on August 30, 2021. This letter outlined a number of CDFW's concerns, comments, and recommendations regarding the project. We reviewed this letter to evaluate whether LSA's biological resources report and other supporting documents addressed those issues in CDFW's letter. In general, LSA's report and the supporting documents have addressed most of those issues. Any issues that were not addressed are included and addressed in this memo.

This peer review memo is organized into five sections. Section 1 describes our peer review methods, Section 2 includes a section by section peer review of LSA's report, Section 3 addresses additional special-status species that were not addressed in LSA's report or supporting documents, Section 4 includes supplemental information, including (1) a regulatory setting section, (2) a description of biotic habitats, and (3) a discussion of impacts and mitigation that, in our opinion, is needed to support the CEQA review of the project, and Section 5 includes a discussion of cumulative impacts in response to CDFW's NOP letter.

[1] LSA. 2020. Biological Resources Report. Senior Residential Development Project. Walnut Creek, Contra Costa County, California.

The proposed project would demolish the existing ranch house and outbuildings and construct a self-contained Continuing Care Retirement Community (CCRC) on 30.6 acre parcel. The CCRC would consist of one four-story apartment building, 52 single-story residences, and a one or two-story health care center building. An existing culverted crossing of Seven Hills Ranch Road over the drainage in the center of the project site would be removed and replaced with a clear-spanning bridge, and the original drainage features in this area would be restored. An enhanced riparian corridor would be created along the entire central drainage. Unimproved trails and associated lookout points are proposed within the enhanced riparian corridor, and a tennis court, community garden, and paved trails are proposed near the single-story residences. Drainage and wetland enhancements would also be made at a second, smaller perennial drainage within the Kinross Drive right-of-way. Bioretention areas are proposed throughout the landscaped areas of the site.

Section 1. Peer Review Methods

Prior to conducting a site visit, H. T. Harvey ecologists reviewed the following technical reports that were prepared for the project:

- Spieker Senior Development Partners – Walnut Creek Property Botanical Survey Report[2]
- U.S. Army Corps of Engineers Jurisdictional Delineation for the Spieker Senior Development Partners – Walnut Creek Property[3]
- U.S. Army Corps of Engineers. 2021. Certified Preliminary Jurisdictional Determination Map (File ID 2020-00316S)[4]
- Spieker Senior Continuing Care Retirement Community – Summary Report on Biological Resources[5]
- Preliminary Arborist Report, Senior Housing Contra Costa County, CA[6]
- Spieker Senior Continuing Care Community, Walnut Creek Area Project Description[7].

We then reviewed relevant scientific literature and technical databases to verify the background information provided in those project-specific documents. For plants, we reviewed all species on current California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) 1A, 1B, 2A, and 2B lists occurring in the *Walnut Creek, California* 7.5-minute USGS quadrangle and surrounding eight quadrangles (*Benicia*, *Vine Hill*, *Honker Bay*, *Briones Valley*, *Clayton*, *Oakland East*, *Las Trampas Ridge*, and *Las Trampas Ridge*). Quadrangle-level results are not

[2] Olberding Environmental, Inc. 2020a. Spieker Senior Development Partners – Walnut Creek Property Botanical Survey Report 2020.
[3] Olberding Environmental, Inc. 2020b. U.S. Army Corps of Engineers Jurisdictional Delineation for the Spieker Senior Development Partners – Walnut Creek Property.
[4] U.S. Army Corps of Engineers. 2021. Certified Preliminary Jurisdictional Determination Map (File ID 2020-00316S). Updated on March 24, 2021.
[5] Olberding Environmental, Inc. 2020c. Summary Report on Biological Resources.
[6] HortScience|Bartlett Consulting. 2020. Preliminary Arborist Report, Senior Housing, Contra Costa County, CA. July.
[7] Loewke Planning Associates, Inc. 2021. Spieker Senior Continuing Care Community, Walnut Creek Area Project Description. February 19.

maintained for CRPR 3 and 4 species, so we also conducted a search of the CNPS Inventory records for these species occurring in Contra Costa County.[8] In addition, we queried the CNDDB[9] for natural communities of special concern that occur in the project region.

H. T. Harvey & Associates senior wildlife ecologist Kim Briones and plant ecologist Jill Pastick then conducted a reconnaissance site visit on June 29, 2021 in order to verify existing biological conditions on the entire project site.

Section 2. Peer Review

Following are the sections as they are presented in LSA's report, a description about where specific information can be found in the report or other supporting documentation, and our opinion on corrections or clarifications of the information presented in the report.

Introduction

Project Description

Page 1 – The report states that the project site is approximately 30 acres. The project description provided by the City states the acreage is 30.6 acres. While this discrepancy is minor, we are calling this out because there is another discrepancy with the project boundary (described below), which may explain the discrepancy.

Page 2 – A regional location map is shown on Figure 1 of LSA's report.

Page 4 – A land cover map is shown on Figure 2 of LSA's report.

The project boundary in Figures 1 and 2 is missing a small portion of the project site boundary where it extends south towards Kinross Drive and Club View Terrace. Figures that we reference later in this report show the correct project boundary, which was pulled from CAD files provided to us by Contra Costa County. For example, the wetland delineation report prepared by Olberding Environmental used the correct project boundary.

Biological Setting

Page 3 – The biological setting section provides a general explanation of the conditions on the site, including a discussion of topography, soils, hydrology, vegetation, and wildlife. We do not have any comments on topography or soils. However, comments on hydrology, vegetation, and wildlife are provided below.

[8] [CNPS] California Native Plant Society. 2021. Inventory of Rare and Endangered Plants (7.0 and 9.0 online editions). Accessed July 2021 from http://www.cnps.org/inventory.

[9] [CNDDB] California Natural Diversity Database. 2021. Rarefind 5.0. California Department of Fish and Wildlife. Accessed July 2021 from http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp.

Page 3, paragraph 4 – The paragraph describes hydrology and mentions the central drainage as being potentially jurisdictional, but does not mention the southern drainage. This southern drainage is described in the results section and is referred to as a ditch. For consistency, the southern drainage should have been mentioned in the hydrology section of the biological setting as well. This drainage is described in more detail in our supplemental information section.

Page 3, paragraph 5 – The paragraph describes vegetation by describing overall habitat conditions. It lists nine plant species that were observed during the field survey and refers to a land cover map (Figure 2). The land cover map designates six land cover types: annual grassland, developed, oak, ornamental, stream, and wetland ditch; however, those land cover types were not specifically described in paragraph 5 or elsewhere in the existing conditions. In our opinion, the land cover types shown on Figure 2 should be described individually and in more detail to provide reviewers more context for Figure 2, and to provide a clear description of baseline conditions. We have included detailed descriptions of the existing land cover types/ habitats as supplemental information in Section 3 below.

Note that Olberding subsequently delineated the "stream" and "wetland ditch" land cover types as perennial drainages, and delineated four seasonal wetlands (which were not included in LSA's report) that were either associated with, or located adjacent to, those perennial drainages. These jurisdictional features were verified by the USACE on March 24, 2021. We concur with LSA's annual grassland, developed, oak, and ornamental land cover type designations, and Olberding's perennial drainage and seasonal wetland designations. Thus, our habitat descriptions in Section 3.2 include perennial drainage and seasonal wetlands, and omit references to "stream" and "wetland ditch".

Page 3, paragraph 6 – The paragraph describes wildlife that were observed (i.e., 14 birds and one mammal) on or adjacent to the site during the field survey, but does not mention potentially-occurring wildlife on the site or in the existing land cover types. A description of potentially-occurring animals is not necessarily required when describing general site conditions for a biological resources report, but would help to support conclusions made about what species may and may not occur on the site (and therefore be impacted by the project). We have included more detailed descriptions of potentially-occurring wildlife for each land cover type as supplemental information in Section 3.2 below.

Methods

We have no comments on the "Background Research" or "Field Survey" sections of LSA's report.

Results

The results of LSA's assessment of special-status species begin on page 6, and details on the status, habitat requirements, and occurrence or potential for special-status plant and animal species to occur on the site are located in Table A on pages 7-13 of the report. Unless otherwise noted below, we concur with the findings for special-status species in this table.

Page 6, paragraphs 1 and 2 – The report concludes that 24 special-status plants were identified to have potential to occur on the project site and that serpentine bunchgrass is the only natural community recorded within 5 miles of the site. Based on our background review, we concur with the findings for special-status plants. The report also concludes that of the 24 special-status plant species with potential to occur, potentially suitable habitat is available for five of those species: bent flowered fiddleneck (*Amsinckia lunaris*), Diablo helianthella (*Helianthella castanea*), fragrant fritillary (*Fritillaria liliacea*), Mt. Diablo fairy lantern (*Calochortus pulchellus*), and woodland woollythreads (*Monolopia gracilens*). The remaining 19 special-status plant species were determined to be absent from the project site for at least one of the following reasons: (1) lack of suitable habitat types; (2) absence of specific microhabitat or edaphic requirements, such as serpentine soils; (3) the elevation range of the species is outside of the range on the project site; and/or (4) the species is considered extirpated. We concur with these findings. However, the LSA report did not discuss the potential for CRPR 3 and 4 plant species. In our opinion, CRPR 3 and 4 plant species should be considered in a CEQA assessment because particularly large or healthy populations, disjunct populations, or populations at the edges of the species' range may be ecologically important. Therefore, CRPR 3 and 4 species are discussed below in our discussion of Table A.

Page 6, paragraph 1 and 3 – The report concludes that 20 special-status animal species were identified to have potential to occur on the project site. Of those 20 species, the report concludes that one special-status animal species, the western bumble bee (*Bombus occidentalis*), has potential to occur on the project site and that it is a candidate for listing in the State of California. We disagree that there is potential for this species to occur on the project site. Though the western bumble bee was historically widespread in California, it has experienced a recent range contraction, and is now considered to be confined to higher elevation sites in the Sierra Nevada range and portions of the Northern California coast[10]. Additionally, this species has not been observed in the project vicinity since 1972[9]. Therefore, this species does not have potential to occur on the site, in our opinion, and additional surveys are not warranted.

Page 6, paragraph 4 – The report concludes that the site supports suitable habitat for nesting birds that are protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code, and that such birds may nest in trees and shrubs on the site or immediately adjacent to the site. We concur with these findings.

Page 6, paragraph 5 – The report mentions a single sensitive natural community, serpentine bunchgrass, recorded within 5 miles of the project site, and determined that this natural community is absent. We concur with this conclusion.

A brief characterization of potentially jurisdictional habitats is also described on page 6, paragraph 5. As mentioned in our review of the biological setting, these habitats were mapped as a "wetland ditch" to the south of the project site, and a "stream" which runs through the center of site (Figure 2 of LSA's report). That section of the report also discusses the potential for jurisdictional wetlands between the site and Kinross Drive

[10] The Xerces Society. 2019. Evaluation of the petition from the Xerces Society, Defenders of Wildlife, and the Center for Food Safety to list four species of bumble bees as endangered under the California Endangered Species Act.

immediately adjacent to the site; however, these locations were not mapped on Figure 2 in LSA's report. Designations of these features were updated, and further explanation of each of these sensitive habitats within the project site were provided in Olberding's wetland delineation report. The wetland delineation included an expanded project boundary, which included the area between the site and Kinross Drive immediately adjacent to the site which was not accessible during the time of the LSA reconnaissance survey. As noted above, the final updates to the designation of potentially jurisdictional habitats were verified by the USACE in 2021.

Pages 7-13, Table A. – Table A provides brief descriptions of special-status plant and animal species that were considered for their potential to occur on the project site. Based on our review of this table, we would make the following revisions.

