Appendix C-1

Biological Resources Assessment for
Cancer Center Site

BIOLOGICAL RESOURCES ASSESSMENT

LOS ROBLES HOSPITAL AND MEDICAL CENTER – CANCER CENTER PROJECT

THOUSAND OAKS, VENTURA COUNTY, CALIFORNIA

(AIN 681-018-0265 AND 681-018-0275)

LSA

August 2023

BIOLOGICAL RESOURCES ASSESSMENT

LOS ROBLES HOSPITAL AND MEDICAL CENTER – CANCER CENTER PROJECT

THOUSAND OAKS, VENTURA COUNTY, CALIFORNIA

(AIN 681-018-0265 AND 681-018-0275)

Submitted to:

Elizabeth Cobb
Kimley-Horn
1100 West Town and Country Road, Suite 700
Orange, California 92868

Prepared by:

LSA
1500 Iowa Avenue, Suite 200
Riverside, California 92507
(951) 781-9310

Project No. HCS2201

LSA

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EXECUTIVE SUMMARY

Kimley-Horn retained LSA to conduct a Biological Resources Assessment (BRA) for the Los Robles Hospital and Medical Center – Cancer Center Project (project) on Assessor's Parcel Numbers 681-018-0265 and 681-018-0275 in Thousand Oaks, Ventura County, California. The proposed project would result in the construction of a 4.75-acre medical center with associated asphalt-paved parking areas and landscaping. The assessment included a literature review, a field survey, and this report.

The results of the general biological study are summarized below.

- The project would have no effects on critical habitats.
- The project site does not contain wildlife corridors, nursery sites, or natural communities of concern. However, there is one 0.09-acre area of riparian habitat consisting of coast live oak/ willow woodland. The woodland does not meet the criteria for S1–S3 ranking due to the species composition, but it is jurisdictional for the California Department of Fish and Wildlife (CDFW) under Section 1602 of the California Fish and Game Code.
- The project site is within the range of the following federally listed endangered plants: Lyon's pentachaeta (*Pentachaeta lyonia*) and Braunton's milk vetch (*Astragalus brauntonii*). However, the project site has no suitable soils within the coastal sage scrub habitat present that could support the annual Lyon's pentachaeta or the perennial Braunton's milk vetch. Therefore, the project would have no effect on federally listed endangered plant species.
- The project site is within the range of a federally and State-listed endangered bird, least Bell's vireo (*Vireo bellii pusillus*), and suitable habitat is present in the form of coast live oak/willow riparian habitat. Therefore, focused least Bell's vireo surveys are recommended during the breeding season (April 1–July 31).
- The project site is within the range of the federally/State-listed endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and federally listed threatened/State-listed endangered western yellow-billed cuckoo (*Coccyzus americanus*). However suitable habitat in the form of inundated riparian habitat is absent from the project site. Therefore, the project would have no effect on either of these federally/State-listed bird species.
- The project site is within the range of a federally listed threatened bird, coastal California gnatcatcher (*Polioptila californica californica*), and suitable habitat is present in the form of coastal sage scrub. Therefore, focused coastal California gnatcatcher surveys are recommended during the breeding season (February 1–August 31). Alternatively, nonbreeding coastal California gnatcatcher surveys could be conducted (July 1–March 14).
- The project site is within the range of the Crotch bumble bee (*Bombus crotchii*), a candidate for State listing as endangered, and suitable foraging habitat is present in the form of coastal sage scrub. Therefore, focused Crotch bumble bee surveys are recommended during the Colony Active Period (April–August) when detection probability is highest. Additionally, if survey results determine Crotch bumble bee are present, then biological monitoring is recommended during

any ground disturbance, vegetation removal, or fuel modification that occur during the Crotch bumble bee activity period (February 1–October 31).

- The project site is within the range of the Southern California population of mountain lion (*Puma concolor*), a candidate for State listing as threatened. Mountain lion is known to occur in the vicinity of the project site. Due to the absence of denning sites, the small project size, and the urban location limiting foraging opportunities for the species' primary prey, mule deer (*Odocoileus hemionus*), mountain lion utilization of habitat within the project site is not anticipated. Implementation of the proposed project would not permanently affect mountain lion movement or decrease the functionality of any wildlife crossings as none are present; therefore, project-specific avoidance and minimization measures are not required.

- The project site provides limited suitable coastal sage scrub habitat for coastal whiptail (*Aspidoscelis tigris stejnegeri*). Pre-construction surveys prior to ground disturbance, vegetation removal, or fuel modification are recommended. Additionally, biological monitoring is recommended during vegetation removal to avoid effects on coastal whiptail.

- The project site is within the range of the American badger (*Taxidea taxus*) and provides limited suitable coastal sage scrub habitat. Pre-construction surveys prior to ground disturbance, vegetation removal, or fuel modification are recommended.

- The project site provides suitable habitat for nesting birds protected under the California Fish and Game Code and the Migratory Bird Treaty Act. A pre-construction survey is recommended to avoid project effects on nesting birds between February 1 and August 31.

- The project site has suitable western red bat (*Lasiurus blossevillii*) and hoary bat (*Lasiurus cinereus*) habitat in the form of large trees. It is recommended that the project avoid any tree work from April through August. If any tree work must be done during that time, a nocturnal emergence survey to verify whether any bats are present should be conducted by a qualified biologist prior to any work.

- The project site contains one potential jurisdictional drainage feature that will be avoided. Regulatory permits issued under Sections 401 and 404 of the Clean Water Act and Section 1602 of the California Fish and Game Code are not required.

- Protected trees occur on the project site and include valley oak (*Quercus lobata*), coast live oak (*Quercus agrifolia*), scrub oak (*Quercus berberidifolia*), western sycamore (*Platanus racemose*), and toyon (*Heteromeles arbutifolia*).

- Protected trees occur on the project site and will be subject to removal; therefore, they are required to be evaluated per a site-specific Protected Tree Survey to be conducted by an International Society of Arboriculture (ISA) Certified Arborist under Section 9-4.4309 of the City of Thousand Oaks' Municipal Code.

- The project will not conflict with any local policies or ordinances and is not within an adopted habitat conservation plan area.

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LIST OF ABBREVIATIONS AND ACRONYMS

°F	degrees Fahrenheit
amsl	above mean sea level
APN	Assessor's Parcel Number
BIOS	Biogeographic Information and Observation System
BRA	Biological Resources Assessment
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
City	City of Thousand Oaks
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
COSCA	Conejo Open Space Conservation Agency
County	County of Ventura
CWA	Clean Water Act
ESHA	Environmentally Sensitive Habitat Areas
ESU	evolutionarily significant unit
FESA	Federal Endangered Species Act
ft	foot/feet
ISA	International Society of Arboriculture
JDSA	jurisdictional delineation study area
NRCS	Natural Resources Conservation Service
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
project	Los Robles Hospital and Medical Center – Cancer Center Project

Regional Supplement	*Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008)
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WRCC	Western Regional Climate Center

BIOLOGICAL RESOURCES ASSESSMENT
LOS ROBLES HOSPITAL AND MEDICAL CENTER – CANCER CENTER PROJECT

INTRODUCTION

Kimley-Horn retained LSA to conduct a Biological Resources Assessment (BRA) for the Los Robles Hospital and Medical Center – Cancer Center Project (project) on Assessor's Parcel Numbers (APNs) 681-018-0265 and 681-018-0275. The 4.75-acre project site is located at 400 Rolling Oaks Drive in Thousand Oaks, California. The proposed project would result in the construction of a 1.35-acre medical center building with 295 vehicle spaces in asphalt-paved parking areas (Figure 1; all figures are provided in Appendix A).

Site Description

The project site is southeast of the intersection of Rolling Oaks Drive and Los Padres Drive in Thousand Oaks, Ventura County, California, as depicted on the United States Geological Survey (USGS) *Thousand Oaks, California* 7.5-minute series topographic quadrangle (USGS 1967) (Figure 1). The site is bordered to the north by Rolling Oaks Drive and commercial development, to the west by Los Padres Drive and residential development, to the east by undeveloped land and residential development, and to the south by undeveloped land designated as Los Padres Open Space. The northern section of the project site was formerly developed with the Rolling Oaks Child Development Center in the early 1980s, but as of 2018, it no longer exists except for multiple concrete slabs and some utilities infrastructure. The area surrounding the project is encompassed by relatively developed lands, consisting of a golf course and low-density, rural residential and commercial uses. However, the southern project boundary abuts the Los Padres Open Space, which is part of a considerable network of conserved lands overseen by the Conejo Open Space Conservation Agency (COSCA).

Due to previous development, the site's topography is relatively flat on the north and western portions, but there are foothill slopes to the south as developed land gives way to native coastal sage scrub habitat. The site elevations range from 770 feet (ft) above mean sea level (amsl) to 870 ft amsl. Climate conditions are typical for a Mediterranean zone with hot, dry summers and mild, wet winters. The average annual precipitation is 14.73 inches, with the most precipitation occurring from November through May (WRCC 2022). Average temperatures typically range between 36 degrees Fahrenheit (°F) and 98°F. In recent years, however, the area has suffered from severe drought, with lower-than-average precipitation and higher than typical temperatures.

METHODS

Literature Review

LSA conducted a literature review to assist in determining the existence or potential occurrence of special-status plant and animal species within a nine-quad search of the project site. Database records for the *Thousand Oaks, California* and *Ventura, California* USGS 7.5-minute quadrangles were searched on September 23, 2022, and August 11, 2023 (USGS 1967). Rare plant and animal data were reviewed in the California Department of Fish and Wildlife's (CDFW) California Natural

Diversity Database (CNDDB) application RareFind 5, online edition (version 5.2.14) (CDFW 2022a). Habitat connectivity and wildlife corridors were determined using the CDFW Biogeographic Information and Observation System (BIOS) application online (version 5) (CDFW 2022b). The United States Fish and Wildlife Service (USFWS) listed species and designated critical habitat information were searched using the USFWS Information for Planning and Consultation system (USFWS 2022). The California Native Plant Society (CNPS) Rare Plant Program, online edition (CNPS 2022), Rare Plant Inventory was searched to determine the probability of additional listed plant species. Aerial photographs (Google Earth 2022) were also reviewed. Wetland resources, including riparian corridors, were determined using the USFWS Wetlands Mapper, online edition (USFWS 2021). Soil types were determined using the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS n.d.).

Reconnaissance Field Survey

LSA Biologists Carla Cervantes and Christina Van Oosten conducted a general reconnaissance-level, pedestrian field survey on September 9, 2022, between the hours of 10:00 a.m. and 11:45 a.m. Weather conditions during the survey consisted of 30 percent cloud cover but sunny, with a temperature of 94–96°F and light winds. Ms. Cervantes and Ms. Van Oosten recorded observations on general site conditions, vegetation, and suitability of habitat for various special-status elements. Plant and animal species observed or otherwise detected are listed in Appendix B. The reconnaissance field survey was followed up with the jurisdictional delineation on September 15, 2022, as described below.

The 4.75-acre project site was the focus of the survey. A 500 ft buffer around the parcel was used to map vegetation/land cover using public access points and/or advantageous viewpoints. Access to adjacent private parcels within the 500 ft buffer was restricted due to a lack of permission to enter.

Jurisdictional Delineation

LSA Biologists Jeremy Rosenthal and Heather Monteleone conducted the jurisdictional delineation on September 15, 2022. They visually surveyed the jurisdictional delineation study area (JDSA) on foot. All drainage features within the JDSA were evaluated according to the most current federal and/or State regulatory criteria and guidance and mapped using aerial photographs. This included the State wetland definition and delineation procedures enacted by the State Water Resources Control Board (SWRCB) and the United States Army Corps of Engineers (USACE) regulations pertaining to jurisdictional waters of the United States, which are consistent with the pre-2015 regulatory regime until further notice. In addition, Mr. Rosenthal and Ms. Monteleone noted and photographed the general conditions and characteristics associated with each drainage feature.

The boundaries of drainage features observed within the JDSA during the fieldwork were mapped on a recent, high-resolution aerial photograph (at a scale of 1 inch = 100 ft) showing the JDSA. The widths and lengths of these drainage features mapped during the field investigation were determined by a combination of direct measurements taken in the field and measurements taken from the aerial photographs. Features within the JDSA that are generally excluded from federal and/or State jurisdiction under current regulatory definitions and guidance were evaluated and mapped as “nonjurisdictional features.” Because none of the drainage features in the JDSA exhibited characteristics indicative of wetlands (e.g., areas dominated by hydrophytic vegetation or hydric

soils), wetland delineation procedures described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (Regional Supplement) (USACE 2008) and adopted by the SWRCB were not implemented.

RESULTS

Existing Site Conditions

The site is bordered to the north by Rolling Oaks Drive and commercial development, to the west by Los Padres Drive and residential development, to the east by undeveloped land and residential development, and to the south by undeveloped land designated as a Los Padres Open Space. The northwest portion of the project site has vestiges of previous development with multiple concrete slabs, some utilities, and compacted soils. The northeastern portion of the project site contains an ephemeral drainage and an associated small patch of riparian vegetation consisting of coast live oak/willow woodland. Ornamental trees line the northern project boundary and wrap around the western edge. Ruderal/barren areas are present in the center of the site, where they meet foothills covered with coastal sage scrub. Coastal sage scrub continues south, connecting with the Los Padres Open Space at the south end of the project site.

The following discusses topography and soils, vegetation, and wildlife within the project site.

Topography and Soils

The topography of the project site contains relatively flat lands to the north and undulating foothill slopes increasing in elevation to the south. The site elevation ranges from 770 to 870 ft amsl.

Two soil types are mapped on the project site and are consistent with Azule gravelly loam, 5 to 9 percent slopes, warm; and Gilroy loam, 15 to 50 percent slopes, very rocky (USDA 2019) (see Table A and Figure 3). Neither of these mapped soils is considered hydric soil, and both have a drainage class of well drained (NRCS n.d.).

Table A: Mapped Soils Classifications

Soil	Drainage Class	Frequency of Flooding	Frequency of Ponding	Hydric Soil Rating
Azule gravelly loam, 5 to 9 percent slopes, warm	Well drained	None	None	No
Gilroy loam, 15 to 50 percent slopes, very rocky	Well drained	None	None	No

Source: Web Soil Survey (United States Department of Agriculture 2019).

The existing soils are compacted in the northern portion of the project site, which is consistent with previous land uses. The soils in the southern portion of the project site are relatively undisturbed.

Vegetation and Land Cover

The vegetation communities were classified using *A Manual of California Vegetation*, Second Edition (Sawyer et al. 2009). Five types of vegetation/land cover classifications were mapped in the project site and are discussed below (Table B). The dominant vegetation community within the project site is coastal sage scrub, with a total of 1.78 acres, of which 1.54 acres will be permanently impacted

Table B: Mapped Vegetation/Land Cover Classifications with Potential Impact Acres

Vegetation/Land Cover	Permanent Impact Acres	Temporary Impact Acres	Total Project Acres
Developed	0.71	0.03	0.74
Coastal Sage Scrub	1.54	0.24	1.78
Ornamental	0.66	0.40	1.06
Ruderal/Barren	1.00	0.08	1.08
Coast Live Oak/Willow Woodland	0.00	0.00	0.09
Total	**3.91**	**0.75**	**4.75**

Source: Compilation from field surveys conducted by LSA on September 9 and 15, 2022.

and 0.24 acre is subject to temporary impacts. Coastal sage scrub was dominated by the following plant species: California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), and California buckwheat (*Eriogonum fasciculatum*). Additional coastal sage scrub species included white sage (*Salvia apiana*), purple sage (*Salvia leucophylla*), coastal goldenbush (*Isocoma menziesii* var. *vernonioides*), California encelia (*Encelia californica*), coastal cholla (*Cylindropuntia prolifera*), coastal prickly pear (*Opuntia littoralis*), coyote brush (*Baccharis pilularis* ssp. *consaguinea*), and coastal deerweed (*Acmispon glaber*).

A total of 0.09 acres of coast live oak/willow woodland occurs within the project site but will not be permanently or temporary impacted. Coast live oak/willow woodland was dominated by the following plant species: coast live oak (*Quercus agrifolia* var. *agrifolia*), poison oak (*Toxicodendron diversilobum*), arroyo willow (*Salix lasiolepis*), and scrub oak (*Quercus berberidifolia*). Other less dominant species include western sycamore (*Platanus racemose*), Fremont cottonwood (*Populus fremontii* ssp. *fremontii)*, and mule fat (*Baccharis salicifolia* ssp. *salicifolia*). The understory is a mosaic of native and ornamental vegetation. Additionally, small numbers of remnant coast live oak occur outside of the riparian woodland and are mixed into the ornamental land cover, as described below. The project site plan has proposed the removal of 14 remnant oak trees outside of the woodland due to construction. The remaining 16 oaks are within the coast live oak/willow woodland and will be preserved and protected throughout the duration of the project.

A total of 1.06 acre of ornamental land cover occurs within the project site, of which 0.66 acre will be permanently impacted and 0.40 acre is subject to temporary impacts. Ornamental land cover was dominated by nonnative tree species: river red gum (*Eucalyptus camaldulensis*), silver dollar tree (*Eucalyptus cinerea*), Tasmanian bluegum (*Eucalyptus globulus*), red ironbark (*Eucalyptus sideroxylon*), and European olive (*Olea europaea*). Additional ornamental trees include Shamel ash (*Fraxinus uhdei*), carrotwood (*Cupaniopsis anacardioides*), and pines (*Pinus* sp.). In addition to the above trees, some native oak was mixed into the ornamental land cover.

The dominant land cover is ruderal/barren, which consisted of bare ground and nonnative plant species such as ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), and smilo grass (*Stipa miliacea* var. *miliacea*). Additional nonnative plants include Russian thistle (*Salsola tragus*), spotted spurge (*Chamaesyce maculata*), slender wild oat (*Avena barbata*), black mustard

(*Brassica nigra*), lamb's quarters (*Chenopodium album*), and shortpod mustard (*Hirschfeldia incana*). A total of 1.08 acres of ruderal/barren cover occurs within the project site, of which 1.00 acre will be permanently impacted and 0.08 acre is subject to temporary impacts.

Areas mapped as "developed" on Figure 4 consist of paved areas and dirt areas that generally do not allow for the establishment of vegetation. This land cover was present on 0.74 acre of the central and northern portions of the site.

Additionally, there are two valley oak (*Quercus lobata*) in the project site that are remnant from the historical Valley Oak Woodland in the surrounding area that was previously extirpated by residential development (Figure 4).

A complete plant list can be found in Appendix B. Figure 4 shows vegetation/land cover, and Figure 5 provides site photographs.

Wildlife

No federally listed, State-listed, or other special-status species were observed during the field surveys on either September 9 or September 15, 2022. Wildlife species observed during the surveys were species common to the region. A list of these species is included in Appendix B.

Other common wildlife species can be expected to use habitats at the project site for cover, foraging, and reproduction. The project site's southern boundary abuts the northern edge of the Los Padres Open Space. The Los Padres Open Space extends southward, where it is joined by Los Robles Open Space in the west and Conejo Ridge Open Space to the east. Thus, mobile species such as foraging raptors, reptiles, and medium-sized mammals (striped skunk [*Mephitis mephitis*], bobcat [*Lynx rufus*], and coyote [*Canis latrans*]) can be anticipated to utilize the site's resources routinely.

Although no special-status wildlife species were documented at the project site, there is a limited area of suitable habitat within the project that could attract them.

Special-Status Species

This section discusses special-status species observed or potentially occurring within the limits of the project site. Legal protection for special-status species varies widely, from the comprehensive protection extended to listed threatened/endangered species to no legal status at present. The CDFW, USFWS, local agencies, and special-status groups publish watch lists of declining species.

Species that are candidates for State and/or federal listing, which are considered locally sensitive by the City of Thousand Oaks (City) and the County of Ventura (County), and the species on watch lists are also included in the special-status species analysis (Table C). Inclusion of species described in the special-status species analysis is based on the following criteria:

- Direct observation of the species or its sign on the project site or immediate vicinity during previous biological studies

- Sighting by other qualified observers

Table C: Special-Status Species Occurrence Probability

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Plants				
Pentachaeta lyonia **Lyon's pentachaeta**	US: Endangered CA: 1B.1	Annual herb found in open areas of valley and foothill grassland, chaparral, and coastal sage scrub. Prefers exposed, rocky red clay soils of volcanic origin that exhibit a microbiotic crust. Elevation: 100–2,265 feet.	Blooms March through August	**Absent**. No suitable soils found within coastal sage scrub habitat present on the project site. One CNDDB record in the vicinity of the BSA.
Astragalus brauntonii **Braunton's milk vetch**	US: Endangered CA: 1B.1	Perennial herb restricted to carbonate soils of the foothills of the Southern California mountains. It occurs in disturbed coastal sage scrub, closed-cone pine forest, chaparral, and valley grassland.	Blooms January through August	**Absent**. No suitable soils found within coastal sage scrub habitat present on the project site. This species was not observed within the project site. No CNDDB records in the vicinity of the BSA. Recorded regionally in Conejo Open Space.
Eriogonum crocatum **Conejo buckwheat**	US: – CA: 1B.2	Perennial herb found in coastal sage scrub, chaparral, and valley grassland with rocky soils.	Blooms April through July	**Absent.** Suitable soils in coastal sage scrub habitat present within the project site. This species was not observed within the project site. No CNDDB records in the vicinity of the BSA. Recorded regionally in Conejo Open Space.
Invertebrates				
Bombus crotchii **Crotch bumble bee**	US: – CA: SCE	Inhabits open scrub and grassland from coastal California to crest of Sierra-Cascade and in desert edge areas, south into Mexico. Primarily nests underground. Suitable bumble bee habitat requires the continuous availability of flowers on which to forage throughout the duration of the colony (spring through fall), colony nest sites, and overwintering sites for the queens.	Spring and summer	**High.** The species is known to occur in the vicinity of the BSA, and multiple food plant species are present in the coastal sage scrub habitat within the BSA. No nesting has been documented within or adjacent to the BSA.
Reptiles				
Phrynosoma blainvillii **coast horned lizard**	US: – CA: SSC	Primarily found in sandy soil in open areas, especially washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of native ants or other insects. Occurs west of the deserts from northern Baja California north to Shasta County below 8,000 feet in elevation.	April through July, with reduced activity August through October	**Absent.** Site lacks suitable soils for this species. No suitable washes and floodplains are present. No CNDDB records occur in the vicinity of the BSA. Recorded regionally in Conejo Open Space.
Anniella stebbinsi **Southern California legless lizard**	US: – CA: SSC	Lives mostly underground, burrowing in moist, loose, sandy soil or leaf litter with plant cover. Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Often can be found under surface objects such as rocks, boards, driftwood, and logs.	April through July; live young born July through September	**Absent.** Site lacks a suitable combination of sandy soils and moisture for this species. One CNDDB record in the vicinity of the BSA.
Aspidoscelis tigris stejnegeri **coastal whiptail**	US: – CA: SSC	Found in a variety of ecosystems, primarily hot and dry open areas with sparse foliage, such as coastal sage scrub, chaparral, woodland, and riparian areas.	Year-round; eggs hatch from May to August.	**Low.** Suitable coastal sage scrub habitat within the project site. No CNDDB records occur in the vicinity of the BSA. Recorded regionally in Conejo Open Space.

Table C: Special-Status Species Occurrence Probability

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Birds				
Vireo bellii pusillus **least Bell's vireo**	US: Endangered CA: Endangered	Found in early to mid-successional riparian habitats with dense foliage, including low-elevation riparian streams and riparian woodlands with willows (*Salix* sp.), mule fat (*Baccharis salicifolia*), poison oak (*Toxicodendron diversilobum*), and cottonwood (*Populus fremontii*).	Nests April through July. Winters in southern Baja California, Mexico.	**Low**. Site is within species' range, and suitable small area of coast live oak/willow woodland riparian habitat is present within project site. No CNDDB records in the vicinity of the BSA.
Empidonax traillii extimus **southwestern willow flycatcher**	US: Endangered CA: Endangered	Breeds and nests in lower canopy of transitional stands of dense cottonwood/willow riparian forest along broad, lower flood bottoms of river systems at scattered locales in western North America. Requires consistent inundation of habitat and humidity. In California, is known to breed on the Colorado and Kern rivers.	Nests May through September. Winters in South America.	**Absent.** Lacks required understory and summer inundation of riparian habitat. No nearby breeding populations.
Coccyzus americanus **western yellow-billed Cuckoo**	US: Threatened CA: Endangered	Breeds and nests in upper canopy of transitional stands of cottonwood/willow riparian forest along broad, lower flood bottoms of river systems at scattered locales in western North America. Requires large arthropod prey such as cicadas to support accelerated chick development. In California, is known to breed on the Colorado and Kern rivers. Shortest nesting duration in North America.	Nests June through September. Winters in South America.	**Absent.** Lacks large arthropod prey and summer inundation of riparian habitat. No nearby breeding populations.
Polioptila californica californica **coastal California gnatcatcher**	US: Threatened CA: SSC	Inhabits coastal sage scrub in low-lying foothills and valleys up to about 1,640 feet in elevation in cismontane southwestern California.	Nests February through August. Year-round resident.	**Low to Moderate.** Suitable coastal sage scrub habitat within the project site. No CNDDB records. Recorded regionally in Conejo Open Space.
Accipiter cooperii **Cooper's hawk**	US: – CA: WL	Inhabits mixed forests, evergreens, and riparian woodland. Is known to nest in urban trees, such as in suburban parks.	Nests March through August. Year-round resident in coastal and urban areas.	**Low to Moderate.** Suitable coast live oak/willow woodland riparian habitat present within project site. Suitable large ornamental trees within project site. No CNDDB records within the vicinity of the BSA. Recorded regionally in Conejo Open Space.
Picoides nuttallii **Nuttall's woodpecker**	US: BBC CA: –	Inhabits oak woodlands from around 900 to 5,500 feet in elevation. Primarily restricted to oak woodlands in much of California, but also uses wooded suburban areas and cottonwood/willow woodlands near streams, especially farther south in its range, where oak trees are scarcer. Excavates nest holes in dead trunks or limbs of willows, cottonwoods, sycamores, oaks, or alders.	Nests March through July. Year-round resident.	**Low to Moderate.** Suitable coast live oak/willow woodland riparian habitat present within project site. Suitable large ornamental trees within project site. Recorded regionally in Conejo Open Space.
Baeolophus inornatus **oak titmouse**	US: BBC CA: –	Inhabits warm, open, dry oak or oak-pine woodlands. Many will use scrub oaks or other brush if woodlands are nearby. Nests in cavities, preferring naturally occurring tree cavities over woodpecker-excavated ones. Occasionally nests in	Nests March into July. Year-round resident.	**Low to Moderate**. Suitable coast live oak/willow woodland riparian habitat present within project site. Recorded regionally in Conejo Open Space.

Table C: Special-Status Species Occurrence Probability

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
		stumps, fenceposts, pipes, eaves, or holes in riverbanks. Will also use nest boxes.		
Mammals				
Puma concolor **mountain lion (Southern California/Central Coast ESU)**	US: – CA: SCT	Found in nearly all habitats, except xeric regions of the Mojave and Colorado deserts that do not support mule deer populations. Excluded from croplands in the Central Valley. Most abundant in riparian areas and brushy stages of most habitats. Ranges from sea level to alpine meadows.	Year-round.	**Low**. The species has not been documented passing through the project site. The species is unlikely to utilize the project site due to its small size, proximity to developed areas, and limited suitability. Suitable foraging habitat is present in the BSA, but suitable denning habitat is absent from the BSA. Recorded regionally in Conejo Open Space.
Taxidea taxus **American badger**	US: – CA: SSC	Found in grasslands, savannas, mountain meadows, and open areas of desert scrub with friable soils that support small mammal burrow complexes. Widely distributed in North America.	Year-round.	**Low.** Site is within species range, and suitable coastal sage scrub habitat is within the project site. No CNDDB records within the vicinity of the BSA.
Lasiurus blossevillii **western red bat**	US: – CA: SSC	Prefers riparian habitat near water. Insectivore; hunts in open-space areas along edges of habitat. Roosts almost exclusively in trees. Raises young individually or in maternal colonies in the foliage of broad-leafed trees, including walnuts, oaks, willows, cottonwoods, and sycamores.	Breeds April–August. Migratory.	**Low.** Small area of suitable coast live oak/willow woodland riparian habitat with large trees and dense foliage. Water resources absent or sporadic in summer.
Lasiurus cinereus **hoary bat**	US: – CA: –	Roosts almost exclusively in trees. Frequently utilizes both deciduous and coniferous trees, typically near the edge of a clearing. Insectivore; hunts in open-space areas along edges of habitat. Solitary; raises young individually in the foliage of a wide range of tree species.	Breeds April–August. Migratory.	**Low to Moderate.** Suitable habitat in the form of large trees, with dense foliage.

Source: Compiled by LSA (2022).

US: Federal Classifications

FE Listed as Endangered.

BCC Birds of Conservation Concern: Birds considered by the United States Fish and Wildlife Service to need conservation action, particularly regarding protection of the habitats and ecological communities upon which these species depend.

CA: State Classifications

SCE Candidate for State-listing as Endangered.

SCT Candidate for State-listing as Threatened.

SSC Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.

WL Watch List: Species considered by the California Department of Fish and Wildlife to be declining but not yet on the SSC list.

SA Special Animal. Refers to any other animal monitored by the CNDDB, regardless of its legal or rarity status.

1B California Native Plant Society Rare Plant Rank 1B – Rare, threatened or endangered in California and elsewhere.

CNDDB = California Natural Diversity Database ESU = evolutionarily significant unit

- Records reported by the CNDDB and published by the CDFW
- Presence or location information for specific species provided by private groups
- Project site lies within known distribution of a given species and contains appropriate habitat

Table C summarizes special-status species that are known to occur in the region and that have CNDDB records within a nine-quad search of the project site or were otherwise identified during the literature review, along with their status, habitat and distribution, activity/bloom period, and probability of occurrence at the project site.

Species excluded from Table C were precluded from occurring at the site for a variety of reasons, including absence of suitable habitat, the site being outside of the species' known range, soil type and composition, microclimate, aquatic sources, and other requirements determined to be absent. A list of these species is included in Appendix C.

Threatened and Endangered Species

Under provisions of Section 7(a)(2) of the Federal Endangered Species Act (FESA), a federal agency that permits, licenses, funds, or otherwise authorizes a project activity must consult with the USFWS to ensure that its actions would not jeopardize the continued existence of any listed threatened or endangered species or destroy or adversely modify critical habitat. The USFWS designates as threatened or endangered species that are at risk of extinction and may also adopt recovery plans that identify specific areas that are essential to the conservation of a listed species. Critical habitat areas that may require special management considerations or protections can also be designated.