- The "plants" section of Table A did not include California Rare Plant Rank (CRPR) 3 and 4 species. In our opinion, plants listed by the CNPS on CRPR 3 or 4 should be considered during CEQA review, because impacts on these species have the potential to meet CEQA's Section 15380 criteria, and we would therefore recommend including them in the list of species with potential to occur. We ran a query of these species identified by CNPS (2021)[8] and CNDDB (2021)[9] within Contra Costa County and determined that 28 CRPR 3 or 4 species have some potential to occur within the project vicinity. Of these 28 species, potentially suitable habitat was only present for three species. The remaining 25 special-status plant species were determined to be absent from the project site for at least one of the following reasons: (1) lack of suitable habitat types; (2) absence of specific microhabitat or edaphic requirements, such as serpentine soils; (3) the elevation range of the species is outside of the range on the project site; and/or (4) the species is considered extirpated. We determined that the following three species have some potential to occur on the site based on habitat conditions and the ranges of these species:
    - Small-flowered morning-glory (*Convolvulus simulans*)
    - Small spikerush (*Eleocharis parvula*)
    - Little mousetail (*Myosurus minimus* ssp. *apus*)

    All three of these CRPR 3 and 4 species can be ruled absent based on their absence during Olberding's botanical surveys conducted on March 25, April 21, May 29, and June 29, 2020[2]. Olberding's rare plant surveys were floristic in nature and overlapped the blooming period of these species. Thus, no CRPR 3 and 4 special-status plant species are expected to occur within the project site.
- Page 10 – Under the status column for the western bumble bee, the code for state status is "SC"; however, this code is not defined in the table legend. We would like to clarify that SC stands for State Candidate for listing under the California Endangered Species Act.
- Page 11 – Under the status column for the foothill yellow-legged frog, the frog's state status is listed as "SC". As of December 11, 2019, the foothill yellow-legged frog (*Rana boylii*) West/Central Coast clade, which is in the range of the project site, was approved to be listed as endangered under the California Endangered Species

Act. While the foothill yellow-legged frog does not have potential to occur on the project site, we would like to clarify that the status of the foothill yellow-legged frog is "SE" (state endangered) rather than "SC".

- Page 11, California tiger salamander (*Ambystoma californiense*) – Central Valley (Central California) Distinct Population Segment (DPS) is a state and federally-listed species. Table A in the report indicates that this species is also a state species of special concern. This is incorrect. While the California tiger salamander does not have potential to occur on the project site, we would like to clarify that it is not a California species of special concern.

- Page 13, Burrowing Owl (*Athene cunicularia*) – The report concluded that there is no suitable habitat for the burrowing owl. Although we agree with this conclusion, the report cites that there are no small mammal burrows on the site. Contrary to LSA's field observations, we did observe a small number of California ground squirrel (*Spermophilus beecheyi*) burrows (fewer than 10 burrows) on the site during our site visit; however, we did not observe any California ground squirrels and those burrows that were observed did not appear to be in active use by ground squirrels. Based on the small number of burrows that were observed and the lack of squirrel activity, it does not appear that ground squirrels are currently active or have recently been abundant on the project site. We do not expect burrowing owls to nest on the site given the paucity of suitable burrows and the lack of any recent breeding records from areas in the site vicinity. Because burrowing owls are documented in the region (i.e., within 2.5 miles from the site)[9], there is at least some potential (albeit very low) that this species may be an occasional visitor on site. However, because they are unlikely to find suitable refugia, individual owls that could potentially stopover on the site are not expected to reside there such that they would be impacted by project activities.

- Page 13, Pallid Bat (*Antrozous pallidus*) – Table A states that there is no suitable habitat for the pallid bat on the project site. During our site visit we examined areas of potential bat habitat on the site including the interiors and exteriors of a barn and several outbuildings, exteriors of the existing ranch house, and all the trees on the project site. Based on our observations, two mature valley oaks (*Quercus lobata*) near the northeastern and southeastern corners of the site support several suitable cavities that could potentially support day-roosting bats, and the grassland habitat itself provides suitable foraging habitat. Historically, pallid bats were likely present in a number of locations throughout the project region, but their populations have declined in recent decades. Although pallid bats have likely been extirpated as a breeder from urban areas such as the project region, this species has been detected in less developed areas near Mount Diablo in recent years[11,12], and non-breeding individuals may infrequently forage over open grassland on the site, or roost on the site in rare occasions. While we did not see any signs of bats below any of the observed cavities, the potential for roosting bats cannot be ruled out. Thus, in our opinion, non-breeding pallid bats and maternity colonies of non-special-status bats have potential to occur on the site. We have included an impact assessment for pallid bats and non-special-status bats in Section 3 below.

[11] iNaturalist. 2021. Accessed July 21, 2021 at https://www.inaturalist.org. https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=82371

[12] Reyes, Gabriel. Wildlife Biologist. USGS Western Ecological Research Center. Dixon. July 15, 2021–correspondence with Kim Briones of H. T. Harvey & Associates regarding occurrence of pallid bats at Mount Diablo.

- Page 12, California Clapper Rail – As of July 2014, the California clapper rail (*Rallus longirostris obsoletus*) was split into three subspecies[13]. The species occurring in the San Francisco bay area is now known as the California Ridgway's rail (*Rallus obsoletus obsoletus*). While the California Ridgway's rail does not have potential to occur on the project site, we wanted to clarify which subspecies was being referred to here.
- Page 13, Townsend's Big-eared Bat – The Townsend's big-eared bat (*Corynorhinus townsendii*) is a California species of special concern (SSC). Table A in the report indicates that its status is "SLC". We believe that this is a spelling error. While the Townsend's big-eared bat does not have potential to occur on the project site, we wanted to make this clarification.

Potential Impacts to Biological Resources

Page 14 – The report briefly states that the project has the potential to impact (1) special-status plants, and western bumble bee habitat and nests, (2) disturb nesting birds if work is conducted during the nesting season (February 1 – August 31), (3) directly or indirectly impact jurisdictional wetlands, and (4) impact native trees. Based on our review of LSA's biological resources report and the other supplemental technical reports for the project, we concur that the project does have the potential to impact jurisdictional wetlands and native trees. However, based on Olberding's follow-up focused botanical surveys conducted in 2020, none of the five potentially occurring special-status plants were detected on the site, and the project will therefore not impact any special-status plants. Also, because the project is outside of the western bumble bee's current range, it is our opinion that this species will not be impacted by the project, and no further mitigation related to this species is necessary.

General Comment

Although the report generally mentions potential impacts on biological resources as described above, it does not quantify those impacts, nor does it include an assessment regarding whether those impacts should be considered significant under CEQA. Such an assessment is necessary to inform what appropriate mitigation measures should be required to reduce impacts to less than significant. Therefore, we have included an impact assessment and associated mitigation measures in Section 3 below.

Recommendations

Page 15, Recommendation 1 – The report recommends protocol-level special-status plant surveys. As described above, these surveys were completed in 2020, and did not detect any special-status plants. Thus, no impacts would occur and no mitigation for special-status plants is necessary.

Page 15, Recommendation 2 – The report recommends presence/absence surveys for the western bumble bee. As stated previously, the project site is outside of the western bumble bee's current range. Thus, in our opinion, additional surveys for this species are not warranted.

[13] Chesser, R. T., R. C. Banks, C. Cicero, J. L. Dunn, A. W. Kratter, I. J. Lovette, A. G. Navarro-Sigüenza, P. C. Rasmussen, J. V. Remsen, Jr., J. D. Rising, D. F. Stotz, and K. Winker. 2014. Fifty-Fifth Supplement to the American Ornithologists' Union Check-list of North American Birds. The Auk 131: CSi-CSxv.

Page 15, Recommendation 3 – The report recommends a formal wetland delineation. As stated previously, a formal USACE jurisdictional determination was conducted in 2020, and this was verified by the USACE in 2021. Thus, a wetland delineation is no longer needed.

Recommendation 3 also states that regulatory permits from the USACE, Regional Water Quality Control Board (RWQCB), and CDFW would be required if there are any impacts on jurisdictional wetlands. Based on our review of the project plans and the existing resources, we concur that permits will be required these agencies for impacts to jurisdictional habitats. To provide more context for regulatory permitting, we have included an in-depth regulatory setting discussion in Section 3.1 below.

Recommendation 3 goes on to briefly state that best management practices (BMPs) should implemented during project construction to protect jurisdictional features on the site. While we concur with this recommendation, in our opinion, more detailed BMP recommendations are needed for the purposes of the CEQA review. We have detailed the BMPs that should be included in the project in the Impacts and Mitigation Measures in Section 3.3 below.

Recommendation 3 also states that Contra Costa County has a minimum setback of 50 feet from the centerline from each side of the creek. It appears that the project has incorporated this setback into their design, and we concur that this 50-foot setback is appropriate for the central drainage. The 50 foot setback is not applicable to the drainage in the southern portion of the site, as this feature is a man-made ditch conveying storm water runoff and as such does not represent a natural watercourse. The intent of the Contra Costa County Creek setback requirement is to protect natural watercourses. We have included a detailed discussion of the Contra Costa County's creek setback requirement in our regulatory setting below.

Page 15, Recommendation 4 – Recommendation 4 states that a tree survey should be conducted to identify trees that are protected under Contra Costa County's tree ordinance. A preliminary arborist survey was conducted in March 2020[6], and therefore no additional tree survey is necessary. Note we have included detailed recommended mitigation measures that will reduce impacts to protected trees in Section 3 below.

Page 16, Recommendation 5 – Recommendation 5 states that a preconstruction survey should be conducted for nesting birds if construction occurs during the bird nesting season (February 1 – August 31), and that the survey should be conducted within 5 days of project initiation. The recommended survey buffer is 250 feet of the project site, and recommended no-disturbance buffers are 250 feet for raptors and 50 feet for other birds. We concur that a preconstruction survey is needed, and the buffers provided by LSA are generally appropriate (although our standard recommended buffers are 300 feet for raptors and 100 feet for non-raptors). However, it is our opinion that the specific buffer for any nest should be established by a qualified biologist (i.e., it may differ from whatever standard buffers are recommended). We have noted this in the recommended protection measures pertaining to nesting birds in our supplemental information Section 3.3 below.

Section 3. CDFW Notice of Preparation Letter

CDFW's NOP letter mentioned special-status species that, in its opinion, could potentially occur on the project site and that should be considered by the CEQA evaluation. Although several of those species were discussed in LSA's report, several were not. Of those species listed in the letter, several California species of special concern, including the loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), western red bat (*Lasiurus blossevillii*), and American badger (*Taxidea taxus*); the state fully protected bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), and white-tailed kite (*Elanus leucurus*); and one CRPR 4 species, the Oakland star tulip (*Calochortus umbellatus*), were not evaluated in LSA's report. Of those species, the white-tailed kite has some potential to nest on the site due to the presence of a number of moderately-sized trees, which provide suitable nesting habitat for these species, and grassland habitat where kites may forage. At most, one pair of white-tailed kites may nest on the site.

The remaining wildlife species may be occasional visitors, migrants, or transients, but are not expected to breed on the site, or be impacted by the project, due to the lack of suitable nesting habitat. Loggerhead shrikes are known to occur in the region, but this species typically prefers more expansive open lands than are present on the site. The northern harrier nests in marshes and moist fields, which are not present on the site. American badgers burrow in grassland habitat and in disked agricultural areas. No badger burrows were observed during LSA's initial site visit, nor our reconnaissance site visit, and were determined to be absent. Golden eagles nest in tall trees and forage in nearby open areas. Although golden eagles are occasionally observed in the site vicinity[14] and may occasionally visit the site, they are not expected to breed on the site due to the site's relatively small size, compared to larger open areas in the foothills to the east, which is not surrounded by dense urban/suburban development. Bald eagles nest on cliffs and in large trees in proximity to large bodies of water such as reservoirs, lakes, and rivers. No nests were observed on the site, and there are no known occurrences of bald eagle foraging at, or visiting the lake at Heather Farm Park[14]. Nevertheless, bald eagles have been observed in the vicinity of the site[14], and may occasionally visit the site. Western red bats roost individually in tree foliage and primarily breed in mature riparian forests composed of Fremont cottonwood (*Populus fremontii*) and sycamore (*Platanus occidentalis*) trees. Although this species is known to breed in Contra Costa County[15]; the site does not support mature riparian forest habitat. However, individual non-breeding western red bats may occasionally roost on the site. Based on the four botanical surveys that were conducted by Olberding in 2020, the Oakland star tulip was not detected, and is therefore absent from the site.

[14]Cornell Lab of Ornithology 2021. eBird: An online database of bird distribution and abundance [web application]. eBird, Cornell Lab of Ornithology, Ithaca, New York. Available: http://www.ebird.org. (Accessed: September 2021]).

[15] Pierson, E.D., W.E. Rainey and C. Corben. 2006. Distribution and status of Western red bats (*Lasiurus blossevillii*) in California. Calif. Dept. Fish and Game, Habitat Conservation Planning Branch, Species Conservation and Recovery Program Report 2006-04, Sacramento, CA 45 pp.

Section 4. Supplementary Information to Support CEQA Review

Based on our review of LSA's report, the following section provides additional information that we consider necessary to address various biological issues of the project under CEQA. Here we provide supplemental information on the regulatory setting (3.1), biotic habitats (existing conditions) (3.2), and an impact assessment with recommended mitigation measures (3.3) for issues that, in our opinion, were not adequately addressed in LSA's report. For the biotic habitats we have included a figure (Figure 1) to illustrate existing habitats based on LSA's report and the final USACE verified jurisdictional determination, and an impact figure (Figure 2) to illustrate impacts on those existing habitats. These figures are attached at the end of this memo.

4.1 Regulatory Setting

As noted above, LSA's report refers to potential regulatory issues such as potentially jurisdictional features and federally and state-listed species with potential to occur within the project vicinity. Discussion of potential regulatory issues were briefly discussed in the "Results Section" (Pages 6-13). In our opinion, a regulatory setting section that outlines which federal, state, and local laws and ordinances regulate the project site's existing biological resources on the project site would provide a clear overview of the regulatory environment to better guide the County's project impact assessment. The following section describes the Regulatory Setting that should be referred to in the CEQA review of the project, with an explanation of regulatory requirements, and the applicability of these such regulations to the project.

4.1.2 Federal

3.1.2.1 Clean Water Act

The Clean Water Act (CWA) functions to maintain and restore the physical, chemical, and biological integrity of waters of the U.S., which include, but are not limited to, tributaries to traditionally navigable waters currently or historically used for interstate or foreign commerce, and adjacent wetlands. Historically, in non-tidal waters, U.S. Army Corps of Engineers (USACE) jurisdiction extends to the ordinary high water mark, which is defined in Title 33, CFR, Part 328.3. If there are wetlands adjacent to channelized features, the limits of USACE jurisdiction extend beyond the ordinary high water mark to the outer edges of the wetlands. Wetlands that are not adjacent to waters of the U.S. are termed "isolated wetlands" and, depending on the circumstances, may be subject to USACE jurisdiction. In tidal waters, USACE jurisdiction extends to the landward extent of vegetation associated with salt or brackish water or the high tide line. The high tide line is defined in 33 CFR Part 328.3 as "the line of intersection of the land with the water's surface at the maximum height reached by a rising tide." If there are wetlands adjacent to channelized features, the limits of USACE jurisdiction extend beyond the ordinary high water mark or high tide line to the outer edges of the wetlands. Section 404 of the CWA authorizes the USACE to issue permits to regulate the discharge of dredged or fill material into waters of the U.S.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. No USACE permit will be effective in the absence of Section 401 Water Quality Certification. The State Water Resources Control Board (SWRCB) is the state agency (together with the Regional Water Quality Control Boards [RWQCBs]) charged with implementing water quality certification in California.

Project Applicability: A wetland delineation of the project site was verified by the San Francisco District of USACE on March 24, 2021, and identified two perennial drainages, a culverted perennial drainage, and four seasonal wetlands that are considered waters of the U.S. Placement of fill in any of these features will require a Section 404 permit from the USACE and a Section 401 Water Quality Certification from the RWQCB. If these features are impacted by project activities as proposed, a Section 404 permit from the USACE would be required.

4.1.2.2 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects federally listed wildlife species from harm or "take", which is broadly defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct." Take can also include habitat modification or degradation that directly results in death or injury of a listed wildlife species. An activity can be defined as "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under FESA only if they occur on federal lands.

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have jurisdiction over federally listed, threatened, and endangered species under FESA. The USFWS also maintains lists of proposed and candidate species. Species on these lists are not legally protected under FESA, but may become listed in the near future and are often included in their review of a project.

Project Applicability: No federally listed plant or animal species are expected to occur on the project site due to the absence of suitable habitat, distance from occupied habitat, and/or isolation of the project site from occupied habitat by development.

4.1.2.3 Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA), 16 U.S.C. Section 703, prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA protects whole birds, parts of birds, and bird eggs and nests, and it prohibits the possession of all nests of protected bird species whether they are active or inactive. An active nest is defined as having eggs or young, as described by the USFWS in its June 14, 2018 memorandum "Destruction and Relocation of Migratory Bird Nest Contents". Nest starts (nests that are under construction and do not yet contain eggs) and inactive nests are not protected from destruction.

Project Applicability: All native bird species that occur on the project site are protected under the MBTA.

4.1.3 State

4.1.3.1 Clean Water Act Section 401/Porter-Cologne Water Quality Control Act

The SWRCB works in coordination with the nine RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its region, and may approve, with or without conditions, or deny projects that could affect waters of the state. Their authority comes from the CWA and the State's Porter-Cologne Water Quality Control Act (Porter-Cologne). Porter-Cologne broadly defines waters of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state." Because Porter-Cologne applies to any water, whereas the CWA applies only to certain waters, California's jurisdictional reach overlaps and may exceed the boundaries of waters of the U.S. For example, Water Quality Order No. 2004-0004-DWQ states that *shallow* waters of the state include headwaters, wetlands, and riparian areas. Moreover, the San Francisco Bay Region RWQCB's Assistant Executive Director, has stated that, in practice, the RWQCBs claim jurisdiction over riparian areas. Where riparian habitat is not present, such as may be the case at headwaters, jurisdiction is taken to the top of bank.

On April 2, 2019, the SWRCB adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. In these new guidelines, riparian habitats are not specifically described as waters of the state but instead as important buffer habitats to streams that do conform to the State Wetland Definition. The Procedures describe riparian habitat buffers as important resources that may both be included in required mitigation packages for permits for impacts to waters of the state, as well as areas requiring permit authorization from the RWQCBs to impact.

Pursuant to the CWA, projects that are regulated by the USACE must also obtain a Section 401 Water Quality Certification permit from the RWQCB. This certification ensures that the proposed project will uphold state water quality standards. Because California's jurisdiction to regulate its water resources is much broader than that of the federal government, proposed impacts on waters of the state require Water Quality Certification even if the area occurs outside of USACE jurisdiction. Moreover, the RWQCB may impose mitigation requirements even if the USACE does not, for example for riparian habitats which are buffers to waters of the state. Under the Porter-Cologne, the SWRCB and the nine regional boards also have the responsibility of granting CWA National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements for certain point-source and non-point discharges to waters. These regulations limit impacts on aquatic and riparian habitats from a variety of urban sources.

Project Applicability: Wetlands and other waters of the State regulated by the RWQCB occur on the project site. These include the features identified above as waters of the U.S., and likely also riparian habitat associated with the perennial drainage in the southern portion of the project site. Section 401 Water Quality Certification and Porter-Cologne Waste Discharge Requirements would be required for proposed project activities impacting these features.

4.1.3.2 California Endangered Species Act

The California Endangered Species Act (CESA; California Fish and Game Code, Chapter 1.5, Sections 2050-2116) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with CESA, the CDFW has jurisdiction over state-listed species (Fish and Game Code 2070). The CDFW regulates activities that may result in "take" of individuals (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code. The CDFW, however, has interpreted "take" to include the "killing of a member of a species which is the proximate result of habitat modification."

Project Applicability: No state-listed plant or animal species are expected to occur on the project site due to the absence of suitable habitat, distance from occupied habitat, and/or isolation of the project site from occupied habitat by development.

4.1.3.3 California Environmental Quality Act

CEQA is a state law that requires state and local agencies to document and consider the environmental implications of their actions and to refrain from approving projects with significant environmental effects if there are feasible alternatives or mitigation measures that can substantially lessen or avoid those effects. CEQA requires the full disclosure of the environmental effects of agency actions, such as approval of a general plan update or the projects covered by that plan, on resources such as air quality, water quality, cultural resources, and biological resources. The State Resources Agency promulgated guidelines for implementing CEQA are known as the State CEQA Guidelines.

Section 15380(b) of the State CEQA Guidelines provides that a species not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in FESA and CESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW or species that are locally or regionally rare.

The CDFW has produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists". Species on these lists are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review as potential rare species, but do not have specific statutory protection. All potentially rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review per the CEQA Section 15380(b).

The CNPS, a non-governmental conservation organization, has developed CRPRs for plant species of concern in California in the Inventory of Rare and Endangered Plants (CNPS 2021[8]). The CRPRs include lichens, vascular, and non-vascular plants, and are defined as follows:

- CRPR 1A Plants considered extinct.
- CRPR 1B Plants rare, threatened, or endangered in California and elsewhere.
- CRPR 2A Plants considered extinct in California but more common elsewhere.
- CRPR 2B Plants rare, threatened, or endangered in California but more common elsewhere.
- CRPR 3 Plants about which more information is needed - review list.
- CRPR 4 Plants of limited distribution-watch list.

The CRPRs are further described by the following threat code extensions:

- .1—seriously endangered in California;
- .2—fairly endangered in California;
- .3—not very endangered in California.

Although the CNPS is not a regulatory agency and plants on these lists have no formal regulatory protection, plants appearing as CRPR 1B or 2 are, in general, considered to meet CEQA's Section 15380 criteria, and adverse effects on these species may be considered significant. Impacts on plants that are listed by the CNPS as CRPR 3 or 4 are also considered during CEQA review, although because these species are typically not as rare as those of CRPR 1B or 2, impacts on them are less frequently considered significant.

Compliance with CEQA Guidelines Section 15065(a) requires consideration of natural communities of special concern, in addition to plant and wildlife species. Vegetation types of "special concern" are tracked in Rarefind (CNDDB 2021). Further, the CDFW ranks sensitive vegetation alliances based on their global (G) and state (S) rankings analogous to those provided in the CNDDB. Global rankings (G1–G5) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas S rankings reflect the condition of a habitat within California. If an alliance is marked as a G1–G3, all the associations within it would also be of high priority. The CDFW provides the Vegetation Classification and Mapping Program's currently accepted list of vegetation alliances and associations[16].

[16] [CDFW] California Department of Fish and Wildlife. 2020. VegCAMP Natural Communities Lists. <https://www.wildlife.ca.gov/data/vegcamp/natural-communities>. Accessed March 2019.

Project Applicability: All potential impacts on biological resources will be considered during CEQA review of the project. LSA's Biological Resources Report, coupled with Olberding's special-status plant survey report and wetland delineation, as well as our peer review report, collectively assess impacts on biological resources to facilitate project planning and CEQA review of the project by Contra Costa County. Project impacts are discussed further in Section 3 below.