The California Endangered Species Act (CESA) is administered by the CDFW and prohibits the "take" of plant and animal species identified as either threatened or endangered in the State of California by the Fish and Game Commission (Fish and Game Code Sections 2050 to 2097). "Take" is defined as to hunt, pursue, catch, capture, or kill. Sections 2091 and 2081 of CESA allow the CDFW to authorize exceptions to the prohibition of "take" of State-listed threatened or endangered plant and animal species for purposes such as public and private development. The CDFW requires formal consultation to ensure that a proposed project's actions would not jeopardize the continued existence of any listed species or destroy or adversely affect listed species' habitats.

As identified in Table C, the following federally or State-listed species have the potential to occur on the project site: coastal California gnatcatcher (*Polioptila californica californica*) and least Bell's vireo (*Vireo bellii pusillus*). The following candidate species for federally or State-listed species have the potential to occur on the project site: Crotch bumble bee (*Bombus crotchii*) and mountain lion (*Puma concolor*). Therefore, these species, their potential to occur, and anticipated impacts the project would have on them, if any, are described below.

One federally listed/State-listed endangered bird species (i.e., least Bell's vireo) has a low probability of occurring within the project site. Least Bell's vireo has no local CNDDB records reported and no eBird records near the site (Cornell Lab of Ornithology 2023). The project site is within the range of the least Bell's vireo and has a small patch (0.09 acre) of suitable coast live oak/willow woodland

riparian habitat present, but it lacks connectivity with a larger riparian area. In the event least Bell's vireo was attracted to the site, the habitat would have limited ability to support reproduction due to its small size and ephemeral nature. To avoid potential effects to least Bell's vireo, implementation of the following measure is recommended:

- **Construction Activity:** A focused survey using USFWS protocol Least Bell's Vireo Survey Guidelines (USFWS 2001) is recommended during the appropriate breeding period (April 1–July 31) prior to any construction activities. In addition, a pre-construction survey measure to avoid impacts to nesting birds is recommended as described in the Nesting Birds section, below.

Riparian habitat suitable for listed riparian bird species is limited to a 0.09-acre patch of coast live oak/willow woodland riparian. This patch of habitat has limited ability to support riparian bird reproduction due to its small size and the ephemeral nature of the associated drainage. Foraging and nesting habitat is limited for least Bell's vireo and absent for southwestern willow flycatcher (*Empidonax traillii extimus*) and yellow-billed cuckoo (*Coccyzus americanus*). The habitat lacks the required understory or access to surface waters needed by the latter two species. Additionally, the project site is not in proximity to any known breeding locations of any of the three species. Therefore, surveys for listed riparian birds are not recommended, and the project is not anticipated to impact listed riparian birds. Implementation of a pre-construction survey measure to avoid impacts to nesting birds is recommended as described in the Nesting Birds section, below.

One federally listed threatened bird species, the coastal California gnatcatcher, has a low to moderate probability of occurring within the project site. There were no records in the CNDDB of coastal California gnatcatcher occurring within the vicinity of the project or the presence of critical habitat. However, the project site occurs within the range of coastal California gnatcatcher and has 1.78 acres of suitable coastal sage scrub habitat. Coastal California gnatcatchers were reported at the nearby Conejo Open Space in July 2020 (Cornell Lab of Ornithology 2022). To avoid potential effects to coastal California gnatcatcher, implementation of the following measure is recommended:

- **Construction Activity:** A focused survey using USFWS protocol Coastal California Gnatcatcher Presence/Absence Survey Guidelines (USFWS 1997) is recommended during the appropriate breeding period (February 1–August 31) prior to any construction activities. In addition, a pre-construction survey measure to avoid impacts to nesting birds is recommended, as described in the Nesting Birds section, below.

  Alternatively, nonbreeding-season surveys could be conducted between July 1 and March 14 and may be substituted using USFWS protocol Coastal California Gnatcatcher Presence/Absence Survey Guidelines (USFWS 1997).

One species is a candidate for State-listing as Endangered, Crotch bumble bee (*Bombus crotchii*). The project site is within the range of the Crotch bumble bee, and suitable foraging habitat is present in the form of 1.78 acres of coastal sage scrub. To avoid potential effects to Crotch bumble bee, implementation of the following measure is recommended:

- **Construction Activity:** Prior to any construction activities, a focus survey for Crotch bumble bee surveys is recommended during the Colony Active Period (April–August), when detection probability is highest.

  Additionally, if survey results determine Crotch bumble bees are present, then biological monitoring is recommended during ground disturbance, vegetation removal, or fuel modification activities that occur during the Crotch bumble bee activity period (February 1–October 31).

One species is a candidate for State-listing as Threatened, mountain lion (*Puma concolor*) (Southern California/Central Coast Evolutionarily Significant Unit [ESU]). Mountain lion has not been documented on the project site but is listed on the Conejo Valley Open Space, which is located adjacent and east of the project site. The species is not anticipated to utilize the project site due to the absence of denning sites, small size, location within an area generally surrounded by a variety of developed land uses, and restriction of wildlife movement. Wildlife movement is discussed further below.

Active construction activities may temporarily deter mountain lion and other wildlife movement due to increased noise and human activity, but wildlife is expected to continue to use the adjacent areas when construction work is not occurring, particularly at dawn and dusk.

No permanent barriers would be placed within any known wildlife movement corridors. As such, implementation of the proposed project would not permanently affect mountain lion or other wildlife movement or decrease the functionality of any wildlife crossings, as none are present; therefore, project-specific avoidance and minimization measures are not required.

No federally listed endangered plant species are present on the project site. There are two federally listed endangered plant species: Lyon's pentachaeta (*Pentachaeta lyonii*), which was reported within the vicinity of the project site according to CNDDB records in 2006 (CDFW 2022a) and Braunton's milk vetch (*Astragalus brauntonii*), which was reported regionally in Conejo Open Space. Lyon's pentachaeta is a rare endemic plant found only in the Conejo Valley. The closest USFWS critical habitat is 5 miles of the project site to the southeast. The project site has no suitable soils within the present coastal sage scrub habitat that could support the annual Lyon's pentachaeta. Additionally, Braunton's milk vetch is restricted to carbonate soils, which are absent from the project site. Therefore, the project would have no effects on either federally listed endangered plant species.

No USFWS designated critical habitat is present on the project site. Therefore, the project would have no effects on designated critical habitat.

Nonlisted Special-Status Species

Each of the nonlisted special-status species identified in Table C is discussed below.

The project site has suitable coastal sage scrub habitat present that could support Conejo buckwheat (*Eriogonum crocatum*). However, Conejo buckwheat is a perennial plant and would have

been visible during the biological resources survey if present. Therefore, it is considered absent from the project site.

Both coast horned lizard (*Phrynosoma blainvillii*) and Southern California legless lizard (*Anniella stebbinsi*) are considered absent due to a lack of suitable sandy soils. These species have a limited population distribution in Southern California, and development is further reducing their ranges and numbers.

Although not likely, coastal whiptail (*Aspidoscelis tigris stejnegeri*) may occur within the coastal sage scrub present on the project site. Project impacts to coastal sage scrub would be minimal compared to the total amount present both in Ventura County and the region and are not anticipated to have an effect on the status of coastal whiptail. Nevertheless, the following measure is recommended to prevent direct impacts to coastal whiptail:

- **Construction Activity:** Prior to ground disturbance, vegetation removal, or fuel modification activities, a pre-construction survey for coastal whiptail shall be conducted by a qualified biologist. If coastal whiptails are discovered, they shall be captured, when possible, and transferred to adjacent appropriate habitat within the open space on site or directly adjacent to the project site at an adequate distance to account for indirect impacts as determined by the qualified biologist.

  During vegetation clearing, a qualified biologist shall monitor for coastal whiptail. If coastal whiptails are discovered, they shall be captured, when possible, and transferred to adjacent appropriate habitat within the open space on site or directly adjacent to the project site at an adequate distance to account for indirect impacts as determined by the qualified biologist.

American badger may occur within the coastal sage scrub present on the project site. American badger occupancy requires suitable habitat to maintain a large home range, which is strongly influenced by primary prey densities, particularly ground squirrel species. Additionally, pre-existing development to the north, east, and west of the project inhibits connectivity to the habitat within the project site. Project impacts to coastal sage scrub would be minimal compared to the total amount present both in Ventura County and the region and are not anticipated to have an effect on the status of American badger. However, the following measure is recommended to prevent direct impacts to American badger:

- **Construction Activity:** Prior to ground disturbance, vegetation removal, or fuel modification activities, a pre-construction survey for American badger shall be conducted by a qualified biologist.

The project site has suitable coast live oak/willow habitat and large ornamental trees present that could support nesting and/or foraging Nuttall's woodpecker (*Picoides nuttallii*) and oak titmouse (*Baeolophus inornatus*), both of which are USFWS birds of conservation concern. The coast live oak/willow habitat and large ornamental trees present could also support nesting and/or foraging Cooper's hawk (*Accipiter cooperii*), a CDFW watch list species. Cooper's hawks, Nuttall's woodpeckers and oak titmice are protected under the Migratory Bird Treaty Act. Therefore,

implementation of a pre-construction survey measure to avoid impacts to nesting birds is recommended as described in the Nesting Birds section, below.

Bats

Section 4150 of the California Fish and Game Code protects nongame mammals, which are defined as any naturally occurring mammal in California that is not a game mammal, fully protected mammal, or fur-bearing mammal. Nongame mammals, which include bats, bat roosts, and maternity colonies, may not be taken or possessed except as provided by the California Fish and Game Code or in accordance with applicable regulations.

There are large ornamental trees, coast live oaks, and a single valley oak on the project site that could provide habitat to native bats in the form of roosts, foraging, or maternity sites (in the case of foliage dwelling bat species). Bats breed in late spring/early summer (April–August), with foliage-dwelling species utilizing peeling bark, thick clumps of leaves, or cavities in trees often alone or in small maternity colonies. Foliage-dwelling bat species with the potential to occur within the project include western red bat (*Lasiurus blossevillii*) and hoary bat (*Lasiurus cinereus*). No known bat maternity sites have been documented within or in proximity to the project site. However, due to their migratory nature, their small colony size, and general difficulties in assessing foliage-dwelling bat species, gaps in local bat data are anticipated.

Bats attempting to roost or breed in landscape trees can be subject to impacts from tree removal or trimming activities (e.g., the trimming of palm fronds). Because bats have low reproductive turnover (i.e., most species have only one young per year) and high juvenile mortality, it can take many years for a colony or population of bats to recover from any impacts that result in mortality or even a decrease in reproductive ability.

To avoid potential effects to roosting bats, implementation of the following measures is recommended:

- **Construction Activity:** A qualified bat biologist shall survey all suitable trees/vegetation on the project site for bat roosts within 30 days prior to the start of project construction activities. If bats roosts are found within the project site, the qualified bat biologist shall identify the bats to the species level and evaluate the roosts and/or colony to determine its size and significance. Proposed work in areas with no suitable habitat shall not require a bat survey.

- **Tree Trimming and Removal:** To the greatest extent feasible, tree trimming/removal activities will be performed outside the bat maternity season (April 1–August 31) to avoid direct impacts to nonvolant (flightless) young that may roost in trees within the study area. This period also coincides with the typical bird nesting season. If trimming or removal of trees during the bat maternity season cannot be avoided, a qualified bat biologist will monitor tree trimming and removal activities.

- **Night Work Lighting:** If night work (i.e., between dusk and dawn) is anticipated within 100 ft of trees where known bat roosting is confirmed, night lighting will be used only in areas of active work and will be focused on the direct area(s) of work and away from the roost entrances to the

greatest extent practicable. This measure would minimize visual disturbance and allow bats to continue to utilize the remainder of the area for foraging and night roosting. If bats are showing signs of distress, work activities shall be modified to prevent bats from abandoning their roost or altering their behavior.

Nesting Birds

The project site contains suitable habitat (ruderal vegetation and a pine tree) for nesting bird species. Nesting birds are protected by California Fish and Game Code Sections 3503, 3503.5, and 3800, and by the Migratory Bird Treaty Act (16 United States Code 703–711). These laws regulate the take, possession, or destruction of the nest or eggs of any migratory bird or bird of prey.

To avoid potential effects to nesting birds, implementation of the following measure is recommended:

- **Construction Activity:** If possible, vegetation removal should be avoided during the nesting bird season (February 1–August 31). If the nesting bird season is unavoidable, a pre-construction nesting bird survey will be conducted by a qualified biologist no more than 3 days (72 hours) prior to any construction activities and vegetation removal. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist. The buffer will be clearly marked in the field by construction personnel under the guidance of the qualified biologist. No construction activities will be allowed within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active.

- **Night Work Lighting:** If possible, night work should be avoided during the nesting bird season (February 1–August 31). If night work (i.e., between dusk and dawn) is anticipated within 100 ft of an active bird nest and/or nest exclusionary buffer, night lighting will be used only in areas of active work and focused on the direct area(s) of work and away from nesting locations to the greatest extent practicable. The qualified biologist may adjust the exclusionary buffer size to decrease the possibility of disturbance by night work, if warranted. This measure would minimize disturbance and prevent nest failure. If birds are showing signs of distress, such as flushing from their nests, work activities shall be modified to prevent the nest from being abandoned.

Jurisdictional Waters

The USACE regulates discharges of dredged or fill material into waters of the United States. These waters include wetlands and nonwetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction, pursuant to Section 404 of the federal Clean Water Act (CWA), is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or indirect (through a nexus identified in the USACE regulations). To be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics, each with its unique set of mandatory wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology.

The CDFW, under Sections 1600 through 1616 of the California Fish and Game Code, regulates alterations to lakes, rivers, and streams (defined by the presence of a channel bed and banks, and at least an intermittent flow of water) where fish or wildlife resources may be adversely affected.

The Regional Water Quality Control Board (RWQCB) is responsible for the administration of Section 401 of the CWA. Typically, the areas subject to jurisdiction of the RWQCB coincide with those of the USACE (i.e., waters of the United States, including any wetlands). The RWQCB may also assert authority over "waters of the State" under waste discharge requirements pursuant to the Porter-Cologne Water Quality Control Act.

Five distinct drainages (Drainages 1 through 5) were identified within the JDSA (refer to Figure 6), and in this case, Drainages 1 and 2 were determined to be jurisdictional. Drainages 3, 4, and 5 were determined to be nonjurisdictional drainages. Drainages 1 and 2 were determined to be nonwetland waters of the United States/waters of the State and CDFW jurisdictional area (see Table D).

Table D: Total Acreages of Potential Jurisdictional Areas for USACE, RWQCB, and CDFW

Feature	RWQCB Jurisdiction[1] (ac)	USACE Jurisdiction (ac)	CDFW Jurisdiction (ac)
Drainage 1	0.036	0.036	0.110
Drainage 2	0.019	0.019	0.019
Drainage 3	(Nonjurisdictional)	(Nonjurisdictional)	(Nonjurisdictional)
Drainage 4	(Nonjurisdictional)	(Nonjurisdictional)	(Nonjurisdictional)
Drainage 5	(Nonjurisdictional)	(Nonjurisdictional)	(Nonjurisdictional)
Total Jurisdictional Acres	**0.055**	**0.055**	**0.129**

Source: Compiled by LSA (2022).
Note: Totals may appear inaccurate due to rounding.
[1] All RWQCB jurisdictional areas are nonwetland waters of the State.
ac = acre/acres
CDFW = California Department of Fish and Wildlife
RWQCB = Regional Water Quality Control Board
USACE = United States Army Corps of Engineers

The project was designed to avoid impacts to Drainage 1 as indicated in Table E. Drainage 2 will be avoided since it occurs off site. It should be noted that near full build out of the project parcels, with the exception of jurisdictional areas associated with Drainage 1, is assumed and is reflected in the absence of impacts to jurisdictional areas noted in Table E.

Table E: Potential Impacts to Jurisdictional Areas by Feature Number

Feature No.	USACE Nonwetland WOTUS (ac)[1]		RWQCB Nonwetland WOTS (ac)[1]		CDFW Streams/Rivers/Riparian Habitat (ac)	
	Permanent Impacts	Temporary Impacts	Permanent Impacts	Temporary Impacts	Permanent Impacts	Temporary Impacts
1	0	0	0	0	0	0
2	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**

Source: Compiled by LSA (2022).
Note: Totals may appear inaccurate due to rounding.
[1] Wetland WOTUS/WOTS do not occur within the jurisdictional delineation study area.
ac = acre/acres
CDFW = California Department of Fish and Wildlife
RWQCB = Regional Water Quality Control Board
WOTS = waters of the State
WOTUS = waters of the United States

Due to the avoidance of jurisdictional areas, regulatory permits are not required, including those under Section 404 of the CWA as administered by the USACE; Water Quality Certification under Section 401 of the CWA or Waste Discharge Requirements under the Porter-Cologne Act as administered by the RWQCB; or Streambed Alteration Agreement under Section 1602 of the California Fish and Game Code as administered by the CDFW.

To avoid inadvertent impacts to jurisdictional waters, implementation of the following measure is recommended:

- Prior to the start of project activities, signs shall be installed in upland areas adjacent to Drainage 1. The signs shall note that the area is an Environmentally Sensitive Area and that entry is prohibited.

Wildlife Movement, Corridors, and Nursery Sites

Movement of wildlife can occur daily for foraging or during seasonal migration through corridors. Larger mammals like mountain lion (*Puma concolor*) or coyote can freely move through areas known as migration corridors. Riparian corridors provide cover for migrating birds, routes between breeding waters, and upland habitat for amphibians, and nursery sites provide habitat used by juveniles of aquatic species.

The project site is bordered by commercial development to the north and residential development to the west and east. Only the southern edge of the project site abuts an undeveloped area, the Los Padres Open Space.

Due to the amount of developed area surrounding the project site, wildlife movement is generally restricted in the project vicinity and the edge of the closest undeveloped area, the Los Padres Open Space. Although there is also a 0.09-acre area of coast live oak/willow riparian in the northeast corner of the project site, it is adjacent to commercial development, is isolated, and thus lacks the vegetation connectivity that is significant to wildlife corridors. Instead, it is part of a patchwork of ornamental trees to the northwest and nonnative grassland to the east. Due to the small size and lack of habitat connectivity, this riparian patch is not a functional riparian corridor.

As a result, the project site does not contain any essential connectivity areas or significant riparian connections. Therefore, the project site is not considered a wildlife movement corridor under the California Essential Habitat Connectivity Project (Beier et al. 2006). The northern section of the project site was formerly developed with the Rolling Oaks Child Development Center, a 2.9-acre area now occupied by the remaining concrete slabs, utilities infrastructure, and ornamental landscape. Most of the wildlife movement within the project site is anticipated to be limited to wildlife present on site or within the edge habitat of native coastal sage scrub to the south of the project site. The project would not substantially limit wildlife movement.

Natural Communities of Concern

The CDFW CNDDB lists valley oak woodland as historically occurring less than 1 mile west of the project site but now locally extirpated. Valley oak woodland occurring in California has a rank of S3, *Vulnerable* (only S ranks 1–3 are considered sensitive). No valley oak woodland occurs within the

project site; only a single remnant valley oak tree persists near the center of the site. The northeast corner of the project site was noted to have a 0.09-acre stand of coast live oak/willow woodland habitat, which is a riparian community on the project site. Coast live oak woodland occurring in California has a rank of S4, *Apparently Secure*. However, oak and riparian habitats are among the natural communities of interest to the CDFW.

The CNDDB database search did not list any other communities of concern on the project site. The field visits conducted on September 9 and 15, 2022, verified that valley oak woodland does not occur on the project site. Moreover, there are no State-ranked S1–S3 communities of concern.

Coast live oak/willow woodland is a riparian community; impacts to it are mitigated through the jurisdictional waters regulatory permitting process to compensate for the loss of habitat at a minimum of 1:1 ratio, or as required by the RWQCB, USACE, and CDFW. The project site plan does not permanently impact coast live oak/willow woodland, a riparian community. Furthermore, the coast live oak/willow woodland riparian community will be preserved and protected throughout the duration of the project, as described in the arborist report (Appendix E).

Local Policies and Ordinances

City and County general plans and development ordinances may include regulations or policies governing biological resources. For example, policies may require tree preservation or designate local species survey areas, species of interest, or significant ecological areas.

Protected Trees

Per the City of Thousand Oaks Municipal Code, Sections 9-4.203–9-4.205, all oak trees within the city limits are protected, including those on private land. Oaks are defined as any tree of the genus *Quercus,* including, but not limited to, valley oak, coast live oak, and scrub oak. All three of these oak species were observed on the project site during the field survey on September 9, 2022. Thus, project implementation would require an oak tree permit or complete avoidance and preservation of all oak trees on site.

An “oak tree permit” is an entitlement issued by the City authorizing specific work within the protected zone of an oak tree. Per the City of Thousand Oaks Municipal Code, Section 9-4.4204, a permit is required to cut, remove, encroach into the protected zone of, or relocate any oak tree on any public or private property within the city limits.

In addition, the City of Thousand Oaks Landmark Trees Preservation and Protection Ordinance has similar provisions prohibiting the removal of landmark trees and also requires a “landmark trees permit.” A landmark tree is defined as a tree that, because of its size, age, or unique and irreplaceable values to the community, needs to be preserved as a symbol of the City’s heritage, beauty, and image.

This includes mature tree specimens of the following species that reached the designated diameter as measured from 4.5 ft above natural grade: western sycamores with a >12-inch diameter, California bay laurels (*Umbellularia californica*) with a >8-inch diameter, California walnuts (*Juglans californica*) with a >8-inch diameter, and toyon (*Heteromeles arbutifolia*) with a >8-inch diameter.

These landmark trees are deemed to have reached maturity if the sum of the trunk diameters exceeds the required "maturity" diameter plus 2 inches (City of Thousand Oaks 2022).

Protected trees that occur on the project site include valley oak, coast live oak, scrub oak, western sycamore, and toyon. The project site plan has proposed the removal of 14 protected oak trees due to construction. The remaining 16 oaks are to be preserved and protected throughout the duration of the project.

Due to the presence of protected trees on the project site, the following measure is recommended:

- Protected trees occurring on the project site will be subject to removal; therefore, they are required to be evaluated per a site-specific Protected Tree Survey to be conducted by an International Society of Arboriculture (ISA) Certified Arborist under Section 9-4.4309 of the City of Thousand Oaks Municipal Code. A full arborist report with the listing of these species, impacts, and mitigations is included in Appendix E.

Adopted Habitat Conservation Plans

California Coastal Act

According to California Public Resources Code, Division 20, California Coastal Act, Section 30107.5, Environmentally Sensitive Habitat Areas (ESHAs) are designated areas in the Coastal Zone of Ventura County, in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and could be easily disturbed or harmed by development (County of Ventura 2022). The project site is within Ventura County but inland from any designated Coastal Zone and, therefore, not within an ESHA. No other adopted habitat conservation plans occur in close proximity to the project site.

REFERENCES

Beier, Paul, Kristeen Penrod, Claudia Luke, and Wayne Duard Spencer. 2006. South Coast Missing Linkages: Restoring connectivity to wildlands in the largest metropolitan area in the United States. *In:* K.R. Crooks and M.A. Sanjayan, editors, *Connectivity and conservation,* Cambridge University Press.

California Department of Fish and Wildlife (CDFW). 2022a. California Natural Diversity Database. RareFind 5 (Version 5.2.14). Website: https://www.wildlife.ca.gov/Data/CNDDB/ (accessed September 23, 2022).

_____. 2022b. BIOS Habitat Connectivity Viewer (v5.108.157). Website: https://apps.wildlife.ca.gov/bios/?bookmark=648 (accessed September 23, 2022).

California Native Plant Society (CNPS). 2022. Rare Plant Program, Rare Plant Inventory (v9-01 1.5). Website: https://www.rareplants.cnps.org (accessed September 23, 2022).

City of Thousand Oaks. 2022. Oak Tree and Landmark Tree Preservation and Protection; Articles 42 and 43. American Legal. Website: https://codelibrary.amlegal.com/codes/thousandoaks/latest/thousandoaks_ca/0-0-0-33218 (accessed October 6, 2022).

Cornell Lab of Ornithology. 2023. eBird, Thousand Oaks. October. Website: https://ebird.org/hotspots?hs=L8180464&yr=all&m= (accessed October 7, 2022, and August 11, 2023).

County of Ventura. 2022. Biological Resources Page. Website: https://vcrma.org/en/biological-resources (accessed September 23, 2022).

Google Earth. 2022. Aerial photographs of the project site and surrounding areas (accessed September 23, 2022).

Natural Resources Conservation Service (NRCS). n.d. Web Soil Survey (Version 3.4.0). United States Department of Agriculture. Website: https://websoilsurvey.sc.egov.usda.gov/ (accessed September 23, 2022).

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation*, Second Edition. Sacramento: California Native Plant Society.

United States Army Corps of Engineers (USACE). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). J.S. Wakeley, R.W. Lichvar, and C.V. Noble, eds. ERDC/EL TR-08-28. Vicksburg, Mississippi: United States Army Engineer Research and Development Center.

United States Department of Agriculture (USDA). 2019. Web Soil Survey. Website: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (accessed September 23, 2022).

United States Fish and Wildlife Service (USFWS). 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines. February 28.

_____. 2001. Least Bell's Vireo Survey Guidelines. United States Fish and Wildlife Service Carlsbad Office, Carlsbad, California. January 19, 2001.

_____. 2021. Wetlands Mapper. Website: https://www.fws.gov/wetlands/data/mapper.html (accessed September 23, 2022).

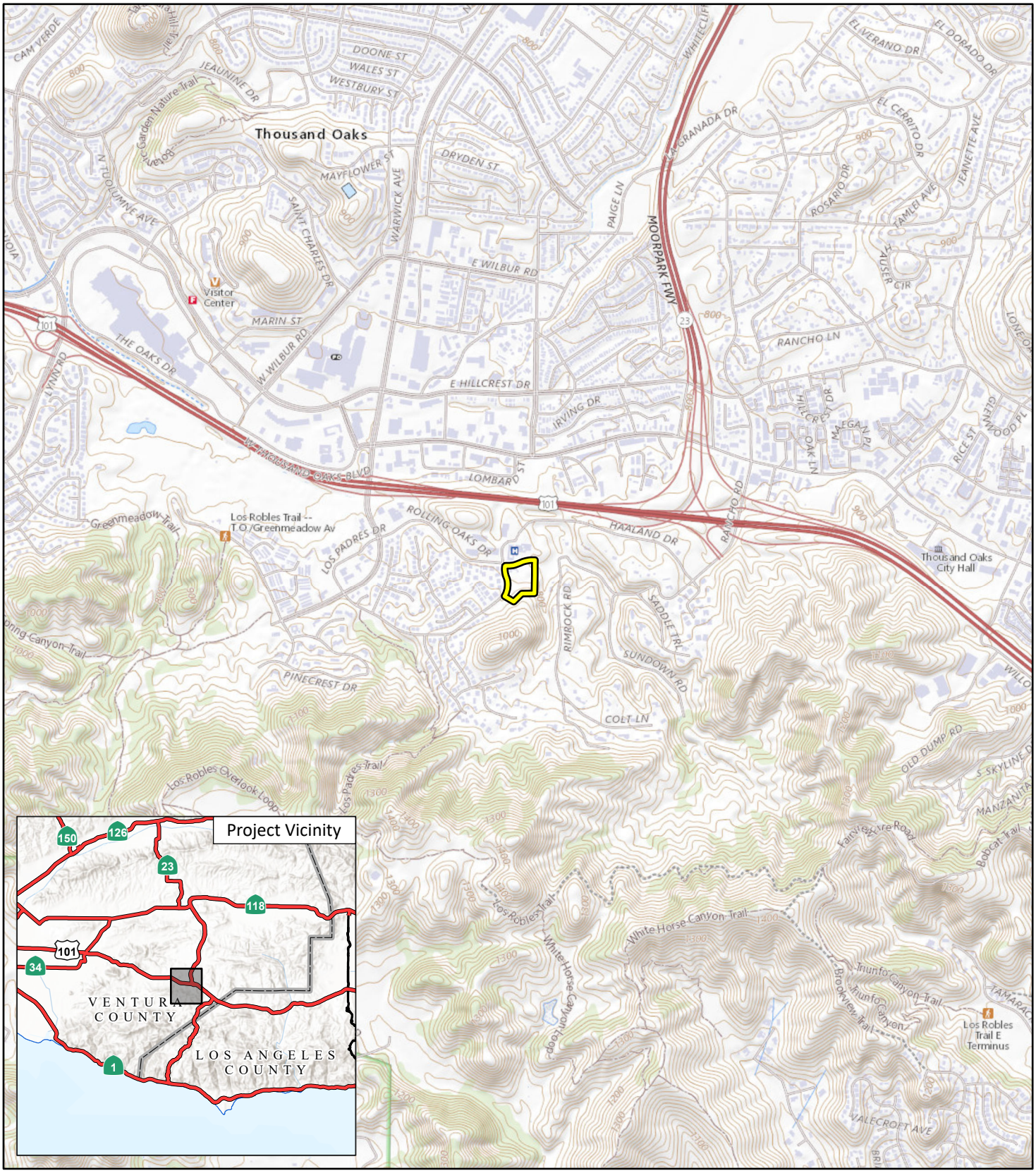
_____. 2022. Information for Planning and Consultation. Website: https://ecos.fws.gov/ipac (accessed on September 23, 2022).

United States Geological Survey (USGS). 1967. *Thousand Oaks* and *Ventura County, California,* topographic quadrangle maps.

Western Regional Climate Center (WRCC). 2022. Precipitation data search, Thousand Oaks, California. Website: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca8905 (accessed September 29, 2022).