4.1.3.4 California Fish and Game Code

Ephemeral and intermittent streams, rivers, creeks, dry washes, sloughs, blue line streams on USGS maps, and watercourses with subsurface flows fall under CDFW jurisdiction. Canals, aqueducts, irrigation ditches, and other means of water conveyance may also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. A *stream* is defined in Title 14, California Code of Regulations Section 1.72, as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish and other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." Using this definition, the CDFW extends its jurisdiction to encompass riparian habitats that function as part of a watercourse. California Fish and Game Code Section 2786 defines *riparian habitat* as "lands which contain habitat which grows close to and which depends upon soil moisture from a nearby freshwater source." The lateral extent of a stream and associated riparian habitat that would fall under the jurisdiction of the CDFW can be measured in several ways, depending on the particular situation and the type of fish or wildlife at risk. At minimum, the CDFW would claim jurisdiction over a stream's bed and bank. In areas that lack a vegetated riparian corridor, CDFW jurisdiction would be the same as USACE jurisdiction. Where riparian habitat is present, the outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats.

Pursuant to California Fish and Game Code Section 1603, the CDFW regulates any project proposed by any person that will "substantially 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." California Fish and Game Code Section 1602 requires an entity to notify the CDFW of any proposed activity that may modify a river, stream, or lake. If the CDFW determines that proposed activities may substantially adversely affect fish and wildlife resources, a Lake and Streambed Alteration Agreement (LSAA) must be prepared. The LSAA sets reasonable conditions necessary to protect fish and wildlife, and must comply with CEQA. The applicant may then proceed with the activity in accordance with the final LSAA.

Specific sections of the California Fish and Game Code describe regulations pertaining to protection of certain wildlife species. For example, Code Section 2000 prohibits take of any bird, mammal, fish, reptile, or amphibian except as provided by other sections of the code.

The California Fish and Game Code Sections 3503, 3513, and 3800 (and other sections and subsections) protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW. Raptors (i.e., eagles, hawks, and owls) and

their nests are specifically protected in California under Code Section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

Bats and other non-game mammals are protected by California Fish and Game Code Section 4150, which states that all non-game mammals or parts thereof may not be taken or possessed except as provided otherwise in the code or in accordance with regulations adopted by the commission. Activities resulting in mortality of non-game mammals (e.g., destruction of an occupied nonbreeding bat roost, resulting in the death of bats), or disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), may be considered "take" by the CDFW.

Project Applicability: Two perennial drainages and associated riparian habitats on the project site are expected to be regulated by the CDFW under California Fish and Game Code Section 1603. For impacts to the perennial drainages and associated riparian vegetation, the project will require a Lake and Streambed Alteration Agreement (LSAA) from CDFW. Most native bird, mammal, and other wildlife species that occur on the project site and in the immediate vicinity are protected by the California Fish and Game Code.

4.1.4 Local

4.1.4.1 Contra Costa County Tree Ordinance

The Contra Costa County Tree Ordinance (Chapter 816.6) serves to protect trees as valuable assets that are economically, environmentally, and aesthetically important to the community. This tree ordinance provides for the preservation of certain protected trees in unincorporated areas and individual cities and towns of Contra Costa County by controlling tree removal in the interest of public health, safety and welfare, and to preserve scenic beauty (Ords. 94-59, 94-22). For any 'undeveloped property' within any district, Contra Costa County Tree Protection and Preservation Ordinance 816-6 defines 'protected trees' as any of the following:

- Any tree measuring twenty inches or larger in circumference (approximately six and one-half inches diameter), measured at dbh (4.5 feet from ground level) including the oak trees listed above;
- Any multi-stemmed tree with the sum of the circumferences measuring forty inches or larger, measured at dbh (4.5 feet from ground level);
- Any significant grouping of trees, including groves of four or more trees;
- Any tree shown to be preserved on an approved tentative map, development or site plan or required to be retained as a condition of approval;
- Any tree required to be planted as a replacement for an unlawfully removed tree.

A permit is required for any person proposing to trench, grade or fill within the dripline of any protected tree, or to cut down, destroy, trim by topping or remove any protected tree. Permit applications should be filed with the community development department no less than ten days prior to the proposed tree alterations.

Project Applicability: A previous tree survey performed by HortScience|Bartlett Consulting in 2020[6] determined that 434 trees on the project site qualify as 'protected trees' under Contra Costa County's definition. Dominant trees within the project site include valley oak, river red gum (*Eucalyptus camaldulensis*), and blue gum eucalyptus (*Eucalyptus globulus*). Additionally, a number of ornamental trees have been planted on the project site. The project proposes the removal of approximately 353 existing trees defined under County Ordinance as protected, as documented in the Arborist's Report. A permit from Contra Costa County will be required for this tree removal.

4.1.4.2 Contra Costa County Creek Structure Setback

Title 9, Division 914 (Sections 914-14.010, .012, .014) of the Contra Costa County Code, in codifying conservation goals and policies of the Contra Costa County General Plan, discusses policies related to water resources within Contra Costa County. These sections define creek structure setback requirements and defines restrictions for development adjacent to natural watercourses. The creek structure setback area shall be a minimum of 100 feet, 50 feet on each side of the centerline of the creek, and shall be of a width adequate to allow maintenance and to prevent damage to adjacent structures, the natural channel, and associated riparian vegetation. Any grading, filling, and construction activity that occurs adjacent to natural watercourses shall be conducted in such a manner as to minimize impacts from increased runoff, erosion, sedimentation, biochemical degradation, or thermal pollution, and on-site water control shall be required of major new developments so that no increase in peak flows occurs relative to the site's pre-development condition, unless the Planning Agency determines that off-site measures can be employed which are equally effective in preventing adverse downstream impacts. New development which modifies or destroys riparian habitat because of needed flood control is responsible for restoring and enhancing an equivalent amount of habitat within or in close proximity to the project area. Contra Costa County requires that revegetation of watercourses shall employ native vegetation, providing the type of vegetation is compatible with the watercourse's maintenance program, and does not have a negative impact or alter channel capacity.

Project Applicability: Two perennial drainages within the project site were verified by the USACE[4] as waters of the U.S. Only one of these drainages, however, would qualify as a "natural watercourse" as defined by the Contra Costa County General Plan Conservation Element and the associated County Code regulations requiring setbacks. The project has been designed to incorporate a 50-foot setback from the centerline of the central drainage, and proposes restoration and enhancement of wetland and riparian habitat within this preserved corridor. Because the perennial drainage located along the southern portion of the project site is a narrow ditch constructed in uplands (i.e., not a re-alignment of a natural watercourse), mostly conveying surface runoff from surrounding development (i.e., not having a groundwater connection), and mostly lacking associated wetland or riparian habitat, this drainage should not be subject to the 50-foot creek setback requirement, in our opinion.

4.2 Biotic Habitats

Reconnaissance-level surveys conducted by LSA identified six land cover types (referred to hereafter as habitats). Based on the verified USACE jurisdictional delineation, and subsequent revisions of jurisdictional habitats present, we consider the following seven habitats to be present on the project site: annual grassland (24.93 acres), developed (0.62 acre), oaks (3.55 acre), ornamental (1.52 acre), perennial drainage (0.08 acre), riparian woodland (0.16 acre), and seasonal wetland (0.35 acre). These habitats, described in detail below, are shown on Figure 1, which is attached at the end of this memo. A list of plant species observed in the project site is included in Appendix 2 of Olberding's Botanical Survey Report [2]. The following includes a detailed description of the existing habitats and associated wildlife that were observed or may occur in these habitats during our reconnaissance survey.

4.2.1 Annual Grassland

Vegetation. This is the most dominant habitat, occurring throughout the majority of the project site. The majority of the annual grassland habitat appears to have been disturbed, with many areas containing "dirt roads" that appear to have been driven on fairly recently, and portions appear to be periodically mown, particularly around the existing ranch house. Additionally, an approximately 20-foot band around the fence line along the eastern site boundary appears to have been mowed and was mostly devoid of vegetation. This habitat is characterized by nonnative and weedy grasses and forbs. Dominant plant species within this habitat include wild oats (*Avena* sp.), ripgut brome (*Bromus diandrus*), Harding grass (*Phalaris aquatica*), Italian thistle (*Carduus pycnocephalus*), and red-stemmed filaree (*Erodium cicutarium*). Patchy tree cover within the annual grassland habitat was mapped as either oak or ornamental woodland, described below.

Dominance of the annual grassland species shifted based on the topography of the project site. Low-lying, swale-like areas were typically dominated by Harding grass, Italian rye grass (*Lolium perenne*), and yellow star thistle (*Centaurea solstitialis*). Topographically higher portions of the annual grassland contained bare patches associated with small, rocky outcrops. These areas within the annual grassland were still dominated by ruderal grasses. An isolated patch of giant reed (*Arundo donax*) was observed in the annual grassland habitat, just northwest of the existing ranch house. This patch of giant reed was likely the result of pooling from sprinklers or hoses associated with watering of landscaped plants, rather than a natural wetland feature. As a result, this was included within the annual grassland habitat.

Wildlife. Grasslands lack the structural diversity necessary to support a high diversity of wildlife species, but these habitats are used as foraging, burrowing, and nesting locations by many species. Though the annual grassland is the dominant habitat type on the project site, it appears to be frequently disturbed, is not extensive (as compared with vast areas of grassland present in many parts of the region), and is isolated from more extensive grasslands and other natural areas in the region; as a result, it provides relatively low-quality habitat for wildlife species typically associated with grasslands. Therefore, wildlife species such as the western meadowlark (*Sturnella neglecta*), grasshopper sparrow (*Ammodramus savannarum*), and loggerhead shrike (*Lanius ludovicianus*), which occur in more extensive, higher-quality grassland areas, are absent from this habitat type on the project site. Generalist

species, such as the American crow (*Corvus brachyrhynchos*), house finch (*Haemorhous mexicanus*), California towhee (*Melozone crissalis*), and mourning dove (*Zenaida macroura*), all of which were observed during the site visit, may forage in the grasslands, and during migration and winter, the white-crowned sparrow (*Zonotrichia leucophrys*), golden-crowned sparrow (*Zonotrichia atricapilla*), and savannah sparrow (*Passerculus sandwichensis*) are expected to forage in these grasslands.

Few species of reptiles and amphibians occur in the California annual grassland due to its low habitat heterogeneity. Nevertheless, the western fence lizard (*Sceloporus occidentalis*) and gopher snake (*Pituophis melanoleucus*) occur in this type of habitat. Small mammals expected to be present include the western harvest mouse (*Reithrodontomys megalotis*), house mouse (*Mus musculus*), California vole (*Microtus californicus*), and Botta's pocket gopher (*Thomomys bottae*). No California ground squirrels were observed, but a small number of California ground squirrel burrows and gopher dirt mounds were observed on the project site.

4.2.1 Developed

Vegetation. Developed habitat was mapped in areas containing the existing ranch house and associated landscaping, sheds, and other structures throughout the property, and paved roads and driveways. This habitat typically lacks vegetation.

Wildlife. The wildlife most often associated with developed/landscaped areas are those that are tolerant of periodic human disturbances, including introduced species such as the non-native European starling (*Sturnus vulgaris*), rock pigeon (*Columba livia*), house mouse, Norway rat (*Rattus norvegicus*), and black rat (*Rattus rattus*). Starlings were observed flying over this habitat during the June 2021 survey. Numerous common, native species are also able to utilize these habitats, especially the landscaped areas, including the western fence lizard, striped skunk (*Mephitis mephitis*), and a variety of birds, such as the American crow, Anna's hummingbird (*Calypte anna*), California towhee, bushtit (*Psaltriparus minimus*), and California scrub-jay (*Aphelocoma californica*). The California scrub-jay and Anna's hummingbird were observed during the June 2021 survey. In addition, human-made structures associated with developed areas are often attractive to roosting birds and bats. However, an examination of existing structures, including the existing house and outbuildings, failed to find any cavities suitable for bat roosting. Thus, large roosting or maternity colonies of bats are not expected to occur in developed habitats on the project site. Similarly, no evidence of bird nesting was evident on the exterior or interior of any of the structures. Gravel roads do not provide high-quality wildlife habitat; however, lizards, such as the western fence lizard, may bask on these surfaces and a wide variety of wildlife cross or move along the road and trails en route to other habitats.

4.2.3 Oaks

Vegetation. Individual oaks and clumps of oaks were mapped within the project site. These clumps of trees occur in the matrix of annual grassland habitat as described above. The patches are typically small and consist of one to a few valley oaks, though other tree species, including California bay (*Umbellularia californica*), black walnut (*Juglans nigra*), and almond (*Prunus dulcis*) occasionally occur in the patches. The canopy of the oaks habitat is

relatively dense, with little to no light reaching the understory. As a result, the understory is quite bare, and contains predominantly ruderal grasses and non-native herbaceous species, such as wild oats, Harding grass, ripgut brome, and Italian thistle. In some cases, the understory also included small valley oak seedlings. Many of these seedlings appeared to be browsed, likely as a result of black-tailed deer (*Odocoileus hemionus*), which were observed on the property.

Wildlife. Despite the scattered distribution of oaks on the site, this habitat supports many common woodland-associated species. Such species include the California scrub-jay, bushtit, oak titmouse (*Baeolophus inornatus*), chestnut-backed chickadee (*Poecile rufescens*), and white-breasted nuthatch (*Sitta carolinensis*). Deer mice (*Peromyscus maniculatus*), California mice (*Peromyscus californicus*), and non-native eastern gray squirrels (*Sciurus carolinensis*) nest and forage in this habitat as well, and the reptiles found in the surrounding grassland habitat also forage here. A few of the mature trees within this habitat provide potential nesting sites for raptors such as the Cooper's hawk (*Accipiter cooperii*) and red-shouldered hawk (*Buteo lineatus*). However, no old, existing nests of raptors were observed on the site during the reconnaissance survey, indicating that raptors have likely not nested on the site in recent years. Individual bats and small maternity colonies of non-special-status bats such as the California myotis (*Myotis californicus*) and big brown bat (*Eptesicus fuscus*) may roost in cavities or crevices in trees on the project site, and an examination of the trees on the site detected several large cavities that might provide suitable habitat for a large roosting or maternity colonies of non-special-status bats.

4.2.4 Ornamental Woodland

Vegetation. The ornamental woodland habitat type occurs throughout the center of the project site, and primarily in the area immediately around the house. The habitat is characterized by stands of non-native species including Arizona cypress (*Cupressus arizonica*), Peruvian pepper tree (*Schinus mole*), almond, privet (*Ligustrum japonicum*), and river red gum. Generally, the canopy of the ornamental habitat was relatively open, with gaps between trees, allowing moderate light to reach the understory. However, the canopy was slightly more closed along the southwest boundary of the project site. Where an understory herbaceous layer is present it is composed of non-native annual grasses and forbs.

Wildlife. Due to the proximity of the ornamental woodland to the surrounding grassland and oak woodland habitat, many of the common wildlife species that occur in those surrounding habitats also occur in the ornamental woodland habitat. Such species include the California scrub-jay, bushtit, chestnut-backed chickadee, American crow, house finch, and mourning dove may forage and nest in this habitat. California towhee, white-crowned sparrow, and golden-crowned sparrow, which are attracted to grasslands by the abundance of seeds, may also forage in this habitat. Deer mice, California mice, and eastern gray squirrels nest and forage in this habitat as well, and reptiles found in the California annual grassland habitat also forage here. A few of the river red gum trees along the southern portion of the site could provide potential nesting habitat for raptors such as the Cooper's hawk. However, no old nests of raptors were observed on the site during the reconnaissance survey. An Anna's hummingbird and mourning doves were observed in this habitat during the June 2021 survey.

4.2.5 Perennial Drainage

Vegetation. Two unnamed perennial drainages were mapped within the project site. The perennial drainage in the center of the property bisects the site, flowing south to north. Before exiting the site, the perennial drainage flows through a small section of concrete lined channel, then into a metal culvert at the northernmost boundary of the property, which discharges into Walnut Creek off site. The channel of the central perennial drainage is relatively shallow and contained water at the time of the June 2021 survey. Bank heights vary along the stream but are typically quite low, and in general were on the order of one to two feet up from the ordinary high water mark (OHWM) of the drainage. The channel bed itself is heavily vegetated, dominated by a monoculture of broad-leaved cattail (*Typha latifolia*) at the south end, and a combination of California bulrush (*Schoenoplectus californicus*), Harding grass, Italian rye grass, rabbitsfoot grass (*Polypogon monspeliensis*), Baltic rush (*Juncus balticus*), tall flatsedge (*Cyperus eragrostis*), and salt grass (*Distichlis spicata*) in the northern portion of the drainage. This drainage is bounded on both sides along its entire length by the two largest seasonal wetlands on the site (described below).

The other perennial drainage is located at the southern end of the project and runs along Seven Hills Ranch Road at the current entrance to the project site. This drainage enters the site from a culverted section of the drainage at the terminus of Kinross Drive (identified on Figure 2 as "culverted perennial drainage). The drainage is a constructed ditch, approximately 2 feet wide, with shallow (mostly less than one foot tall) banks. The ditch flows along the southern boundary of the property to the west where it flows into a roadside ditch along Seven Hills Ranch Road and continues off-site, eventually flowing into Walnut Creek through a storm drain. This drainage was dry at the time of the survey, and there were no indicators of recent flow. The drainage appears to have been constructed in uplands, and its primary purpose is apparently to convey storm water runoff during and following precipitation events in the winter months. The bed of this drainage includes a combination of upland and some hydrophytic ruderal species, including wild oats, Harding grass, Italian rye grass, though extensive or continuous wetland habitat is lacking. The banks of this perennial drainage are lined with ruderal grass species, including ripgut brome and wild oats, with some patches of Himalayan blackberry (*Rubus armeniacus*). The overstory canopy along the length of the drainage in the project site is ornamental woodland as described above.

Wildlife. Normally, the presence of a perennial drainage would provide habitat for a diverse suite of terrestrial and aquatic wildlife species. However, in its current condition, much of the western half of the southern drainage is of little value for most wildlife due to the lack of vegetation and water. Habitat conditions have more value in the central drainage and the eastern half of the southern drainage. However, due to the shallow depth of both drainages, species diversity is generally low. Nevertheless, amphibians such as the native Sierran chorus frog and western toad may breed in these drainages when water levels are maintained, and terrestrial species that occur in adjacent habitats, such as house finches, bushtits, yellow-rumped warblers (*Setophaga coronata*), black phoebes (*Sayornis nigricans*), white-crowned sparrows, and golden-crowned sparrows, will forage occasionally in the vegetation. No wildlife were observed in this habitat during the June 2021 survey.

4.2.6 Riparian Woodland

Vegetation. One small area of riparian woodland was mapped in the southern portion of the site, where it occurs on either side of the perennial drainage. This habitat occurs in an area that was not included in LSA's report or survey but was included in Olberding's reconnaissance survey and wetland delineation. The dominant tree species in this habitat are arroyo willow (*Salix lasiolepis*) and valley oak. The understory of this habitat is mostly lacking due to the density of the willow cover. The occurrence of willows in this area could be attributed to this being a low spot in the landscape where run off from the surrounding areas, including the development to the south and southeast, collects in winter months, before the water is then drained off by the constructed ditch (perennial drainage) flowing to the west from this patch of riparian habitat.

Wildlife. Riparian woodland habitats in California generally support exceptionally rich animal communities and contribute a disproportionately high amount to landscape-level species diversity. The presence of at least seasonal (and often year-round) water and abundant invertebrates provide foraging opportunities for many species, and the diverse habitat structure provides cover and nesting opportunities. The riparian woodland habitat that is found along the eastern half of the southern perennial drainage provides suitable nesting habitat for a variety of common bird species such as the California scrub-jay, American robin (*Turdus migratorius*), American crow, lesser goldfinch (*Spinus psaltria*), and bushtit. Bushtit, Bewick's wren (*Thryomanes bewickii*), and Anna's hummingbird were observed in this habitat during the June 2021 survey. The red-shouldered hawk and Cooper's hawk may use the larger valley oak trees for nesting. However, no old raptor nests were detected within the riparian woodland habitat during the reconnaissance survey. Additional wildlife species that are common within riparian woodland areas in urban settings include the native striped skunk and raccoon (*Procyon lotor*), and the non-native Virginia opossum (*Didelphis virginiana*) and eastern gray squirrel. Riparian woodlands provide nesting and foraging habitat for the San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), a California species of special concern; however, no woodrat nests were observed within the riparian woodland or elsewhere on the project site. Individual bats may be attracted to riparian areas to roost in trees. However, examination of the trees in this habitat failed to find any large cavities that might provide suitable habitat for a large roosting or maternity colony of bats.

4.2.7 Seasonal Wetland

Vegetation. Four seasonal wetlands totaling 0.35 ac were mapped within the project site. The two largest seasonal wetlands occur in association with the perennial drainage in the central portion of the project site. These wetlands are dominated by Harding grass, Baltic rush, tall flatsedge, spike-rush (*Eleocharis palustris*), and creeping wildrye (*Elymus triticoides*) at the northern end of the drainage. At the southern end, the wetlands are dominated by cattails, as well as a number of other hydrophytic grass and herb species, including salt grass, and Italian rye grass. These larger, more well-established seasonal wetlands in the center of the site did not contain standing water at the time of the June 2021 survey.

At the southern boundary of the project site, there are two additional, very small seasonal wetlands. A 128 square foot (0.003 ac) seasonal wetland was mapped in a shallow depression to south of the perennial drainage,

approximately 40 feet away from the edge of the drainage. This seasonal wetland was dominated by creeping wild rye, Baltic rush, cattails, and Italian rye grass. The second seasonal wetland in this portion of the project site is slightly larger (492 square feet; 0.01 ac), and is situation directly adjacent to the drainage and surrounded by the riparian woodland habitat described above. This wetland is dominated by Harding grass and Italian rye grass. Neither of the seasonal wetlands in the southern portion of the project site contained water at the time of the 2021 surveys.

Wildlife. The seasonal wetlands on the project site provide only marginal habitat for most wildlife species due to their limited depth and duration of ponding, and wildlife diversity is expected to be low. However, many of the same animal species described in the perennial drainage, riparian woodland, and California annual grassland habitats above may forage in the seasonal wetlands. Birds such as the black phoebe, western bluebird, and sparrows may forage there. Amphibians such as the native Sierran treefrog and western toad may attempt to breed in these wetlands, though rarely successfully, as they likely dry seasonally before larvae are mature enough to metamorphose into terrestrial adults. Small mammals, such as raccoons and striped skunks, are likely to be found near seasonal wetlands, as well as several reptile species, especially garter snakes (*Thamnophis* sp.). No wildlife were observed in this habitat during the June 2021 survey.

4.3 Impacts and Mitigation Measures

The State CEQA Guidelines provide direction for evaluating impacts of projects on biological resources and determining which impacts will be significant. CEQA defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project." Under State CEQA Guidelines section 15065, a project's effects on biotic resources are deemed significant where the project would:

- "substantially reduce the habitat of a fish or wildlife species"
- "cause a fish or wildlife population to drop below self-sustaining levels"
- "threaten to eliminate a plant or animal community"
- "reduce the number or restrict the range of a rare or endangered plant or animal"

In addition to the section 15065 criteria that trigger mandatory findings of significance, Appendix G of State CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. The impacts listed in Appendix G may or may not be significant, depending on the level of the impact. For biological resources, these impacts include whether the project would:

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

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

C. "have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means"

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

E. "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance"

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

The impact assessment below is structured based on the six significance criteria (A-F) listed above.