APPENDIX A

FIGURES



LSA

FIGURE 1

Los Robles Hospital and Medical Center – Cancer Center

Regional and Project Location

SOURCE: USGS The National Map (2018)

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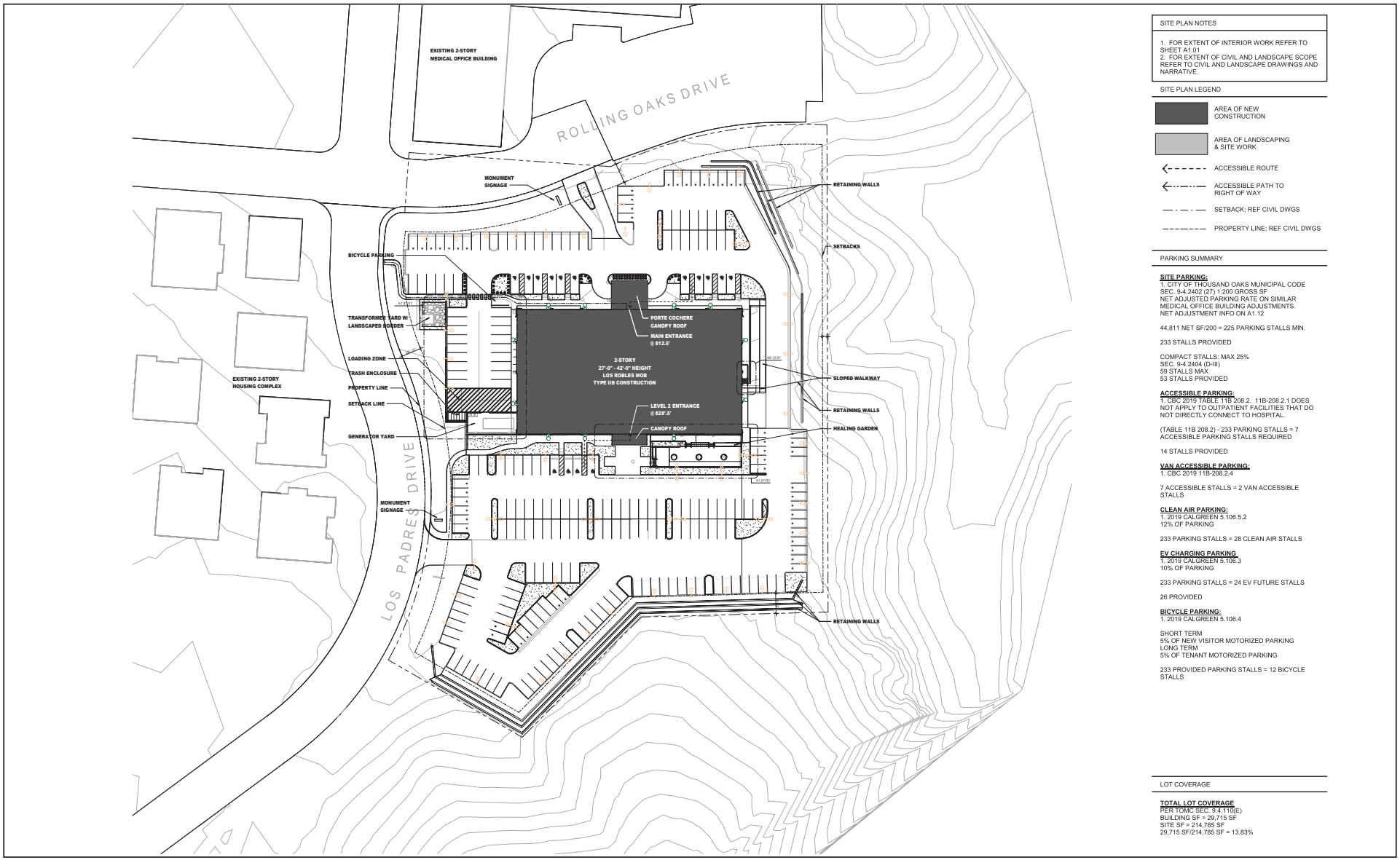

SITE PLAN NOTES

1. FOR EXTENT OF INTERIOR WORK REFER TO SHEET A1.01
2. FOR EXTENT OF CIVIL AND LANDSCAPE SCOPE REFER TO CIVIL AND LANDSCAPE DRAWINGS AND NARRATIVE.

SITE PLAN LEGEND

- AREA OF NEW CONSTRUCTION
- AREA OF LANDSCAPING & SITE WORK
- ACCESSIBLE ROUTE
- ACCESSIBLE PATH TO RIGHT OF WAY
- SETBACK; REF CIVIL DWGS
- PROPERTY LINE; REF CIVIL DWGS

PARKING SUMMARY

SITE PARKING:
1. CITY OF THOUSAND OAKS MUNICIPAL CODE SEC. 9-4.2402 (27) 1:200 GROSS SF. NET ADJUSTED PARKING RATE ON SIMILAR MEDICAL OFFICE BUILDING ADJUSTMENTS. NET ADJUSTMENT INFO ON A1.12

44,811 NET SF/200 = 225 PARKING STALLS MIN.

233 STALLS PROVIDED

COMPACT STALLS: MAX 25%
SEC. 9-4.2404 (D-III)
59 STALLS MAX
53 STALLS PROVIDED

ACCESSIBLE PARKING:
1. CBC 2019 TABLE 11B 208.2. 11B-208.2.1 DOES NOT APPLY TO OUTPATIENT FACILITIES THAT DO NOT DIRECTLY CONNECT TO HOSPITAL.

(TABLE 11B 208.2) - 233 PARKING STALLS = 7 ACCESSIBLE PARKING STALLS REQUIRED

14 STALLS PROVIDED

VAN ACCESSIBLE PARKING:
1. CBC 2019 11B-208.2.4

7 ACCESSIBLE STALLS = 2 VAN ACCESSIBLE STALLS

CLEAN AIR PARKING:
1. 2019 CALGREEN 5.106.5.2
12% OF PARKING

233 PARKING STALLS = 28 CLEAN AIR STALLS

EV CHARGING PARKING
1. 2019 CALGREEN 5.106.3
10% OF PARKING

233 PARKING STALLS = 24 EV FUTURE STALLS

26 PROVIDED

BICYCLE PARKING:
1. 2019 CALGREEN 5.106.4

SHORT TERM
5% OF NEW VISITOR MOTORIZED PARKING
LONG TERM
5% OF TENANT MOTORIZED PARKING

233 PROVIDED PARKING STALLS = 12 BICYCLE STALLS

LOT COVERAGE

TOTAL LOT COVERAGE
PER TOMC SEC. 9-4.110(E)
BUILDING SF = 29,715 SF
SITE SF = 214,785 SF
29,715 SF/214,785 SF = 13.83%

LSA

FIGURE 2

NOT TO SCALE

SOURCE: HKS Architects Inc.

I:\HCS2201\G\Site_Plan.ai (11/16/2022)

Thousand Oaks Cancer Center Project

Site Plan

LSA

FIGURE 3

Project Location

Soils

AzC - Azule gravelly loam, 5 to 9 percent slopes, warm

GvF - Gilroy loam, 15 to 50 percent slopes, very rocky

N

0 50 100

FEET

Los Robles Hospital and Medical Center – Cancer Center

Soils

SOURCE: Nearmap (8/30/2022)

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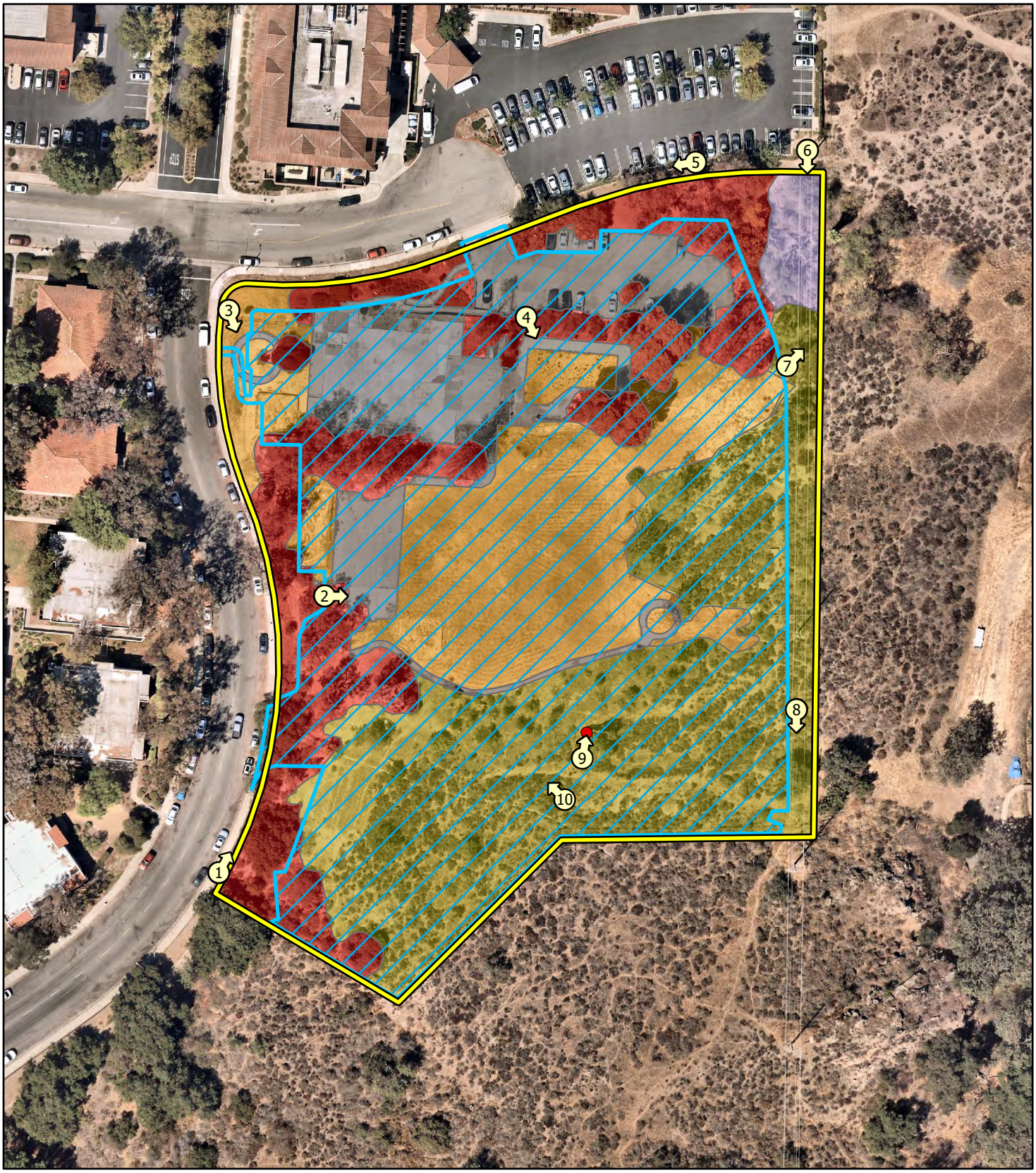


LSA

Project Location
Permanent Impact Area
Protected Valley Oak
Photo Location

Vegetation/Land Cover Type
Coast live oak/willow woodland
Coastal sage scrub
Developed
Ornamental
Ruderal/barren

FIGURE 4

N

0 50 100
FEET

SOURCE: Nearmap Aerial Imagery (8/2022)

J:\20230992\GIS\Pro\400 Rolling Oaks Project.aprx (8/18/2023)

400 Rolling Oaks Project

Vegetation, Land Use, and Photo Locations

Photo 1: Looking northeast from southwest corner of the project site.

Photo 2: Looking east from west portion of the project site.

Photo 3: Looking southeast from the northwest corner of the project site.

Photo 4: Looking southeast from the north central portion of the project site.

LSA

FIGURE 5

Los Robles Hospital and Medical Center – Cancer Center Project

Site Photographs

Photo 5: Looking southwest from the northeast portion of the project site.

Photo 7: Looking northeast from the eastern portion of the project site.

Photo 6: Looking south from northeast corner of the project site.

Photo 8: Looking south from the southeast corner of the project site.

LSA

FIGURE 5

Los Robles Hospital and Medical Center – Cancer Center Project

Site Photographs

I:\HCS2201\G\Site_Photos_BRA.cdr (8/16/2023)

Photo 9: Looking north at the Valley Oak in the center of project site.

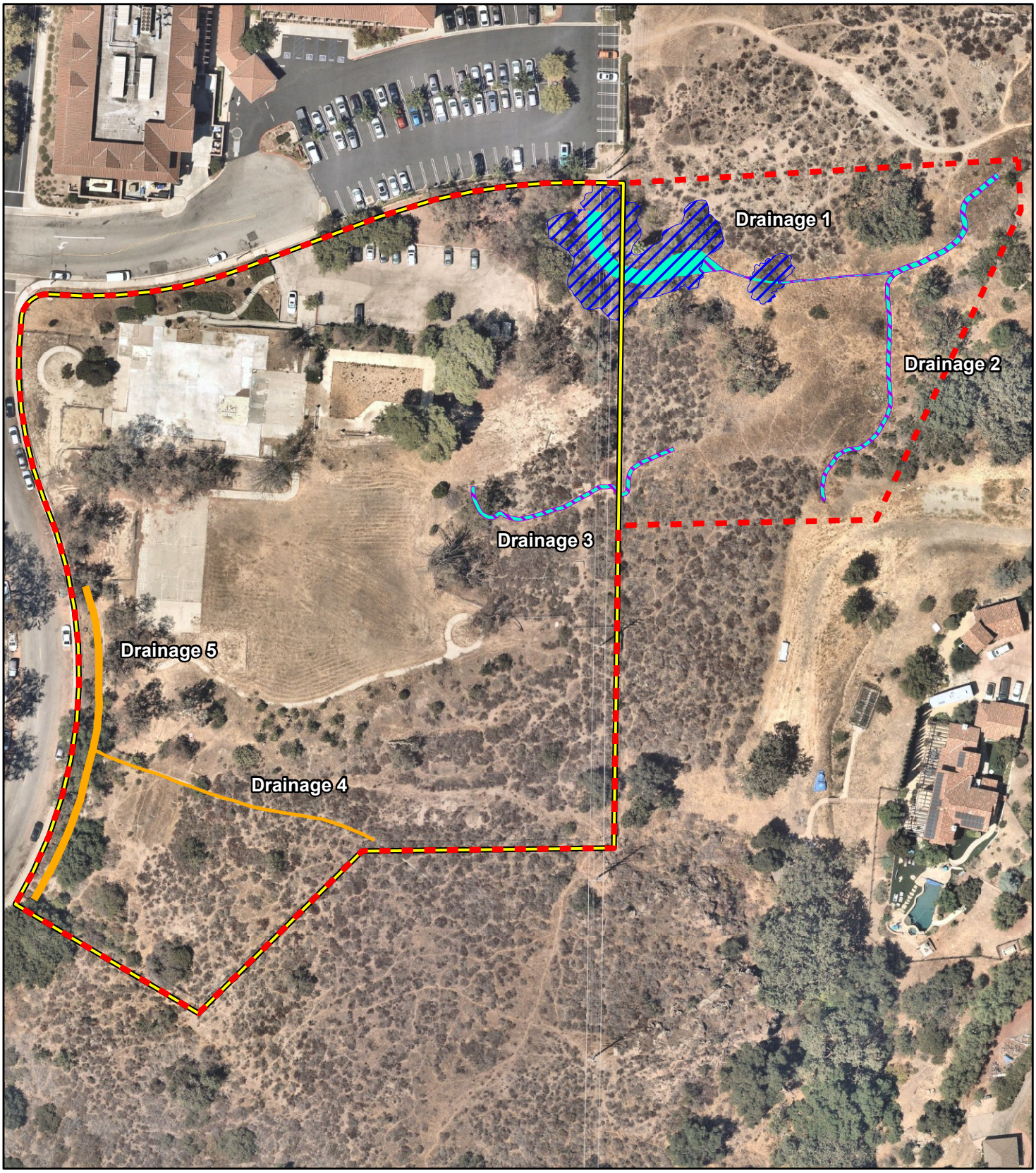
Photo 10: Looking north from south portion of the project site.

LSA

FIGURE 5

Los Robles Hospital and Medical Center – Cancer Center Project

Site Photographs



LSA

FIGURE 6

LEGEND

- Project Location
- Jurisdictional Delineation Study Area
- CDFW Riparian Jurisdiction
- CDFW Streambed (Bank-to-Bank) Jurisdiction
- USACE Non-wetland WOTUS/ RWQCB Non-wetland WOTS
- Non-jurisdictional Drainage

N

0 50 100
FEET

SOURCE: Nearmap (8/30/2022)

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Los Robles Hospital and Medical Center - Cancer Center

Delineation of Jurisdictional and Non-Jurisdictional Areas

APPENDIX B

PLANT AND ANIMAL SPECIES OBSERVED

VASCULAR PLANT SPECIES OBSERVED

The following vascular plant species were observed in the specified study area by LSA Biologists Carla Cervantes and Christina Van Oosten on September 9, 2022, and by LSA Biologists Heather Monteleone and Jeremy Rosenthal on September 15, 2022.

* Introduced species not native to California.

Gymnosperms

Cupressaceae	**Cypress Family**
Sequoia sempervirens	Coast redwood
Pinaceae	**Pine Family**
* *Pinus* sp.	Pine

Eudicots

Acanthaceae	**Acanthus Family**
* *Thunbergia erecta* 'Alba'	Bush clock vine
Amaranthaceae	**Amaranth Family**
* *Amaranthus albus*	Tumbling pigweed
Amaranthus blitoides	Prostrate pigweed
Anacardiaceae	**Sumac Family**
Malosma laurina	Laurel sumac
Rhus integrifolia	Lemonade berry
Toxicodendron diversilobum	Poison oak
Apocynaceae	**Dogbane Family**
Asclepias californica	California milkweed
Asclepias fascicularis	Narrow-leaf milkweed
* *Carissa macrocarpa*	Natal plum
* *Nerium oleander*	Oleander
Asteraceae	**Sunflower Family**
Ambrosia psilostachya	Western ragweed
* *Anthemis cotula*	Dog mayweed
Artemisia californica	California sagebrush
Artemisia douglasiana	Mugwort
Baccharis pilularis ssp. *consaguinea*	Coyote brush
Baccharis salicifolia ssp. *salicifolia*	Mule fat
Bebbia juncea	Sweetbush

*	*Carduus pycnocephalus*	Italian thistle
*	*Centaurea melitensis*	Tocalote
*	*Centaurea solstitialis*	Yellow star-thistle
	Corethrogyne filaginifolia var. *californica*	California aster
*	*Cotula coronopifolia*	African brass-buttons
*	*Cynara cardunculus*	Artichoke thistle
	Deinandra fasciculata	Fascicled tarweed
	Encelia californica	California encelia
	Erigeron canadensis	Common horseweed
*	*Glebiones coronaria*	Garland chrysanthemum
	Grindelia camporum var. *camporum*	Big gumplant
*	*Hedypnois rhagadioloides*	Crete weed
*	*Helminthotheca echiodes*	Bristly ox-tongue
	Heterotheca grandiflora	Telegraph weed
	Isocoma menziesii var. *vernonioides*	Coastal goldenbush
*	*Lactuca serriola*	Prickly lettuce
*	*Pluchea sericea*	Desert arrow weed
	Pseudognaphalium californicum	California everlasting
*	*Pseudognaphalium luteoalbum*	Weedy cudweed
*	*Silybum marianum*	Milk thistle
*	*Sonchus oleraceus*	Common sow-thistle
	Stephanomeria diegensis	San Diego wreath-plant
*	*Taraxacum officinale*	Common dandelion
	Xanthium strumarium	Common cocklebur
Brassicaceae		**Mustard Family**
*	*Brassica nigra*	Black mustard
*	*Hirschfeldia incana*	Shortpod mustard
Cactaceae		**Cactus Family**
	Cylindropuntia prolifera	Coastal cholla
	Opuntia littoralis	Coastal prickly pear
Caprifoliaceae		**Honeysuckle Family**
	Lonicera subspicata var. *denudata*	Southern honeysuckle
Chenopodiaceae		**Goosefoot Family**
*	*Chenopodium album*	Lamb's quarters
*	*Salsola tragus*	Russian-thistle
Convolvulaceae		**Morning-glory Family**
*	*Convolvulus arvensis*	Field bindweed
Ericaceae		**Heath Family**
	Arctostaphylos sp.	Manzanita
Euphorbiaceae		**Spurge Family**
*	*Chamaesyce maculata*	Spotted spurge
	Croton californicus	California croton

	Croton setigerus	Doveweed
*	*Ricinus communis*	Castor bean
Fabaceae		**Legume Family**
	Acmispon glaber	Coastal deerweed
	Astragalus trichopodus var. *tricopodus*	Southern California locoweed
*	*Ceratonia siliqua*	Carob
*	*Cercis occidentalis*	Western redbud
	Lupinus succulentus	Arroyo lupine
Fagaceae		**Oak Family**
	Quercus agrifolia var. *agrifolia*	Coast live oak
	Quercus berberidifolia	Scrub oak
	Quercus lobata	Valley oak
Geraniaceae		**Geranium Family**
*	*Erodium cicutarium*	Redstem filaree
Lamiaceae		**Mint Family**
*	*Marrubium vulgare*	Horehound
*	*Rosmarinus officinalis*	Prostrate rosemary
	Salvia apiana	White sage
	Salvia leucophylla	Purple sage
	Salvia mellifera	Black sage
	Trichostema lanceolatum	Vinegar weed
Malvaceae		**Mallow Family**
*	*Malva parviflora*	Cheeseweed
Myrsinaceae		**Myrsine Family**
*	*Anagallis arvensis*	Scarlet pimpernel
Myrtaceae		**Myrtle Family**
*	*Eucalyptus camaldulensis*	River red gum
*	*Eucalyptus cinerea*	Silver dollar tree
*	*Eucalyptus globulus*	Tasmanian bluegum
*	*Eucalyptus sideroxylon*	Red ironbark
Oleaceae		**Olive Family**
*	*Fraxinus uhdei*	Shamel ash
*	*Olea europaea*	European olive
Onagraceae		**Evening-primrose Family**
	Epilobium canum ssp. *canum*	California fuchsia
Phrymaceae		**Lopseed Family**
	Diplacus aurantiacus	Bush monkey flower
Platanaceae		**Sycamore Family**
	Platanus racemosa	Western sycamore

Polygonaceae		**Buckwheat Family**
	Eriogonum fasciculatum	California buckwheat
*	*Rumex crispus*	Curly dock
Rosaceae		**Rose Family**
	Heteromeles arbutifolia	Toyon
	Prunus ilicifolia ssp. *ilicifolia*	Holly-leafed cherry
*	*Pyracantha coccinea*	Scarlet firethorn
*	*Pyrus calleryana*	Callery pear
*	*Rhaphiolepis indica*	Indian hawthorn
*	*Rosa 'KORbin'*	Iceberg rose
Rutaceae		**Rue Family**
*	*Citrus limon*	Lemon tree
*	*Citrus sinensis*	Orange tree
	Cneoridium dumosum	Bushrue
Salicaceae		**Willow Family**
	Populus fremontii ssp. *fremontii*	Fremont cottonwood
	Salix lasiolepis	Arroyo willow
*	*Cupaniopsis anacardioides*	Carrotwood
Scrophulariaceae		**Figwort Family**
*	*Myoporum laetum*	Myoporum
Solanaceae		**Nightshade Family**
	Datura wrightii	Jimsonweed
*	*Nicotiana glauca*	Tree tobacco
	Solanum douglasii	Douglas' nightshade
Verbenaceae		**Vervain Family**
	Verbena lasiostachys	Western verbena
Zygophyllaceae		**Caltrop Family**
*	*Tribulus terrestris*	Puncture vine

Monocots

Arecaceae		**Palm Family**
*	*Washingtonia robusta*	Mexican fan palm
Iridaceae		**Iris Family**
	Sisyrinchium bellum	Western blue-eyed-grass
Poaceae		**Grass Family**
*	*Avena barbata*	Slender wild oat
*	*Bromus diandrus*	Ripgut grass
*	*Bromus hordeaceus*	Soft chess
*	*Bromus madritensis* ssp. *rubens*	Red brome
*	*Cortaderia selloana*	Pampas grass
*	*Cynodon dactylon*	Bermuda grass
*	*Festuca myuros* var. *myuros*	Rattail fescue

*	*Hordeum murinum* ssp. *leporinum*	Hare barley
*	*Pennisetum setaceum*	Crimson fountain grass
*	*Phalaris aquatica*	Harding grass
*	*Schismus barbatus*	Mediterranean grass
*	*Stipa miliacea* var. *miliacea*	Smilo grass
	Stipa pulchra	Purple needle grass

Taxonomy and scientific nomenclature generally conform to Baldwin, B.G., D.H. Goldman et al., eds. (2012; *The Jepson Manual: Vascular Plants of California,* Second Edition; University of California Press, Berkeley and Los Angeles, California).

Common names for each taxa generally conform to Roberts, F.M., Jr. (2008; *The Vascular Plants of Orange County, California: An Annotated Checklist;* F.M. Roberts Publications, San Luis Rey, California) except where Abrams, L. (1923, 1944, and 1951; *Illustrated Flora of the Pacific States: Washington, Oregon, and California,* vols. I–III; Stanford University Press, Stanford, California) and Abrams, L. and Ferris, R.S. (1960; *Illustrated Flora of the Pacific States: Washington, Oregon, and California,* vol. IV; Stanford University Press, Stanford, California) were used, particularly when species-specific common names were not identified in Roberts, F.M., Jr. (2008).

ANIMAL SPECIES OBSERVED

The following animal species were observed in the specified study area by LSA Biologists Carla Cervantes and Christina Van Oosten on September 9, 2022, and by LSA Biologists Heather Monteleone and Jeremy Rosenthal on September 15, 2022.

* Introduced species not native to California.

Invertebrates

Pieridae	**Whites**
Pieris rapae	Cabbage white butterfly

Reptiles

Phrynosomatidae	**Phrynosomatid Lizards**
Sceloporus occidentalis	Western fence lizard

Birds

Columbidae	**Pigeons and Doves**
* *Columba livia*	Rock pigeon
* *Streptopelia decaocto*	Eurasian collared-dove
Zenaida macroura	Mourning dove
Accipitridae	**Hawks, Kites, Eagles, and Allies**
Buteo jamaicensis	Red-tailed hawk
Tyrannidae	**Tyrant Flycatchers**
Sayornis nigricans	Black phoebe
Corvidae	**Crows and Jays**
Aphelocoma californica	California scrub-jay
Corvus brachyrhynchos	American crow
Aegithalidae	**Long-Tailed Tits and Bushtits**
Psaltriparus minimus	Bushtit
Passeridae	**Cactus Family**
* *Passer domesticus*	House sparrow
Fringillidae	**Fringilline and Cardueline Finches and Allies**
Haemorhous mexicanus	House finch
Passerellidae	**New World Sparrows**
Melozone crissalis	California towhee

Mammals

Leporidae	**Hares and Rabbits**
Sylvilagus audubonii	Audubon's cottontail

Taxonomy and nomenclature are based primarily on the following:

- **Damselflies and Dragonflies:** Paulson, D. (2009, *Dragonflies and Damselflies of the West,* Princeton University Press, Princeton, New Jersey).

- **Butterflies:** North American Butterfly Association (2001, NABA Checklist and English Names of North American Butterflies, Second Edition, North American Butterfly Association, Morristown, New Jersey, 2003 update in *American Butterflies* 11: 24-27; see http://www.naba.org/pubs/checklst.html).

- **Fishes:** Page, L.M. et al. (2013, *Common and Scientific Names of Fishes from the United States, Canada, and Mexico,* Seventh Edition, American Fisheries Society Special Publication 34).

- **Amphibians and Reptiles:** Crother, B.I., ed. (2017, *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding,* Eighth Edition, Herpetological Circular 43) for species taxonomy and nomenclature; AmphibiaWeb (https://amphibiaweb.org/) and The Reptile Database (www.reptile-database.org/) for higher-order taxonomy; see also California Herps (http://www.californiaherps.com/index.html).

- **Birds:** Chesser, R.T., et al. 2021. Checklist of North American Birds (online), American Ornithological Society, http://checklist.aou.org/taxa.

- **Mammals:** Bradley, R.D., et al. (2014, Revised Checklist of North American Mammals North of Mexico, 2014, Museum of Texas Tech University Occasional Papers No. 327).

APPENDIX C

PLANT AND ANIMAL SPECIES EXCLUDED

VASCULAR PLANT SPECIES EXCLUDED

The following vascular plant species were excluded from further analysis within the specified study area due to unsuitable habitat, microclimate, soil conditions, aquatic resources, or other requirements determined to be absent.

State and Federal Status Codes
***CE** – State-listed, endangered*
***CR** – State-listed, rare*
***SP** – State-listed, special plant*
***FE** – Federally listed, endangered*
***FT** – Federally listed, threatened*

California Rare Plant Ranks
***List 1B** – Plants Rare, Threatened, or Endangered in California and Elsewhere*
***List 2** – Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere*
***List 3** – Plants about Which We Need More Information – A Review List*
***List 4** – Plants of Limited Distribution – A Watch List*

Eudicots

Asteraceae	**Sunflower Family**
Baccharis malibuensis	Malibu baccharis SP; 1B.1
Deinandra (*Hemizonia*) *minthornii*	Santa Susana tarplant SR; 1B.2
Centromadia [*Hemizonia*] *parryi* ssp. *australis*	Southern tarplant SP; 1B.1
Microseris douglasii ssp. *platycarpha*	Small-flowered microseris SP; 4.2
Senecio aphanactis	Rayless ragwort SP; 2.2
Convolvulaceae	**Morning-glory Family**
Convolvulus simulans	Small-flowered morning-glory SP; 4.2
Crassulaceae	**Stonecrop Family**
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya SP; 1B.1
Dudleya cymosa ssp. *agourensis*	Santa Monica Mountains dudleya FT; SP; 1B.2
Dudleya parva	Conejo dudleya FT; SP; 1B.2
Dudleya cymosa ssp. *agourensis*	Agoura Hills dudleya FT; 1B.2
Geraniaceae	**Geranium Family**
California [*Erodium macrophyllum*] *macropylla*	California macrophylla SP; 1B.1
Juglandaceae	**Walnut Family**
Juglans californica (var. *californica*)	Southern California black walnut SP; 4.2

Montiaceae	**Miner's Lettuce Family**
Calandrinia breweri	Brewer's red maids SP; 4.2
Polemoniaceae	**Phlox Family**
Navarretia ojaiensis	Ojai navarretia SP; 1B.1
Rosaceae	**Rose Family**
Cercocarpus betuloides var. *blancheae*	Island mountain mahogany SP; 4.3
Monocots	
Liliaceae	**Lily Family**
Calochortus catalinae	Catalina mariposa lily SP; 4.2
Calochortus plummerae	Plummer's mariposa lily SP; 4.2
Poaceae	**Grass Family**
Hordeum intercedens	Little barley SP; 3.2
Orcuttia californica	California Orcutt grass 1B.1
Ruscaceae	**Butcher's-broom Family**
Nolina cismontana	Chaparral beargrass SP; 1B.2

Taxonomy and scientific nomenclature generally conform to Baldwin, B.G., D.H. Goldman et al., eds. (2012; *The Jepson Manual: Vascular Plants of California,* Second Edition; University of California Press, Berkeley and Los Angeles, California).

Common names for each taxa generally conform to Roberts, F.M., Jr. (2008; *The Vascular Plants of Orange County, California: An Annotated Checklist;* F.M. Roberts Publications, San Luis Rey, California) except where Abrams, L. (1923, 1944, and 1951; *Illustrated Flora of the Pacific States: Washington, Oregon, and California,* vols. I–III; Stanford University Press, Stanford, California) and Abrams, L. and Ferris, R.S. (1960; *Illustrated Flora of the Pacific States: Washington, Oregon, and California,* vol. IV; Stanford University Press, Stanford, California) were used, particularly when species-specific common names were not identified in Roberts, F.M., Jr. (2008).

ANIMAL SPECIES EXCLUDED

The following animal species were excluded from further analysis within in the specified study area due to unsuitable habitat, microclimate, soil conditions, aquatic resources, or other requirements determined to be absent.

State and Federal Status Codes:
CE *– State-listed, endangered*
CR *– State-listed, rare*
FE *– Federally listed, endangered*
FT *– Federally listed, threatened*
FP *– State fully protected – Enacted on a species-by-species basis by the State legislature prior to the adoption of the California Endangered Species Act of 1984.*
SSC *– Species of Special Concern – Species considered by the California Department of Fish and Wildlife (CDFW) whose declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.*
WL *– Watch List: Species considered by CDFW to be declining but are not yet on the SSC list.*
BCC *– Birds of Conservation Concern: Birds considered by the United States Fish and Wildlife Service to be in need of conservation action, particularly in regard to protection of the habitats and ecological communities upon which these species depend.*

Amphibians

Ranidae	**True Frogs**
Rana draytonii	California red-legged frog FT, SSC
Bufonidae	**True Toads**
Anaxyrus [*Bufo*] *californicus*	Arroyo toad SSC
Salamandridae	**Newts**
Taricha torosa	California newt SSC

Reptiles

Emydidae	**Water and Box Turtles**
Emys marmorata	Western pond turtle SSC
Colubridae	**Colubrid Snakes**
Thamnophis hammondii	Two-striped gartersnake SSC
Lampropeltis zonata ssp. *pulchra*	California mountain kingsnake SSC
Salvadora hexalepis ssp. *virgultea*	Coast patch-nosed snake SSC

Birds

Laniidae	**Shrikes**
Lanius ludovicianus	Loggerhead shrike BBS; SSC
Accipitridae	**Hawks, Kites, Eagles, and Allies**
Elanus leucurus	White-tailed kite FP
Apodidae	**Swifts**
Aeronautes saxatalis	White-throated swift BBC; SSC
Falconidae	**Falcons**
Falco columbarius	Merlin WL
Falco mexicanus	Prairie falcon BBC; WL

Alaudidae	**Larks**
Eremophila alpestris	Horned lark WL
Parulidae	**Wood Warbler**
Icteria virens	Yellow-breasted chat SSC
Setophaga petechia	Yellow warbler BBC; SSC
Emberizidae	**Sparrows**
Ammodramus savannarum	Grasshopper sparrow SSC
Amphispiza belli	Sage sparrow BBC; WL
Aimophila ruficeps	Rufous-crowned sparrow WL

Mammals

Chiroptera	**Bats**
Antrozous pallidus	Pallid bat SSC
Corynorhinus townsendii	Townsend's big-eared bat SSC
Eumops perotis	Western mastiff bat SSC

Taxonomy and nomenclature are based primarily on the following:

- **Amphibians and Reptiles:** Crother, B.I., ed. (2017, *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding,* Eighth Edition, Herpetological Circular 43) for species taxonomy and nomenclature; AmphibiaWeb (https://amphibiaweb.org/) and The Reptile Database (www.reptile-database.org/) for higher-order taxonomy; see also California Herps (http://www.californiaherps.com/index.html).

- **Birds:** Chesser, R.T., et al. 2021. Checklist of North American Birds (online), American Ornithological Society, http://checklist.aou.org/taxa.

- **Mammals:** Bradley, R.D., et al. (2014, *Revised Checklist of North American Mammals North of Mexico,* 2014, Museum of Texas Tech University Occasional Papers No. 327).

APPENDIX D

JURISDICTIONAL DELINEATION REPORT

JURISDICTIONAL DELINEATION REPORT

LOS ROBLES HOSPITAL AND MEDICAL CENTER – CANCER CENTER PROJECT

THOUSAND OAKS, VENTURA COUNTY, CALIFORNIA

LSA

November 2022

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THOUSAND OAKS, VENTURA COUNTY, CALIFORNIA

Prepared for:

Elizabeth Cobb
Kimley Horn
1100 West Town and Country Road, Suite 700
Orange, California 92868

Prepared by:

Jeremy Rosenthal
LSA
20 Executive Park, Suite 200
Irvine, California 92614
(949) 553-0666

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LIST OF ABBREVIATIONS AND ACRONYMS

°F	degrees Fahrenheit
1987 Manual	*Corps of Engineers 1987 Wetland Delineation Manual*
amsl	above mean sea level
APN	Assessor's Parcel Number
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CWA	Clean Water Act
D	Drainage Feature
EPA	United States Environmental Protection Agency
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
ft	foot/feet
HUC	Hydrologic Unit Code
JDSA	jurisdictional delineation study area
NETR	National Environmental Title Research, LLC
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate Wetland
OHWM	ordinary high water mark
Procedures	*State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*
project	Los Robles Hospital and Medical Center – Cancer Center Project
Rapanos	the 2006 United States Supreme Court decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States*
Regional Supplement	Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region
RWQCB	Log Angeles Regional Water Quality Control Board
SWRCB	State Water Resources Control Board

TNW	traditionally navigable water
UPL	Obligate Upland
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOTS	waters of the State
WOTUS	waters of the United States

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INTRODUCTION

This Jurisdictional Delineation Report presents the results of a delineation of aquatic resources and drainage features conducted for the Los Robles Hospital and Medical Center – Cancer Center Project (project) in Thousand Oaks, California. The proposed project would result in the construction of a medical center with associated asphalt-paved parking areas.

The jurisdictional delineation study area (JDSA) covered herein includes approximately 6.23 acres within Assessor's Parcel Numbers [APNs] 681-018-0265 and 681-018-0275. The JDSA consists of the project site, which consists of 4.76 acres, and an off-site area, which includes an additional 1.47 acres. The additional area is associated with the drainages located on the northeastern portion of the project site. The purpose of this delineation report is to determine the extent of both State of California and federal jurisdiction within the JDSA. This includes the potential jurisdiction of the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), the Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and/or the Porter-Cologne Water Quality Control Act, and the California Department of Fish and Wildlife (CDFW) under Section 1602 of the California Fish and Game Code. This report has been prepared to inform the environmental planning and review process. All referenced figures are included in Appendix A.

SITE DESCRIPTION AND SETTING

The JDSA is directly southeast of the intersection of Rolling Oaks Drive and Los Padres Drive in Thousand Oaks, Ventura County, California, as depicted on the United States Geological Survey (USGS) *Thousand Oaks, California* 7.5-minute series topographic quadrangle (Figure 1). Elevations in the JDSA range from 870 feet (ft) above mean sea level (amsl) to 770 ft amsl. The topography within the JDSA is relatively flat on the western portion but includes multiple undulating foothill slopes on the eastern portion of the JDSA. The JDSA was formerly developed with the Rolling Oaks Child Development Center, of which only concrete slabs and utilities remain within the JDSA. The JDSA is bordered to the north by Rolling Oaks Drive followed by commercial development, to the east by undeveloped land followed by single-family residential development, to the south by undeveloped land, and to the west by Los Padres Drive followed by multifamily residential development. The area is surrounded by relatively developed lands, consisting of a golf course and low-density, rural residential and commercial uses. The JDSA is within the Upper Conejo Arroyo watershed (Hydrologic Unit Code [HUC] 12 180701030104), which is 43.23 square miles extending westerly from its terminus at Simi Peak, to the east of the study area, to downstream portions of South Branch Arroyo Conejo in Newbury Park, to the west of the study area. All surface waters within the JDSA are ultimately conveyed to Arroyo Conejo. Arroyo Conejo discharges into Calleguas Creek, which is a tributary to the Pacific Ocean.

Based on a review of historic aerial photographs and topographic maps extending back to the late 1930s (NETR 2022), the entirety of the project area was undeveloped until at least the early 1980s,

when it was developed with the Rolling Oaks Child Development Center, which was razed (with the exception of multiple concrete slabs) prior to 2020.

The climate is classified as Mediterranean (i.e., arid climate with hot, dry summers and mild, wet winters). The average annual precipitation is 11.11 inches. Although most of the precipitation occurs from November through May, thunderstorms may occur at other times of the year and can result in high levels of precipitation. Temperatures typically range between 36 degrees Fahrenheit (°F) and 98°F.

REGULATORY BACKGROUND

United States Army Corps of Engineers

The USACE regulates discharges of dredged or fill material into waters of the United States (WOTUS). These waters include wetland and non-wetland bodies of water that meet specific criteria. USACE regulatory jurisdiction pursuant to Section 404 of the federal CWA is founded on a connection, or nexus, between the waterbody in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditionally navigable waters [TNWs] used in interstate or foreign commerce) or may be indirect (through a nexus identified in USACE regulations).

For several decades, the operable definition of WOTUS was provided at 33 Code of Federal Regulations (CFR) 328.3, but implementation of this definition has been shaped by the courts and subsequent guidance over the years, most substantially by the 2001 United States Supreme Court decision in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, No. 99-1178, and the 2006 Supreme Court decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208), collectively referred to as *Rapanos*. The Supreme Court concluded that wetlands are "waters of the United States" if they significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as navigable. However, the involved Supreme Court justices were not able to agree on a single, underlying standard that would govern future jurisdictional disputes. Instead, a four-justice plurality opinion, authored by Justice Antonin Scalia, and an opinion by Justice Anthony M. Kennedy, proposed two alternative tests for evaluating jurisdictional waters:

1. Relative permanence and continuous surface connection.
2. **Significant Nexus:** A nexus exists when the feature (whether an adjacent wetland or tributary) significantly affects the chemical, physical, and biological integrity of other covered waters.

Following the *Rapanos* decision, the lower courts immediately struggled to determine which "test" should be used, which led to inconsistency in CWA implementation across the states. On June 5, 2007, the USACE issued guidance regarding the *Rapanos* decision. After consideration of public comments and agencies' experience, revised guidance was issued on December 2, 2008. This guidance states that the USACE will assert jurisdiction over TNWs, wetlands adjacent to TNWs, relatively permanent non-navigable tributaries that have a continuous flow at least seasonally (typically 3 months), and wetlands that directly abut relatively permanent tributaries. Under the 2008 *Rapanos* Guidance, the USACE determined that a significant nexus was required for its

jurisdiction to extend to waters that are non-navigable tributaries that are not relatively permanent waters and wetlands adjacent to non-navigable tributaries that are not relatively permanent waters. The USACE generally did not assert jurisdiction over swales or erosional features, or ditches excavated wholly in and draining only uplands that do not carry a relatively permanent flow of water. However, the USACE reserved the right to regulate these waters on a case-by-case basis.

Several recent attempts have been made to clarify the scope of WOTUS. Based, in part, on the *Rapanos* decision and the opinions authored by Justices Kennedy and Scalia, new rules defining WOTUS were promulgated under the Obama and Trump administrations. The 2015 "Clean Water Rule" and the 2020 "Navigable Waters Protection Rule" set forth different definitions for WOTUS (ranging from relatively broad federal jurisdiction under the 2015 rule to relatively limited federal jurisdiction under the 2020 rule). Each of these new rules prompted series of legal challenges and court decisions. On August 30, 2021, the United States District Court for Arizona vacated the 2020 Navigable Waters Protection Rule, which reinstated federal wetland regulations and definitions originally adopted by the federal government in the 1980s. In light of this order, the United States Environmental Protection Agency (EPA) and the USACE (collectively referred to as the "agencies") have halted implementation of the 2020 Navigable Waters Protection Rule and are interpreting WOTUS consistent with the pre-2015 regulatory regime (and 2008 *Rapanos* Guidance) until further notice.

While litigation continues, on November 18, 2021, the agencies announced plans for new WOTUS rulemaking, and the current definition of WOTUS (EPA n.d.) is as follows:

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

2. All interstate waters including interstate wetlands;

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

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

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

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

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

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

6. The territorial sea; and

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

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds as defined in 40 CFR 423.11(m) that also meet the criteria of this definition) are not WOTUS.

WOTUS do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with EPA.

Agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary

The agencies generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow)
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water

The 2008 *Rapanos* Guidance and 2021 Revised Definition of "Waters of the United States" proposed rules acknowledge that certain ephemeral waters, especially in the arid West, are distinguishable from the geographic features described above where such ephemeral waters are tributaries, and they have a significant nexus to downstream traditional navigable waters. In such cases, the agencies will decide CWA jurisdiction on a fact-specific analysis to determine whether they have a significant nexus with traditional navigable waters.

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters

- Significant nexus includes consideration of hydrologic and ecologic factors

Given the substantial changes in operable definitions that have taken place and are likely to continue considering recent regulatory revisions and court actions, it is impossible to predict the regulations that will be in place at the time of a particular jurisdictional determination by the USACE. Therefore, this jurisdictional delineation focuses on identifying the boundaries of potentially jurisdictional waterbodies, using methods for determining the locations of the ordinary high water mark (OHWM) and wetland boundaries as described below. These methods for determining the boundaries of waterbodies in general have not substantially changed over the years and are not likely to change with any revised regulations. This delineation can then be used in combination with a companion jurisdictional analysis to determine which of the identified waterbodies are actually jurisdictional, based on the definition that is in effect at the time of a jurisdictional determination by the USACE.

The USACE typically considers any body of water displaying an OHWM for designation as WOTUS, subject to the applicable definition of WOTUS. USACE jurisdiction over non-tidal waters of the United States extends laterally to the OHWM or beyond the OHWM to the limit of any adjacent wetlands, if present.

The OHWM is defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area" (33 CFR 328.3). Jurisdiction typically extends upstream to the point where the OHWM is no longer perceptible.

Waters found to be isolated and not subject to CWA regulation may still be regulated by the RWQCB under the State's Porter-Cologne Water Quality Control Act.

Wetland Waters of the United States

Wetland delineations for Section 404 purposes must be conducted according to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (Regional Supplement) (USACE 2008) and the Corps of Engineers 1987 Wetland Delineation Manual (1987 Manual) (USACE 1987). Where there are differences between the two documents, the Regional Supplement takes precedence over the 1987 Manual.

The USACE and EPA define wetlands as:

> Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions.

To be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied for that particular wetland characteristic to be met. Several indicators may be analyzed to determine whether the criteria are satisfied.

Hydrophytic vegetation and hydric soil indicators provide evidence that episodes of inundation have lasted more than a few days or have occurred repeatedly over a period of years, but do not confirm that an episode has occurred recently. Conversely, wetland hydrology indicators provide evidence that an episode of inundation or soil saturation occurred recently, but do not provide evidence that episodes lasted more than a few days or occurred repeatedly over a period of years. Because of this, if an area lacks one of the three characteristics under normal circumstances, the area is considered non-wetland under most circumstances.

Determination of wetland limits may be obfuscated by a variety of natural environmental factors or human activities, collectively called difficult wetland situations, including cyclic periods of drought and flooding, highly ephemeral stream systems, or in areas recently altered by anthropogenic activities. During periods of drought, for example, bank return flows are reduced and water tables are lowered. This results in a corresponding lowering of ordinary high water and invasion of upland plant species into wetland areas.

Conversely, extreme flooding may create physical evidence of high water well above what might be considered ordinary and may allow the temporary invasion of hydrophytic species into non-wetland areas. In highly ephemeral systems typical of Southern California, these problems are encountered frequently. In these situations, professional judgment based on years of practical experience and extensive knowledge of local ecological conditions comes into play in delineating wetlands. The Regional Supplement provides additional guidance for difficult wetland situations.

Hydrophytic Vegetation. Hydrophytic vegetation is plant life that grows and is typically adapted for life in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, herb, and woody vine layers) are considered hydrophytic. Hydrophytic species are those included on the National Wetland Plant List published by the USACE (2018). Each species on the list is rated according to a wetland indicator category, as shown below in Table A.

Table A: Hydrophytic Vegetation Ratings

Category	Rating	Probability
Obligate Wetland	OBL	Almost always occur in wetlands (estimated probability greater than 99 percent)
Facultative Wetland	FACW	Usually occur in wetlands (estimated probability 67–99 percent)
Facultative	FAC	Equally likely to occur in wetlands and non-wetlands (estimated probability 34–66 percent)
Facultative Upland	FACU	Usually occur in non-wetlands (estimated probability 67–99 percent)
Obligate Upland	UPL	Almost always occur in non-wetlands (estimated probability greater than 99 percent)

Source: Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008).
USACE = United States Army Corps of Engineers

To be considered hydrophytic, the species must have wetland indicator status (i.e., be rated Obligate Wetland [OBL], Facultative Wetland [FACW], or Facultative [FAC]).

The delineation of hydrophytic vegetation is typically based on the most dominant species from each vegetative stratum (strata are considered separately); when more than 50 percent of these dominant species are hydrophytic (i.e., FAC, FACW, or OBL), the vegetation is considered hydrophytic. In particular, the USACE recommends the use of the "50/20" rule (also known as the dominance test) from the Regional Supplement for determining dominant species. Under this method, dominant species are the most abundant species that immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species comprising 20 percent or more of the total dominance measure for the stratum. In cases where indicators of hydric soil and wetland hydrology are present, but the vegetation initially fails the dominance test, the prevalence index must be used. The prevalence index is a weighted average of all plant species within a sampling point. The prevalence index is particularly useful when communities only have one or two dominants, where species are present at roughly equal coverage, or when strata differ greatly in total plant cover. In addition, USACE guidance provides that morphological adaptations may be considered when determining hydrophytic vegetation when indicators of hydric soil and wetland hydrology are present (USACE 2008). If the plant community passes either the dominance test or prevalence index after reconsidering the indicator status of any plant species that exhibits morphological adaptations for life in wetlands, then the vegetation is considered hydrophytic.

Hydric Soils. Hydric soils[1] are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.[2] Soils are considered likely to meet the definition of a hydric soil when they meet one or more of the following criteria:

1 The hydric soils definition and criteria included in the 1987 Manual are obsolete. Users of the 1987 Manual are directed to the United States Department of Agriculture's Natural Resources Conservation Service website for the most current information on hydric soils.

2 Current definition as of 1994 (*Federal Register,* July 13).

1. All Histels except Folistels and Histosols except Folists;
2. Soils that are frequently ponded for a long duration or very long duration[3] during the growing season; or
3. Soils that are frequently flooded for a long duration or very long duration during the growing season.

Hydric soils develop under conditions of saturation and inundation combined with microbial activity in the soil that causes a depletion of oxygen. Although saturation may occur at any time of year, microbial activity is limited to the growing season, when soil temperature is above biologic zero (the soil temperature at a depth of 50 centimeters (19.7 inches), below which the growth and function of locally adapted plants are negligible). Biogeochemical processes that occur under anaerobic conditions during the growing season result in the distinctive morphologic characteristics of hydric soils. Based on these criteria and on information gathered from the National Soil Information System database, the United States Department of Agriculture's Natural Resources Conservation Service (NRCS) created a Soil Data Access Hydric Soils List that is updated annually.

The Regional Supplement has a number of field indicators that may be used to identify hydric soils. The NRCS (USDA 2016) has also developed a number of field indicators that may demonstrate the presence of hydric soils. These indicators include hydrogen sulfide generation, accumulation of organic matter, and the reduction, translocation and/or accumulation of iron and other reducible elements. These processes result in soil characteristics that persist during both wet and dry periods. Separate indicators have been developed for sandy soils and for loamy and clayey soils.

Wetland Hydrology. Under natural conditions, development of hydrophytic vegetation and hydric soils is dependent on a third characteristic: wetland hydrology. Areas with wetland hydrology are those where the presence of water has an overriding influence on vegetation and soil characteristics due to anaerobic and reducing conditions, respectively (USACE 1987). The wetland hydrology criterion is satisfied if the area is seasonally inundated or saturated to the surface for a minimum of 14 consecutive days during the growing season in most years (USACE 2008).

Hydrology is often the most difficult criterion to measure in the field due to seasonal and annual variations in water availability. Some of the indicators commonly used to identify wetland hydrology include visual observation of inundation or saturation, watermarks, recent sediment deposits, surface scour, and oxidized root channels (rhizospheres) resulting from prolonged anaerobic conditions.

California Department of Fish and Wildlife

The CDFW, through provisions of the California Fish and Game Code (Section 1600 et seq.), is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks and at least a periodic or intermittent flow of water. The CDFW regulates wetland

[3] "Long duration" is defined as a single event ranging from 7 to 30 days; "very long duration" is defined as a single event that lasts longer than 30 days.

areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFW.

In obtaining CDFW agreements, the limits of wetlands are not typically determined. This is because the CDFW generally includes, within the jurisdictional limits of streams and lakes, any riparian habitat present. Riparian habitat includes willows, mule fat, and other vegetation typically associated with the banks of a stream or lake shorelines and may not be consistent with USACE definitions. In most situations, wetlands associated with a stream or lake would fall within the limits of riparian habitat. Thus, defining the limits of CDFW jurisdiction based on riparian habitat will automatically include any wetland areas and may include additional areas that do not meet USACE criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream, away from frequently saturated soils).

Regional Water Quality Control Board

The Porter-Cologne Water Quality Control Act of the California Water Code (Section 13000 et seq.) established nine RWQCBs to oversee water quality on a day-to-day basis at the local and/or regional level. Their duties include preparing and updating water quality control plans and associated requirements and issuing water quality certifications under Section 401 of the CWA. The CWA grants ultimate authority to the State Water Resources Control Board (SWRCB) over State water rights and water quality policy. Under the Porter-Cologne Water Quality Control Act, the RWQCBs (or the SWRCB for projects that cross multiple RWQCB jurisdictions) are responsible for issuing National Pollutant Discharge Elimination System (NPDES) permits for point-source discharges and waste discharge requirements for non-point source discharges into jurisdictional waters of the State (WOTS).

The definition of waters under the jurisdiction of the State is broad and includes any surface water or groundwater, including saline waters within the boundaries of the State. Waters that meet the definition of WOTUS are also considered WOTS, but the jurisdictional limits of WOTS may extend beyond the limits of WOTUS. Isolated waters that may not be subject to regulations under federal law are considered to be WOTS and regulated accordingly.

Although there is no formal statewide guidance for the delineation of non-wetland WOTS, jurisdiction generally corresponds to the surface area of aquatic features that are at least seasonally inundated, and all areas within the banks of defined rivers, streams, washes, and channels, including associated riparian vegetation. Currently, each RWQCB reserves the right to establish criteria for the regulation of non-wetland WOTS.

Wetland Waters of the State

On August 28, 2019, the California Office of Administrative Law approved the SWRCB-proposed *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (Procedures). The Procedures, effective on May 28, 2020, apply to discharges of dredged or fill material to WOTS. The Procedures consist of four major elements: (1) a wetland definition, (2) a framework for determining whether a feature that meets the wetland definition is a water of the State, (3) wetland delineation procedures, and (4) procedures for the submission, review, and

approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

The SWRCB and the RWQCBs define a wetland as such:

> An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The RWQCB will rely on the final aquatic resource report verified by the USACE for determining the extent of wetland WOTUS. However, if it is not delineated in a final aquatic report, the procedures will use the USACE 1987 Manual and the Regional Supplement to determine whether the area meets the State definition of a wetland. As described in the 1987 Manual and the Regional Supplement, an area "lacks vegetation" if it has less than 5 percent areal coverage of plants at the peak of the growing season. The methods shall be modified only to allow for the fact that the lack of vegetation does not prevent the determination of such an area that meets the State definition of wetland.

METHODOLOGY

Prior to conducting delineation fieldwork, LSA reviewed the following literature and materials:

- Historic and current aerial photographic imagery (NETR 2022)
- Historic and current USGS topographic maps (USGS 2022)
- USFWS National Wetlands Inventory (NWI) wetland mapper (USFWS 2021)
- NRCS Web Soil Survey (USDA 2019)

LSA Biologists Jeremy Rosenthal and Heather Monteleone conducted the fieldwork for a jurisdictional delineation on September 15, 2022. They visually surveyed the JDSA on foot. All drainage features within the JDSA were evaluated according to the most current federal and/or State regulatory criteria and guidance and mapped using aerial photographs. This included the State wetland definition and delineation procedures recently enacted by the SWRCB and the current USACE regulations pertaining to jurisdictional WOTUS, which are consistent with the pre-2015 regulatory regime until further notice. In addition, Mr. Rosenthal and Ms. Monteleone noted and photographed the general conditions and characteristics associated with each drainage feature.

The boundaries of drainage features observed within the JDSA during the fieldwork were mapped on a recent, high-resolution aerial photograph (on a scale of 1 inch = approximately 100 ft) showing the JDSA. The widths and lengths of these drainage features mapped during the course of the field investigation were determined by a combination of direct measurements taken in the field and measurements taken from the aerial photographs. Features within the JDSA that are generally excluded from federal and/or State jurisdiction under current regulatory definitions and guidance were evaluated and mapped as "non-jurisdictional features." Because none of the drainage features in the JDSA exhibited characteristics indicative of wetlands (e.g., areas dominated by hydrophytic

vegetation or hydric soils), wetland delineation procedures described in the Regional Supplement and those recently enacted by the SWRCB were not implemented.

RESULTS

Database Searches

National Wetlands Inventory

Based on a review of the National Wetlands Inventory Map (USFWS 2021), a blue line riverine feature (Figure 2) is mapped within the JDSA. This blueline feature was identified during the field survey and is further discussed as Drainage Feature 2.

United States Department of Agriculture Soil Survey

The soils mapped on the site include Azule gravelly loam, 5 to 9 percent slopes, warm and Gilroy loam, 15 to 50 percent slopes, very rocky (USDA 2019) (Figure 3). Soil observed throughout the site appears to be consistent with this designation. None of the mapped soils are considered hydric soils; the soils have drainage classes ranging from moderately well drained to somewhat excessively drained (Table B).

Table B: Mapped Soils Classifications

Soil	Drainage Class	Frequency of Flooding	Frequency of Ponding	Hydric Soil Rating
Azule gravelly loam, 5 to 9 percent slopes, warm	Well drained	None	None	No
Gilroy loam, 15 to 50 percent slopes, very rocky	Well drained	None	None	No

Source: Web Soil Survey (United States Department of Agriculture 2019).

Descriptions of Delineated Features

A brief description of the delineated features is provided below. Figure 4 shows the location of the drainage features, and Figure 5 provides representative photographs of the drainage features.

- **Drainage Feature 1 (D-1):** D-1 is an unnamed, earthen drainage tributary to Arroyo Conejo, which is a tributary to Conejo Creek, which is a tributary to Calleguas Creek, which in turn is a tributary to the Pacific Ocean. This drainage flows in a west-to-east direction and is fed by flows originating from a 5 ft diameter concrete box culvert on the northeastern corner of the project site. The western portion of Drainage D-1 consists of a bed and bank and OHWM indicators, including sediment deposits and a line impressed on the bank. The central portion of the drainage does not contain a bed and bank or visible OHWMs and consists of mostly sheet flow; however, this portion of D-1 is somewhat obscured due to desiccated invasive annual grass species. The eastern portion of D-1, prior to its confluence with Drainage Feature 2 (discussed below), consists of OHWM indicators, including sediment deposits, but does not consist of bed and bank characteristics indicative of an erosional rill. The drainage ranges from approximately 2 ft wide at its narrowest to approximately 25 ft wide at its widest and is 257 ft long.

- **Drainage Feature 2 (D-2):** D-2 is an unnamed, earthen drainage tributary to Arroyo Conejo. Based on a review of the National Wetlands Inventory Map (USFWS 2021), this feature is mapped as a blue line riverine feature. Drainage D-2 flows in a south-to-north direction and is fed by flows originating from a 3 ft corrugated plastic pipe-culvert. The entirety of D-2 consists of OHWM indicators throughout, including sediment deposits, drift deposits, undercutting, and a defined bed and bank along most of the drainage. This drainage ranges from approximately 2 ft wide at its narrowest to approximately 5 ft wide at its widest and is approximately 350 ft long within the JDSA.

- **Drainage Feature 3 (D-3):** D-3 is an unnamed, earthen, isolated erosional feature that is not a tributary to D-2, which is a tributary Arroyo Conejo. This drainage flows in a west-to-east direction and is fed by flows originating from stormwater on the eastern end of the project site. D-3 consists of bed and bank and OHWM indicators, including sediment deposits and a line impressed on the bank. Outside of the project site boundary, the OWHM indicators of D-3 end and the drainage becomes sheet flow. Based on field observations and current aerial imagery, the sheet flow originating from D-3 does not appear to have a nexus to D-2. This drainage ranges from 2 ft wide at its narrowest to approximately 3 ft wide at its widest and is approximately 191 ft long.

- **Drainage Feature 4 (D-4):** D-4 is an unnamed, concrete lined v-ditch that was delineated in the southern portion of the JDSA on the undeveloped hillslope. This feature lacks hydrophytic vegetation, hydric soils, and does not exhibit a clear OHWM. It conveys stormwater runoff directly into Drainage Feature 5. Within the JDSA, this drainage is approximately 2 ft wide and 220 ft long.

- **Drainage Feature 5 (D-5):** D-5 is an unnamed, concrete-lined trapezoidal ditch that was delineated within the JDSA to the west along Los Padres Drive. This feature lacks hydrophytic vegetation, hydric soils, and does not exhibit a clear OHWM. It functions as a stormwater control feature and conveys ephemeral nuisance flows (sheet flow) associated with the undeveloped hillslope on the southern portion of the JDSA and urban runoff from the surrounding single-family residential development. This drainage connects to a 3 ft concrete pipe drain inlet on its northern end near the intersection of Los Padres Drive and Rolling Oaks Drive. Within the JDSA, this drainage is approximately 5 ft wide and 240 ft long.

Jurisdictional Conclusions

Five distinct drainages (D-1 through D-5) were identified within the JDSA (refer to Figure 4) and, in this case, D-1 and D-2 were determined to be jurisdictional drainages. D-3, D-4, and D-5 were determined to be non-jurisdictional drainages. The regulatory basis for whether a particular waterbody (or feature) is jurisdictional or non-jurisdictional is described below under the applicable regulatory agency. Table C details potential jurisdictional areas by drainage number and associated acreages.