4.3.2 **Impacts on Special-Status Species:** Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS

4.3.2.1 Impacts on Special-Status Plant Species (No Impact)

As described above, no special-status plant species occur on the project site. As a result, the proposed project will have no impact on special-status plant species.

4.3.2.2 Impacts on Common Habitats and Associated Common Plant and Wildlife Species (Less than Significant)

Proposed project activities would result in 22.44 acres of permanent impacts on annual grassland habitat and 1.52 acres of permanent impacts on ornamental habitats where the senior continuing care community will be developed, and 2.49 acres of temporary impacts to annual grassland habitat where contour grading and landscaping will occur (Figure 2). These habitats have been subject to disturbance and fragmentation in the past (i.e., by surrounding residential development), an onsite impact areas have been disturbed as a result of ongoing maintenance (i.e., mowing and disking to maintain a firebreak around the site perimeter), such that these areas do not provide regionally rare or especially high-value habitat for native vegetation or wildlife, or special-status species. These impacts would reduce the extent of vegetation on the site and would result in a reduction in abundance of some of the common plant and wildlife species that use the site. However, California annual grassland and ornamental habitats are abundant and widespread regionally, and are not particularly sensitive or valuable (from the perspective of providing important plant or wildlife habitat). Therefore, impacts on these habitats are considered less than significant. Further, because the number of individuals of any common plant or animal species within these habitats, and the proportion of these species' regional populations that could be

disturbed, is very small, the project's impacts would not substantially reduce regional populations of these species. Thus, these impacts do not meet the CEQA standard of having a substantial adverse effect, and would not be considered significant under CEQA.

4.3.2.3 Impacts on Pallid Bats (Less than Significant)

The pallid bat may infrequently forage on the project site and roost individually in suitable roost habitat on rare occasions, but it is not expected to breed on the project site, to occur in large numbers, or otherwise to make substantial use of the project site. The proposed project will result in the direct loss of foraging and roosting habitat when the existing trees and grassland habitat are removed. However, the number of bats that could potentially use the site is small, no maternity colonies are present, and these species are not likely limited by foraging habitat, especially in given their regionally low numbers relative to available foraging habitat. The project site represents a small proportion of regionally available foraging habitat. Further, individuals are more likely to forage over native grasslands in the hills to the east, where prey is more abundant, than they are directly on or over the project site. Thus, the impacts of project activities would represent a very small fraction of the regionally available habitat of these species, and would not rise to the CEQA standard of having a substantial adverse effect.

Direct impacts to individual pallid bats could occur when trees containing roosting pallid bats are removed. Individual pallid bats or small numbers of bats could be physically injured or killed, could be subjected to physiological stress from being disturbed during torpor, or could face increased predation because of exposure during daylight. However, given the low probability/frequency of occurrence and very low numbers of pallid bats expected to occur on the site, we do not expect that impacts to pallid bats would have substantial effects on regional populations, and therefore, impacts to individual pallid bats are less than significant. However, because the project may impact maternity colonies of non-special-status bats, Recommended Conservation Measure BIO-E, which addresses those impacts, would reduce impacts to pallid bats, if implemented (even though they would not be required for CEQA).

4.3.2.3 Impacts on White-tailed Kites (Less than Significant)

Heavy ground disturbance, noise, and vibrations caused by project development activities could potentially disturb foraging or roosting individual white-tailed kites and cause them to move away from work areas. Project grading may result in the removal of active nests or the disturbance of nests adjacent to the study area, possibly to the point of abandonment of active nests with eggs or nestlings. However, based on our site observations, the areal extent of the project site, and known breeding densities of this species, no more than one pair of white-tailed kites is expected to nest on or adjacent to the study area, if this species is present at all. Therefore, the loss of young potentially resulting from project development would represent a very small fraction of the regional population of these species and would not rise to the CEQA standard of having a *substantial* adverse effect.

Project activities could also result in the loss of foraging and nesting habitat for white-tailed kites. However, development of the project site is not expected to result in a substantial effect on populations of the species given the local and regional abundance of suitable foraging and nesting habitat, and the very small proportion of suitable

habitat that would be impacted. Therefore, neither the potential loss of individual white-tailed kites nor the loss of potential nesting or foraging habitat for this species would rise to the CEQA standard of having a *substantial* adverse effect, and these impacts would thus not constitute a significant impact on this species or its habitats under CEQA. However, all native bird species, including white-tailed kites are protected from direct take by federal and state statutes (see Impact 4.3.5.2 below).

4.3.2.3 Impacts on Non-breeding Western Red Bats (Less than Significant)

Although little is known about the habitat use of western red bats during the nonbreeding season[15], western red bats are uncommon, and no more than one or two individuals could be impacted by the project. Because such limited impacts would affect only a very small proportion of regional migrant/wintering populations of the species, the impact would not rise to the CEQA standard of having a *substantial* adverse effect and would therefore be less than significant.

4.3.3 **Impacts on Sensitive Communities**: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS (Less than Significant with Mitigation)

Riparian habitats are unique areas that surround river and stream banks and contribute disproportionately high habitat values and functions for their limited surface area. Specially-adapted plants that may tolerate repeated flooding or that rely on a high water table often occur in these areas, but even when it supports primarily upland species, this vegetation is important for stabilizing the banks, reducing soil erosion, and maintaining water species within the stream channel, and the amount and type of vegetation present can have effects on water temperature and therefore aquatic habitat within the stream. Riparian vegetation also provides specialized habitat for wildlife, including shade, breeding areas, and food sources. Riparian habitats are uncommon within the larger landscape. Riparian areas are considered sensitive habitats by the CDFW and are regulated as such under Section 1600 of the California Fish and Game Code, as well as by the RWQCB.

A limited amount of riparian woodland habitat occurs in the southernmost portion of the project site, and is associated with the perennial drainage in between the end of Kinross Drive and Seven Hills Seven Hills Ranch Road. The tree species associated with this riparian woodland habitat include predominantly arroyo willow and valley oak individuals. Currently, the proposed project design will permanently impact approximately 0.16 ac of riparian woodland habitat (Figure 2) and will result in the removal or damage of up to 13 riparian trees due to partial clearing for the extension of Kinross Drive. In addition, there is potential for temporary, indirect impacts to the remaining 0.18 acre from construction-related activities.

Impacts to riparian woodland habitat will be significant under CEQA owing to the importance of this habitat type to regional biodiversity. Implementation of Mitigation Measures BIO-1 and BIO-2 will reduce these impacts to less-than-significant levels by minimizing impacts and compensating for impacts on riparian habitat.

Mitigation Measure BIO-1. Avoidance and Minimization. While removal of some riparian habitat is necessary for the extension of the road through this portion of the property, some amount of riparian habitat may be able to be avoided, and indirect impacts to the avoided habitat minimized. Prior to the start of construction the project will clearly delineate riparian habitat to be avoided with fencing around the dripline of the riparian canopy. The project will avoid further indirect impacts to riparian habitat by implementing the following measures during construction:

- Existing native vegetation will be retained by removing only as much vegetation as necessary to accommodate the new road.
- Temporary disturbance or removal of riparian vegetation will not exceed the minimum necessary to complete the work.
- Control exposed soil by stabilizing slopes (e.g., with erosion control blankets) and protecting channels (e.g., using silt fences or straw wattles).
- Stabilize site ingress/egress locations.

Mitigation Measure BIO-2. Compensatory Mitigation for Permanent Loss of Riparian Habitat. For areas that are not able to be avoided, the project will restore or enhance an equivalent area at a 2:1 (mitigation:impact) ratio, on an acreage basis (or as otherwise directed by a regulatory agency with regulatory authority over impacts to riparian habitat on the site). The proposed project has the opportunity to carry out this mitigation in and along the perennial drainage and seasonal wetland in the central portion of the project site. The proposed project plans call for riparian enhancement of this area, and it contains sufficient space for the creation of 0.32 acre of riparian habitat. The current riparian planting scheme as identified on project plans involves the following plantings:

- 15 - 15-gallon coast live oak and 8 - treepot 4 coast live oak
- 30 - 15-gallon valley oak and 23 - treepot 4 valley oak
- 79 – *Salix* sp. cuttings

The *Salix* sp. cuttings will include a combination of arroyo willow and red willow. The willows will be planted along the outside boundary of the existing wetland habitat associated with the perennial drainage which bisects the project site. Valley oaks will be planted along the outside of the willow cuttings, and will line trails constructed on either side of the perennial drainage. Finally, coast live oak individuals will be planted intermittently throughout the mitigation area.

As a first step in the development of appropriate compensatory mitigation and prior to issuance of a grading permit, the applicant shall prepare a Riparian and Aquatic Habitat Mitigation & Monitoring Plan (Riparian and Aquatic HMMP) for aquatic and riparian habitat creation as a means of compensatory mitigation. The Riparian

and Aquatic HMMP shall be prepared by a qualified restoration ecologist and will provide, at a minimum, the following items:

- Habitat impacts summary and proposed habitat mitigation actions.
- Goals of the restoration to achieve no net loss.
- The location of the mitigation sites and existing site conditions.
- Mitigation design including:
  - Proposed site construction schedule.
  - Description of existing and proposed soils, hydrology, geomorphology and geotechnical stability.
  - Site preparation and grading plan.
  - Invasive species eradication plan.
  - Soil amendments and other site preparation.
  - Planting plan (plant procurement/propagation/installation).
  - Maintenance plan.
- Monitoring measures, and performance and success criteria. At a minimum, success criteria will include at least 70% cover by native, woody riparian vegetation by year 5.
- Monitoring methods, duration, and schedule.
- Contingency measures and remedial actions.
- Reporting measures.

The mitigation shall be deemed complete and the applicant released from further responsibilities when the final success criteria have been met, or when the mitigation is deemed complete as determined by applicable regulatory/resource agencies.

4.3.4 **Impacts on Wetlands**: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (Less than Significant with Mitigation)

The USACE-verified wetland delineation identified 0.43 ac of state and federally protected wetlands and waters within the project site. These include two perennial drainages and an associated concrete-lined channel (waters of the U.S./State) for a total of 1,455 linear feet and 0.09 acre, and seasonal wetlands totaling 0.35 acre. The perennial drainage in the center of the property represents a semi-natural watercourse that would have been historically present, prior to the surrounding development, whereas the perennial drainage along the southern edge of the property in between Kinross Drive and Seven Hills Ranch Road is a narrow, constructed ditch, which appears to primarily convey storm water runoff from the development upslope of the project site to the south and southeast, along Seven Hills Ranch Road into the concrete-lined channel of Walnut Creek. The majority of

the seasonal wetland habitat (0.33 of the 0.35 acres) is present on either side of the central drainage. Two smaller seasonal wetlands, totaling 0.003 and 0.01 acres, are present in the southern portion of the property, near the constructed ditch. These wetlands occur in subtle depressions and are predominantly occupied by non-native, invasive species such as Harding grass and Italian rye grass.

The proposed project establishes a 50-foot buffer of the centerline of the perennial drainage in the center of the property, thereby protecting this watercourse and the large seasonal wetlands on either side of it from direct impacts. This design avoids direct impacts to the central perennial drainage and associated seasonal wetlands, and establishes a buffer to avoid indirect impacts (Figure 2). In addition, as described above in the impact discussion for riparian habitat, the project will enhance the areas outside of the seasonal wetlands by planting with native riparian trees and shrubs. In this manner, the project design avoids and minimizes direct impacts on the majority of wetlands on the site.