Table C: Potential Jurisdictional Areas by Drainage Number

Feature	RWQCB Jurisdiction[1] (acres)	CDFW Jurisdiction (acres)	USACE Jurisdiction (acres)
Drainage 1	0.036	0.110	0.036
Drainage 2	0.019	0.019	0.019
Drainage 3	(Non-jurisdictional)	(Non-jurisdictional)	(Non-jurisdictional)
Drainage 4	(Non-jurisdictional)	(Non-jurisdictional)	(Non-jurisdictional)
Drainage 5	(Non-jurisdictional)	(Non-jurisdictional)	(Non-jurisdictional)
Total Jurisdictional Acres	**0.055**	**0.129**	**0.055**

Source: Compiled by LSA (2022).
Note: Totals are subject to rounding.
[1] All RWQCB jurisdictional areas are non-wetland waters of the State.
CDFW = California Department of Fish and Wildlife
RWQCB = Regional Water Quality Control Board
USACE = United States Army Corps of Engineers

United States Army Corps of Engineers Jurisdiction

Jurisdictional 404 Waters of the United States

Based on the results of the jurisdictional delineation, Drainage D-1 is tributary to Arroyo Conejo, which is a tributary to Conejo Creek, which is a tributary to Calleguas Creek, which in turn is a tributary to the Pacific Ocean, which is a TNW. D-1 exhibits OHWM indicators, which included a bed, banks, and sediment deposits. Further, D-1 appears to have a significant nexus to the Pacific Ocean because it contributes to the biological, chemical, and physical integrity of a TNW. This drainage is vegetated throughout, which consisted of native and non-native upland species on the western portion and primarily non-native grasses on the eastern portion. Although D-1 would satisfy the wetland hydrology, this feature failed to meet the vegetation and soils criteria for wetlands. D-1 is a tributary to D-2 within the JDSA; Drainage D-2 consists of ephemeral flows and exhibits OHWM indicators similar to D-1. Therefore, Drainages D-1 and D-2 are potentially considered non-wetland WOTUS under current regulatory definitions. These drainages comprise 0.055 acre of potential non-wetland WOTUS within the JDSA.

Non-Jurisdictional Features

Drainage D-3 is an isolated feature and does not show a direct connection to Drainages D-1 or D-2. Drainages D-4 and D-5 and their associated pipe culvert inlet structure were created on dry land for the sole purpose of conveying stormwater runoff. The USACE does not generally assert jurisdiction over isolated features that do not provide a direct connection to other WOTUS or man-made drainages that did not displace a previously existing natural drainage channel and are wholly in and draining only uplands that do not convey at least a relatively permanent flow of water. Therefore, these drainages are not considered WOTUS.

California Department of Fish and Wildlife Jurisdiction

Jurisdictional 1602 Streambeds and Associated Riparian Habitat

In accordance with Section 1602 of the California Fish and Game Code, the CDFW asserts jurisdiction over rivers, streams, and lakes, as well as any riparian vegetation associated with those features.

There are no "rivers" within or adjacent to the JDSA; however, two ephemeral drainages (i.e., D-1 and D-2) are present, as shown on Figure 4. Within Drainage D-1, two Facultative Upland (FACU) oaks species overhang the drainage, including coast live oak (*Quercus agrifolia*) and valley oak (*Quercus lobata*) along with multiple species of eucalyptus (*Eucalyptus* sp.). These species contribute a positive biological and physical contribution to this drainage. Therefore, CDFW jurisdiction includes the drip-line extent of the canopy associated with the aforementioned tree species, which extends beyond the top of bank to top of bank on the western central portions of D-1. Drainage D-1 comprises 0.11 acre of CDFW riparian and bank-to-bank jurisdiction within the JDSA.

Drainage D-2 is defined by a bed and bank and function as an ephemeral drainage; therefore, it would be subject to potential CDFW jurisdiction pursuant to Section 1602 of the California Fish and Game Code. Drainage D-2 comprises 0.019 acre of CDFW streambed (bank-to-bank) jurisdiction within the JDSA.

Non-Jurisdictional Features

Drainages D-3, D-4, and D-5 are not considered "streams", "rivers" or "lakes" under Section 1600 et seq. of the California Fish and Game Code. Although Drainage D-3 has a bed and bank, it is a relatively short, isolated ephemeral erosional feature that contains upland vegetation consistent with surrounding uplands. Drainages D-4 and D-5 do not exhibit a clear bed and bank and appear to convey ephemeral waters to the storm drain system located at the northern end of D-5 during rainfall. Therefore, these features would not be subject to regulation under Section 1602 of the Fish and Game Code. Table C details potential jurisdictional areas by drainage number and associated acreages.

Regional Water Quality Control Board Jurisdiction

Jurisdictional 401 Waters of the State

All the areas on site determined to be WOTUS under both current and historic USACE definitions and guidelines are also considered to be WOTS. However, in many cases, RWQCB jurisdiction extends beyond the limits of USACE jurisdiction and may also include areas not identified as subject to USACE jurisdiction.

While there are specific procedures for delineating State wetlands (SWRCB 2019), there is currently no formal statewide guidance on determining RWQCB non-wetland WOTS. Each RWQCB has the discretion to determine the occurrence and extent of jurisdictional non-wetland WOTS. In this particular case, the RWQCB potential jurisdiction (i.e., WOTS) would coincide with those waters that meet the USACE's current definition of WOTUS as well as any areas that satisfy the SWRCB's definition and delineation procedures regarding State wetlands.

Drainages D-1 and D-2 comprise 0.055 acres of potential non-wetland WOTS within the JDSA.

Non-Jurisdictional Features

Drainages D-3, D-4, and D-5 do not satisfy the criteria for WOTUS and therefore are not considered WOTS under the new definition and procedures (SWRCB 2019). In addition, Drainage D-3 is an

erosional feature which is typically not regulated by the RWQCB under the Porter-Cologne Water Quality Control Act.

Disclaimer

The findings and conclusions presented in this report, including the locations and extents of features subject to regulatory jurisdiction (or lack thereof), represent the professional opinion of the consultant biologists. These findings and conclusions should be considered preliminary until verified by the appropriate regulatory agencies.

REFERENCES

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, eds. 2012. *The Jepson Manual: Vascular Plants of California*, Second Edition. Berkeley, California: University of California Press.

California Department of Fish and Wildlife (CDFW). n.d. California Streams. Biogeographic Information and Observation System. Website: https://apps.wildlife.ca.gov/bios/ (accessed September 2022).

Nationwide Environmental Title Research, LLC (NETR). 2022. Historic Aerials by NETRonline (v.0.5.42). Website: https://historicaerials.com (accessed September and October 2022).

State Water Resources Control Board (SWRCB). 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State [For Inclusion in the Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California]. April.

United States Army Corps of Engineers (USACE). 1987. Environmental Laboratory. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. United States Army Engineer Waterways Vicksburg, Mississippi: Experiment Station.

_____. 2007. CECW-OR Memorandum: Clean Water Act Jurisdiction Following the United States Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States*.

_____. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). J.S. Wakeley, R.W. Lichvar, and C.V. Noble, eds. ERDC/EL TR-08-28. Vicksburg, Mississippi: United States Army Engineer Research and Development Center.

_____. 2018. National Wetland Plant List, Version 3.4 (Arid West Region). Hanover, New Hampshire: Engineer Research and Development Center Cold Regions Research and Engineering Laboratory. Website: ttps://cwbiapp.sec.usace.army.mil/nwpl_static/v34/home/home.html (accessed September 2022).

United States Department of Agriculture (USDA). 2016. Natural Resources Conservation Service (NRCS). Field Indicators of Hydric Soils in the United States, Version 8.0. L.M. Vasilas, G.W.

Hurt, and J.F. Berkowitz, eds. USDA, NRCS, in cooperation with the National Technical Committee for hydric soils.

_____. 2019. Web Soil Survey. Website: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (accessed September 2022).

United States Environmental Protection Agency (EPA). n.d. Current Implementation of Waters of the United States. Website: https://www.epa.gov/wotus/current-implementation-waters-united-states (accessed January 11, 2022).

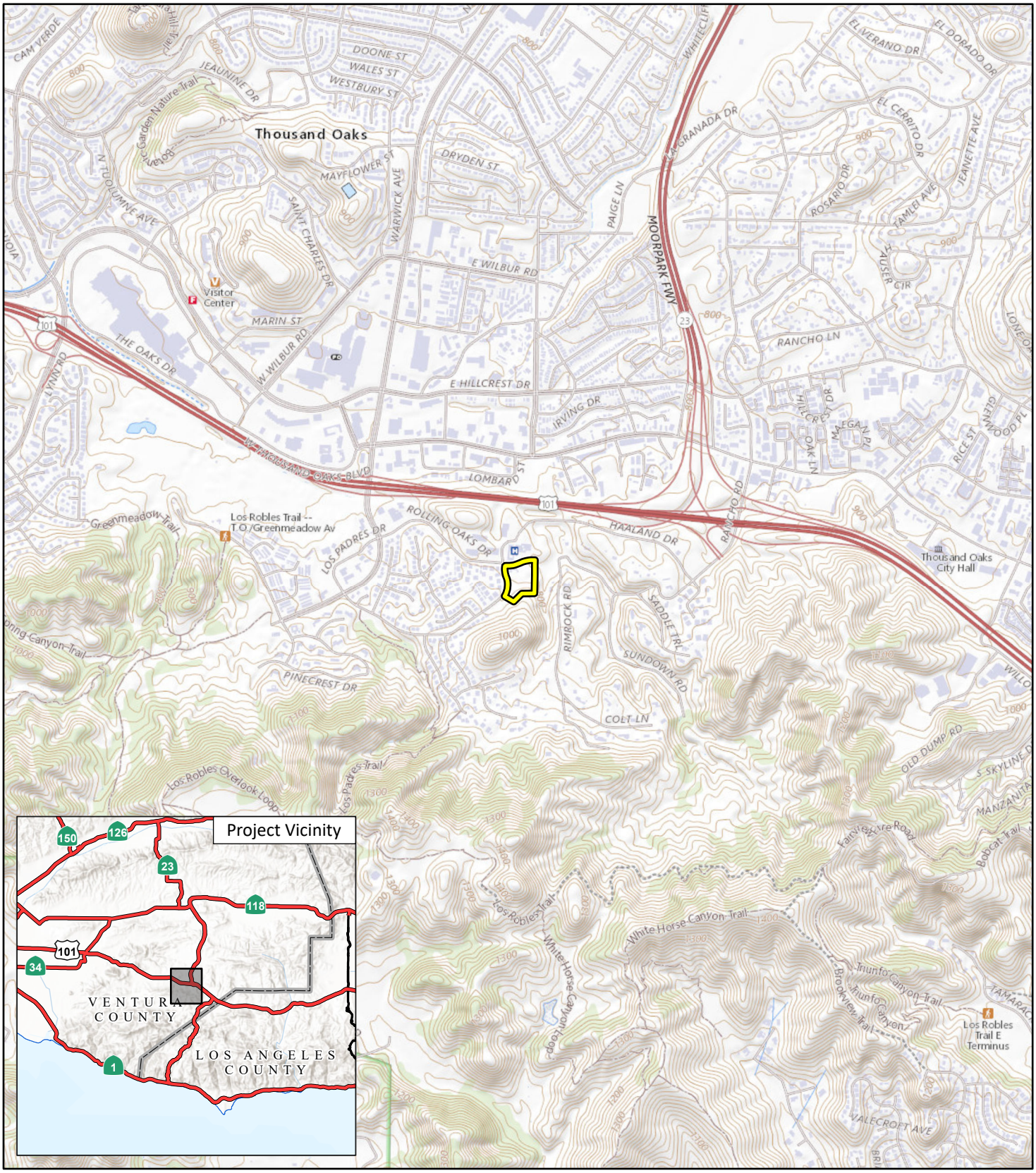
United States Environmental Protection Agency (EPA) and United States Army Corps of Engineers (USACE). 2020. The Navigable Waters Protection Rule: Definition of ‘‘Waters of the United States.’’ Final Rule. Federal Register, Vol. 85, No. 77. April 21.

United States Fish and Wildlife Service (USFWS). 2021. Wetlands Mapper. Website: https://www.fws.gov/wetlands/data/mapper.html (accessed September and October 2022).

United States Geological Survey (USGS). 2022. topoView. Records of the USGS *Thousand Oaks, California* 7.5-minute quadrangle maps from 1983, 1987, 2012, 2015, 2018, 2022. Website: https://ngmdb.usgs.gov/topoview/viewer/ (accessed September 2022).

APPENDIX A

FIGURES



LSA

FIGURE 1

Los Robles Hospital and Medical Center – Cancer Center

Regional and Project Location

SOURCE: USGS The National Map (2018)

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LSA

Project Location

National Wetland Inventory

Wetland - Riverine

N

0 50 100

FEET

SOURCE: Nearmap (8/30/2022)

FIGURE 2

Los Robles Hospital and Medical Center – Cancer Center

National Wetland Inventory

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LSA

FIGURE 3

Project Location

Soils

AzC - Azule gravelly loam, 5 to 9 percent slopes, warm

GvF - Gilroy loam, 15 to 50 percent slopes, very rocky

N

0 50 100

FEET

Los Robles Hospital and Medical Center – Cancer Center

Soils

SOURCE: Nearmap (8/30/2022)

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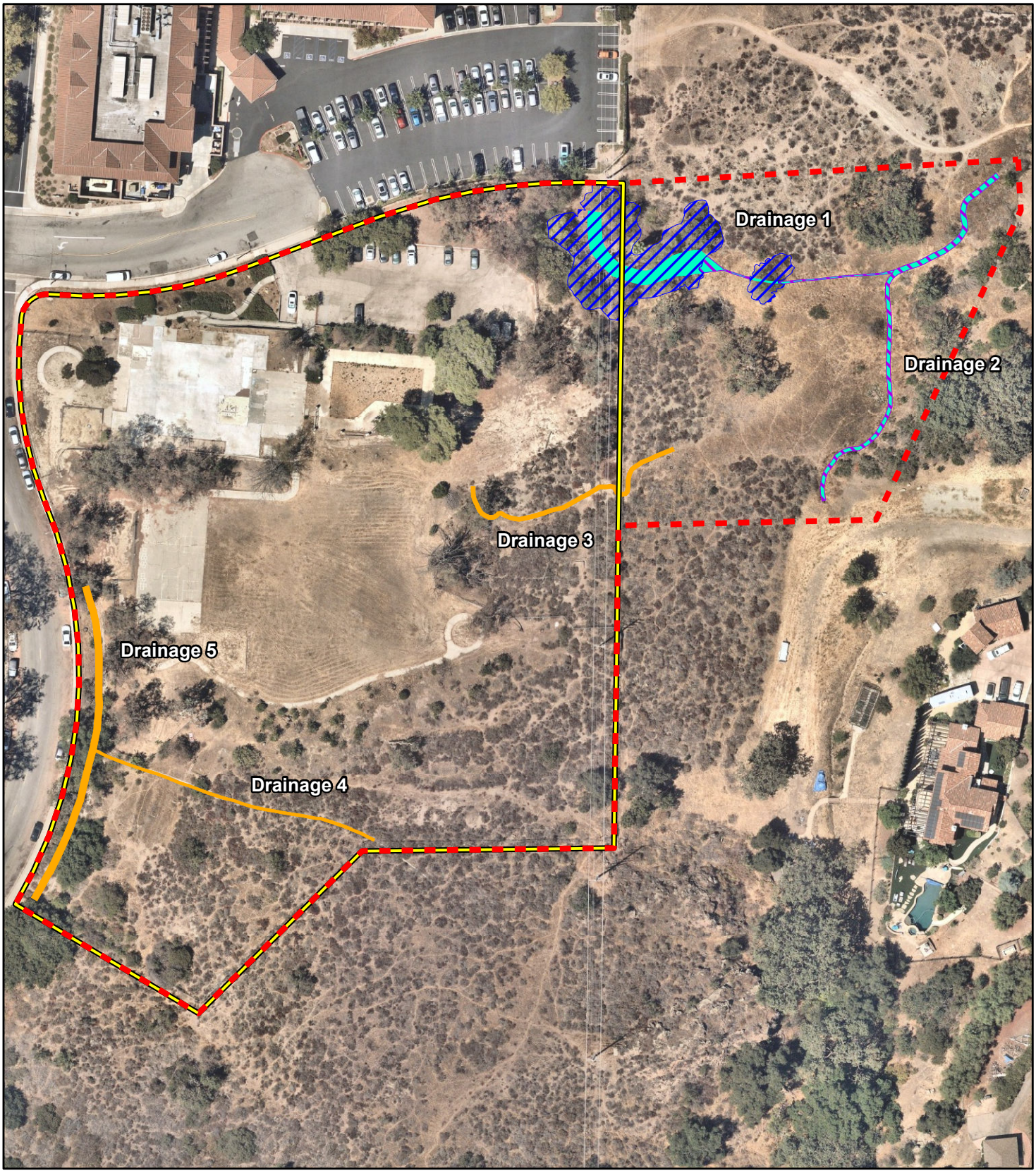

LSA

FIGURE 4

Project Location

Jurisdictional Delineation Study Area

CDFW Riparian Jurisdiction

CDFW Streambed (Bank-to-Bank) Jurisdiction

USACE Non-wetland WOTUS/
RWQCB Non-wetland WOTS

Non-jurisdictional Drainage

N

0 50 100

FEET

SOURCE: Nearmap (8/30/2022)

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Los Robles Hospital and Medical Center - Cancer Center

Delineation of Jurisdictional and Non-Jurisdictional Areas

Photo 1: View looking east from the western end of Drainage 1. Photo Date September 15, 2022

Photo 2: View looking at the box culvert located on the western end of Drainage 1. Photo Date September 15, 2022

LSA

FIGURE 5

Los Robles Hospital and Medical Center – Cancer Center Project

Representative Site Photos

Photo 3: View looking east from the eastern end of Drainage 1. Photo Date September 15, 2022

Photo 4: View looking south at the extent of Drainage 2. Photo Date September 15, 2022

Photo 5: View looking south from the western end of Drainage 3. Photo Date September 15, 2022

Photo 6: Typical view looking west at Drainage 4. Photo Date September 15, 2022

LSA

FIGURE 5

Los Robles Hospital and Medical Center – Cancer Center Project

Representative Site Photos

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Photo 7: Additional view looking northeast at Drainage 4. Photo Date September 15, 2022

Photo 8: Typical view looking south at Drainage 5. Photo Date September 15, 2022

LSA

FIGURE 5

Los Robles Hospital and Medical Center – Cancer Center Project

Representative Site Photos

APPENDIX E

ARBORIST REPORT

Protected Oak Tree Arborist Report

August 22, 2023

Report Prepared on Behalf of:
HKS
Mr. Michael Djajich
10880 Wilshire Blvd, #1850
Los Angeles, CA 90024

Project Location:
Los Robles Hospital and Medical Center
400 Rollings Oaks Drive
Thousand Oaks, CA 91361
Project #3055500030

Prepared by:
Evergreen Arborist Consultants, Inc.
Michael Green
Registered Consulting Arborist No.: 602
PO BOX 3930
Mission Viejo, CA 92690
310.579.9325

Table of Contents

Attachments

1.0 Introduction

This arborist report discusses the impact of the proposed construction a new Los Robles Hospital and Medical Center building, new parking lot, and new landscaping occurring near 32 oak trees are located at 400 Rollings Oaks Drive, Thousand Oaks, CA 91361. The oak trees and Toyon landmark tree (Matrix of the Trees) are protected by the City of Thousand Oaks per Revised Oak Tree Preservation and Protection Guidelines, Resolution No 2010014. 14 protected oak trees are proposed for removal due to the proposed construction and the remaining 16 oaks are to be preserved and protected throughout the duration of the project. The project proposes 42 mitigation oaks: (26) 24-inch box and (16) 36-inch box, to be planted throughout the subject property to offset the loss of the removed oak trees.

Limits of Agreement

My examination of the trees is based on my visual inspection. My site examination and the information in this report is limited to the date and time the inspection occurred. The information in this report is limited to the condition of the trees at the time of my inspection. No risk assessment was performed. This report is not intended as and does not represent legal advice and should not be relied upon to take the place of such advice. Evergreen may supplement this report to expand or modify our findings based on review of additional information as it becomes available.

Purpose and Use of Report

HKS engaged the services of Evergreen Arborist Consultants to evaluate the protected trees and prepare a report. This report presents my observations and opinions concerning the protected trees. Information in this report is limited to the condition of the trees during my inspection on August 23, 2022. The report is to be used by HKS at their discretion.

2.0 Background and Project Description

The project proposes a new Los Robles Hospital and Medical Center building, new parking lot, and new landscaping on an existing lot and parking lot along Rolling Oaks Drive and Los Padres Drive. The oak trees and tree landmark tree are depicted on the attached Site Plan. The topography of the site is flat to moderately/steep sloped and the proposed Los Robles Hospital and Medical Center, parking lot, landscaping were not under construction at the time of my inspection.

3.0 Observations

As a way of measuring a tree's condition, we provide the following criteria: "Good," "Fair," "Poor" or "Dead/Dying" condition rating as a means to cumulatively measure their physiological health, structural integrity, anticipated life span, location, size, and specie type. A description of these ratings with the assigned tree is presented below. Many of the trees are in fair, poor, declining or dead condition due to the several years of drought conditions and lack of maintenance as the site has been abandoned. The dead, declining, and poor trees should be removed as soon as possible.

Good: These trees appear in overall good health, seem structurally stable, and have a high potential of providing long-term contribution to the site. They are the most suitable for retention and protection.

Fair: These trees require frequent care throughout their remaining life span, and provide less significance to the site than those assigned a high suitability. They may be worthy of retention, but not at the expense of significant design revisions.

Poor: These trees are predisposed to irreparable health and structural problems that are expected to worsen regardless of measures employed. They are the most suitable for removal.

Dead or dying: Tree should be removed

Existing tree environment including the type of terrain:

The oaks and toyon landmark tree are growing in a flat to moderately/steep sloped native areas and landscaped planters. The oaks and toyon landmark trees were accessible, except for oak tree #108 due to surrounding fencing, are located throughout the property. Some of the oaks and toyon tree appear to have been planted and some appear to have grown natively in their environment.

Appearance rating

Appearance rating on an "A-E" scale based on the following system:

"A": Outstanding: A healthy and vigorous tree characteristics of its species and free of any visible signs of disease or pest infestation.

"B": Above Average: A health and vigorous tree. However, there are minor visible signs of disease and pest infestation.

"C": Average: Although healthy in overall appearance, there is a normal amount of disease and/or pest infestation.

"D": Below Average/Poor: This tree is characterized by exhibiting a greater degree of disease and/or pest infestation than normal and appears to be in a state of decline. This tree also exhibits extensive signs of dieback.

"E": Dead: This tree exhibits no signs of life whatsoever.

My provided appearance rating for each tree is listed in Table 2.

Physical structure

Mitigation should include a 2" layer of wood chips or other high-quality mulch beneath the canopies of the trees. Keep mulch at least 6 inches from trunk. All dead branches on existing trees to be protected should be removed. All tools shall be sanitized in between cuts when pruning the tree.

My provided physical structure rating for each tree is listed in Table 2.

Horticulture Evaluation

My provided horticulture evaluation for each tree is listed in Table 2.

Summary of oak trees and Landmark tree.

Trees	Total	Total protected oaks removed	Protect	Mitigated Trees
Coast live oak	25	11	14	33
Coast live oak dead	2	0	0	0
Holly oak	3	2	1	6
Valley oak	2	1	1	3
Toyon	1	0	1	0
	33	14	17	42

Matrix of the Trees

Table 1. Tree Inventory

Tree No.	Tree	Species Name	Condition (Health)	DBH 1 - Inches	DBH 2 - Inches	DBH 3 - Inches	Height - Feet	Canopy Width 1 - Feet	Canopy Width 2 - Feet	Fencing Type	Tree Fencing Demensions	Recommendation
1	Redwood	*Sequoia sempervirens*	Dead	12	8	NA	30	12	10	NA	NA	Remove
2	Redwood	*Sequoia sempervirens*	Dead	18	NA	NA	34	13	18	NA	NA	Remove
3	Redwood	*Sequoia sempervirens*	Dead	21.5	NA	NA	40	24	14	NA	NA	Remove
4	Evergreen Ash	*Fraxinus uhdei*	Poor	15	NA	NA	40	26	17	NA	NA	Remove
5	Evergreen Ash	*Fraxinus uhdei*	Dead	23.5	NA	NA	50	32	36	NA	NA	Remove
6	Red ironbark	*Eucalyptus sideroxylon*	Fair	15.5	NA	NA	32	13	23	NA	NA	Remove
7	Red ironbark	*Eucalyptus sideroxylon*	Fair	15	NA	NA	30	13	16	NA	NA	Remove
8	Red ironbark	*Eucalyptus sideroxylon*	Fair	16	NA	NA	30	22	27	NA	NA	Remove
9	Red ironbark	*Eucalyptus sideroxylon*	Fair	16.5	NA	NA	35	26	18	NA	NA	Remove
10	Red ironbark	*Eucalyptus sideroxylon*	Fair	10	NA	NA	25	22	13	NA	NA	Remove
11	Red ironbark	*Eucalyptus sideroxylon*	Fair	18.5	NA	NA	40	32	17	NA	NA	Remove
12	Red ironbark	*Eucalyptus sideroxylon*	Fair	11.5	NA	NA	30	10	13	NA	NA	Remove
13	Red ironbark	*Eucalyptus sideroxylon*	Fair	11	NA	NA	25	26	15	NA	NA	Remove
14	Red ironbark	*Eucalyptus sideroxylon*	Fair	10	NA	NA	25	30	10	NA	NA	Remove
15	Red ironbark	*Eucalyptus sideroxylon*	Fair	13.5	NA	NA	30	12	14	NA	NA	Remove
16	Red ironbark	*Eucalyptus sideroxylon*	Fair	18.5	NA	NA	50	32	24	NA	NA	Remove
17	Red ironbark	*Eucalyptus sideroxylon*	Fair	23	NA	NA	50	32	38	NA	NA	Remove
18	Red ironbark	*Eucalyptus sideroxylon*	Fair	14.5	NA	NA	40	16	18	NA	NA	Remove
19	Red ironbark	*Eucalyptus sideroxylon*	Fair	24	NA	NA	50	39	30	NA	NA	Remove
20	Red ironbark	*Eucalyptus sideroxylon*	Fair	14.5	NA	NA	40	16	27	NA	NA	Remove
21	Red ironbark	*Eucalyptus sideroxylon*	Fair	14.5	NA	NA	30	18	17	NA	NA	Remove
22	Red ironbark	*Eucalyptus sideroxylon*	Fair	36	NA	NA	35	19	36	NA	NA	Remove
23	Red ironbark	*Eucalyptus sideroxylon*	Fair	16	NA	NA	30	21	26	NA	NA	Remove
24	Red ironbark	*Eucalyptus sideroxylon*	Fair	26	NA	NA	25	29	30	NA	NA	Remove
25	Red ironbark	*Eucalyptus sideroxylon*	Fair	15	NA	NA	40	31	26	NA	NA	Remove

Tree No.	Tree	Species Name	Condition (Health)	DBH 1 - Inches	DBH 2 - Inches	DBH 3 - Inches	Height - Feet	Canopy Width 1 - Feet	Canopy Width 2 - Feet	Fencing Type	Tree Fencing Demensions	Recommendation
26	Red ironbark	*Eucalyptus sideroxylon*	Fair	22.5	NA	NA	50	35	32	NA	NA	Remove
27	Blue gum	*Eucalyptus globulus*	Fair	20	NA	NA	35	30	34	NA	NA	Remove
28	Red ironbark	*Eucalyptus sideroxylon*	Fair	8	6	NA	20	18	16	NA	NA	Remove
29	Coast live oak	*Quercus agrifolia*	Good	17	12	NA	35	58	34	NA	NA	Remove
30	Holly oak	*Quercus ilex*	Fair	4	2	NA	10	8	10	NA	NA	Remove
31	Coast live oak	*Quercus agrifolia*	Good	11	8	7	24	26	30	NA	NA	Remove
32	Coast live oak	*Quercus agrifolia*	Good	17	NA	NA	22	22	20	NA	NA	Remove
33	Coast live oak	*Quercus agrifolia*	Good	5	NA	NA	12	10	8	NA	NA	Remove
34	Valley oak	*Quercus lobata*	Poor	20	NA	NA	30	18	22	NA	NA	Remove
35	Coast live oak	*Quercus agrifolia*	Good	13.5	10	NA	20	25	30	NA	NA	Remove
36	Red ironbark	*Eucalyptus sideroxylon*	Fair	18	13	NA	30	32	39	NA	NA	Remove
37	Red ironbark	*Eucalyptus sideroxylon*	Fair	18	NA	NA	30	12	16	NA	NA	Remove
38	Red ironbark	*Eucalyptus sideroxylon*	Fair	16	11	NA	35	42	49	NA	NA	Remove
39	Red ironbark	*Eucalyptus sideroxylon*	Poor	18.5	NA	NA	25	29	32	NA	NA	Remove
40	Red ironbark	*Eucalyptus sideroxylon*	Poor	18	NA	NA	20	13	22	NA	NA	Remove
41	Red ironbark	*Eucalyptus sideroxylon*	Fair	9	6	7	15	21	22	NA	NA	Remove
42	Red ironbark	*Eucalyptus sideroxylon*	Fair	18	NA	NA	25	31	30	NA	NA	Remove
43	Coast live oak	*Quercus agrifolia*	Good	5.5	NA	NA	15	10	10	Type 1	5 feet outside dripline of canopy	Protect
44	Coast live oak	*Quercus agrifolia*	Good	12	NA	NA	30	10	25	Type 1	5 feet outside dripline of canopy	Protect
45	Coast live oak	*Quercus agrifolia*	Good	9	NA	NA	25	6	10	Type 1	5 feet outside dripline of canopy	Protect
46	Coast live oak	*Quercus agrifolia*	Good	3	NA	NA	10	6	8	Type 1	5 feet outside dripline of canopy	Protect
47	Coast live oak	*Quercus agrifolia*	Good	3	NA	NA	12	4	8	Type 1	5 feet outside dripline of canopy	Protect
48	Coast live oak	*Quercus agrifolia*	Good	5	NA	NA	20	8	10	Type 1	5 feet outside dripline of canopy	Protect
49	Coast live oak	*Quercus agrifolia*	Good	2.5	NA	NA	10	4	4	Type 1	5 feet outside dripline of canopy	Protect
50	Coast live oak	*Quercus agrifolia*	Good	5	NA	NA	20	10	6	Type 1	5 feet outside dripline of canopy	Protect