In addition, the project would install stormwater infrastructure to collect site run-off and direct it into the local storm drain system, rather than into the seasonal wetlands and perennial drainage on the site. This would prevent post-construction changes in run-off, including run-off carrying sediment or oil and grease that could degrade water quality from entering the feature. Construction projects in California causing land disturbances that are equal to 1 acre or greater must comply with State requirements to control the discharge of stormwater pollutants under the NPDES *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Water Board Order No. 2009-0009-DWQ). Prior to the start of construction/demolition, a Notice of Intent must be filed with the State Water Board describing the project. A Storm Water Pollution Prevention Plan (SWPPP) must be developed and maintained during the project and it must include the use of BMPs to protect water quality until the site is stabilized. Standard permit conditions under the Construction General Permit require that the applicant utilize various measures including: on-site sediment control best management practices, damp street sweeping, temporary cover of disturbed land surfaces to control erosion during construction, and utilization of stabilized construction entrances and/or wash racks, among other factors.

In addition, in many Bay Area counties, including Contra Costa County, projects must also comply with the *California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit* (MRP) (Water Board Order No. R2-2015-0049). This MRP requires that all projects implement BMPs and incorporate Low Impact Development practices into the design to prevent stormwater runoff pollution, promote infiltration, and hold/slow down the volume of water coming from a site after construction has been completed. In order to meet these permit and policy requirements, projects must incorporate the use of green roofs, impervious surfaces, tree planters, grassy swales, bioretention and/or detention basins, among other factors. The proposed project has developed a storm water management plan that incorporates the use of bioretention swale, flow-through planters, and other bioretention facilities throughout the site to treat any stormwater that would eventually flows to into the perennial drainages on-site or into Walnut Creek off-site during large storm events.

Development in the southeast portion of property, namely the extension of Kinross Drive and the creation of a new road to connect with Seven Hills Ranch Road, will permanently impact one of the perennial drainages (0.03 acre; 664 linear feet) and the two small seasonal wetlands (0.01 acre) in this corner of the property through fill for the new road (Figure 2). As mentioned above the "perennial drainage" (as verified by the USACE) is a narrow, constructed ditch that was completely dry at the June 2021 survey and appears to convey only seasonal flow from the surrounding development. The project proposes to capture site run-off into a storm drain system in this area, but also proposes the creation of a 0.09-acre bioretention facility in the location of the existing perennial drainage. This feature is a swale depression that will be inundated by run-off in winter months and is likely to establish seasonal wetland vegetation in it over time.

Wetlands are relatively scarce regionally, and even small wetland areas make disproportionate contributions to water quality, groundwater recharge, watershed function, and wildlife habitat in the region. Thus, any permanent loss or temporary disturbance of wetland habitat because of the project would be considered significant under CEQA. Due to the regional scarcity of waters and wetland habitat and the important ecological functions provided regionally, the loss of 0.03 acre of federally and state jurisdictional waters and 0.01 acre of seasonal wetland habitat would be considered a significant impact. Implementation of Mitigation Measures BIO-3 and BIO-4 will reduce such impacts to a less-than-significant level. Impacts to these wetlands and waters will also require permits from the USACE and RWQCB for impacts on wetlands and other waters.

Mitigation Measure BIO-3: The central drainage and associated seasonal wetlands that are to be avoided by the project design will be protected from construction activities through implementation of BMPs such as installing silt fencing between jurisdictional waters and project related activities, locating staging and laydown areas away from potentially jurisdictional features, and isolating construction work areas from any identified jurisdictional features. In addition, site stormwater treatment features must be designed consistent with the *California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit* (MRP) as described above and shall be placed in locations to treat runoff from the developed portion of the site before entering avoided wetlands. To the extent feasible, existing site drainage patterns in the vicinity of avoided wetlands should be preserved to prevent indirect alterations to surface hydrology that may contribute to supporting the wetlands.

Mitigation Measure BIO-4: To compensate for the perennial drainage and seasonal wetlands that will be permanently impacted by extension of Kinross Drive to the project site, the project proponent shall undertake one of the following, in agreement with USACE and RWQCB as per permit requirements.

- Acquisition of equivalent wetlands and waters at a nearby site at a ratio of 2:1, on an acreage basis;
- Purchase of mitigation credits at a mitigation bank;
- Enhancement of seasonal wetlands and the perennial drainage to be preserved in the central portion of the site, as well as creation of seasonal wetland habitat in the bioretention facilities proposed on site, at a ratio of 2:1, on an acreage basis;

- An alternative to be agreed upon with the USACE and RWQCB.

It is possible that some mitigation credit may be received for enhancement of the seasonal wetlands along the perennial drainage in the central portion of the property, as is described and discussed above in the impact discussion for riparian habitats. A portion of the perennial drainage in the center of the property that is currently culverted is proposed to be daylighted, and the drainage in this reach will be restored. Similarly, to offset the impact to the 0.01 acre of low quality seasonal wetland habitat that will be permanently impacted by the new road, the project proponent may compensate (at least in part) by the creation of the 0.090-acre bioretention swale in this same location, if that swale develops criteria for jurisdictional wetlands. For any of these proposed on-site restoration or enhancement activities that will serve as compensatory mitigation for the permanent loss of 0.03 acre of perennial drainage or 0.01 acre of seasonal wetland, details of the mitigation, including monitoring of the mitigation area, shall be explained in detail in the Aquatic and Riparian HMMP described above for the riparian habitat. Success criteria for the wetland mitigation will be discussed in the HMMP and, at a minimum, will include at least 70% cover by native wetland species, with less than 5% cover by invasive species, by year 5.

4.3.5 **Impacts on Wildlife Movement**: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (Less than Significant)

4.3.5.1 Impacts on Wildlife Movement (Less than Significant)

For many species, the landscape is a mosaic of suitable and unsuitable habitat types. Environmental corridors are segments of land that provide a link between these different habitats while also providing cover. Development that fragments natural habitats (i.e., breaks them into smaller, disjunct pieces) can have a twofold impact on wildlife: first, as habitat patches become smaller they are unable to support as many individuals (patch size), and second, the area between habitat patches may be unsuitable for wildlife species to traverse (connectivity).

The project site is bordered by Walnut Creek, an un-vegetated concrete U-shaped channel to the west, and is almost entirely surrounded by dense residential development. While creeks often provide movement corridors for wildlife, it is unlikely that many wildlife access the site via Walnut Creek, due to its lack of riparian habitat and cover. Even if wildlife traversed this channel, the creek's vertical walls further preclude most non-volant animals from dispersing on to the project site. Heather Farm Park, an approximately 100-acre community park, is located directly northeast of the project site. Though much of the park lacks high quality habitat, the park lake, surrounding upland habitat patches, and landscaping attract moderate numbers of locally-common, urban-adapted birds[14], occasional migratory birds, and other wildlife such as raccoons and striped skunks. Development of the project site would alter the existing habitat on the project site, and any movement of wildlife between these two areas would be permanently impacted by the project. However, many of those existing urban-adapted species that move between the two areas are acclimated to high levels of disturbance and habitat fragmentation in the Walnut Creek area. Furthermore, these areas do not function as a high-quality movement corridor for most species, particularly special-status species, due to the existing development that surrounds the project site and Heather Farm Park. Further, many of the urban-adapted species that occasionally move between the two areas

would continue to do so in small numbers after the project is constructed. Thus, the resulting loss and fragmentation of habitat would not would not meet the threshold of having a substantial adverse effect, and would not be considered significant under CEQA.

4.3.5.2 Impacts on Native Wildlife Nursery Sites (Less than Significant)

Nesting Birds

Small numbers of native bird species nest on the project site. Construction disturbance during the avian breeding season (February 1 through August 31, for most species) could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests. However, the habitats on the project site are expected to support only regionally common, urban-adapted breeding birds, due to the absence of sensitive habitats from the project site. In addition, common urban-adapted birds are expected to continue to nest and forage on the project site after project construction is completed. These species are habituated to disturbance related to the surrounding developed areas, which support only a very small proportion of these species' regional populations. Therefore, project impacts on nesting and foraging birds that use the site, due to habitat impacts or disturbance of nesting birds, would not rise to the CEQA standard of having a substantial adverse effect, and these impacts would not constitute a significant impact on these species or their habitats under CEQA.

Nevertheless, all native bird species are protected from direct take by federal and state statutes. Although no measures are necessary, in our opinion, to reduce impacts to less-than-significant levels under CEQA, we recommend that the following Recommended Conservation Measures be implemented to ensure that project activities comply with the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code:

Recommended Conservation Measure A. Avoidance. To the extent feasible, construction activities (or at least the commencement of such activities) should be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts on nesting birds protected under the MBTA and California Fish and Game Code will be avoided. The nesting season for most birds in Contra Costa County extends from February 1 through August 31.

Recommended Conservation Measure B. Preconstruction/Pre-disturbance Surveys. If it is not possible to schedule construction activities between September 1 and January 31 then preconstruction surveys for nesting birds should be conducted by a qualified biologist to ensure that no nests will be disturbed during project implementation. We recommend that these surveys be conducted no more than seven days prior to the initiation of construction activities. During this survey, the biologist will inspect all trees and other potential nesting habitats (e.g., shrubs, grasslands, buildings) in and immediately adjacent to the impact areas for nests.

Recommended Conservation Measure C. Buffers. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the biologist will determine the extent of a construction-free buffer zone to be established around the nest (typically 300 feet for raptors and 100 feet for other species, though a buffer specific

to each nest will be determined by the biologist), to ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed during project implementation.

Recommended Conservation Measure D. Inhibition of Nesting. If construction activities will not be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the project may be removed prior to the start of the nesting season (e.g., prior to February 1). This will preclude the initiation of nests in this vegetation, and prevent the potential delay of the project due to the presence of active nests in these substrates.

Roosting Bats

A small number of oak trees that are proposed for removal, provide potentially-suitable roosting and breeding habitat for non-special-status bats, including the big brown bat and California myotis. Removal of such trees could result in the loss of individual bats or maternity colonies if they are occupied. Because these impacts would affect only a very small proportion of regional populations of these species, the impact would not rise to the CEQA standard of having a *substantial* adverse effect and would therefore be less than significant. However, bats and other non-game mammals are protected by California Fish and Game Code Section 4150, which states that all non-game mammals or parts thereof may not be taken or possessed except as provided otherwise in the code or in accordance with regulations adopted by the commission. Activities resulting in mortality of non-game mammals (e.g., destruction of an occupied nonbreeding bat roost, resulting in the death of bats), or disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), may be considered "take" by the CDFW. Although no measures are necessary, in our opinion, to reduce impacts to less-than-significant levels under CEQA, we recommend that the following Recommended Conservation Measure be implemented to avoid impacts to roosting bats.

Recommended Conservation Measure E. Protect Maternity Colonies of Non-Special-Status Bats.

- A pre-activity survey for roosting bats will be conducted at the two valley oaks (*Quercus lobata*) that support suitable roost habitat near the northeastern and southeastern corners of the project site within 30 days prior to the onset of ground-disturbing activities. A qualified biologist will conduct a survey to look for evidence of bat use within suitable habitat. If evidence of use is observed, or if high-quality roost sites are present in areas where evidence of bat use might not be detectable (such as a tree cavity), an evening visual survey combined with a nighttime acoustic survey will be conducted to determine if roosting bats are present and to identify the specific location of such bats.
- If no roosting bats are located, project work can continue as planned.
- If a maternity roost is detected, a disturbance-free buffer zone (determined by a qualified biologist) will be implemented during the maternity roost season (March 15–August 31). No project-related activities will take place within the buffer during the maternity season.