Tree No.	Tree	Species Name	Condition (Health)	DBH 1 - Inches	DBH 2 - Inches	DBH 3 - Inches	Height - Feet	Canopy Width 1 - Feet	Canopy Width 2 - Feet	Fencing Type	Tree Fencing Demensions	Recommendation
51	Coast live oak	*Quercus agrifolia*	Good	3	3.5	NA	15	8	10	Type 1	5 feet outside dripline of canopy	Protect
52	Coast live oak	*Quercus agrifolia*	Good	2.5	NA	NA	20	6	4	Type 1	5 feet outside dripline of canopy	Protect
53	Coast live oak	*Quercus agrifolia*	Good	7.5	8	NA	30	14	20	Type 1	5 feet outside dripline of canopy	Protect
54	Coast live oak	*Quercus agrifolia*	Good	9	NA	NA	30	12	20	Type 1	5 feet outside dripline of canopy	Protect
55	Cottonwood	*Populus ssp.*	Declining	25	NA	NA	42	40	25	NA	NA	Remove
56	Red willow	*Salix laevigata*	Poor	9	NA	NA	25	14	12	NA	NA	Remove
57	Red willow	*Salix laevigata*	Poor	9	NA	NA	25	6	8	NA	NA	Remove
58	Red willow	*Salix laevigata*	Poor	6	NA	NA	25	22	20	NA	NA	Remove
59	Red willow	*Salix laevigata*	Poor	5	NA	NA	25	30	30	NA	NA	Remove
60	Red willow	*Salix laevigata*	Poor	6.5	NA	NA	25	10	20	NA	NA	Remove
61	Red willow	*Salix laevigata*	Poor	5.5	NA	NA	15	8	15	NA	NA	Remove
62	Evergreen Ash	*Fraxinus uhdei*	Fair	9	17	NA	30	25	35	NA	NA	Remove
63	Holly oak	*Quercus ilex*	Good	1.5	1.5	NA	14	6	8	Type 1	5 feet outside dripline of canopy	Protect
64	Coast live oak	*Quercus agrifolia*	Good	4	3.5	NA	20	12	10	Type 1	5 feet outside dripline of canopy	Protect
65	Red willow	*Salix laevigata*	Fair	11	NA	NA	25	30	35	NA	NA	Remove
66	Toyon	*Heteromeles arbutifolia*	Good	8	11	6.5	30	25	45	Type 1	10 feet outside dripline of canopy	Protect
67	Red ironbark	*Eucalyptus sideroxylon*	Fair	21	NA	NA	35	29	26	NA	NA	Remove
68	Red ironbark	*Eucalyptus sideroxylon*	Fair	18	22	NA	50	33	48	NA	NA	Remove
69	Red ironbark	*Eucalyptus sideroxylon*	Fair	17	NA	NA	30	19	33	NA	NA	Remove
70	Red ironbark	*Eucalyptus sideroxylon*	Fair	14	NA	NA	30	26	13	NA	NA	Remove
71	Aleppo pine	*Pinus halepensis*	Fair	24	25	NA	70	53	44	NA	NA	Remove
72	Aleppo pine	*Pinus halepensis*	Fair	25	NA	NA	60	42	26	NA	NA	Remove
73	Aleppo pine	*Pinus halepensis*	Fair	21	NA	NA	70	32	32	NA	NA	Remove
74	Evergreen pear	*Pyrus kawakamii*	Good	9	NA	NA	16	21	16	NA	NA	Remove
75	Evergreen pear	*Pyrus kawakamii*	Fair	7	NA	NA	10	11	11	NA	NA	Remove

Tree No.	Tree	Species Name	Condition (Health)	DBH 1 - Inches	DBH 2 - Inches	DBH 3 - Inches	Height - Feet	Canopy Width 1 - Feet	Canopy Width 2 - Feet	Fencing Type	Tree Fencing Demensions	Recommendation
76	Coast live oak	*Quercus agrifolia*	Dead	6	NA	NA	10	4	8	NA	NA	Remove
77	Coast live oak	*Quercus agrifolia*	Fair	6	6	5	12	8	10	NA	NA	Remove
78	Coast live oak	*Quercus agrifolia*	Fair	2.5	2.5	NA	10	6	4	NA	NA	Remove
79	Coast live oak	*Quercus agrifolia*	Dead	6	NA	NA	10	8	10	NA	NA	Remove
80	Coast live oak	*Quercus agrifolia*	Fair	2	3	NA	10	4	6	NA	NA	Remove
81	Coast live oak	*Quercus agrifolia*	Good	3	3	3	10	8	13	NA	NA	Remove
82	Coast live oak	*Quercus agrifolia*	Good	2	2.5	NA	9	4	6	NA	NA	Remove
83	Aleppo pine	*Pinus halepensis*	Good	7	NA	NA	25	10	18	NA	NA	Remove
84	Evergreen pear	*Pyrus kawakamii*	Fair	9.5	NA	NA	15	21	18	NA	NA	Remove
85	Red ironbark	*Eucalyptus sideroxylon*	Poor	17	NA	NA	35	23	32	NA	NA	Remove
86	Red ironbark	*Eucalyptus sideroxylon*	Poor	21	4	NA	35	24	39	NA	NA	Remove
87	Red ironbark	*Eucalyptus sideroxylon*	Declining	17	NA	NA	30	23	32	NA	NA	Remove
88	Red ironbark	*Eucalyptus sideroxylon*	Fair	25	NA	NA	30	32	24	NA	NA	Remove
89	Valley oak	*Quercus lobata*	Fair	5.5	NA	NA	12	12	18	Type 1	5 feet outside dripline of canopy	Protect
90	Red ironbark	*Eucalyptus sideroxylon*	Fair	15	NA	NA	30	16	27	NA	NA	Remove
91	Red ironbark	*Eucalyptus sideroxylon*	Fair	21	NA	NA	25	23	34	NA	NA	Remove
92	Red ironbark	*Eucalyptus sideroxylon*	Fair	17	NA	NA	25	15	26	NA	NA	Remove
93	Evergreen pear	*Pyrus kawakamii*	Good	13.5	NA	NA	20	24	35	NA	NA	Remove
94	Evergreen pear	*Pyrus kawakamii*	Good	16	NA	NA	25	20	25	NA	NA	Remove
95	Evergreen pear	*Pyrus kawakamii*	Good	12	NA	NA	20	17	25	NA	NA	Remove
96	Holly oak	*Quercus ilex*	Fair	7	NA	NA	12	13	16	NA	NA	Remove
97	Coast live oak	*Quercus agrifolia*	Poor	3	NA	NA	6	4	4	NA	NA	Remove
98	Evergreen pear	*Pyrus kawakamii*	Good	15	NA	NA	15	34	25	NA	NA	Remove
99	Evergreen pear	*Pyrus kawakamii*	Good	7.5	NA	NA	10	9	12	NA	NA	Remove
100	Flowering ornamental pear	*Pyrus calleryana*	Fair	2	NA	NA	9	5	3	Type 1	along property line	Protect

Tree No.	Tree	Species Name	Condition (Health)	DBH 1 - Inches	DBH 2 - Inches	DBH 3 - Inches	Height - Feet	Canopy Width 1 - Feet	Canopy Width 2 - Feet	Fencing Type	Tree Fencing Demensions	Recommendation
101	Flowering ornamental pear	*Pyrus calleryana*	Poor	2	NA	NA	8	4	3	Type 1	along property line	Retain
102	Flowering ornamental pear	*Pyrus calleryana*	Good	1.5	1.5	NA	10	6	8	NA	NA	Retain
103	Flowering ornamental pear	*Pyrus calleryana*	Fair	2.5	NA	NA	10	8	6	NA	NA	Retain
104	Flowering ornamental pear	*Pyrus calleryana*	Fair	1.5	2.5	NA	13	6	8	NA	NA	Retain
105	Flowering ornamental pear	*Pyrus calleryana*	Good	5	NA	NA	20	14	12	NA	NA	Retain
106	Flowering ornamental pear	*Pyrus calleryana*	Good	2	2	2	15	6	8	NA	NA	Retain
107	Flowering ornamental pear	*Pyrus calleryana*	Good	6	2	4.5	20	14	19	NA	NA	Retain
108	Coast live oak	*Quercus agrifolia*	Good	26	32	28	35	65	58	Type 1	underneath edge of dripline/propertyline	Protect

Trees proposed for retention – install Type I fencing with plywood as recommended in Table 1 and Site Plan to provide protection during the construction process.

Table 2. Tree Ratings

Tree No.	Tree	*Species*	Condition (Health)	Appearance Rating	Physical Structure	Horticulture Evaluation	Mitigation Measures	Relocation Feasibility Oaks
1	Redwood	*Sequoia sempervirens*	Dead	Dead	Poor, dead	dead	NA	
2	Redwood	*Sequoia sempervirens*	Dead	Dead	Poor, dead	dead	NA	
3	Redwood	*Sequoia sempervirens*	Dead	Dead	Poor, dead	dead	NA	
4	Evergreen Ash	*Fraxinus uhdei*	Poor	Below Average/Poor	poor declining	declining and thinning canopy	NA	
5	Evergreen Ash	*Fraxinus uhdei*	Dead	Below Average/Poor	Poor, dead	dead	NA	
6	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
7	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
8	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
9	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
10	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
11	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
12	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
13	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	leaning, unbalanced crwon	dead branches, lack of maintenance	NA	
14	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
15	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
16	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
17	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
18	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
19	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
20	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	

Tree No.	Tree	*Species*	Condition (Health)	Appearance Rating	Physical Structure	Horticulture Evaluation	Mitigation Measures	Relocation Feasibility Oaks
21	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
22	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	minor dead branches, lack of maintenance	NA	
23	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	minor dead branches, lack of maintenance	NA	
24	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
25	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	minor dead branches, lack of maintenance	NA	
26	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
27	Blue gum	*Eucalyptus globulus*	Fair	Average	bowed trunk	dead branches, lack of maintenance	NA	
28	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	minor dead branches, lack of maintenance	NA	
29	Coast live oak	*Quercus agrifolia*	Good	Above average	Good	good leaf color	NA	No
30	Holly oak	*Quercus ilex*	Poor	Below Average/Poor	dieback in canopy	drought stressed, lack of maintenance	NA	No
31	Coast live oak	*Quercus agrifolia*	Good	Above average	Good	good leaf color	NA	No
32	Coast live oak	*Quercus agrifolia*	Good	Above average	Good	good leaf color	NA	No
33	Coast live oak	*Quercus agrifolia*	Good	Above average	Good	good leaf color	NA	No
34	Valley oak	*Quercus lobata*	Poor	Below Average/Poor	leaning, unbalanced crwon	dead branches, drought stressed	NA	No
35	Coast live oak	*Quercus agrifolia*	Good	Average	Good	minor dead branches, lack of maintenance	NA	No
36	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	dead branches, lack of maintenance	NA	
37	Red ironbark	*Eucalyptus sideroxylon*	Fair	Below Average/Poor	bowed trunk	dead branches, lack of maintenance	NA	
38	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	minor dead branches, lack of maintenance	NA	
39	Red ironbark	*Eucalyptus sideroxylon*	Poor	Below Average/Poor	topped	dead branches, lack of maintenance	NA	
40	Red ironbark	*Eucalyptus sideroxylon*	Poor	Below Average/Poor	topped	dead branches, lack of maintenance	NA	
41	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	minor dead branches, lack of maintenance	NA	
42	Red ironbark	*Eucalyptus sideroxylon*	Fair	Below Average/Poor	average for species	dead branches, lack of maintenance	NA	
43	Coast live oak	*Quercus agrifolia*	Good	Average	Good	good leaf color	apply high-quality mulch	
44	Coast live oak	*Quercus agrifolia*	Good	Average	Good	good leaf color	apply high-quality mulch	
45	Coast live oak	*Quercus agrifolia*	Good	Average	Good	good leaf color	apply high-quality mulch	
46	Coast live oak	*Quercus agrifolia*	Good	Average	Good	good leaf color	apply high-quality mulch	
47	Coast live oak	*Quercus agrifolia*	Good	Average	Good	good leaf color	apply high-quality mulch	
48	Coast live oak	*Quercus agrifolia*	Good	Average	Good	good leaf color	apply high-quality mulch	
49	Coast live oak	*Quercus agrifolia*	Good	Average	Good	good leaf color	apply high-quality mulch	
50	Coast live oak	*Quercus agrifolia*	Good	Average	Good	good leaf color	apply high-quality mulch	

Tree No.	Tree	*Species*	Condition (Health)	Appearance Rating	Physical Structure	Horticulture Evaluation	Mitigation Measures	Relocation Feasibility Oaks
51	Coast live oak	*Quercus agrifolia*	Good	Average	Good	good leaf color	apply high-quality mulch	
52	Coast live oak	*Quercus agrifolia*	Good	Average	Good	good leaf color	apply high-quality mulch	
53	Coast live oak	*Quercus agrifolia*	Good	Average	Good	good leaf color	apply high-quality mulch	
54	Coast live oak	*Quercus agrifolia*	Good	Average	Good	good leaf color	apply high-quality mulch	
55	Cottonwood	*Populus ssp.*	Declining	Below Average/Poor	Leaning	dead branches, declining	NA	
56	Red willow	*Salix laevigata*	Poor	Below Average/Poor	Leaning	dead branches, lack of maintenance	NA	
57	Red willow	*Salix laevigata*	Poor	Below Average/Poor	Leaning	dead branches, lack of maintenance	NA	
58	Red willow	*Salix laevigata*	Poor	Below Average/Poor	Leaning	dead branches, lack of maintenance	NA	
59	Red willow	*Salix laevigata*	Poor	Below Average/Poor	Leaning	dead branches, lack of maintenance	NA	
60	Red willow	*Salix laevigata*	Poor	Below Average/Poor	Leaning	dead branches, lack of maintenance	NA	
61	Red willow	*Salix laevigata*	Poor	Below Average/Poor	Leaning	dead branches, lack of maintenance	NA	
62	Evergreen Ash	*Fraxinus uhdei*	Fair	Below Average/Poor	Leaning	dead branches, lack of maintenance	NA	
63	Holly oak	*Quercus ilex*	Good	Average	Good	good leaf color	apply high-quality mulch	No
64	Coast live oak	*Quercus agrifolia*	Good	Average	Good	good leaf color	apply high-quality mulch	No
65	Red willow	*Salix laevigata*	Fair	Below Average/Poor	Leaning	dead branches, lack of maintenance	NA	
66	Toyon	*Heteromeles arbutifolia*	Good	Above average	Good	good leaf color	NA	
67	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	minor dead branches, lack of maintenance	NA	
68	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	average for species	minor dead branches, lack of maintenance	NA	
69	Red ironbark	*Eucalyptus sideroxylon*	Fair	Average	Leaning	minor dead branches, lack of maintenance	NA	
70	Red ironbark	*Eucalyptus sideroxylon*	Fair	Below Average/Poor	unbalanced crwon	dead branches, lack of maintenance	NA	
71	Aleppo pine	*Pinus halepensis*	Fair	Below Average/Poor	included bark - trunks	dead branches, lack of maintenance, drought stressed	NA	
72	Aleppo pine	*Pinus halepensis*	Fair	Below Average/Poor	unbalanced crwon	dead branches, lack of maintenance, drought stressed	NA	
73	Aleppo pine	*Pinus halepensis*	Fair	Below Average/Poor	unbalanced crwon	dead branches, lack of maintenance, drought stressed	NA	
74	Evergreen pear	*Pyrus kawakamii*	Good	Average	Leaning	minor dead branches, lack of maintenance	NA	
75	Evergreen pear	*Pyrus kawakamii*	Fair	Below Average/Poor	Good	dead branches, fire blight	NA	
76	Coast live oak	*Quercus agrifolia*	Dead	Dead	Poor, dead	dead	NA	No
77	Coast live oak	*Quercus agrifolia*	Fair	Average	Good	minor dead branches, lack of maintenance	NA	No
78	Coast live oak	*Quercus agrifolia*	Fair	Average	Good	minor dead branches, lack of maintenance	NA	No
79	Coast live oak	*Quercus agrifolia*	Dead	Dead	Poor, dead	dead	NA	No
80	Coast live oak	*Quercus agrifolia*	Fair	Below Average/Poor	Good	dead branches, lack of maintenance	NA	No

Tree No.	Tree	*Species*	Condition (Health)	Appearance Rating	Physical Structure	Horticulture Evaluation	Mitigation Measures	Relocation Feasibility Oaks
81	Coast live oak	*Quercus agrifolia*	Good	Average	Good	minor dead branches	NA	No
82	Coast live oak	*Quercus agrifolia*	Good	Average	Good	minor dead branches, lack of maintenance	NA	No
83	Aleppo pine	*Pinus halepensis*	Good	Average	Good	minor dead branches, lack of maintenance	NA	
84	Evergreen pear	*Pyrus kawakamii*	Fair	Below Average/Poor	Good	dead branches, fire blight	NA	
85	Red ironbark	*Eucalyptus sideroxylon*	Poor	Below Average/Poor	average for species	dead branches, lack of maintenance	NA	
86	Red ironbark	*Eucalyptus sideroxylon*	Poor	Below Average/Poor	average for species	dead branches, lack of maintenance	NA	
87	Red ironbark	*Eucalyptus sideroxylon*	Declining	Below Average/Poor	dieback in canopy	dead branches, lack of maintenance	NA	
88	Red ironbark	*Eucalyptus sideroxylon*	Fair	Below Average/Poor	unbalanced crwon	dead branches, lack of maintenance	NA	
89	Valley oak	*Quercus lobata*	Fair		Good	dead branches, lack of maintenance, drought stressed	apply high-quality mulch	
90	Red ironbark	*Eucalyptus sideroxylon*	Fair	Below Average/Poor	average for species	dead branches, lack of maintenance, drought stressed	NA	
91	Red ironbark	*Eucalyptus sideroxylon*	Fair	Below Average/Poor	average for species	dead branches, lack of maintenance, drought stressed	NA	
92	Red ironbark	*Eucalyptus sideroxylon*	Fair	Below Average/Poor	bowed trunk	dead branches, lack of maintenance, drought stressed	NA	
93	Evergreen pear	*Pyrus kawakamii*	Good	Average	Good	dead branches, fire blight	NA	
94	Evergreen pear	*Pyrus kawakamii*	Good	Average	bowed trunk	dead branches, fire blight	NA	
95	Evergreen pear	*Pyrus kawakamii*	Good	Average	Good	dead branches, fire blight	NA	
96	Holly oak	*Quercus ilex*	Fair	Below Average/Poor	Good	dead branches, lack of maintenance, drought stressed	NA	No
97	Coast live oak	*Quercus agrifolia*	Poor	Below Average/Poor	topped	dead branches, lack of maintenance, drought stressed	NA	No
98	Evergreen pear	*Pyrus kawakamii*	Good	Average	bowed trunk	dead branches, fire blight	NA	
99	Evergreen pear	*Pyrus kawakamii*	Good	Average	Good	dead branches, fire blight	NA	
100	Flowering ornamental pear	*Pyrus calleryana*	Fair	Below Average/Poor	Good	thin canopy	apply high-quality mulch	

Tree No.	Tree	*Species*	Condition (Health)	Appearance Rating	Physical Structure	Horticulture Evaluation	Mitigation Measures	Relocation Feasibility Oaks
101	Flowering ornamental pear	*Pyrus calleryana*	Poor	Below Average/Poor	Good	thin canopy	apply high-quality mulch	
102	Flowering ornamental pear	*Pyrus calleryana*	Good	Average	Good	good leaf color	apply high-quality mulch	
103	Flowering ornamental pear	*Pyrus calleryana*	Fair	Below Average/Poor	Good	thin canopy	apply high-quality mulch	
104	Flowering ornamental pear	*Pyrus calleryana*	Fair	Below Average/Poor	Good	thin canopy	apply high-quality mulch	
105	Flowering ornamental pear	*Pyrus calleryana*	Good	Average	Good	good leaf color	apply high-quality mulch	
106	Flowering ornamental pear	*Pyrus calleryana*	Good	Average	Good	good leaf color	apply high-quality mulch	
107	Flowering ornamental pear	*Pyrus calleryana*	Good	Average	Good	good leaf color	apply high-quality mulch	
108	Coast live oak	*Quercus agrifolia*	Good	Above average	Good	good leaf color	Prune overhanging branches	

4.0 Tree Preservation Guidelines

Construction activities near trees may have long-term effects on trees. Trees vary in their ability to adapt to altered growing conditions. Mature trees have established stable biological systems in the pre-existing physical environment. Disruption of this environment by construction activities interrupts the tree's physiological processes causing depletion of energy reserves and a decline in vigor, which may result in a tree's death. Typically, this reaction develops between one to three years, but symptoms may not show for many years after disruption. The tree protection regulations are intended to guide a construction project to ensure that appropriate practices will be implemented in the field to eliminate undesirable consequences that may result from uninformed or careless acts, and preserve both trees and property values.

Best Management Practices (BMP) are designed to preserve and protect tree health by avoiding damage to tree roots, trunk, or crown. Site development and prior planning is an important component to avoid disturbance within the Tree Protection Zone (TPZ) for all trees designated for protection. BMP consists of avoiding any activity near protected tree that disturbs or harms the tree. Tree protection provides for the physical protective barriers during any site disturbance that may impact protected tree and their roots such as grading, building construction and maintenance, infrastructure and utility installation and maintenance, and other landscape changes. These impacts may affect the structural integrity and stability of protected trees.

The proposed trees designated for protection (Matrix of the Trees) must be protected by the contractors in the TPZ. The trees listed in this report under "preserve" are suitable for preservation and have the potential for longevity at the site. If all of my recommendations and City regulations are followed, the trees proposed for retention (Matrix of the Trees) should be preserved and protected. The trees proposed for retention (Matrix of the Trees) are rated for suitability for preservation based upon age, health, structural condition, and ability to safely coexist within a development environment.

5.0 Tree Protection Measures

Recommendations presented within this section serve as general design guidelines to help mitigate or avoid damage in conformance with the City requirements. They are subject to revision upon reviewing the project plans and the Project Arborist should be consulted in the event any cannot be feasibly implemented. Please note any referenced distances from trunks are intended from the closest edge (face) of their outermost perimeter at soil grade.

Encroachment of the Trees

The proposed construction will not involve raising or lowering the grade of the soil around the base of the trees or tree protection zone for the trees that are to remain and be protected.

The minimum clearance from the present grade to the bottom of the canopy on each of the compass points as well as the encroachment of the proposed construction within the face of the trunk are shown below:

Tree No.	Tree	N	NE	E	SE	S	SW	W	NW	Notes	Encroachment within face of trunk (ft)
1	Redwood	6	6	5	6	6	5	5	5	Distance to trunk	
1	Redwood	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
2	Redwood	7	7	9	6	6	9	9	9	Distance to trunk	
2	Redwood	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
3	Redwood	12	12	7	12	12	7	7	7	Distance to trunk	
3	Redwood	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
4	Evergreen Ash	13	13	9'	13	13	9'	9'	9	Distance to trunk	
4	Evergreen Ash	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
5	Evergreen Ash	16	16	18	16	16	18	18	18	Distance to trunk	
5	Evergreen Ash	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
6	Red ironbark	6	6	11	7	7	12	12	11	Distance to trunk	
6	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
7	Red ironbark	7	7	8'	6	6	8	8	8	Distance to trunk	
7	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
8	Red ironbark	11	11	13	13	11	14	14	13	Distance to trunk	
8	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
9	Red ironbark	13	13	9	13	13	9	9	9	Distance to trunk	
9	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
10	Red ironbark	11	11	7	7	11	6	6	11	Distance to trunk	
10	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached

Tree No.	Tree	N	NE	E	SE	S	SW	W	NW	Notes	Encroachment within face of trunk (ft)
11	Red ironbark	16	16	8	16	16	8	9	9	Distance to trunk	
11	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
12	Red ironbark	5	5	7	5	5	6	6	7	Distance to trunk	
12	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
13	Red ironbark	13	13	8	13	13	9	9	9	Distance to trunk	
13	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
14	Red ironbark	15	15	5	5	15	5	5	15	Distance to trunk	
14	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
15	Red ironbark	6	6	7	7	6	7	7	6	Distance to trunk	
15	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
16	Red ironbark	16	16	12	12	16	12	12	16	Distance to trunk	
16	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
17	Red ironbark	16	16	19	19	16	19	19	16	Distance to trunk	
17	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
18	Red ironbark	8	8	9	9	8	9	9	8	Distance to trunk	
18	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
19	Red ironbark	19	19	15	20	20	15	15	15	Distance to trunk	
19	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
20	Red ironbark	8	8	13	8	8	14	14	14	Distance to trunk	
20	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
21	Red ironbark	9	9	8	8	9	9	9	9	Distance to trunk	
21	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
22	Red ironbark	9	9	18	10	10	18	18	10	Distance to trunk	
22	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
23	Red ironbark	10	10	13	13	11	11	13	13	Distance to trunk	
23	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
24	Red ironbark	14	14	15	15	15	15	15	15	Distance to trunk	
24	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
25	Red ironbark	15	15	13	13	16	13	13	15	Distance to trunk	
25	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached

Tree No.	Tree	N	NE	E	SE	S	SW	W	NW	Notes	Encroachment within face of trunk (ft)
26	Red ironbark	17	17	16	16	18	16	16	17	Distance to trunk	
26	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
27	Blue gum	15	15	17	17	15	17	17	15	Distance to trunk	
27	Blue gum	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
28	Red ironbark	9	9	8	8	9	8	8	9	Distance to trunk	
28	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
29	Coast live oak	29	29	17	17	29	17	17	29	Distance to trunk	
29	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
30	Holly oak	4	4	5	5	4	5	5	4	Distance to trunk	
30	Holly oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
31	Coast live oak	13	13	15	15	13	15	15	13	Distance to trunk	
31	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
32	Coast live oak	11	11	10	10	11	10	10	11	Distance to trunk	
32	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
33	Coast live oak	5	5	4	4	5	4	4	5	Distance to trunk	
33	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
34	Valley oak	0	0	11	11	9	11	9	0	Distance to trunk	
34	Valley oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
35	Coast live oak	12	12	15	15	13	15	15	13	Distance to trunk	
35	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
36	Red ironbark	16	16	19	19	16	16	20	16	Distance to trunk	
36	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
37	Red ironbark	6	6	8	8	6	8	8	6	Distance to trunk	
37	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
38	Red ironbark	21	21	24	24	21	25	25	21	Distance to trunk	
38	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
39	Red ironbark	14	14	16	16	15	16	16	15	Distance to trunk	
39	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
40	Red ironbark	6.5	6.5	11	11	6.5	11	11	6.5	Distance to trunk	
40	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached

Tree No.	Tree	N	NE	E	SE	S	SW	W	NW	Notes	Encroachment within face of trunk (ft)
41	Red ironbark	11	11	11	11	10	11	11	10	Distance to trunk	
41	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
42	Red ironbark	16	16	30	30	15	30	30	15	Distance to trunk	
42	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
43	Coast live oak	5	5	5	5	5	5	5	5	Distance to trunk	
43	Coast live oak	10	10	10	10	10	10	10	10	Minimum clearance	within 10 ft of trunk face
44	Coast live oak	5	5	12	12	5	13	13	5	Distance to trunk	
44	Coast live oak	10	10	10	10	10	10	10	10	Minimum clearance	within 10 ft of trunk face
45	Coast live oak	3	3	5	5	3	5	5	3	Distance to trunk	
45	Coast live oak	10	10	10	10	10	10	10	10	Minimum clearance	within 10 ft of trunk face
46	Coast live oak	3	3	4	4	3	4	4	3	Distance to trunk	
46	Coast live oak	10	10	10	10	10	10	10	10	Minimum clearance	within 10 ft of trunk face
47	Coast live oak	2	2	4	4	2	4	4	2	Distance to trunk	
47	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
48	Coast live oak	4	4	5	5	4	5	5	4	Distance to trunk	
48	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
49	Coast live oak	2	2	2	2	2	2	2	2	Distance to trunk	
49	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
50	Coast live oak	5	5	3	3	5	3	3	5	Distance to trunk	
50	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
51	Coast live oak	4	4	5	5	4	5	5	4	Distance to trunk	
51	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
52	Coast live oak	3	3	2	2	3	2	2	3	Distance to trunk	
52	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
53	Coast live oak	7	7	10	10	7	10	10	7	Distance to trunk	
53	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
54	Coast live oak	6	6	10	10	6	10	10	6	Distance to trunk	
54	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
55	Cottonwood	20	20	12.5	12.5	20	12.5	12.5	20	Distance to trunk	
55	Cottonwood	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached

Tree No.	Tree	N	NE	E	SE	S	SW	W	NW	Notes	Encroachment within face of trunk (ft)
56	Red willow	7	7	6	6	7	6	6	7	Distance to trunk	
56	Red willow	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
57	Red willow	3	3	4	4	3	4	4	3	Distance to trunk	
57	Red willow	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
58	Red willow	11	11	10	10	11	10	10	11	Distance to trunk	
58	Red willow	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
59	Red willow	15	15	15	15	15	15	15	15	Distance to trunk	
59	Red willow	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
60	Red willow	5	5	10	10	5	10	10	5	Distance to trunk	
60	Red willow	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
61	Red willow	4	4	7	7	4	8	8	4	Distance to trunk	
61	Red willow	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
62	Evergreen Ash	12	12	17	17	13	18	18	12	Distance to trunk	
62	Evergreen Ash	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
63	Holly oak	3	3	4	4	3	4	4	3	Distance to trunk	
63	Holly oak	13	13	13	13	13	13	13	13	Minimum clearance	tree will NOT be encroached
64	Coast live oak	6	6	5	5	6	5	5	6	Distance to trunk	
64	Coast live oak	17	17	17	17	17	17	17	17	Minimum clearance	tree will NOT be encroached
65	Red willow	15	15	17	17	15	18	18	15	Distance to trunk	
65	Red willow	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
66	Toyon	13	13	22	22	12	23	23	12	Distance to trunk	
66	Toyon	10	10	10	10	10	10	10	10	Minimum clearance	within 10 ft of trunk face
67	Red ironbark	14	14	13	13	15	13	13	14	Distance to trunk	
67	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
68	Red ironbark	16	16	24	24	17	24	24	16	Distance to trunk	
68	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
69	Red ironbark	9	9	17	17	10	16	16	9	Distance to trunk	
69	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached

Tree No.	Tree	N	NE	E	SE	S	SW	W	NW	Notes	Encroachment within face of trunk (ft)
70	Red ironbark	13	13	6	6	13	7	7	13	Distance to trunk	
70	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
71	Aleppo pine	26	26	22	22	27	22	22	26	Distance to trunk	
71	Aleppo pine	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
72	Aleppo pine	21	21	13	13	21	13	13	21	Distance to trunk	
72	Aleppo pine	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
73	Aleppo pine	16	16	16	16	16	16	16	16	Distance to trunk	
73	Aleppo pine	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
74	Evergreen pear	10.5	10.5	8	8	10.5	8	8	10.5	Distance to trunk	
74	Evergreen pear	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
75	Evergreen pear	5	5	6	6	6	6	6	5	Distance to trunk	
75	Evergreen pear	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
76	Coast live oak	2	2	4	4	2	4	4	2	Distance to trunk	
76	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
77	Coast live oak	4	4	5	5	4	5	5	4	Distance to trunk	
77	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
78	Coast live oak	3	3	2	2	3	2	2	3	Distance to trunk	
78	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
79	Coast live oak	4	4	5	5	4	5	5	4	Distance to trunk	
79	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
80	Coast live oak	2	2	3	3	2	3	3	2	Distance to trunk	
80	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
81	Coast live oak	4	4	6	6	4	7	7	4	Distance to trunk	
81	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
82	Coast live oak	2	2	3	3	2	3	3	2	Distance to trunk	
82	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
83	Aleppo pine	5	5	9	9	5	9	9	5	Distance to trunk	
83	Aleppo pine	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
84	Evergreen pear	10	10	9	9	11	9	9	10	Distance to trunk	
84	Evergreen pear	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
85	Red ironbark	11	11	16	16	12	16	16	11	Distance to trunk	
85	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached

Tree No.	Tree	N	NE	E	SE	S	SW	W	NW	Notes	Encroachment within face of trunk (ft)
86	Red ironbark	12	12	19	19	12	20	20	12	Distance to trunk	
86	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
87	Red ironbark	12	12	16	16	11	16	16	12	Distance to trunk	
87	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
88	Red ironbark	16	16	12	12	16	12	12	16	Distance to trunk	
88	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
89	Valley oak	6	6	9	9	6	9	9	6	Distance to trunk	
89	Valley oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
90	Red ironbark	8	8	14	14	8	13	13	8	Distance to trunk	
90	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
91	Red ironbark	11	11	17	17	12	17	17	11	Distance to trunk	
91	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
92	Red ironbark	8	8	13	13	7	13	13	8	Distance to trunk	
92	Red ironbark	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
93	Evergreen pear	12	12	17	17	12	18	18	12	Distance to trunk	
93	Evergreen pear	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
94	Evergreen pear	10	10	13	13	10	12	12	10	Distance to trunk	
94	Evergreen pear	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
95	Evergreen pear	8	8.5	13	13	9	12	12	8	Distance to trunk	
95	Evergreen pear	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
96	Holly oak	7	7	8	8	6	6	8	7	Distance to trunk	
96	Holly oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
97	Coast live oak	2	2	2	2	2	2	2	2	Distance to trunk	
97	Coast live oak	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
98	Evergreen pear	17	17	12	12	17	13	13	17	Distance to trunk	
98	Evergreen pear	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached
99	Evergreen pear	4.5	4.5	6	6	4.5	6	6	4.5	Distance to trunk	
99	Evergreen pear	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree trunk will be encroached

Tree No.	Tree	N	NE	E	SE	S	SW	W	NW	Notes	Encroachment within face of trunk (ft)
100	Flowering ornamental pear	2	2	2	2	3	3	3	2	Distance to trunk	
100	Flowering ornamental pear	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
101	Flowering ornamental pear	2	2	2	2	2	3	3	2	Distance to trunk	
101	Flowering ornamental pear	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
102	Flowering ornamental pear	3	3	4	4	3	4	4	3	Distance to trunk	
102	Flowering ornamental pear	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
103	Flowering ornamental pear	4	4	3	3	4	3	3	4	Distance to trunk	
103	Flowering ornamental pear	10'	10'	32'	26'	14'	14'	8'	8'	Minimum clearance	tree will NOT be encroached
104	Flowering ornamental pear	3	3	4	4	3	4	4	3	Distance to trunk	
104	Flowering ornamental pear	6'	6'	6'	6'	6'	6'	6'	6'	Minimum clearance	tree will NOT be encroached
105	Flowering ornamental pear	7	7	6	6	7	6	6	7	Distance to trunk	
105	Flowering ornamental pear	10'	10'	28'	28'	26'	26'	2'	8'	Minimum clearance	tree will NOT be encroached
106	Flowering ornamental pear	3	3	4	4	3	4	4	3	Distance to trunk	
106	Flowering ornamental pear	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
107	Flowering ornamental pear	7	7	9.5	9.5	7	9.5	9.5	7	Distance to trunk	
107	Flowering ornamental pear	NA	NA	NA	NA	NA	NA	NA	NA	Minimum clearance	tree will NOT be encroached
108	Coast live oak	29	34	29	29	38	32	32	34	Distance to trunk	
108	Coast live oak	29	29	29	29	38	32	32	34	Minimum clearance	within 29 ft of trunk face

5.1 Design Guidelines

1. In the TPZ, all trenching, soil scraping, compaction, mass grading, finish-grading, over excavation, sub excavation, swales, bio swales, storm drains, equipment cleaning, stockpiling/dumping of materials, and equipment operation shall be avoided. Where an impact encroaches slightly within a setback, it can be reviewed on a case-by-case basis by the Project Arborist to determine appropriate mitigation measures.

2. All existing unused lines, pipes, and vaults within the TPZ should be abandoned and cut off at existing grade rather than being dug up and causing subsequent root damage.

3. The permanent and temporary drainage design, including downspouts, should not require water being discharged within the TPZ. The drainage should not require trenching for storm drains or swales within the TPZ.

4. Underground utilities and services should be routed beyond the TPZ. Where this is not feasible, the section of line(s) within the TPZ should be directionally bored by at least 4 feet below existing grade or installed by other means to avoid open trench.

5. The future staging area and route(s) of access should not be in TPZ.

6. Restrict spoils and runoff from traveling into root zones, the future erosion control design should establish any silt fencing or straw wattles away from the tree's trunk (not against it) and as close to the canopy's edge as possible.

The proposed landscape design should conform to the following additional guidelines:

7. Plant material installed beneath the canopies of the protected trees, if applicable, must be appropriate and planted at least 3 feet from the trunk.

8. Irrigation should not spray the trunk.

9. Irrigation, valves, and lighting features should be placed so that no trenching occurs within the TPZ.

10. New property fencing and fence posts should be placed at least 2 feet from the tree trunk.

11. Groundcover beneath the canopy should be comprised of a 2" layer of wood chips or other high quality mulch. Keep mulch at least 6 inches from trunk.

12. Tilling, ripping, and compaction within the TPZ should be avoided.

13. Bender board or other edging material proposed beneath the canopy should be placed at existing grade.

14. Roots with diameters of 2-inches or greater should not be damaged or cut without prior assessment of the Project Arborist. All tools shall be sanitized in between cuts. Materials commonly used to sterilize tools include bleach (10 percent solution) or Lysol. An hourly rate shall be charged for these inspections.

Required fencing should not be removed until completion of project.

5.2 During Demolition and Construction

1. Tree trunks shall not be used as winch supports for moving or lifting heavy loads.

2. The removal of existing features within the TPZ must be carefully performed to avoid excavating into root zones.

3. Roots with diameters of 2-inches or greater should not be damaged or cut without prior assessment of the Project Arborist. All tools shall be sanitized in between cuts. Materials commonly used to sterilize tools include bleach (10 percent solution) or Lysol. An hourly rate shall be charged for these inspections.

4. Supplemental water will be needed to help mitigate root loss/disturbance. Supplemental water should be applied once a month or based on local ET Weather data throughout the duration of the project

5. Spoils created during digging shall not be piled or spread on unpaved ground within the TPZ.

6. Digging holes for fence posts within the TPZ should be manually performed. In the event a root of 1-inches or greater in diameter is encountered, the process should be shifted over by 12-inches and the process repeated.

7. Great care must be taken by equipment operators to position their equipment to avoid the trunks of protected trees. The Project Arborist can be consulted to provide a feasible solution if needed.

8. Dust accumulating on trunks and canopies during dry weather periods and should be periodically washed away every 3 to 4 months. Dust accumulating on trunks and canopies after grading should also be washed at the completion of the grading.

9. The disposal of harmful products is prohibited beneath the canopies. Herbicide should not be used within a TPZ on site or should be labeled for safe use near trees.

5.3 Soil Compaction

Soil compaction is a complex set of physical, chemical, and biological constraints on tree growth. Principal components leading to limited growth are the loss of aeration and pore space, poor gas exchange with the atmosphere, lack of available water, and mechanical impedance of root growth. Soil compaction is considered to be the largest single factor responsible for the decline of trees on construction sites. Soil compaction should not occur within 10-feet from the face of the trunk of trees no. 17 and 18 or within the tree protection zone for trees to remain.

5.4 Grading Limitations within the Tree Protection Zone

1. Lowering the grade around trees can have an immediate and long-term effect on trees. Typically, most roots are within the top 3-feet of soil, and most of the fine roots active in water and nutrient absorption are in the top 12-inches.

2. Grade changes within the TPZ are not permitted. Tilling, ripping, and compaction within the TPZ should be avoided.

3. Grade changes outside the TPZ shall not significantly alter drainage.

4. Grade changes under specifically approved circumstances shall not allow more than 6 inches of fill soil or allow more than 4 inches of existing soil to be removed from natural grade, unless mitigated.

5. Grade fills over 6-inches or impervious overlay shall incorporate an approved permanent aeration system, permeable material, or other approved mitigation.

6. Grade cuts exceeding 4-inches shall incorporate retaining walls or an appropriate transition equivalent.

7. Roots with diameters of 2-inches or greater should not be damaged or cut without prior assessment of the Project Arborist. All tools shall be sanitized in between cuts. Materials commonly used to sterilize tools include bleach (10 percent solution) or Lysol. An hourly rate shall be charged for these inspections.

6.0 Conclusions

General and Encroachment Conclusions

In my professional opinion, the project may proceed if the following conditions are met:

1. The oaks and non-oak trees (Table 1) proposed for retention should be less than significantly impacted by the grading and proposed landscaping; however, they will need to be preserved throughout the duration of the project. They should be preserved by using Type I fencing with plywood as specified in Table 1 to provide protection during the construction process.

2. The existing concrete, asphalt, landscape, and soil should be carefully removed so that the roots of the oaks, and non-oak trees (Table 1) are not disturbed. The proposed construction does not involve lowering and raising the grade within the tree protection zone of the oaks.

3. If any exposed roots at the site of the oaks and non-oak trees are encountered, they should remain and should be covered with burlap, carpet remnants or other material that may be kept moist until soil can be replaced.

4. This report is part of the set of plans given to the contractor. The contractor should be familiar with the specific instructions and responsibilities pertaining to protected trees. It is recommended that a professional arborist be retained and meet with the contractor and his personnel prior to commencement of the project.

7.0 Mitigation Plan

14 protected oak trees are proposed for removal due to the proposed construction and the remaining 16 oaks are to be preserved and protected throughout the duration of the project. Generally, the mitigation for removing protected trees is 3:1 replacement ratio: (2)-24” box and (1)-36” box tree (this is the standard used for oak and landmark trees). We took into consideration the feasibility of transplanting the oak trees proposed for removal, especially oak trees no. 33, 82, 96, and 97. Not all the oaks are in good condition or good candidates for transplanting. For example, oak tree number 96 is in fair condition and 97 is in poor condition. These trees health are already compromised, which reduces their chances of long-term post-transplanting success. Furthermore, transplanting is not recommended for this specific project due to the significant root loss that would occur to these trees, sloping topography, and the uncertainty that the trees will survive even if appropriate care is taken during the pre- and post-transplanting process.

The project proposes 42 mitigation oaks: (26) 24-inch box and (16) 36-inch box, to be planted throughout the subject property to offset the loss of the removed oak trees.

8.0 Recommendations

1. The contractor should be familiar with the specific instructions and responsibilities pertaining to protected trees.

2. The oaks and non-oak trees (Table 1) proposed for retention should be less than significantly impacted by the grading and proposed landscaping; however, they will need to be preserved throughout the duration of the project. They should be preserved by using Type I fencing with plywood as specified in Table 1 to provide protection during the construction process

3. The existing concrete, asphalt, landscape and soil should be carefully removed so that the roots of the oaks and non-oak trees (Table 1) are not disturbed. The proposed construction does not involve lowering and raising the grade within the tree protection zone of the oaks

4. If any exposed roots at the site of the oaks and non-oak trees are encountered, they should remain and should be covered with burlap, carpet remnants or other material that may be kept moist until soil can be replaced.

5. Roots with diameters of 2-inches or greater should not be damaged or cut without prior assessment of the Project Arborist. An hourly rate shall be charged for these inspections. Roots should be flush-cut with hand pruners, hand loppers, and/or handsaw (as appropriate) for roots 2 inch or greater in diameter. All tools shall be sanitized in between cuts. Materials commonly used to sterilize tools include bleach (10 percent solution) or Lysol.

6. All pruning for trees to be protected should be performed by a qualified tree trimmer and should be consistent with ANSI A300 Standards - Part I Pruning, and the most recent edition of the International Society of Arboriculture Best Management Practices for Tree Pruning. All tools shall be sanitized prior to and in between cuts when pruning the tree. Materials commonly used to sterilize tools include bleach (10 percent solution) or Lysol.

7. Protected oak trees, except that are dead, should not be removed until approval is granted by the City of Thousand Oaks.

8. If additional site inspections by a Project Arborist are required, an hourly rate is charged.

Fenced enclosures should be erected around trees to be protected. This should achieve three primary goals:

(1) Keep crowns and branching structure clear from contact by equipment, materials, and activities.
(2) Preserve roots and soil condition in an intact and non-compacted state.
(3) Identify the Tree Protection Zone in which no soil disturbance is permitted, and activities are restricted, unless otherwise approved by the Project Arborist.

A 'Warning' sign should be prominently displayed on each protective enclosure. The sign will be a minimum of 8.5 inches x 11 inches and clearly state the following:

TREE PROTECTION ZONE
This Fence Shall Not be Removed

A Type I Tree Protection Fence should be preserved throughout the duration of the project. The fences should enclose the area under the canopy drip line or TPZ as specified in Table 1.

9.0 Definitions

1. Basal flair or root crown means the tree trunk where it emerges from the root system and flairs out to create the base of the tree.

2. Canopy means the area of a tree that consists primarily of branches and leaves.

3. Drip line means the outermost area of the tree canopy (leafy area of tree).

4. Root Protection Zone means the area within a circle with a radius equal to the greatest distance from the trunk to any overhanging foliage in the tree canopy.

5. Diameter at Breast Height (DBH) or Diameter at Standard Height means the diameter of the perimeter tree trunk at 4.5 feet (or 54 inches) above natural grade level. The diameter may be calculated by using the following formula: DBH = circumference at 4.5 feet x 3.142 (D=C x Pi).

6. Disturbance refers to all of the various activities from construction or development that may damage trees.

7. Drip line area means the area within X distance from the trunk of a tree, measured from the perimeter of the trunk of the tree at 54 inches above natural grade, where X equals a distance ten times the diameter of the trunk at 54 inches above natural grade.

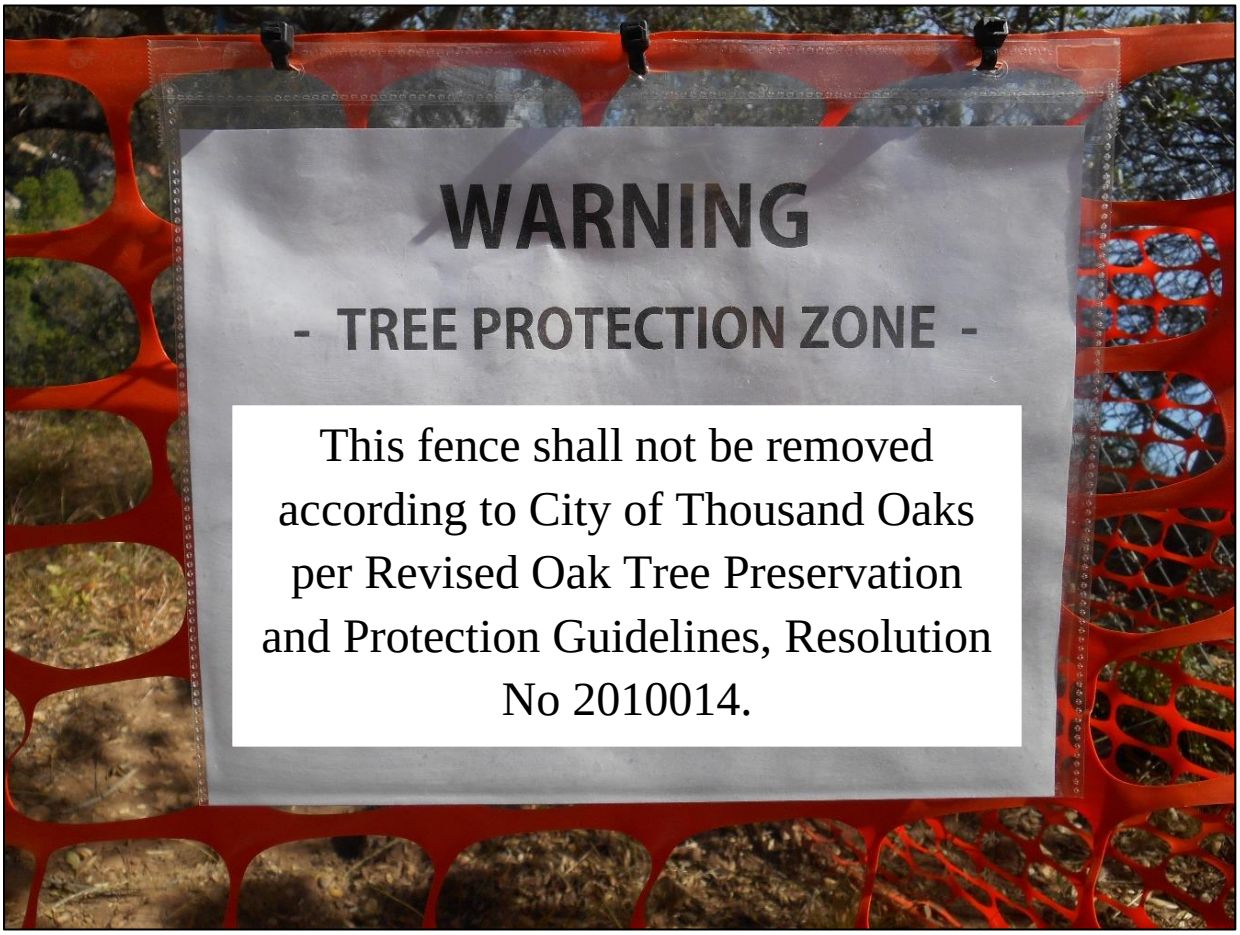
8. Excessive Pruning means: removing in excess, one-fourth (25 percent) or greater, of the functioning leaf, stem or root area. Pruning in excess of 25 percent is injurious to the tree and is a prohibited act. Excessive pruning typically results in the tree appearing as a ‘bonsai’, ‘lion’s-tailed’, ‘lolly-popped’ or overly thinned.

9. Root pruning may include the cutting of any root 2 inches or greater in diameter and/or severing in excess of 25 percent of the roots. Roots can only be pruned outside the drip line.

10. Structural defect means any structural weakness or deformity of a tree or its parts. A tree with a structural defect can be verified to be hazardous by a certified arborist.

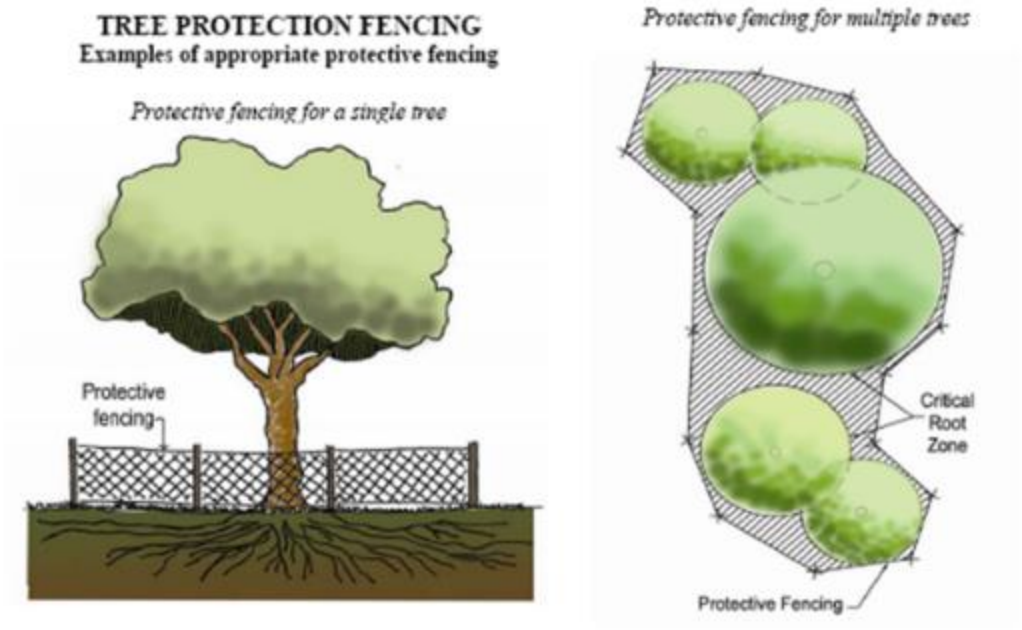
Fencing

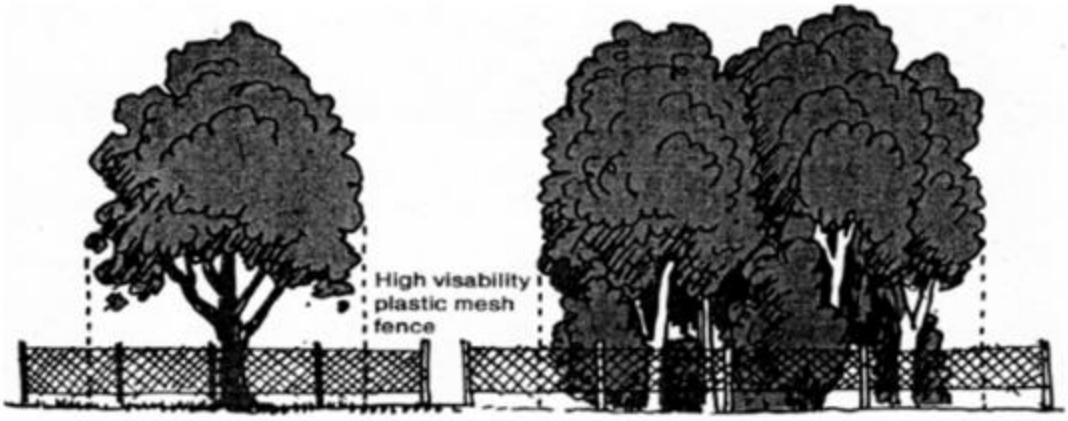
The fence should enclose the area under the canopy drip line or TPZ of the tree to be saved throughout the life of the project, or until final improvement work within the area is required, typically near the end of the project. Tree fencing should be erected before demolition, grading or construction begins.



WARNING SIGN POSTED TO FENCING

This warning sign shall be posted to the fencing. A warning sign shall be prominently displayed on the fence. The sign shall be a minimum of 8.5 x 11 inches and clearly state: WARNING - Tree Protection Zone - This fence shall not be removed according to City of Thousand Oaks per Revised Oak Tree Preservation and Protection Guidelines, Resolution No 2010014. For illustration purposes only





Type I Tree Protection Fencing encloses a partial area of the canopy dripline. The fencing shall enclose the area under the canopy to be saved throughout the life of the project, or until final improvement work within the area is required, typically near the end of the project. Contractor is responsible for protecting roots.

For illustration purposes only.

Tree photo not taken from current site. For illustration purposes only.

Example of Type I fencing underneath the tree canopy. The fencing shall enclose the area under the canopy to be saved throughout the life of the project. Contractor is responsible for protecting roots.

Example of Type I fencing outside the tree canopy. The fencing shall enclose the area outside the canopy to be saved throughout the life of the project. Contractor is responsible for protecting roots. This applies to trees #63, #64, #89, #100, #101, and #108.

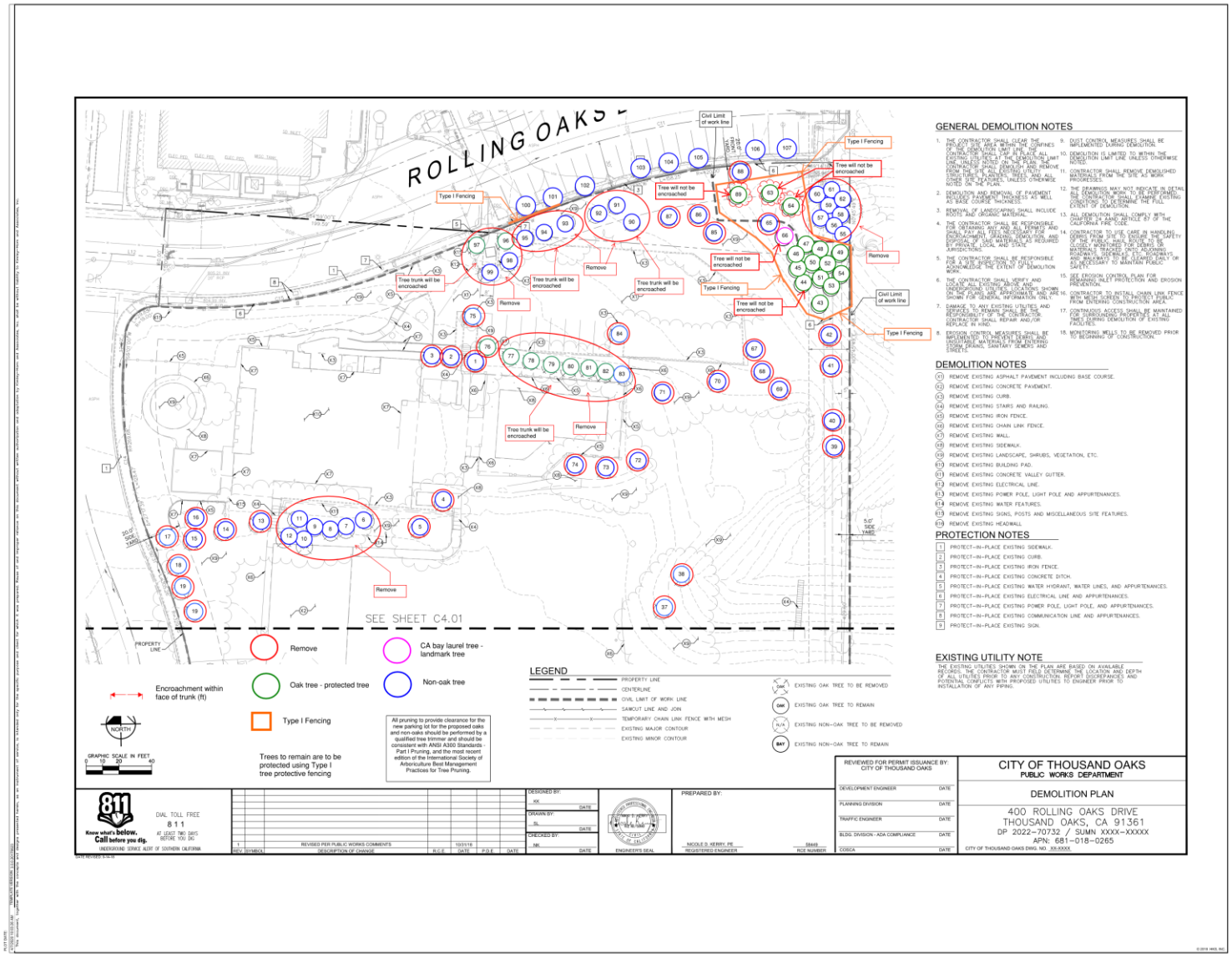
No Dumping Allowed Around the Protected Tree

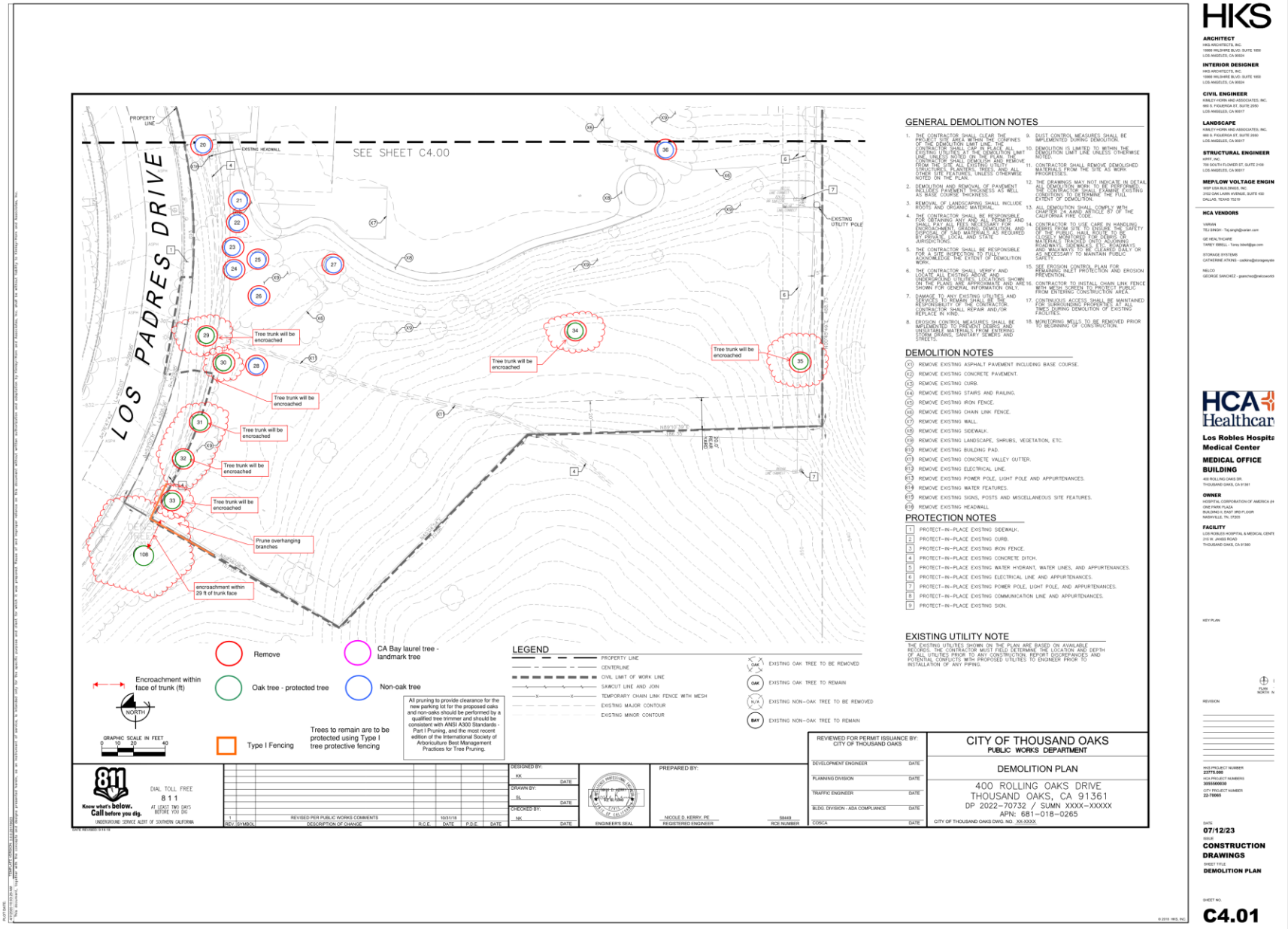
USE OF HERBICIDE IS NOT ALLOWED WITHIN 20 FEET OF THE TREE'S DRIPLINE. Storage or parking vehicles, building materials, refuse, excavated materials spoils or dumping of poisonous materials on or around trees and roots. Poisonous materials include, but are not limited to, paint, petroleum products, concrete or stucco mix, dirty water or any other material which may be deleterious to tree health.