- If an active non-breeding bat roost is located, project work should be redesigned to avoid removal or disturbance of the occupied tree, if feasible. No buffer from the roost will be necessary during the non-maternity season (September 1–March 14). If the roost tree itself must be removed, bats will be passively excluded from roost habitat with one-way devices, or trees will be removed using a two-step tree removal process. The two-step process will be initiated if exclusion with one-way devices is not feasible due to height of the roost. For the two-step process, trees should be removed over a two-day period. On day 1, all non-suitable limbs should be removed, and on day 2, the remainder of the tree should be removed. Removing trees in this way creates disturbance that encourages bats to vacate the tree before the potential habitat is removed. Either method should be monitored by a qualified biologist with knowledge of bat ecology and experience with bat exclusion methods.

4.3.5.3 Impacts Related to Avian Collisions (Less than Significant)

Development of the proposed project would result in the construction of one four-story apartment building, 52 single-story residences, and a one or two-story health care center building. Glass windows and building facades can result in injury or mortality of birds due to collisions with these surfaces. Because birds do not perceive glass as an obstruction the way humans do, they may collide with glass when the sky or vegetation is reflected in glass (e.g., they see the glass as sky or vegetated areas); when transparent windows allow birds to perceive an unobstructed flight route through the glass (such as at corners); and when the combination of transparent glass and interior vegetation (such as in planted atria) results in attempts by birds to fly through glass to reach that vegetation. These risks are highest for buildings in or near areas of high avian activity or movement, such as migratory corridors, large open spaces, large water bodies, and riparian habitats.

Currently, terrestrial land uses and habitat conditions within the project site are relatively undisturbed, and the habitats provide foraging, nesting, and roosting habitat for a variety of locally-common breeding birds and wintering bird species. Some resident and migratory species are expected to move between the project site, Heather Farm Park, and surrounding upland habitats. Based on our review of the October 7, 2020 Conceptual Design Plans, the proposed buildings would support non-glass exterior walls, with windows on all sides of the structures. However, in our opinion, the building design does not include extensive glass that could cause bird collisions. Although birds may occasionally collide with windows on the proposed residential structures, the frequency and overall number of such collisions would be low due to the very limited extent of glazing. The birds that would be impacted are expected to consist primarily of locally resident species that are regionally abundant. Therefore, the project will not result in a significant impact on birds due to collisions with the new residential buildings.

4.3.6 **Impacts due to Conflicts with Local Policies**: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Less than Significant)

4.3.6.1 Impacts Due to the Removal of Ordinance-Sized Trees (Less than Significant)

Per Contra Costa County Tree Protection and Preservation Ordinance (Chapter 816.6), permits from the community development department are required for the removal of any trees which meets the definition of 'protected tree', as defined in the chapter listed above. The removal or pruning of trees protected by Contra Costa County Tree Protection and Preservation Ordinance, in the absence of compliance with the County's Municipal Code, would be considered potentially significant under CEQA.

The project proposes the removal of approximately 353 existing trees defined under County Ordinance as protected, as documented in the Arborist's Report. An additional 81 suitable protected trees are to be preserved, including all of the major valley oaks. The project will apply for the appropriate County permit to authorize removal of these trees and will comply with all required measures for preserved trees as described in the County Code ordinance. These include the following measures:

- Prior to the start of any clearing, stockpiling, trenching, grading, compaction, paving or change in ground elevation on a site with trees to be preserved, the applicant shall install fencing at the dripline or other area as determined by an arborist report of all trees adjacent to or in the area to be altered. Prior to grading or issuance of any permits, the fences may be inspected and the location thereof approved by appropriate county staff.
- No grading, compaction, stockpiling, trenching, paving or change in ground elevation shall be permitted within the dripline unless indicated on the grading plans approved by the county and addressed in any required report prepared by an arborist. If grading or construction is approved within the dripline, an arborist may be required to be present during grading operations. The arborist shall have the authority to require protective measures to protect the roots. Upon completion of grading and construction, an involved arborist shall prepare a report outlining further methods required for tree protection if any are required. All arborist expense shall be borne by the developer and applicant unless otherwise provided by the development's conditions of approval.
- No parking or storing vehicles, equipment, machinery or construction materials, construction trailers and no dumping of oils or chemicals shall be permitted within the dripline of any tree to be saved.

With the incorporation of the above measures to insure compliance with the Contra Costa County Tree Protection and Preservation Ordinance, any potential impacts related to conflict with local policies or ordinances protecting trees would be less than significant.

4.3.6.2 Impacts due to Encroachment into the Stream Buffer (Less than Significant)

To protect the ecological functions and values of a stream, buffers are often prescribed between new development and the stream (or its banks or associated riparian habitat). These buffers provide habitat for plants and animals

associated with the stream, provide habitat connectivity (i.e., areas used for wildlife movement, including flight paths for birds), reduce indirect effects of adjacent development (e.g., noise, lighting, human activity, or invasive species) on the natural stream and riparian habitats, allow for the possible future expansion of natural habitat, help to maintain site hydrology, and in some areas allow for runoff to be treated (e.g., by flowing through vegetated areas) before it enters the stream. In addition, along natural watercourses such as the perennial drainage in the central portion of the project site, vegetative communities within stream buffers may provide important refugia for animals associated with wetland and riparian habitats along the river during flood events, when little to no such refugia may be present within the banks of the river itself.

The goals and policies laid out in the Contra Costa County General Plan Conservation Element to protect watercourses in the County is administered through the establishment of requirements in the County Code for setbacks from the centerline of watercourses, and restrictions on development within those corridors. The perennial drainage in the center of the project would qualify as a "natural watercourse" as defined in the General Plan Conservation Element and associated County Code regulations. The project has been designed to incorporate a 50-foot setback from the centerline of the central drainage, and proposes restoration and enhancement of wetland and riparian habitat within this preserved corridor. In addition, this 100-foot wide corridor (50-foot buffer on either side of the drainage centerline) is up to 300 feet wide in some locations. While the project will propose some new trails within this corridor, trails would be considered an allowable use within the creek setback limits, as per the County Code, which primarily restricts the building of permanent structures with the setback area. Because the project does not include any new development within this 100 to 300 foot wide corridor, and the project proposes enhancement of riparian and wetland habitat within this corridor, potential project impacts due to encroachment within the creek setback are considered less than significant under CEQA.

4.3.7 Impacts due to Conflicts with an Adopted Habitat Conservation Plan: Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (No Impact)The project site is not located within an area covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the project would not conflict with any such documents.

5.0 Cumulative Impacts

Cumulative impacts arise due to the linking of impacts from past, current, and reasonably foreseeable future projects in the region. Future development activities in undeveloped areas of Walnut Creek will result in impacts on the same habitat types and species that will be affected by the proposed project. The proposed project, in combination with other projects in the area and other activities that impact the species that are affected by this project, could contribute to cumulative effects on special-status species. Other projects in the area include office/retail/commercial development, mixed use, and residential projects that could adversely affect these species.

The cumulative impact on biological resources resulting from the project in combination with other projects in the larger region would be dependent on the relative magnitude of adverse effects of these projects on biological resources compared to the relative benefit of impact avoidance and minimization efforts prescribed by planning documents, CEQA mitigation measures, and permit requirements for each project; and compensatory mitigation and proactive conservation measures associated with each project. In the absence of such avoidance, minimization, compensatory mitigation, and conservation measures, cumulatively significant impacts on biological resources would occur.

However, many projects in the region that impact resources similar to those impacted by the project will be subject to CEQA requirements. It is expected that such projects will mitigate their impacts on sensitive habitats and special-status species through the incorporation of mitigation measures and compliance with permit conditions.

Regardless of the magnitude and significance of cumulative impacts that result from other projects, the Spieker Senior Continuing Care Community project is not expected to have a substantial effect on biological resources, and would implement the mitigation measure described above to reduce impacts under CEQA to less than significant levels. Thus, provided that this project successfully incorporates the mitigation measures described in LSA' biological resources report and this peer review report, the project will not have a cumulatively considerable contribution to cumulative effects on biological resources.

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Figure 1. Habitats Map

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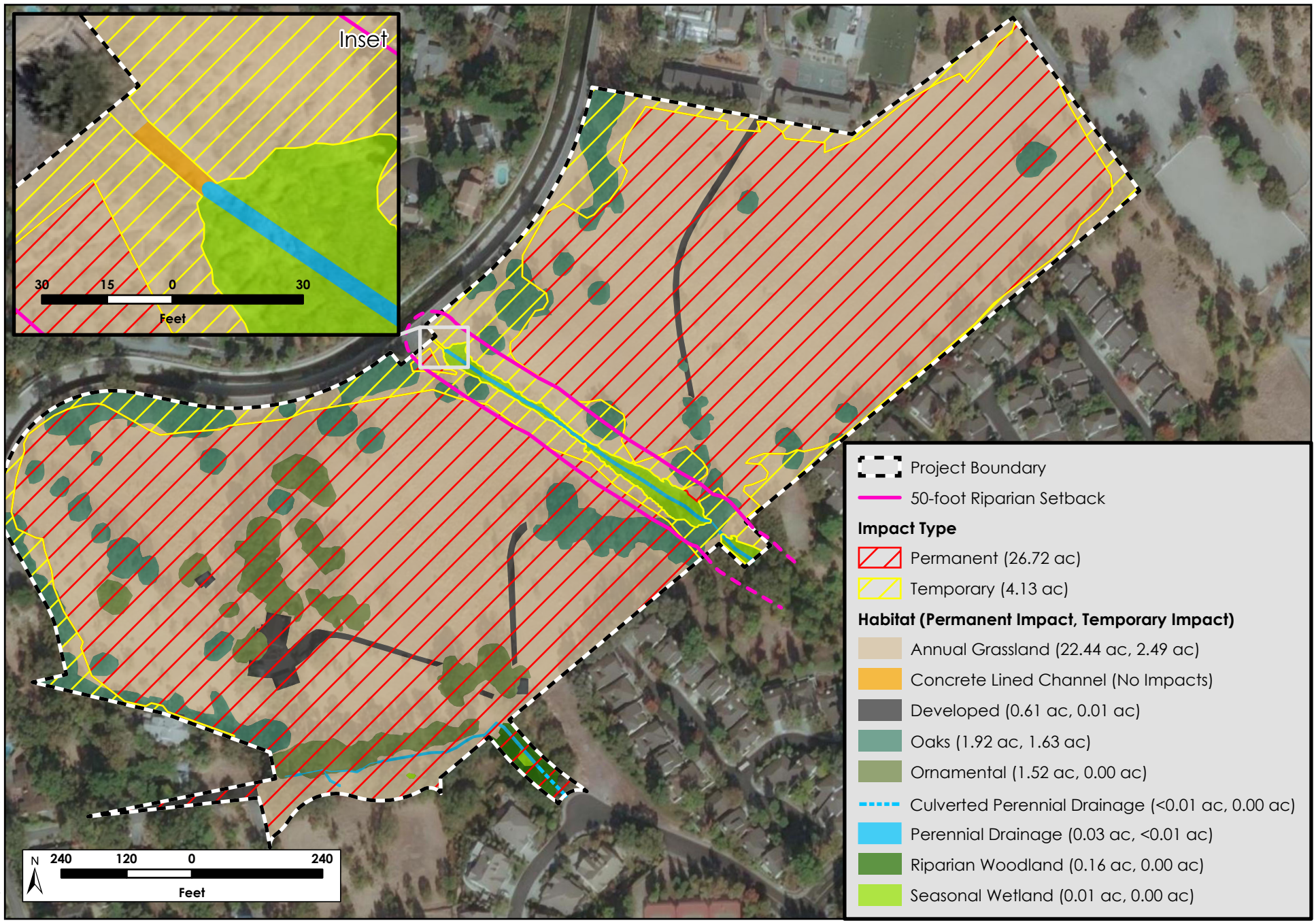

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Figure 2. Impacts Map

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