Attachment A – Aerial Image

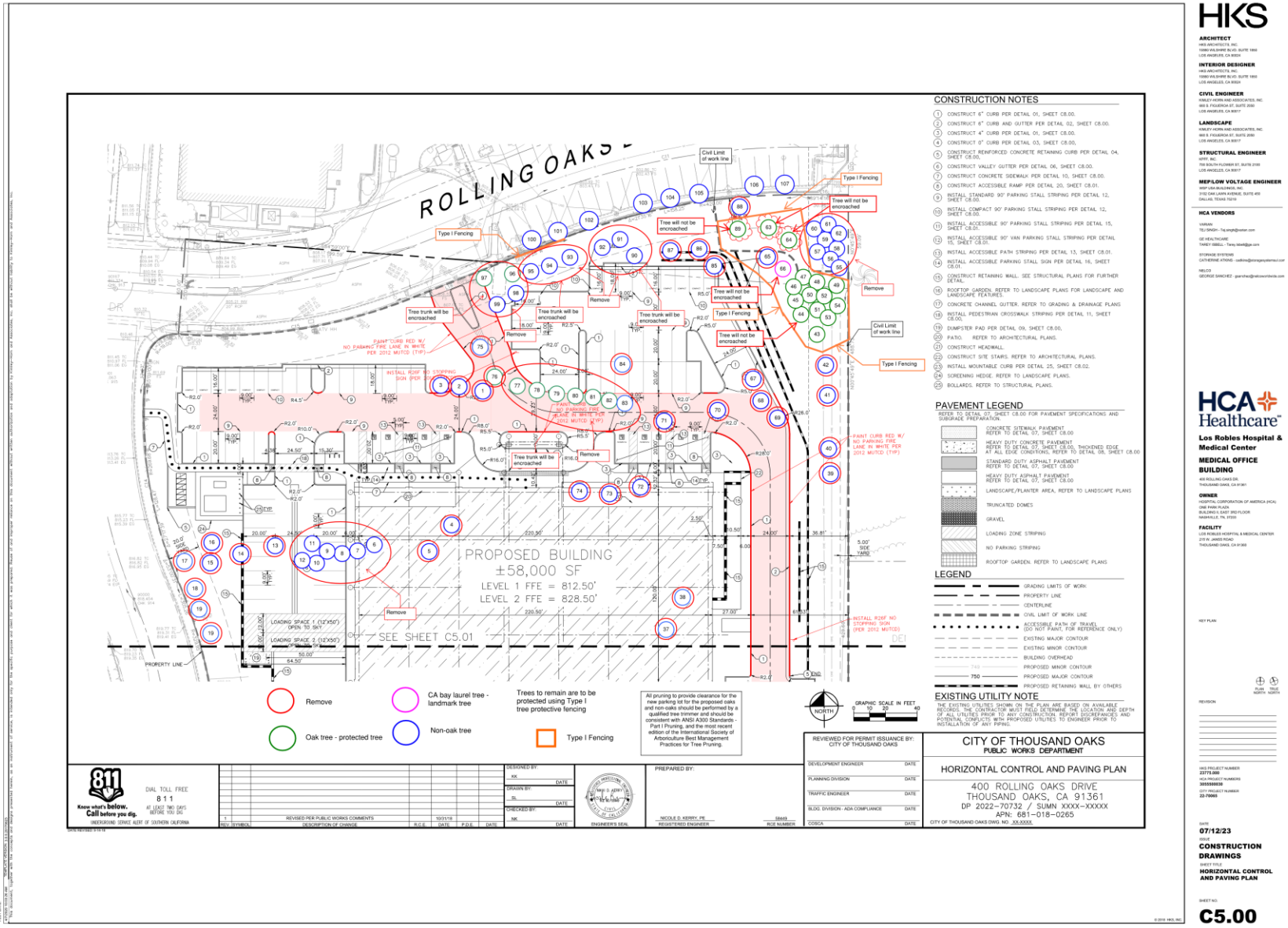
Figure 1. Google Map Aerial of subject property as outlined in blue.

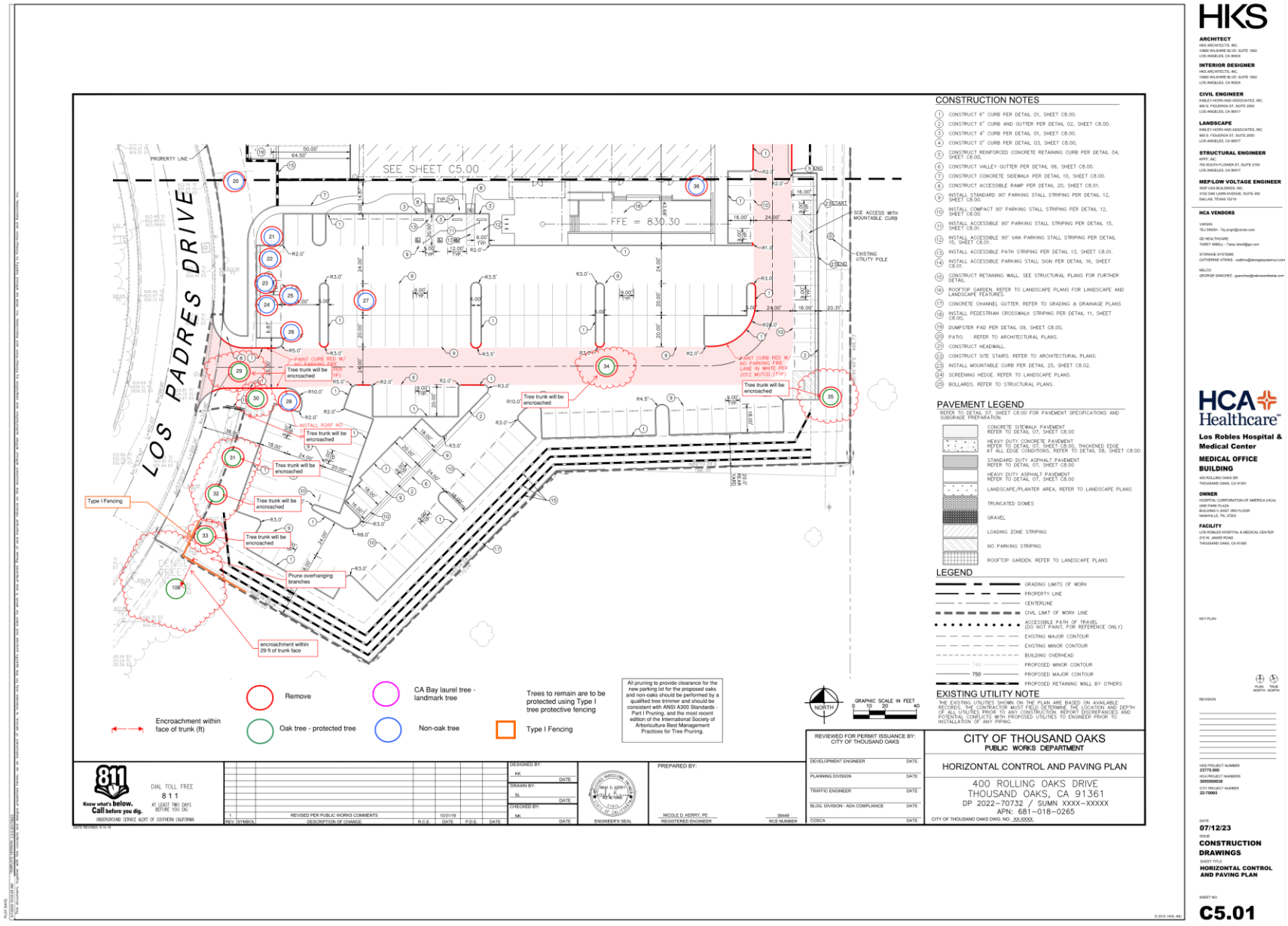
Attachment B – Demolition Plan




LOS PADRES DRIVE
SEE SHEET C4.00
Tree trunk will be encroached
Prune overhanging branches
encroachment within 29 ft of trunk face
Remove
Oak tree - protected tree
CA Bay laurel tree - landmark tree
Non-oak tree
Type I Fencing
Encroachment within face of trunk (ft)
Trees to remain are to be protected using Type I tree protective fencing
All pruning to provide clearance for the new parking lot for the proposed oaks and non-oaks should be performed by a qualified tree trimmer and should be consistent with ANSI A300 Standards - Part I Pruning, and the most recent edition of the International Society of Arboriculture Best Management Practices for Tree Pruning.
LEGEND
PROPERTY LINE
CENTERLINE
CIVIL LIMIT OF WORK LINE
SAWCUT LINE AND JOIN
TEMPORARY CHAIN LINK FENCE WITH MESH
EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
EXISTING OAK TREE TO BE REMOVED
EXISTING OAK TREE TO REMAIN
EXISTING NON-OAK TREE TO BE REMOVED
EXISTING NON-OAK TREE TO REMAIN
GENERAL DEMOLITION NOTES
DEMOLITION NOTES
PROTECTION NOTES
EXISTING UTILITY NOTE
CITY OF THOUSAND OAKS
PUBLIC WORKS DEPARTMENT
DEMOLITION PLAN
400 ROLLING OAKS DRIVE
THOUSAND OAKS, CA 91361
DP 2022-70732 / SUMN XXXX-XXXXX
APN: 681-018-0265
HKS
HCA Healthcar
Los Robles Hospita
Medical Center
MEDICAL OFFICE BUILDING
07/12/23
CONSTRUCTION DRAWINGS
C4.01

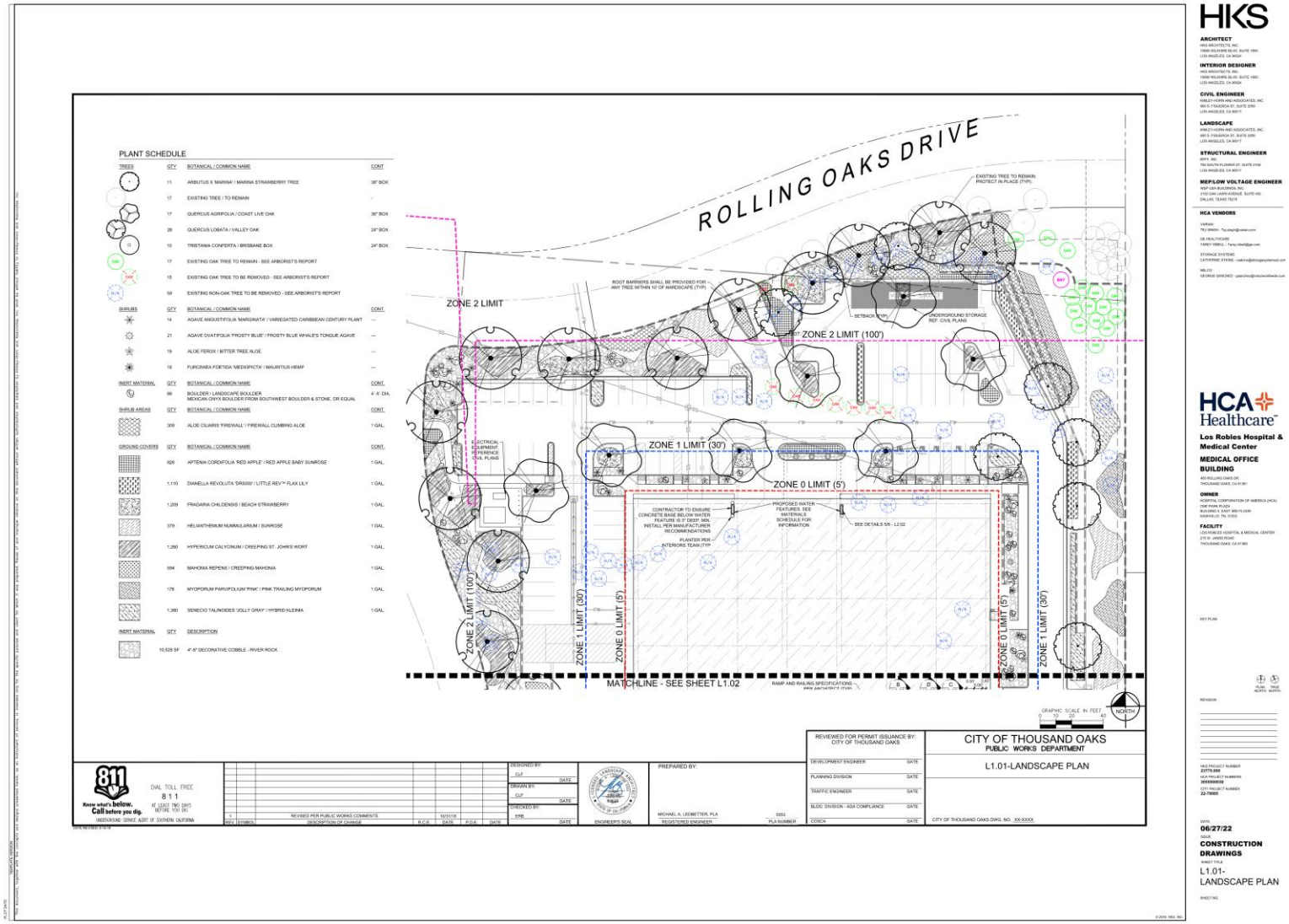
Attachment C – Site Plan and Limits of Work

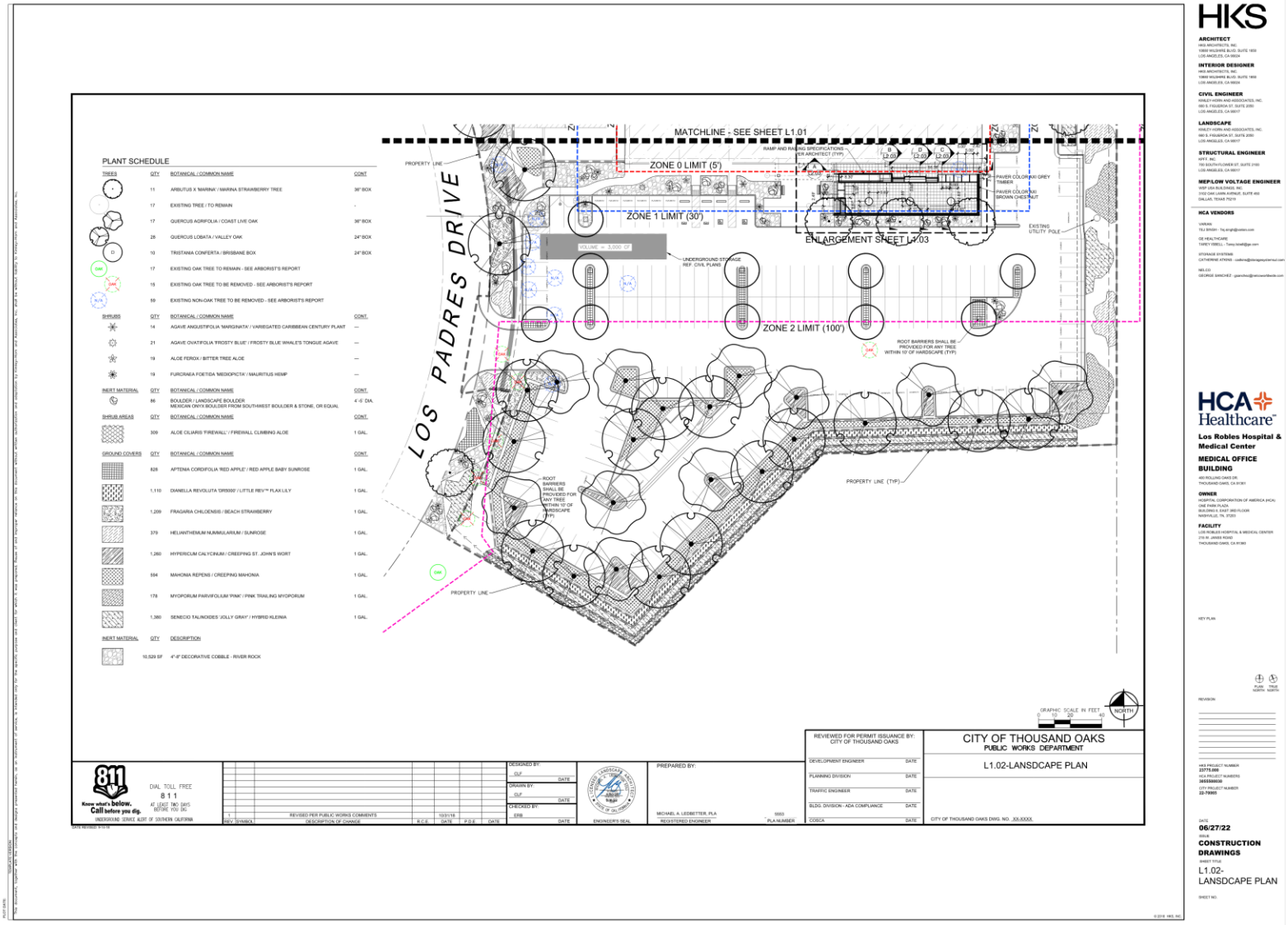



LOS PADRES DRIVE
PROPERTY LINE
SEE SHEET C5.00
FFE = 830.30
Type I Fencing
Tree trunk will be encroached
Prune overhanging branches
encroachment within 29 ft of trunk face
Remove
Oak tree - protected tree
CA Bay laurel tree - landmark tree
Non-oak tree
Type I Fencing
Trees to remain are to be protected using Type I tree protective fencing
Encroachment within face of trunk (ft)
All pruning to provide clearance for the new parking lot for the proposed oaks and non-oaks should be performed by a qualified tree trimmer and should be consistent with ANSI A300 Standards - Part I Pruning, and the most recent edition of the International Society of Arboriculture Best Management Practices for Tree Pruning.
CONSTRUCTION NOTES
1 CONSTRUCT 6" CURB PER DETAIL 01, SHEET C8.00.
2 CONSTRUCT 6" CURB AND GUTTER PER DETAIL 02, SHEET C8.00.
3 CONSTRUCT 4" CURB PER DETAIL 01, SHEET C8.00.
4 CONSTRUCT 0" CURB PER DETAIL 03, SHEET C8.00.
5 CONSTRUCT REINFORCED CONCRETE RETAINING CURB PER DETAIL 04, SHEET C8.00.
6 CONSTRUCT VALLEY GUTTER PER DETAIL 06, SHEET C8.00.
7 CONSTRUCT CONCRETE SIDEWALK PER DETAIL 10, SHEET C8.00.
8 CONSTRUCT ACCESSIBLE RAMP PER DETAIL 20, SHEET C8.01.
9 INSTALL STANDARD 90° PARKING STALL STRIPING PER DETAIL 12, SHEET C8.00.
10 INSTALL COMPACT 90° PARKING STALL STRIPING PER DETAIL 12, SHEET C8.00.
11 INSTALL ACCESSIBLE 90° PARKING STALL STRIPING PER DETAIL 15, SHEET C8.01.
12 INSTALL ACCESSIBLE 90° VAN PARKING STALL STRIPING PER DETAIL 15, SHEET C8.01.
13 INSTALL ACCESSIBLE PATH STRIPING PER DETAIL 13, SHEET C8.01.
14 INSTALL ACCESSIBLE PARKING STALL SIGN PER DETAIL 16, SHEET C8.01.
15 CONSTRUCT RETAINING WALL. SEE STRUCTURAL PLANS FOR FURTHER DETAIL.
16 ROOFTOP GARDEN. REFER TO LANDSCAPE PLANS FOR LANDSCAPE AND LANDSCAPE FEATURES.
17 CONCRETE CHANNEL GUTTER. REFER TO GRADING & DRAINAGE PLANS
18 INSTALL PEDESTRIAN CROSSWALK STRIPING PER DETAIL 11, SHEET C8.00.
19 DUMPSTER PAD PER DETAIL 09, SHEET C8.00.
20 PATIO. REFER TO ARCHITECTURAL PLANS.
21 CONSTRUCT HEADWALL.
22 CONSTRUCT SITE STAIRS. REFER TO ARCHITECTURAL PLANS.
23 INSTALL MOUNTABLE CURB PER DETAIL 25, SHEET C8.02.
24 SCREENING HEDGE. REFER TO LANDSCAPE PLANS.
25 BOLLARDS. REFER TO STRUCTURAL PLANS.
PAVEMENT LEGEND
REFER TO DETAIL 07, SHEET C8.00 FOR PAVEMENT SPECIFICATIONS AND SUBGRADE PREPARATION.
CONCRETE SIDEWALK PAVEMENT REFER TO DETAIL 07, SHEET C8.00
HEAVY DUTY CONCRETE PAVEMENT REFER TO DETAIL 07, SHEET C8.00, THICKENED EDGE AT ALL EDGE CONDITIONS. REFER TO DETAIL 08, SHEET C8.00
STANDARD DUTY ASPHALT PAVEMENT REFER TO DETAIL 07, SHEET C8.00
HEAVY DUTY ASPHALT PAVEMENT REFER TO DETAIL 07, SHEET C8.00
LANDSCAPE/PLANTER AREA. REFER TO LANDSCAPE PLANS
TRUNCATED DOMES
GRAVEL
LOADING ZONE STRIPING
NO PARKING STRIPING
ROOFTOP GARDEN. REFER TO LANDSCAPE PLANS
LEGEND
GRADING LIMITS OF WORK
PROPERTY LINE
CENTERLINE
CIVIL LIMIT OF WORK LINE
ACCESSIBLE PATH OF TRAVEL (DO NOT PAINT, FOR REFERENCE ONLY)
EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
BUILDING OVERHEAD
PROPOSED MINOR CONTOUR
PROPOSED MAJOR CONTOUR
PROPOSED RETAINING WALL BY OTHERS
EXISTING UTILITY NOTE
THE EXISTING UTILITIES SHOWN ON THE PLAN ARE BASED ON AVAILABLE RECORDS. THE CONTRACTOR MUST FIELD DETERMINE THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO ANY CONSTRUCTION. REPORT DISCREPANCIES AND POTENTIAL CONFLICTS WITH PROPOSED UTILITIES TO ENGINEER PRIOR TO INSTALLATION OF ANY PIPING.
GRAPHIC SCALE IN FEET
0 10 20 40
NORTH
811 DIAL TOLL FREE 811 AT LEAST TWO DAYS BEFORE YOU DIG
Know what's below. Call before you dig.
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA
REVISED PER PUBLIC WORKS COMMENTS 10/31/19
DESIGNED BY: KK DATE
DRAWN BY: SL DATE
CHECKED BY: NK DATE
ENGINEER'S SEAL
PREPARED BY:
NICOLE D. KERRY, PE
REGISTERED ENGINEER
58449
RCE NUMBER
REVIEWED FOR PERMIT ISSUANCE BY: CITY OF THOUSAND OAKS
DEVELOPMENT ENGINEER DATE
PLANNING DIVISION DATE
TRAFFIC ENGINEER DATE
BLDG. DIVISION - ADA COMPLIANCE DATE
CDBCA DATE
CITY OF THOUSAND OAKS
PUBLIC WORKS DEPARTMENT
HORIZONTAL CONTROL AND PAVING PLAN
400 ROLLING OAKS DRIVE
THOUSAND OAKS, CA 91361
DP 2022-70732 / SUMN XXXX-XXXXX
APN: 681-018-0265
CITY OF THOUSAND OAKS DWG. NO. XX-XXXX
HKS
ARCHITECT
INTERIOR DESIGNER
CIVIL ENGINEER
LANDSCAPE
STRUCTURAL ENGINEER
MEP/LOW VOLTAGE ENGINEER
HCA VENDORS
HCA Healthcare
Los Robles Hospital & Medical Center
MEDICAL OFFICE BUILDING
OWNER
FACILITY
KEY PLAN
REVISION
HKS PROJECT NUMBER 23775.000
HCA PROJECT NUMBERS 3855000030
CITY PROJECT NUMBER 22-70063
DATE 07/12/23
ISSUE CONSTRUCTION DRAWINGS
SHEET TITLE HORIZONTAL CONTROL AND PAVING PLAN
SHEET NO. C5.01

400 Rollings Oaks Drive
Thousand Oaks, CA 91361

Attachment D – Landscape Plan




PLANT SCHEDULE
MATCHLINE - SEE SHEET L1.01
ZONE 0 LIMIT (5')
ZONE 1 LIMIT (30')
ZONE 2 LIMIT (100')
ENLARGEMENT SHEET L1.03
LOS PADRES DRIVE
PROPERTY LINE
PROPERTY LINE (TYP)
UNDERGROUND STORAGE
REF. CIVIL PLANS
EXISTING UTILITY POLE
ROOT BARRIERS SHALL BE PROVIDED FOR ANY TREE WITHIN 10' OF HARDSCAPE (TYP)
GRAPHIC SCALE IN FEET
NORTH
CITY OF THOUSAND OAKS
PUBLIC WORKS DEPARTMENT
L1.02-LANSDCAPE PLAN
HKS
HCA Healthcare
Los Robles Hospital & Medical Center
MEDICAL OFFICE BUILDING
06/27/22
CONSTRUCTION DRAWINGS
L1.02-LANSDCAPE PLAN

Attachment E – Site Photo

All pruning to provide clearance for the proposed parking lot for oak trees and non-oak trees should be performed by a qualified tree trimmer and should be consistent with ANSI A300 Standards - Part I Pruning, and the most recent edition of the International Society of Arboriculture Best Management Practices for Tree Pruning.

Report Prepared by:

Michael Green

This arborist report is prepared by Michael Green. He is 2nd generation arborist and has over 15 years of experience in the tree and landscape industry. His background includes hands-on experience in tree care, tree protection during construction, plant health care, tree risk assessment, tree roots, landscape maintenance, landscape construction, and irrigation design and water management. His problem-solving approach makes him an excellent choice as a technical consultant or expert witness on a wide variety of tree and landscape related issues. He has served as an expert witness, technical consultant, or forensic investigator for tree related issues with trial experience. He has a bachelor's of science degree in agribusiness from California State Polytechnic University, San Luis Obispo.

Certifications, Licenses, and Professional Associations

Registered Consulting Arborist No.: 602, American Society of Consulting Arborists (ASCA)
Consulting Academy Coach 2017, American Society of Consulting Arborist (ASCA
Certified Arborist, International Society of Arboriculture (ISA)
Certified Irrigation Auditor (IA)
Licensed California Landscape Contractor (C-27)
California Licensed Pesticide Applicator, (QAL)
Tree Risk Assessment Qualified (ISA)

Assumptions and Limitations

My field methods are evaluated with a 100 percent ground visual survey. No climbing, excavating, coring, boring, sounding of the trunk, or drilling was performed. Trees that require an additional inspection for risk and hazard evaluation beyond the visual ground inspection will be billed under a separate proposal. All inspections are visual ground inspections and are not considered as a risk inspection. No digging, root collar excavation, drilling, coring, or climbing was performed. A risk assessment includes but not be limited to a root collar excavation, climbing the tree, and further examining the upper side of branches and upper trunk and stems. My site examination and the information in this report are limited to the date and time the

inspection occurred. The information in this report was limited to the condition of the trees during my inspection.

Additional inspection(s) require a separate agreement between both parties in writing. Site inspections only provide a "snapshot" of the tree. Changes in environmental conditions such as but not limited to construction, surrounding site changes, flooding, root damage, fires, pruning practices, lack of maintenance, grade changes, and wind can impact the tree's conditions, structure, safety, risk factor, and health, etc. A consulting arborist cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and/or below ground under the tree. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances or for a specified period of time. Likewise, remedial treatment does not guarantee outcome or results. The web provides numerous tree risk assessment sites that offer tips for tree care and detecting and/or identifying potential tree hazards. If the client believes the tree's condition has changed since the date of this inspection, the arborist should be contacted ASAP. Future inspections, canopy inspections, and root collar examinations are under the client's discretion.

Evergreen Arborists Consultants, Inc., its employees, or related companies, makes no guaranties, express or implied to the trees health, risk, hazard, condition, potential for failure or future condition. Evergreen Arborists Consultants, Inc., its employees shall not be liable to client/owner or any other party(s) for loss of property, loss of life, loss of use, loss of profits or income(s), special damages, incidental damages, consequential damages, incidental damages, or damages arising from the failure of inspection(s) or weather conditions. This report is not valid until paid in full. The client shall hold this arborist harmless against any and all claims for injuries to persons or property on the premises.

A consulting arborist is a tree specialist who uses their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist or seek additional advice. Any treatment(s), such as pruning and removal of trees, but not limited to, property boundaries, property ownership, site lines, disputes between neighbors, landlord-tenant matters, etc. are beyond the scope of this work. This arborist relies and accepts information from his client to be complete and accurate. The client hiring this arborist accepts full responsibility for authorizing the recommended treatment(s) or remedial measure(s) and holds this arborist harmless. Trees can be managed, but they cannot be controlled. To live near a tree is to accept some degree of risk. The only way to eliminate all risks is to eliminate all trees.